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LA "EXPERIENCIA DE BEBER CERVEZA": DEFINIENDO EL CONCEPTO DE CONSUMO EXPERIENCIAL EN LA CERVEZA INDUSTRIAL Y ARTESANAL

En la Ciudad de México, se presentaron a las 9:00 horas del día 7 del mes de junio del año 2016 en la Unidad Iztapalapa de la Universidad Autónoma Metropolitana, los suscritos miembros del jurado:

DRA. JUANA JUAREZ ROMERO
DRA. SYLVIE CHOLLET
DRA. MAUD LELIEVRE DESMAS
DR. GASTON ARES DEVINCENZI

Bajo la Presidencia de la primera y con carácter de Secretario el último, se reunieron a la presentación de la Disertación Pública cuya denominación aparece al margen, para la obtención del grado de:

DOCTOR EN BIOTECNOLOGIA

DE: CARLOS GOMEZ CORONA

y de acuerdo con el artículo 78 fracción IV del Reglamento de Estudios Superiores de la Universidad Autónoma Metropolitana, los miembros del jurado resolvieron:

APROBAR

Acto continuo, la presidenta del jurado comunicó al interesado el resultado de la evaluación y, en caso aprobatorio, le fue tomada la protesta.

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UNIVERSIDAD AUTÓNOMA METROPOLITANA

UNIDAD IZTAPALAPA

DEFINING THE DRINKING EXPERIENCE CONCEPT: A CASE STUDY OF CRAFT AND INDUSTRIAL BEER CONSUMPTION

LA "EXPERIENCIA DE BEBER CERVEZA": DEFINIENDO EL CONCEPTO DE CONSUMO EXPERIENCIAL EN LA CERVEZA INDUSTRIAL Y ARTESANAL

DOCTORADO EN BIOTECNOLOGÍA

CARLOS GÓMEZ CORONA

Director: Dr. Héctor B. Escalona Buendía (UAM I)

Co-director: Dominique Valentin (CSGA – Université de Bourgogne)

Asesor: Sylvie Chollet (ISA Lille)

El Doctorado en Biotecnología de la Universidad Autónoma Metropolitana está incluido en el Programa Nacional de Posgrados de Calidad (PNPC) del Consejo Nacional de Ciencia y Tecnología (CONACyT), con la referencia 001466.

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Ciudad de México, a 7 de junio del 2016

El Honorable Jurado designado por la División de Ciencias Biológicas y de la Salud de la Universidad Autónoma Metropolitana unidad Iztapalapa **aprobó** la tesis.

LA "EXPERIENCIA DE BEBER CERVEZA": DEFINIENDO EL CONCEPTO DE CONSUMO EXPERIENCIAL EN LA CERVEZA

Que presentó **Carlos Gómez Corona**

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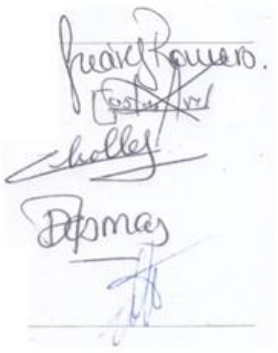

REMERCIEMENTS / ACKNOWLEDGMENTS

Remercier est un processus personnel et intime qui exige un travail d'introspection pour ceux qui veulent avoir des résultats qui reflètent la façon dont il se sent. A cette fin, j'ai utilisé la méthode d'Analyse en Remerciements Principaux (ARP), proposé par Morizet (2011). Cette méthode s'applique sur des tableaux croisant des individus et des variables quantitatives, appelés de façon concise tableaux *individus x variables*. Selon un usage pas du tout établi, les lignes du tableau représentent les personnes que l'on souhaite remercier, et les colonnes représentent les variables utilisées pour les remercier. Concernant les individus, on tente d'évaluer leur ressemblance sur la base de leur similarité de remerciements et avec les variables on essaie d'évaluer leurs liaisons. Dans le cas de l'ARP, les individus jouent le même rôle ou possèdent le même pois, et nous avons accordé jusqu'ici la même importance *a priori* aux différentes variables.

L'ARP présentée en Fig a. n'explique que 47.06% de l'ensemble de la variabilité, car il est bien sûr compliqué de remercier tout le monde en 2 dimensions. Pour atteindre cet objectif nous avons besoin de multiples dimensions. Cette inertie en deux dimensions met en évidence qu'il y a beaucoup de personnes qui ne sont pas ici et que je dois aussi remercier. L'ARP de la Fig a. est séparée pour utiliser la statistique à la française et ne pas faire de biplots. L'axe 1 sépare les variables académiques à droite et les variables personnelles (amitiés) à gauche, tandis que l'axe 2 sépare les variables émotionnelles en haut et les variables financières en bas. Après avoir effectué l'ARP, nous avons utilisé la méthode classique d'analyse hiérarchique pour essayer de former des groupes et d'expliquer nos remerciements les plus personnels.

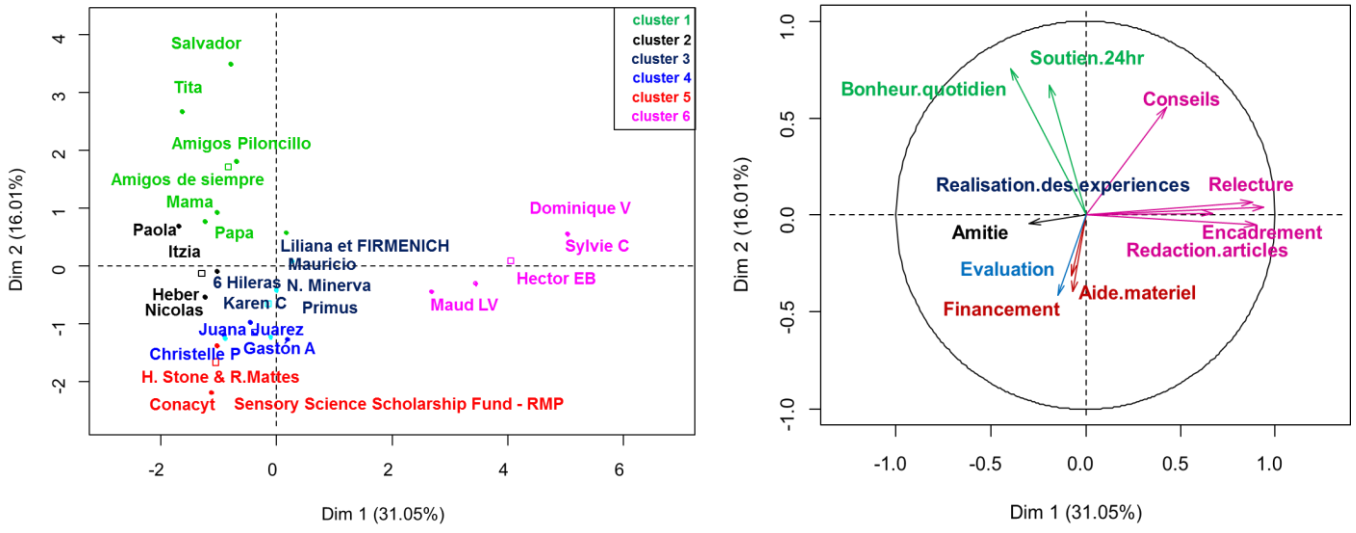

Figure a. Graphique des individus de l'ARP en deux dimensions (à gauche) et cercle de corrélations des variables de l'ARP (à droite).

Je vais commencer par le cluster 1, qui est le cluster le plus émotionnel. Un grand merci à Chava (Salvador) et, bien sûr, à Tita pour leur soutien inconditionnel, mais aussi, pour le bonheur qu'ils me donnent au quotidien. Je ne serais pas parvenu à écrire cette thèse sans vous ! Dans ce cluster émotionnel, je voudrais aussi remercier mes parents, mes amies de toute une vie et mes amies de *Piloncillo*, pour tous ses vendredis soir de bières et de mezcal ! Dans le cluster 2, émotionnel aussi, mais caractérisé par l'amitié, je vais remercier spécialement à Paola et Itzia pour leur amitié au Mexique, et pour l'amitié à Dijon, je remercie à Nicolas et Heber.

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Dans la partie la plus financière de cette thèse, très corrélée avec l'axe 2, je remercie Conacyt pour son soutien financier pendant la période où je n'étais qu'un étudiant. Plus spécialement, je remercie Herbert Stone et Richard Mattes, membres de la *Sensory Science Scholarchip Fund* qui m'ont octroyé la bourse Rose Marie Pangborn 2014-2015. Votre soutien a rendu possible plus d'études qu'il n'était autrefois considéré possibles du fait des contraintes financières d'un doctorat incluant : des études cross-culturelles entre Mexique et France, une grande dernière étude avec 400 consommateurs et la participation à des congres internationaux. J'espère avoir répondu à vos attentes.

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Carlos

RESUMEN

El área de estudio de esta tesis es el análisis sensorial y estudios con consumidores, con una fuerte influencia del campo de la psicología cognitiva y social. La tesis se enfoca en el estudio de la experiencia de consumo, con el objetivo de profundizar en el entendimiento de los procesos de elección y consumo de alimentos y bebidas, así como desarrollar una herramienta capaz de medir la experiencia de consumo a través de los diferentes sistemas que tiene el ser humano (sensorial, afectivo y cognitivo).

El caso de estudio utilizado para medir la experiencia de consumo es la cerveza, comparando a través de la tesis las relaciones y diferencias que existen entre el consumo de cerveza artesanal e industrial. La experiencia de un producto se refiere a todos los efectos emocionales, sensoriales y cognitivos que un producto puede tener sobre una persona. Sin embargo, este concepto, aunque no es nuevo en el área de la psicología del consumidor, ha sido poco estudiado con respecto a su relación con alimentos y bebidas.

En los últimos treinta años, el concepto de consumo experiencial, experiencia de producto ha sido utilizado en servicios (ej. turismo), objetos materiales (ej. celulares, tasas, etc.). Pero, no se conoce las diferencias que podrían existir con respecto al consumo de alimentos y bebidas.

La tesis a lo largo de cinco capítulos plantea un estudio de la experiencia de consumo de bebidas, más específicamente del consumo de cerveza. El primer capítulo tiene por objetivo conocer al consumidor de cerveza en México con respecto a los hábitos de consumo, actitudes, macas de cerveza que más se consumen y encontrar una tipología de los consumidores. Adicionalmente se profundiza en los resultados de un estudio cualitativo (etnografías con consumidores) para profundizar en las motivaciones, variables involucradas y actitudes hacia el consumo de cerveza artesanal.

El segundo capítulo explora las variables asociadas a la experiencia de tomar cerveza, utilizando un estudio también cualitativo (sesiones de grupo contextuales) y pone en evidencia las diferencias entre la experiencia de consumo en un objeto material versus una bebida. Los resultados de este estudio muestran que la experiencia de tomar cerveza está relacionada con: los hábitos de consumo, actitudes, la experiencia sensorial, la experiencia afectiva (o emocional), la experiencia cognitiva, la experiencia de compra del producto, el consumo individual versus social, y los beneficios específicos buscados en el consumo de cerveza.

El tercer y cuarto capítulo profundizan en la representación mental y social de la cerveza. En primer lugar, la representación mental de la cerveza es percibida diferente de acuerdo al género y tipo de consumidor (cerveza industrial o artesanal). Para obtener la representación mental se realizó una prueba de categorización (*sorting task*) en done los resultados muestran que las mujeres categorizan las cervezas

basadas en las actitudes hacia la cerveza, mientras que los hombres realizan la categorización basados en su experiencia previa o información sobre las cervezas. Por otro lado, al estudiar la representación social de la cerveza, usando la metodología estructural de las representaciones en psicología social se ponen en evidencia las diferencias culturales que existen en el consumidor en dos países: México y Francia. Los resultados muestran que la forma en la que se construye la representación es diferente entre países, teniendo como eje la descripción de la cerveza en Francia, y como aspectos hedónicos en el caso del consumidor mexicano. En el caso del consumidor francés, la representación de la cerveza artesanal es más compartida entre consumidores de cerveza industrial y artesanal, mientras que los diferentes tipos de consumidores en México no comparten una misma representación social.

Finalmente, el capítulo cinco muestra cómo se utilizó la información de los estudios precedentes de la tesis para diseñar un estudio cuantitativo en donde se midiera la experiencia de tomar cerveza. El estudio constaba de dos condiciones: evaluación visual y prueba de producto. Los resultados muestran que es posible medir la experiencia de tomar cerveza con base en las dimensiones más relevantes durante el consumo, más afectiva, cognitiva o sensorial. En el estudio se encontró que las cervezas artesanales tienen una experiencia de consumo más cognitiva, mientras que las cervezas industriales son más emocionales y sensoriales.

La tesis concluye con los resultados de la medición de la experiencia de consumo en las cervezas y muestra que los caminos para una mayor investigación del concepto de experiencia pueden ser en alimentos y otras bebidas, con el objetivo de validar el uso del concepto y las variables relacionadas con el mismo.

Summary

The area of study of this thesis is sensory and consumer science, with a strong influence of the field of cognitive and social psychology. The thesis focus is on the study of the experience of drinking (consumption experience or product experience). With the objective to contribute to the understanding of food choice processes and consumption of food and beverages. As well as to develop a tool (methodology) capable of measuring the experience of drinking threw a set of human systems (affects, senses and cognition).

The case study used in this thesis to measure the experience of drinking is beer, comparing through different studies the similarities and differences between craft and industrial beer. Product experience refers to all the effects the product has on consumers, they can be emotional, sensory or cognitive. Although this concept is not new in the field of consumer psychology, it has been less explored in the food and beverage domain.

In the past years, the concept of consumer experience and product experience has been used in services (e.g. tourism), material objects (e.g. cell phones). Today we do not know the differences that may exist in the use of the concept of product for material products compared to food and beverages.

The thesis throughout five chapters raises a study of the experience of drinking, more specifically the experience of drinking beer. The first chapter has for objective to understand the beer consumer in Mexico in respect to the habits of consumption, attitudes, brands usage more often, and to find a typology of industrial and craft consumers. Additionally, the results of a qualitative study are exposed (consumer ethnographies) to have a deep dive in the motivations towards the consumption of craft beer in the Mexican consumer.

The second chapter explores the variables associated to the experience of drinking beer, also via a qualitative study (contextual focus groups) and put in evidence the differences between the experience of using a material object and the experience of drinking a beverage (or a food). The results of this study show that the experience of drinking beer is related to: habits of consumption, attitudes, sensory experience, affective experience (emotional), cognitive experience, shopping, individual vs social consumption and the specific benefits searched by consumption.

The third and fourth chapter deepen in the mental and social representation of beer. In first place, the mental representation of beer is perceived differently according to the gender and type of consumption (industrial or craft beer). To access to the mental representation, a sorting task was used. The results show that women categorize the beers based on their attitudes while men make the categories based on their

previous experience or information of the beer. On the other hand, by studying the social representation of beer, using the methodology of the social representation from social psychology, it was evidenced the cultural differences existing between the consumers of two countries: Mexico and France. The results manifest that the way in which the representation of the craft beer is made is different between the two countries, having as an axe the description of the beer in France, and hedonics in Mexico. In the case of the French consumers, the representation of the craft beer is shared across industrial and craft consumers, while in Mexico both types of consumers do not share the same representation.

Finally, in chapter five the information from the previous chapters is condensed into one methodology to measure the drinking experience of beer that can take into consideration the three humans systems: affects, senses and cognition. The study performed in this chapter was done in two basic steps: visual evaluation and product test. The results put forth that it is possible to measure the experience of drinking beer and identify which is the salient system or dimension used during the consumption. In the study it was found that the craft beers evoke a more cognitive experience, while industrial beers evoke a more emotional or sensory experience.

The thesis concludes with the results of the experience measurement, exhibiting the different paths to follow for a better understanding and research on the experience concept, which can be in beverages or foods.

THESIS ACCOMPLISHEMENTS

Scientific publications in peer-reviewed journals

Gómez-Corona, C., Escalona-Buendía, H. B., García, M., Chollet, S., Valentin, D. (2016). Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico. *Appetite*, 96, 358-367. (Chapter 1)

Gómez-Corona, C., Valentin. D., Escalona-Buendía, H. B., Chollet, S. (ready for submission June 2016). The building blocks of the drinking experience. (Chapter 2)

Gómez-Corona, C., Valentin, D., Escalona-Buendía, H. B., Chollet, S. (submitted April 2016). Beyond gender and habits. Exploring the differences in a sorting task to describe beers. *Food Quality and Preference* (Chapter 3)

Gómez-Corona, C., Lelièvre-Desmas, M., Escalona-Buendía, H. B., Chollet, S., Valentin, D. (2016). Social representation of craft beer amongst men in two different cultures. *Food Quality and Preference, doi: http://dx.doi.org.10.10167j.foodqual.2016.05.010* (Chapter 4)

Gómez-Corona, C., Chollet, S., Escalona-Buendía, H. B., Valentin, D. (in preparation). Measuring the drinking experience of beer in real context situations. (Chapter 5)

Conference proceedings

Gómez-Corona, C., Chollet, S., Escalona-Buendía, H. B., Valentin, D. (in preparation). *How to measure the drinking experience of beer to drive new product development*. Summer Program in Sensory Evaluation, Ho Chi Minh City, July 29 – 31, 2016.

Oral communication in international congresses

Gómez-Corona, C., Lelièvre-Desmas, M., Escalona-Buendía, H. B., Chollet, S., Valentin, D. (2015). *Drink like a man: Social representation of craft beer among men in two different cultures.* 11th Pangborn Sensory Symposium, Gothenburg, 23 – 27 August.

Gómez-Corona, C., Chollet, S., Escalona-Buendía, H. B., Valentin, D. (accepted - 2016). *How to measure the drinking experience of beer to drive new product development*. Summer Program in Sensory Evaluation, Ho Chi Minh City, July 29 – 31.

Poster communication in international congresses

Gómez-Corona, C., Escalona-Buendía, H. B., García, M., Chollet, S., Valentin, D. (2014). *Understanding new product categories: mixing quantitative test with consumer ethnographies*. 6th European Conference on Sensory and Consumer Research, Copenhagen, 7 – 10 September.

Linares, N.M., **Gómez-Corona, C**., Escalona-Buendía, H. B. (2015). *Consumption experience research: The impact of affects, senses & cognition.* 11th Pangborn Sensory Symposium, Gothenburg, 23 – 27 August.

Gómez-Corona, C., Chollet, S., Valentin, D., Escalona-Buendía, H. B. (2015). *Impacto del género y hábitos de consumo en la representación mental de la cerveza*. I Congreso Asociación Española de Análisis Sensorial, Ciudad Real, 21 -23 October.

Thesis awards

The Rose Marie Pangborn Sensory Science Scholarship for the period 2014 - 2015 was granted by the Sensory Science Scholarship Fund.

The scholarship is awarded to support a Ph.D. student who intends to teach and conducts research in the area of sensory science at the University level. This scholarship is awarded in honour of the memory of Professor Rose Marie Pangborn, who initiated the scholarship fund to encourage the education of Sensory Scientists intending to pursue academic careers.

INDEX

I. Introduction

Sensory science is a multidisciplinary field comprising measurement, interpretation and understanding of human responses to product properties as perceived by the senses such as sight, smell, taste, touch and hearing (Martens, 1999). Therefore, sensory analysis is a science that uses humans as measurement instrument. It is also a science that works with the social aspects of how a group of subjects uses their senses to interact with the environment, products, other persons, etc. This social aspect raises fundamental issues linked not only to the privative character of sensations but also to the subjectivity of their expression. The human perception towards sensory stimuli occurs simultaneously under three different aspects: a quantitative aspect that corresponds to the perceived intensity of the stimuli; a qualitative aspect that reflects the nature of the stimuli and enables its identification; and a hedonic aspect that corresponds to the pleasure that accompanies the perception. These three components give place to two types of measurements: sensory and hedonics. The sensory measurements are usually classified as objective, whereas the hedonic ones as subjective (Urdapilleta, 2001).

The sensory measurements have for objective the comparisons between stimuli to detect the presence/ absence of sensory differences across products (discriminative tests), and to evaluate the intensity of a set of attributes or descriptors (descriptive tests). On the other hand, hedonics measurement has for objective understanding of the pleasure character of an object. Hedonic measurement gave place to consumer tests, in which hedonic measurements of preference and acceptability are used to understand consumer behaviour.

Consumer studies have been approached from different disciplines: sensory analysis (Ares, 2010), social psychology (Barthmoneuf, 2009), marketing (Gentile, 2007), cognitive psychology (Valentin, 2007) and industrial design (Schifferstein, 2008; Desmet, 2002). Each discipline brings a different perspective in the quest to understand the consumer. Traditionally, hedonic measurements have been present in consumer studies almost exclusively. According to Stone (2004) measures of acceptance in consumer studies can and should be measured regarding the use of the product. In the past years, measurement of usage and acceptance of the products has become so common that it would seem inappropriate to act against them (Carú, 2003). However, it has been recently shown that the success criteria to launch or modify a product based only on hedonic tests are not accurate. These tests lack full validity due to the disregard of important factors to predict choice and acceptance of products as perception, attitudes towards consumption and evoked emotions (Garber, 2003).

In the past years, the concept of "product experience" has gained interest as a holistic approach to understand the interaction between a person and the (Desmet, 2008; Labbe, 2009; Schifferstein, 2009). An "experience" also seems to be a competitive advantage, as more and more companies are focusing on creating experiences to differentiate themselves in the increasingly commoditized and competitive food & beverage world. From a marketing perspective, consumers want more than just the delivery and consumption of a product or service. Instead, they seek unique consumption encounters to accompany the products and services that create memorable experiences (Walls, 2011; Fig.1.).

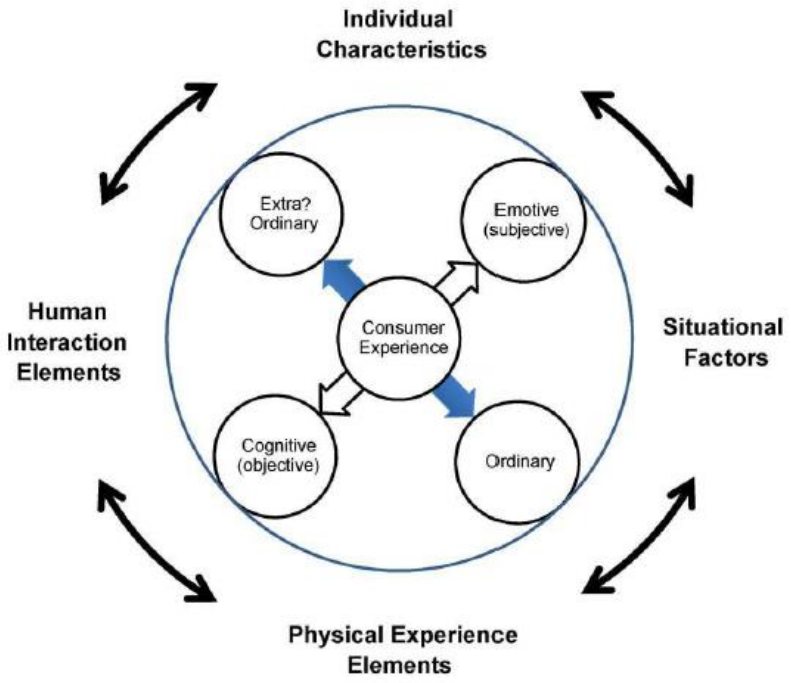

Fig. 1. A framework for the composition of consumer experiences (after Walls et al., 2011)

The first question that arises is what is an experience? Product experience is defined by Schifferstein and Cleiren (2005) as the entire set of effects a product has in a user. The product experience thus, includes its perception, the identification process it triggers, the cognitive associations and memories it activates, the feelings and emotions it elicits, and the evaluative judgments it brings out. The notion of experience entered the field of consumption and marketing with Holbrook and Hirschman's pioneering article of 1982. More than thirty years later, this notion has become a key element in understanding consumer behaviour, and it is well known that product experience applies to all affective responses that can be experienced in human-product interaction.

The concept of experience can be found across scientific literature mainly for industrial design examples (Desmet, 2002; Hekkert and Schifferstein, 2008), where the authors mention the implication of using a product (e.g. mobile phone in Seva, 2009), and even a service (e.g. tourism industry in Oh, 2007). But what are the differences between using a mobile phone, using a service and eating a food product? It seems that the concept and the definitions of experience have been "borrowed" from industrial design and little has been published about the uniqueness of eating a product (e.g. a snack) versus using a product (e.g. a mobile phone).

Despite such inspiring and broad scientific literature, the experience of eating or drinking has not been completely understood. The set of reactions triggered before and during the consumption of the product has not been addressed; and the concept is far from its maturity. Given these considerations, the aim of this thesis is two-fold: combining sensory analysis and cognitive psychology to gain more sustainable knowledge of the experience concept that can be applied to the food and beverage domain, and to develop a tool (design of a consumer study and a proper analysis) that enables the measurement of the experience of food products. Beer will be the case study due to its economic importance in Mexico and worldwide, but mainly because it is a product that may lead to sensory, affective or cognitive experience in consumers. By using beer as a case study we attempt to deepen in the understanding of the drinking experience concept.

II. Literature review

The choice to consume a food is influenced by multiple sensory and nonsensory factors. It is important to consider multiple factors when studying the consumer. However, much consumer research has focused only on the direct and tangible benefits of products. According to Hollbrock (1987), conventional research has neglected an important portion of the consumption experience like the role of aesthetic products, multisensory aspects of product enjoyment and emotions arising from consumption. The investigation of the remaining components of the experience should serve as one key target of future methodological developments in consumer research.

The roots of this so-called experiential approach must be sought in the growth of services for which, the "good" that is purchased is an experience rather than a material object' (Campbell, 1997). The main feature of an experience is to grant space to emotions. This experience is strictly personal and implies customer's involvement at different levels: rational, emotional, and sensory (Schmitt, 1999). This involvement requires the understanding of the different systems or components of our mind, to fully understand the relationship between human and products or services.

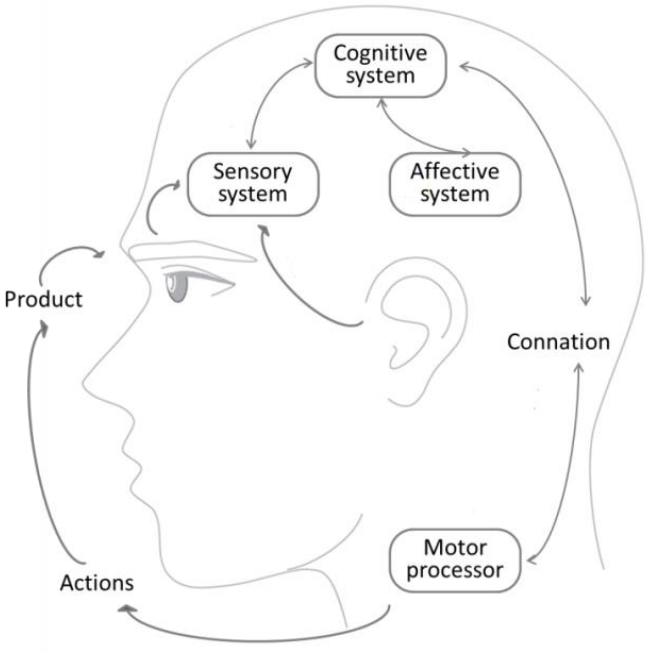

Fig. 2. The interaction between sensory, cognitive and motor capabilities, adapted from Clarkson (2008).

Most psychological and behavioural studies distinguish three basic systems of mind, each with its structures, principles and mutual interactions (Fig. 2). Some authors refer to these three systems as senses, cognition, and affect (Anderson, 1995; Schmitt, 1999; Tavassoli, 1998), others as cognition, affect, and conation (Huit, 2005). Despite this small disagreement in the name of the components, all authors agree on their definition. Cognition refers to the process to know and understand: of encoding, perceiving, storing, processing and retrieving information. Affect refers to the emotional interpretation of perception and information, while conation refers to the connection of knowledge and affect to behaviour (Huit, 2005). Besides these mental systems, humans are also "equipped" with a sensory system to perceive changes in the environment, and commercial products are part of this environment (Schhiferstein and Spence, 2008).

The study of these sets of components (affect, senses and cognition) in consumer research gives rise to the "experience" research. Different disciplines focus on different components, and they even give a different word to accompany the "experience". From marketing studying "customer experience", to design on "product experience", psychology on "affective experience", or sensory analysis on the "sensory and product experience". Regardless the discipline, the underlying theories apply to all, and the progresses in each discipline have taken "experience" research into different pathways. It is therefore useful to understand the origin of "experience" in consumer research and how the concept of product experience has been studied in sensory science.

The origin of "experience" in consumer research

In 1983, Lipovetsky wrote that we live in a culture detectable by several signs: the search for quality of life, passion for personality, environmental sensitivity, abandonment of large systems of meaning, worship of participation and expression, vintage fashion, local revival, regional revalorization of certain beliefs and traditional practices. Today consumers live a fast momentum where innovation is everywhere. Buying a product for its functional benefit is now obsolete in many product categories. The late 1980's have seen a new phase of consumption in capitalist societies, the era of hyper-consumption and hypermodernism. In this hyper-modern world, industrial and cultural productions do not refer anymore to two separated universes, radically incompatible. Production systems, distribution, and consumption are now impregnated, penetrated, shaped by operations of a fundamental aesthetic nature. The style of beauty and the evolution of tastes are imposed every day even more as strategic imperatives of products' brands.

We can see that romanticism underlies our present model of consumption, a model which moves increasingly further away from the pure functionalism of the response to needs (Addis and Holbrook, 2001). The hypermodern consumer wants to build experience in consumption; he wants to create, not to destroy. In Latin consume "*consumere*" means to destroy, to exhaust. Through the experience, the consumer no longer "destroys" but becomes the builder of emotions and moments. As a result, consumers become the hero of a "novel", the novel of their everyday lives.

It is widely accepted that consumption experiences apply to all affective responses that can be experienced in human-product interaction (Hekkert & Schifferstein, 2008; Darpy, 2012; Desmet & Hekkert, 2007). However, this approach continues to lack a solid foundation, since the concept of experience is still ill-defined, or as Carù & Cova (2003) mentioned, defined in ideological terms. The concept of experience changes slightly depending on the word that accompanies the "experience"; we can talk about product experience (Hekkert & Shifferstein, 2008), consumption experience (Darpy, 2012), user experience (Warell, 2008) and even drinking experience (Schifferstein, 2008). In any case, the variables involved in the experience can slightly change.

"Experience" itself is an interesting word that can mean different things and evokes two contradictory phenomena which, are important to link. In the first sense, the experience is a way of feeling, to be invaded by an emotional state. This is how we usually talk about an aesthetic experience, loving experience, etc. To this emotional experience, a second meaning is juxtaposed: the experience is a cognitive activity. It is a way to build what is real and verify it, to experience it (Dubet, 1994). In this thesis and in general when talking about experience in consumer research, the first sense of the word is used.

An experience is not an amorphous construct; it is as real as any service, good, or commodity (Pine & Gilmore, 1998). The bibliography available on consumption experience makes evident a different but continuous use of the concept (Desmet & Hekkert, 2007; Gentile, Spiller, Noci, 2007; Gilovich, Kumar, Jampol, 2015; Walls et al., 2011). Experience has been explored in studies spanning many fields, demonstrating that there are many common points on the application of this concept in consumer research (Maslow, 1964; Oh, 2007; Carú, 2003; Gentile, Spiller, Noci, 2007). The first publication on consumer experience (Holbrook and Hirschman, 1982) tried to offer an original view to consumer behaviour, pointing out the variables that should be taken into consideration for a wider and "more complete" understanding of consumers. Despite this encouraging article of Holbrook to enlarge the view of researchers, it took another fifteen years for new "experience" articles to come into light (Table 1).

Table 1

Summary of experience definitions (after Walls et al., 2011)

Author (year)	Definition
Ray (2008)	Experiences interrupt people from their lives and expectations to provide something of interest that demands attention; experiences themselves are incredibly involving.
Lashley (2008)	Discusses tourism experiences from the perspective of creating hospitable relationships between the host and guest; these experiences engage emotions, which is essential to creating a memory.
Titz (2007)	No single model of experiential consumption has emerged; experiential consumption is central to a comprehensive understanding of consumer behaviour in the hospitality and tourism context.
Mossberg (2007)	A blend of many elements coming together and involve the consumer emotionally, physically, intellectually and spiritually.
Oh et al. (2007)	From a consumers perspective experiences are "enjoyable, engaging, memorable encounters for those consuming these events."
Andersson (2007)	The tourist experience is proposed as the moment when tourism consumption and tourism production meet.
Uriely (2005)	The tourist experience is currently depicted as an obscure and diverse phenomenon, which is mostly constituted by the individual consumer.
Berry et al. (2002)	The means of orchestrating all the clues that people detect in the buying process.
Lewis and Chambers (2000)	The total outcome to the customer from the combination of environment, goods, and services purchased.
McLellan (2000)	The goal of experience design is to orchestrate experiences that are functional, purposeful, engaging, compelling, and memorable.
Schmitt (1999)	Experiences are private events that are not self-generated but rather occur in response to some staged situation and involve the entire being.
Gupta and Vajic (1999)	An experience occurs when a customer has any sensation or knowledge acquisition resulting from some level of interaction with different elements of a context created by a service provider.
Pine and Gilmore (1998, 1999)	A distinct economic offering that are as different from services as services are from goods; successful experiences are those that the customer finds unique, memorable and sustainable over time, would want to repeat and build upon, and enthusiastically promotes via word of mouth.
O'Sullivan and Spangler (1998)	Involves the participation and involvement of the individual in the consumption and the state of being physically, mentally, emotionally, socially, or spiritually engaged found that experience.
Carlson (1997)	An experience can be defined as a constant flow of thoughts and feelings that occur during moments of consciousness.
MerriamWebster (1993)	The fact or state of having been affected by or gained knowledge through a direct observation or participation.
Arnould and Price (1993)	Extraordinary experiences are those characterized by high levels of emotional intensity.
Denzin (1992)	Extraordinary experiences rupture routines and live and provoke radical redefinitions of the self. In moments of epiphany, people redefine themselves. Epiphanies are connected to turning-point experiences.
Csikszentmihalyi (1990)	Flow is the optimal experience that keeps one motivated. This feeling often involves painful, risky or difficult efforts that stretch the person's capacity as well as an element of novelty and discovery. Flow is an almost effortless yet highly focused state of consciousness, and yet the descriptions do not vary much by culture, gender, or age.
Mannell (1984)	An experience or state of mind is uniquely individual and that the quality rather than the quantity of leisure in our lives deserves attention.
Hirschman and Holbrook (1982)	Those facets of consumer behaviour that relate to the multisensory, fantasy and emotive aspects of one's experience with products.
Maslow (1964)	Peak experience is the experiences in which the individual transcends ordinary reality and perceives being or ultimate reality. Short in duration and accompanied by positive affect.
Thorne (1963)	Peak experience is subjectively recognized to be one of the high points of life, one of the most exciting, rich and fulfilling experiences which the person has ever had. A experience may be described operationally as a subjective experiencing of what is subjectively recognized to be one of the lowest points of life, one of the worst, most unpleasant and harrowing experiences of life.

In 1997, Csikszentmihalyi (Fig. 3) proposed a consumer experience typology, where two dimensions differentiate the types of experience: the skills and the challenges. In its typology, the most desired or maximum consumption experience is named a "flow." This "flow experience" requires both a high level of challenge and skill. It is worth mentioning that a "flow experience" for one consumer may be boring or irritating to another consumer, because it depends on their skills and challenges. This "flow experience" is comparable to the peak experiences mentioned by Maslow in 1964 but in the field of psychology.

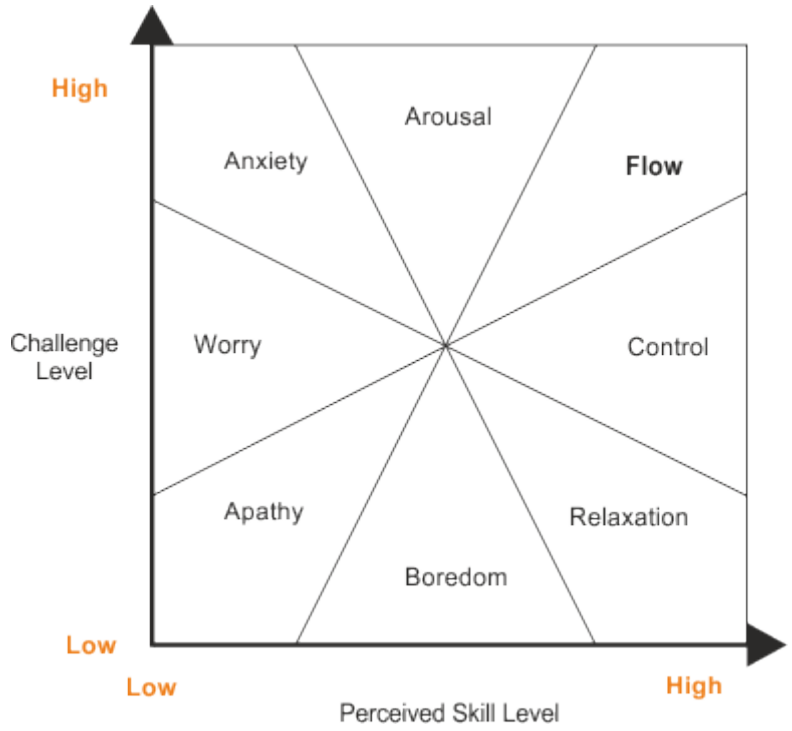

Fig. 3. The typology of consumer experience (after Csikszentmihalyi, 1997)

In 1998 Pine presented experiences a**s** a new economic offer a**s** the final stage of differentiation and pricing in products and services; evolving after commodities, goods and services (Fig. 4). According to Pine the commodities are the least differentiated products and their transaction is based on a global market. In a more differentiated stage the "make goods" or commercial products are more competitive, followed by a service. At the end of this continuum lies the experiences which, are highly differentiated products in the market (or services). This more market-oriented approach enables companies to create new and more value-added products to the consumer.

In Pines' words, Walt Disney was the pioneer in the experiential economy, but nowadays the concept of selling an entertainment experience is taking root in businesses far away from theatres and amusement parks. The consumer is seen as an individual emotionally involved in a shopping process, in which the multi-sensory, imaginary and emotive aspects, in particular, are sought and appreciated. The consumer sees the process of consumption as a more romantic act, and acts that more away from the pure functionalism of the response to needs. This allowed Holbrook (1987) to propose the following logical sequence in consumer experience: "romanticism → experiential consumption → emotional responses → pleasure", and to insist on the fact that in this experiential approach, sensations are more important than the consumers' rational thoughts.

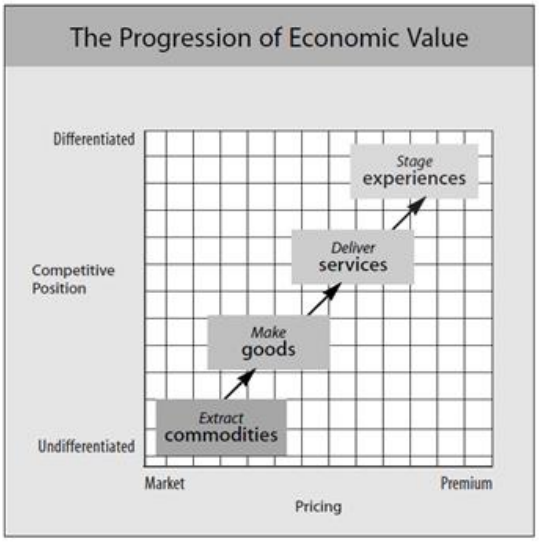

Fig. 4. The progression of economic value (after Pine, 1998).

Product experience

In 2001, Addis and Holbrook suggested that to understand experience we need to go beyond shape and form, even beyond simple ergonomics. Recently, industrial design academics have defined the product experience concept, as a concept that allows the study of a product far beyond the shape and form. For Hekkert and Schifferstein (2008), the subjective product experience is defined as the awareness of the psychological effects elicited by the interaction with a product, including the degree to which all our senses are stimulated, the meanings and values we attach to the product and the feelings and emotions that are elicited.

In 2008, Hekkert and Schifferstein publication of the "Product Experience" book, marked a new era on the experience scientific literature, with a clear domination of the design approach (Fig 5). The *Product Experience* book contains a collection of chapters written by experts from all over the world, covering topics from perceiving products through the senses, to their symbolic and emotional meanings. A new multidisciplinary approach of the concept was assured. For Hekkert and Schifferstein (2008), the disciplines involved in product experience research are marketing/consumer science, different fields of psychology, as well as designers and engineers. Despite the importance of the sensory systems in the study of experience, sensory analysis was not considered as an important discipline in the study of the concept, even though Schifferstein itself is a sensory scientist.

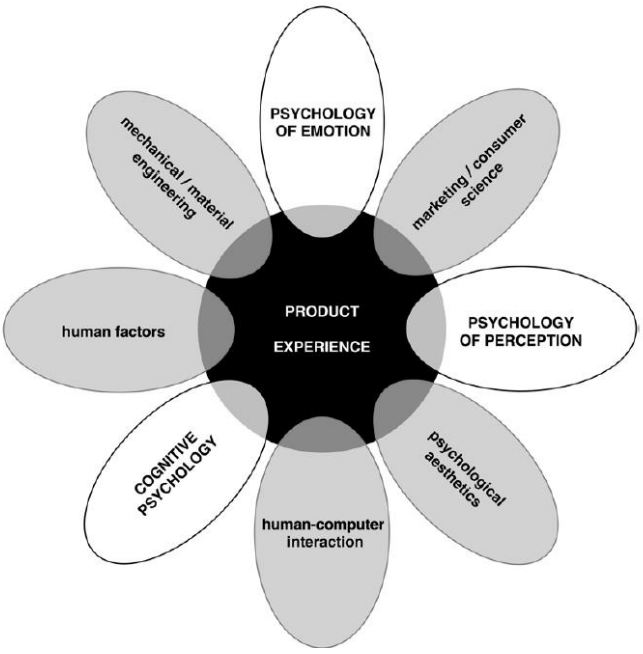

Fig. 5. Disciplines that are contributing to the product experience (after Hekkert & Schifferstein, 2008).

For this thesis purpose, the design definition of the product experience is embraced. The heart of this definition takes into consideration several important points. The first one, mentioned by Krippendorff (2008) has to do with the **notion of interaction**. For her, experiences are not merely personal and subjective but crucially related to interacting with something of interest, an artefact, activity, or a situation involving other people. The prefix 'ex' also suggests that ex-periences require ex-ternalization, ex-pression, or ex-planations (Krippendorff, 2008). Therefore, the concept "product experience" refers to the objectal relationship between a product and a user.

The second point has to do with how an object triggers the experience, about **the outcome of the experience.** Experience is not a property of the product but the outcome of the human-product interaction, and therefore dependent on what temporal and dispositional characteristics the user brings into the interaction (Desmet, 2007). The characteristics of the user (e.g., personality, skills, background, cultural values, and motives) and those of the product (e.g., shape, texture, colour, and behaviour) shape experience. All actions and processes that are involved, such as physical actions and perceptual and cognitive processes (e.g., perceiving, exploring, using, remembering, comparing, and understanding), will contribute to the experience. Also, the experience is always influenced by the context (e.g., physical, social, economic) in which, the interaction takes place.

The third point has to do with the **importance of the senses in the product experience**. Humans are endowed with two essential modes of consumption: thinking and sensing. On a personal, subjective level, almost all acts that involve the consumption of products have as their outcome the stimulation of our thoughts and/or our senses (Hirshmann, 1984). People use all of their senses to explore the world around them when a person interacts with a product, the inputs from the various senses should be integrated to give rise to a unified multisensory product experience (Schifferstein, 2008). One very important assumption to be taken into consideration is that the person perceives a product as a whole, and not as the sum of its individual properties.

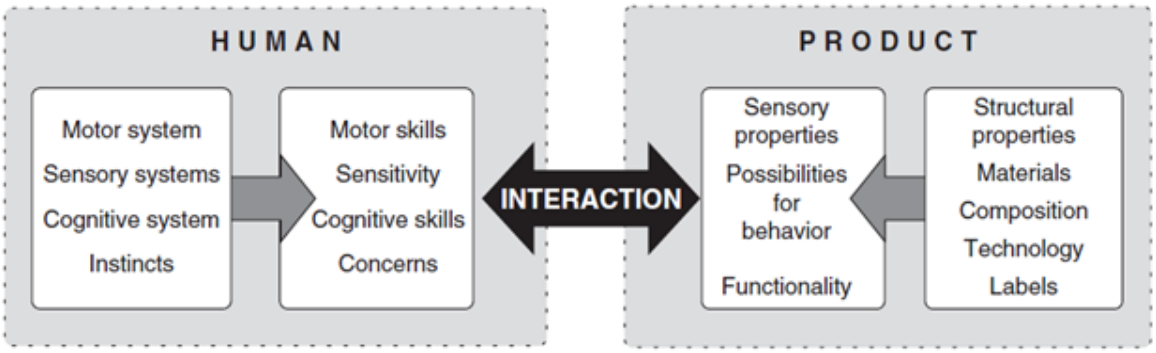

Fig. 6. Model of the human - product interaction (after Hekkert, 2008).

The last point has to do with the importance of the mind components in product experience. For industrial design, this experience is the research area that develops an understanding of people's subjective experiences that result from interacting with products (van Rompay, 2006). Building on the definition, this subjective experience is defined as the awareness of the psychological effects elicited by the interaction with a product. It includes the degree to which all our senses are stimulated, but also the

meanings and values we attach to the product, and the feelings and emotions that are elicited (Hekkert and Schifferstein, 2008; Fig. 6). This rich definition gives space to the study of the different components of the experience in this thesis: sensory, affective and cognitive (Fig 7).

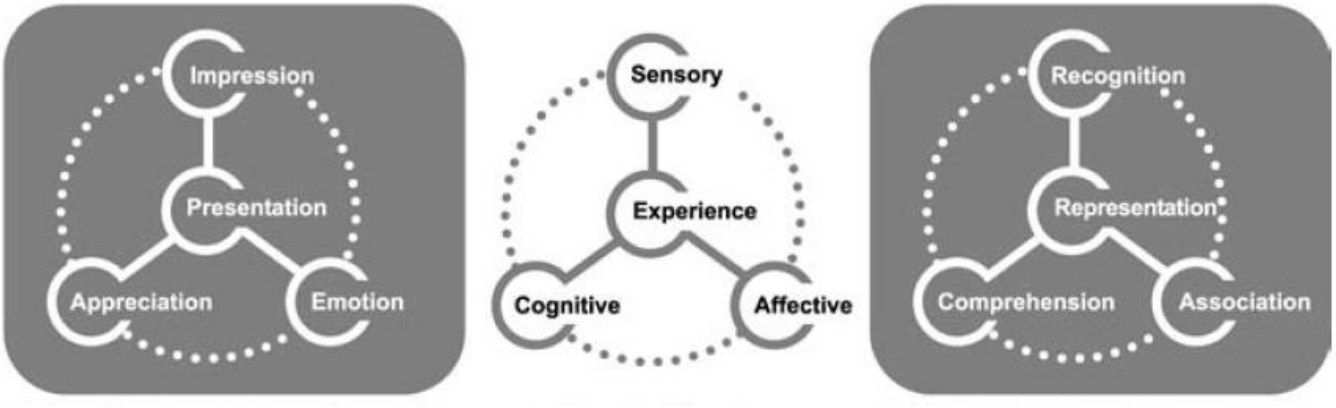

Fig. 7. The visual product experience (VPE) model, showing the core modes of sensory, cognitive and affective experiences (after Warell, 2008).

The components of the product experience

Sensory experience implies that the objective of the experience is to stimulate sensory activity, that is, to stimulate or activate one or multiple sense organs (Hirschman, 1984). The use or perception with one or multiple senses is a key element of the current theory of product experience (Schifferstein, 2008). Recent studies show that each of our senses is most sensitive to a different type of stimulation. Because each sensory modality may be considered as a separate information channel, not all of the incoming sensory information will necessarily communicate the same message to a person (Schifferstein and Spence, 2008). Another important point in the sensory domain is the so-called cross-modal correspondence, which implies that certain products properties may be perceived by multiple sensory modalities. The basic idea is that we share some associations between sensory attributes (either presented or simply just imagined) in different modalities. So, for example, people map sour-tasting and carbonated foods and beverages onto sharper shapes, whereas they preferentially map creamy foods and still liquids onto more rounded shapes instead (Piqueras-Fiszman et al., 2012). Moreover, certain cross-modal correspondences can enhance an expected product experience (Piqueras-Fiszman and Spence, 2012).

When a person interacts with a product, the inputs from the various senses should be integrated to give rise to a unified multisensory product experience. The results of many empirical studies now show that

the relative importance of the various senses does not only depend on the particular type of product being investigated, but also on the specific task that the user has to perform with the product (Schifferstein and Cleiren, 2005; Schifferstein, 2006). For Schifferstein and Spence (2008), one general rule-of-thumb is that the interpretation of sensory information that is more ambiguous usually receives less weight in the formation of multisensory product judgments.

The affective experience is another important construct of the product experience, and it refers to the emotional outcome when interacting with a product (Warell, 2008; Fig. 7). For Desmet (2007) the words 'affect' and 'experience' can be used interchangeably because we use 'product experience' to refer to an experience that is affective. In psychology, the term affect is used to refer to all types of subjective experiences that are "valenced". In other words, they are experiences that involve a perceived pleasant or unpleasant sensation. Affects compromises different states which psychologists have to distinguish in human beings, such as preferences, attitudes, moods, affect dispositions, and emotions. Table 2 shows an attempt to specify the profiles of different affective phenomena, proposed by Scherer (2005). Based on the table assumptions, one can define differentially affective phenomena, using several variables, as follows:

Table 2
The affective phenomena (based on Scherer, 2005).

Affective Phenomena	Relation with event or object	Appraisal	Intensity	Duration
Preferences	Very low	Very high	Low	Medium
Moods	Low	Medium	Medium	High
Aesthetic emotions	High	Medium high	Medium - Low	Low
Utilitarian emotions	Very high	Medium	High	Low

The first variable listed in the table is "event focus"; it refers to the relation between the affect phenomena and an event or object. Often such events will consist of natural phenomena like thunderstorms or the behaviour of other people. In other cases, one's behaviour can be the event, as in the case of guilt or pride. The second variables are the appraisals; that means evaluation or valorisation. They are the evaluations of the event's significance for a person well-being. The variables: intensity and duration are also very useful in the differentiation of affect phenomena.

Thanks to the variables provided by Scherer (2005), we can define "preferences" as stable judgments in the sense of like and dislikes towards stimuli. Moods are characterized by a long duration and a low to medium intensity. The principal difference between emotions and moods is that moods are not object-related. For example, one may be in an angry mood, but to experience the emotion of anger, one must be angry at something. Moods are not directed at a particular object but rather at the surroundings in general or, in the words of Frijda (2006), at the world as a whole. Moreover, emotions are probably the most individual and often idiosyncratic of human phenomena. According to Kleinginna (1981), emotion is a complex set of interactions among subjective and objective factors, usually the duration of emotion is limited to seconds, or minutes at most (Ekman, 1992). Scherer (2005) have suggested the need to distinguish between different types of emotions: aesthetic emotions and utilitarian emotions. The latter correspond to the common garden- variety of emotions usually studied in emotion research such as anger, fear, joy, guilt. Alternatively, they can also be called primary emotions (utilitarian) and secondary emotions (aesthetic), (Damasio, 1994). In the food domain, emotions and affects, in general, are important because, in our eating behaviours, human beings are very much affected by emotions: food choices, quantity, and frequency of meals are all dependent on many variables not necessarily related to physiological needs (Canneti, 2002). Therefore, the study of emotions must be a constant in the product experience of drinking and eating.

Cognitive experience may be the final component to take into consideration in the product experience concept. As mentioned before (Huit, 2005), cognition refers to the process of coming to know and understand; of encoding, perceiving, storing, processing, and retrieving information. It is associated with the question of "what" (e.g., what happened, what is going on now, what is the meaning of that information.) The cognitive "architecture" relies on the registration of sensory information, short term memory, long term memory, and the structure of control of information (Lemaire, 2006). The relationship between cognition and the interaction with a product is basic to understand product experience and food experience.

Several studies note the importance of cognitive factors in food and beverages. Valentin (2007) report that beer "experts" outperformed novices in tasks of identification and recognition of beer, but only for familiar beers. According to Valentin (2007), the results suggested that it is likely that the memory of the experts has their origin in a more efficient encoding and retrieval of long-term memory, instead of better perceptual ability. It is noteworthy that memory is an important factor in the experience of the product, as it can alter or modify the relationship/interaction we have with a given product. In the same domain,

Chollet (2011) found that in a categorization task, expert persons use more groups to classify beers in comparison to novices. Such result shows that the perception toward beers is different between trained and untrained persons. This difference between persons can also have an impact on the beer experience, that is to say, if the perception of the beers is different, as a consequence, the experience during consumption can also be different.

The affect, senses and cognition are part of the experience concept and may help the consumer research to understand the experiential turn that has been seen in today's markets. As previously mentioned in introduction the successful products in today's market seem to be dominated by "experience", and the consumer is moving away from the functional attributes of the products to the "experience" attributes of the product. However, it is important to mention that this experiential turn does not touch all markets and that the relevance of each experiential component is weighted differently for consumers of different cultures or needs. For example, in low-income consumers there are more functional needs to be covered by the products being used, and therefore, the experience might be more functional (e.g. feeling full after eating; Ramaroson, Arvisenet and Valentin 2014) than aesthetic. There might also be countries with a higher number of consumers that search for a more experiential consumption. Moreover, finally, there might also be countries with a contrasting mix of low-income consumers that search for functional products and also a high number of consumers that searches for experiential consumption. Nevertheless, these aspects of consumption fall outside our research objective.

To sum up the key aspects of the literature review are:

- The concept of experience is originated in our hypermodern consumption world, in which the consumer no longer buys a product for its functional benefits but for what it means
- The research on experience has spanned many fields, from consumer psychology to industrial design and sensory science
- The research on experience gives rise to concept of product experience which has been used broadly in industrial design, to refer to all the effects that a product has on a user
- The set of effects that a product has on a user can be measured with the three mental systems that humans have to interact with the environment: affective, cognitive and sensory.
- The product experience concept has been used in sensory science to describe the experiential aspects of eating and drinking, however this concept does not match exactly to sensory science as

humans do not “use” a food, they rather consume it and afterwards may transform that consumption into an experience

- Therefore, there is a gap between the concept of product experience in the experience of eating and drinking that can help make a better use of the concept.

III. Thesis justification, objectives, and hypothesis

Justification

Given the previous theoretical consideration, we assume that there are still gaps to cover in the experience research for food and beverages, more specifically the experience of drinking. As today every product seems to be marked by the label of experience to have a competitive advantage or a higher differentiation, it is important to better define the concept of experience in beverage consumption. An experience approach can be used to explain the underlining mechanism of food choice and preference in the act of drinking, and more specifically, the act of choosing and drinking a beer.

In order to understand the use of an experience approach to measure the act of drinking beer, there is still research to assess the following points:

- How adequate is product experience concept when describing the experience of drinking? Which are the similarities and differences across product experience and drinking experience concepts?
- What is the relationship between cognition, senses and affects in the product experience and drinking experience concept?
- How can a tool be developed to measure the experience of drinking in a regular consumer test?

Beer has been selected as the case of study, due to the great economic importance that it has globally and in Mexico, being one of the world's bigger beer exporter with a production of 19.5 million of hectolitres. In the alcoholic beverage domain, beer plays an important economic role accounting for 78% of the worldwide alcoholic beverage share of the market (Euromonitor International, 2011; 2014). Beer has passed the barrier of economic importance in the consumer, several studies have shown the importance of beer in the cultural aspects of consumption and identification processes that makes beer a suited object as case study. For example, Choi (2005) argues that a taste for lager beer in the U.S. respond can be linked to various cultural factors triggered from the prohibition of alcoholic beverages during 1920 - 1933 when consumers somehow "forgot" the full range of variation of what beer is and can become. Currently, the beer industry in the U.S. is fighting the share of the market with the "same product", the American consumer expects the U.S. beer lager to be light in colour, with little hops, medium-bodied and slightly bitter. In this way, differentiation between products is made by the mark. Nield argued in 1995 that the same homogenization effect of the product is present in England, where most of the products are similar, and the distinction is drawn through the mark. Unlike Denmark, where Mejlholm (2006) found that the

beers present in the Danish market are diverse and multiple types, but are preferred by consumers Ale and Lager strong type, that has, according to the author, a strong identity in the Danish market are preferred by consumers.

The beer category has been dominated for a long time by a single beer style: lager beer. But in the last decade a growing interest for craft and specialized beers has been noticed in several countries. In Mexico, craft beer has been growing at double digit rate in the past five years (Euromonitor International, 2014) whilst craft breweries are starting to gain more consumers all over the country. Then, why is craft beer consumption changing? As food choices and habits are usually rather stable over time (Wood and Neal, 2009) it is often considered that a change in product consumption is a sign that the perception towards the product is changing. Therefore, it is important to understand and identify how the relative meaning of the product is built, and what is the experience that consumers have towards craft versus industrial beer?

Objective

The objective of this thesis is twofold. First, to contribute to the understanding of food choice and consumption through the study of the subjective product experience of drinking craft versus industrial beer. Second to develop a measurement tool capable of assessing the influence of the human systems (senses, affects, and cognition) involved in the food-product experience.

The specific objectives are:

- To understand consumers' habits and attitudes towards craft versus industrial beer consumption;
- To explore the structural differences of the beer drinking experience across gender, age, and individual variables such as social and mental representations of craft and industrial beers;
- To identify the differences and similarities between the concept of drinking experience and product experience;
- To identity the influence of senses, affects and cognition in the product experience of drinking beer;
- To develop and validate a tool to measure product experience, which takes into consideration the impact of senses, affect and cognition.

Hypotheses

- **H1:** Beer consumers' can be differentiated based on their habits and attitudes towards craft versus industrial beer consumption.

- **H2:** The experience of drinking beer is influenced by the products' intrinsic (flavour, alcoholic content, etc.) and extrinsic (price, brand, image, etc.) characteristics searched by consumers.

- **H3:** The experience of drinking beer is influenced by consumers' individual differences such as mental and social representations.

- **H4:** Product experience is formed by a heterogeneous mix of reactions of senses, cognition, and affect. The supremacy of one dimension over the other can shape a unique subjective product experience.

- **H5:** Consumers' characteristics such as age, gender and culture have a direct impact in the product's experience of drinking beer.

At least one study was developed to test each one of the five hypothesis of the thesis (Fig. 8).

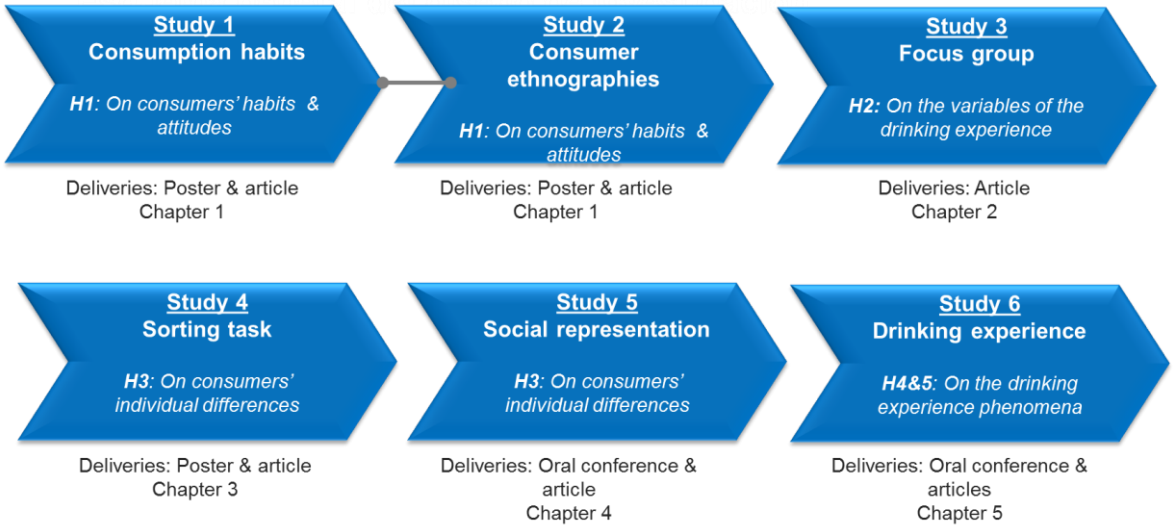

Fig. 8. General schema of the thesis by hypothesis being tested and deliveries

IV. Chapter 1 – Habits and attitudes of industrial and craft beers consumption

Introduction

According to Wood and Neal (2009), the habits of consumers reflect the wisdom of past experiences. These habits are usually stable over time. To explore the habits of consumers, it is important to understand the underlining demographic characteristics of consumers and the attitudes towards consumption. Based on the previous theoretical framework, we believe that habits and attitudes might be influencing the experience of drinking beer, and whether this beer is industrial or craft.

In current consumer research, both in the academy and in the industrial domain, the habits are measured using a self-reported frequency of past performance and purchases (Oulette and Wood, 2009). Consumer agencies usually refer to these types of test as "Uses & Attitudes" or "Habits and Attitudes" tests. The most common outcome of these studies is to understand the brands more often used (BUMO), the frequency of purchase and consumption and to obtain a typology of consumers that can be expressed regarding gender, age, income level, etc. However, as many quantitative techniques, this type of study shows tendencies but do not explain why the persons are consuming the product, their underlining motivations and the benefits of consuming a product rather than another one. A solution to this problem is to employ mixed methods.

In this study, a mixed method was used, inverting the regular order of quantitative and qualitative studies. We propose to perform a quantitative study on consumption habits followed by a set of consumer ethnographies to explore in greater depth the reasons behind the consumption purchases and attitudes towards craft and industrial beer.

The outcome of the study was:

- A poster presented at the 6th European Conference on Sensory and Consumer Research, Copenhagen, 7 – 10 September.
- A research article published on Appetite in 2016.

The poster and the article combine the study of habits of consumption and consumer ethnographies.

Understanding new product categories: mixing quantitative test with consumer ethnographies

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Casa abierta al tiempo

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Consumers are constantly changing and searching new products for consumption, self-identity and social expression. Usually, quantitative measurements of consumer habits are seen as an efficient solution in new category appraisals and, qualitative methods are used to enhance questionnaire development, but only for subsequent quantitative validation. The main limitation of this approach is the lack of information to explain the "whys" behind numbers, the reasons behind tendencies and the experiences behind the products.

Study 1 – Habits of consumption

207 consumers interviewed

Questionnaire: 32 open-ended and multiple choice.

Analysed with Chi and z test for proportions + Bonferroni corrections.

Results

Most consumed alcoholic beverages, besides beer are whisky and tequila. Significant gender differences are seen for vodka (higher in woman) and mezcal (higher in men).

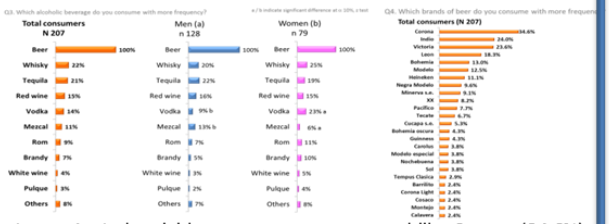
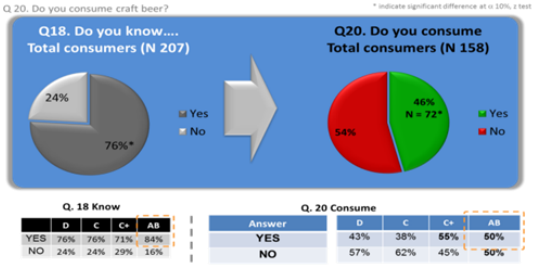


Image 1. Industrial beers are more consumed like Corona (34.6%). Small number of consumers drinks craft beers: Cucapá (5.3%), Tempus (2.9%) and Calavera (2.4%).



Q. 18 Know

	D	C	C+	AB
YES	76%	76%	71%	84%
NO	24%	24%	29%	16%

Q. 20 Consume

Answer	D	C	C+	AB
YES	43%	38%	55%	50%
NO	57%	62%	45%	50%

Image 2. 76% of the interviewed consumers know what craft beer is, bigger proportion in high socioeconomic levels (AB). From 76% of consumers that knows what craft beer is (N158), 46% consumes it.

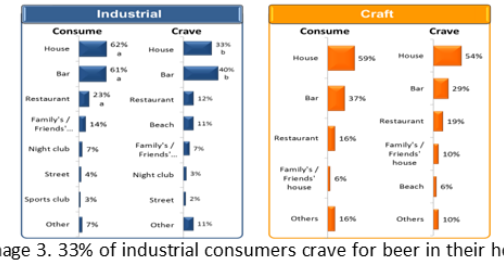


Image 3. 33% of industrial consumers crave for beer in their homes, but home consumption raise to 62%. Consumers crave and consume craft beer in their home, it's a more "congruent" consumption.

Study 2 – Consumer ethnographies

- In-home consumer ethnographies conducted to understand and give meaning to quantitative results. 100% craft beer consumers.
- Consumers were asked to let us touch, feel, smell and taste everything involved in their beer drinking experience.
- Results obtained with thematic analysis

Results

Video 1: Six consumers answers to the question: *What makes craft beer different from other ones?*

Experience

"The experience lies exactly in tasting new things. I found it very ludic and amusing"

Beer experience emerged as the most recurrent theme, shaped by the cup; its use can limit or enhance the experience

Attitudes

"For craft beer, I mean a better quality beer and things like that"

Craft beer is visualized as high quality product, especially for men. Main motivation for drinking is the quest of searching authenticity as framework for consumption experience.

Moments

"It's for a good moment or a more intimate, because maybe the sensation is another"

Craft beer moments are oriented towards special and ritualized, in opposition, industrial beer moments are marked by more common moments of socialization.

Shopping

"My beer purchase is subject to the arbitrariness, in the mood of trying new things

Influence of the vendor in the decision of purchase is stronger in woman vs men. Woman search beer styles while men focuses on novelty.

Enjoy

"I rather be alone and concentrate on my beer"

Consumers preferring individual experiences do not share liking preferences with friends or mates & focus on product enjoyment vs sharing.

Craft beer emerges as an identity- product, giving space to new consumption experience. Ethnography, while not itself a new method, used after a quantitative test, was an optimal way to get meaning and reasons out of consumers' habits and attitudes towards craft beer consumption. (carlosgomezcorona@yahoo.com.mx)

Fig. 9. Poster presented at the 6th European Conference on Sensory and Consumer Research, Copenhagen, 7 – 10 September. The video projected on "video 1 section" can be found on the appendix of the thesis.

Article: Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico

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Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico

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ABSTRACT

Food choices tend to be stable over time; they do not change fast, since consumers tend to act like creatures of habits. However, food habits can evolve, like currently the craft beer category. A change of habits involves a change of perception towards a product. Therefore, what is changing in the perception of beer? Two studies were conducted to address this question. First study was preliminary and aimed at exploring beer consumption habits in Mexico and a better understanding of craft beer representation among beer users. A questionnaire was administrated to 207 consumers in Mexico City during a beer festival. Results showed that respondents could be classified in: industrial beer (41.1%), occasional industrial (24.1%), and craft beer (34.8%) consumers. Craft cluster included mostly 25–35 years old men with high-income level. Among the craft beers cited by respondents from this cluster some are industrial, suggesting that the concept of craft beer might not be well defined, or defined in ideological terms. The second and main study was conducted using consumer ethnographies to understand the motivations and benefits of craft beer consumption. Opposite to industrial, craft beer emerges as an experience-based and symbolic product rather than a utilitarian one. The main motivation for drinking craft beer seems to be the quest of authenticity. Respondents' motivations to drink craft beer are generated by three important factors: desire for more knowledge, new taste experiences, and move away from the mainstream beer consumption. Craft consumers do not drink the product for its functional attributes, they consume it for what it means and as a consequence they build an identity, perceived as more authentic and unique, in comparison to the mainstream industrial beer consumption in Mexico.

1. Introduction

Alcoholic beverages are not only beverages; they are surrounded with paradoxes, being often recognised as stimulants and depressants, a food and a poison; its use symbolizes a range of both positive and negative valuable things and feelings (Heath, 1987). Alcohol consumption has been the focus of interdisciplinary studies including sensory analysis (Lelièvre, Chollet, Abdi, & Valentin, 2008; Sáenz-Navajas, Ballester, Peyron, & Valentin, 2014), cognitive psychology (Valentin, Chollet, Beal, & Patris, 2007), social psychology (Lo Monaco & Guimelli, 2008), marketing (Choi & Stack, 2005), and anthropology (Johansson, 2001). In a meta-analysis, Crowford (1987) found that persons drink alcohol for a variety of reasons: 1) social reasons, which refer to social obligations and celebrations; 2) psychological effects or an escape, which refer to avoidance and to a sensation seeking; 3) intrinsic reasons or "hedonic aspects", which refer to the pleasure derived from alcohol *per se*. Are these motivations for drinking alcohol stable over time or are they evolving? If they evolve, how does that impact consumer choices and alcoholic beverages development?

Among alcoholic beverages, beer is the most widely consumed around the world accounting a 78.2% of the alcoholic beverages share; a number higher in certain countries like Mexico, in which beer represents 93.3% of the total alcoholic beverage consumption

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(Euromonitor International, 2009; Euromonitor International, 2014). The importance of beer in human life goes from an economic (Nield & Peacock, 2005) to a symbolic level (Mejlholm & Martens, 2006) and from a functional (Guinard, Souchard, Picot, Rogeaux, & Sieffermann, 1998) to an experiential level (Darpy, 2012). Daems and Delvaux (1997) mentioned that for products like beer, consumers' appreciation of the product is mainly influenced by the sensory characteristics of it. Likewise, Sester, Dacremont, Deroy, & Valentin, (2013) found that young French consumers would be more prone to reject a beer for its taste than for the bottle. Caporale and Monteleone (2004) investigated the extent of consumers' information, concerning the manufacturing processes of beer, its influence and how acceptable the product is to consumers with a genetically modified yeast, organic barley and hops, and using a traditional brewing technology. Their results show that genetic modification is a major alteration in the production process and its application brings a number of undesirable consequences, while an organic process has a positive impact on acceptance.

In the last decade a growing interest for beer has been noted in several countries. In Denmark, for instance, the awareness of beer quality and the consumption of beer in different contexts have grown among consumers (Mejlholm & Martens, 2006). In the US, since the 1990's, craft breweries have re-emerged as an alternative to mainstream beer (Choi & Stack, 2005), and this craft beer revolution seems to be extending to other countries. Craft beer is becoming more and more popular in Mexico and for years, they have been growing at double-digit rates. Craft beer consumption increased 25% during 2013 and from every 975 L consumed in the country, 1 L comes from craft brands (Euromonitor International, 2014). In a recent exploratory study, Aquilani, Laureti, Poponi, and Secondi (2015) found that craft beer is chosen for its variety of flavours such as malted barley, chestnut and honey-flavoured beers which increase the probability of perceiving craft beer to have a higher quality than commercial beer. In their study with Italian consumers, craft beer was consumed by frequent beer drinkers in pubs and with their families.

Why is the consumption of beer changing in different countries? We know that food choices tend to be stable over time (Riet, Sijtsema, Dagevos, & De Bruijn, 2011), they do not change rapidly and in fact, consumers sometimes act like creatures of habits, automatically repeating past behaviour no matter current goals and valued outcomes. Habits reflect the wisdom of past experience (Wood & Neal, 2009), but persons consume and purchase for reasons other than habits, whether they are in search of a given functional benefit or to experience positive emotions. Changes in consumption habits may be a sign of a change of attitude or perception towards a product (Lo Monaco & Guimelli, 2008). Therefore the objective of this study was to understand the difference in consumption habits, attitudes and motivations between craft and industrial beer drinkers.

Habits are traditionally assessed through self-reported frequency of past performance (Betsch, Haberstroh, Molter, Glöckner, 2004; Ouellette & Wood, 1998;). This approach, commonly named "uses and attitudes" by marketing agencies, is based on questionnaires that searches the type of products consumed, places to purchase, popular brands consumed as well as socio-demographic characteristics of consumers. As many quantitative techniques, this type of studies show tendencies but do not explain why persons are consuming the product; what are their main motivations and benefits of consuming it. A solution to this problem is to use mixed methods.

In mixed methods, qualitative techniques can be used before, after, or simultaneously with quantitative methods. Qualitative research such as focus groups, interviews or consumer ethnographies, might follow quantitative research to explore with greater depth a phenomenon once a problem or issue is identified by quantitative research. Ethnographic research was chosen as a qualitative method to address the problems linked to the "limitations of asking", the fact that "people don't always do what they say", and to develop a "thick description" of the consumers experiences (Elliott and Jankel-Elliott, 2003). Consumer ethnography does not take place in the lab, but in the real world: it is like moving from black and white to colour: the immediacy of the aroma, texture, taste, temperature, sound, movement, and muscular strain, all of these stimulate and enrich the level of understanding (Mariampolski, 1999). A sensory approach of the consumer ethnographies were used as it targets specific attention to the ways in which senses play a role in performance and coordination (Pink, 2009; Valtonen, Markuksela, & Moisander, 2010). Sensory ethnographies use interpretative phenomenological analysis (IPA) to examine results of the ethnographies. The main objective of IPA is to understand what personal and social experiences mean to those persons who live them. Thus, IPA researchers ask their participants to describe events or objects they encounter, emotions evoked, relationships they have and so on (Eatough & Smith, 2006; Shaw, 2010). To sum up, the aim of this study was to explore the consumer habits of craft vs. industrial beer. A preliminary study was first carried out using a quantitative approach to explore beer consumption habits in Mexico and have a first idea of who the Mexican consumers of craft beers are and how they define craft beers. Consumer ethnographies were then used to understand the consumption experience of craft beer among these consumers and why the respondents consume the product: motivation, benefits, attitudes and emotions experienced.

2. Preliminary study – habits of consumption

2.1. Methodology

2.1.1. Participants

Respondents were contacted during a beer festival called "*Cerveza México*", which takes place every year in Mexico City and gathers a high number of industrial and craft beer consumers. A total of nine interviewers, including some of the authors, were trained to approach and interview consumers face-to-face. An intercept sampling procedure was used: interviewers stopped any possible consumer present at the beer festival and invited them to participate in the survey. The consumers who accepted the interview and passed the inclusion criteria (to consume beer) took part in the study. Even is selection *bias* is a major issue with this type of sampling procedure, convenience sampling is quite used in preliminary studies to obtain exploratory data and has been successfully used recently to obtain information on craft beer consumption in Italy (Aquilani et al., 2015). At the end of the beer festival a total of two hundred and seven beer consumers were interviewed. Consumers' demographic information is shown in Table 1.

2.1.2. Habits of consumption questionnaire

The questionnaire was designed to understand the habits of drinking beer and obtain understanding in craft beer consumption, it included different types of questions (Table 2): open-ended, dichotomic Yes/No, and check-all-that-apply (CATA). The 17 questions were expected to be answered in 5 min or less in a face-to-face interview, to make sure that consumers focus on one question at the time and that an answer was obtained before moving on to the next question. The questionnaire was structured in four parts as follows: filter for alcohol and beer consumption (questions 1 and 2); beer drinking habits (questions 3–10); craft beer awareness and consumption (questions 11–13); and demographic characteristics

Table 1
Demographic characteristics of participants included in the study, expressed as a percentage (N = 207).

		%			%
Gender	Male	62	Income level	High	21.3
	Female	38		Medium-high	20.3
				Medium	24.6
				Low	33.8
Age (years)	18–24	35.7	Education level	Medium	16.4
	25–35	52.3		Graduate	71.5
	36–45	7.2		Post-Graduate	12.1
	46+	4.8			

Table 2
Questionnaire of the habits of consumption test.

Q1. Are you an alcoholic beverage consumer?[b]	Q8. In which places do you normally consume beer?[c]
Q2. Which alcoholic beverage do you consume with more frequency?[c]	Q9. In which place do you crave the most for a beer?[c]
Q3. You mentioned beer, which brands do you consume with more frequency?[c]	Q10. Do you know what craft beer is?[b]
Q4.In which days of the weeks do you consume beer with more frequency?[c]	Q11. In your own words, how could you define a craft beer?[a]
Q5. When you drink a beer, do you normally eat something?[b]	Q12. Do you consume craft beer?[b]
Q6. How many beers do you consume in a normal week?[a]	Q13. Which craft brands do you consume the most?[c]
Q7. In which of the following places, do you usually buy a beer?[c]	Q14–17: Demographic information (age, gender, study level and income level)[a]

[a] Open-ended question.
[b] Yes – No question.
[c] CATA.

(questions 14–17). Income level was defined using AMAI rule for Mexican consumers (López Romo, 2011).

2.2. Data analysis

2.2.1. Univariate analysis

The data for the Yes/No and CATA questions were analysed based on their frequency of selection. Global chi-square tests were performed to observe differences in participants' responses to each variable followed by a multiple comparison using a Z-test for proportions. A Bonferroni correction was applied to assess the alpha inflation problem derived from multiple tests. All analyses were performed with SPSS (version 20, IBM Corp., Armonk, USA), and Minitab software (version 16.1.0, Minitab Inc., State College, USA).

2.2.2. Multivariate analysis

A multiple correspondence analysis (MCA) was performed concerning beer drinking habits (questions 3–10) and the demographics (questions 14–17) to find a link across all studied variables. As mentioned by Escofier and Pagès (2008), the most common application of MCA is the analysis of all the responses from a survey to study the link between several variables. Each question is a variable which modalities are the answers proposed in the questionnaire. A disjunctive table is built with lines representing individuals and columns representing the modalities of the variables (Yes/No, or multiple options for the CATA questions). In CATA questions, consumers could select one or more answers; therefore each modality (possible answer) was shown as an independent column so that the analysis could reveal the co-occurrences for every modality of the items in a multidimensional space. A percentage of elicitation was calculated to identify low elicited answers that could lead to unstable results. In MCA framework, a pragmatic rule consists of eliminating the categories chosen by less than 2% of the individuals (Lebart, Piron, & Morineau, 2006). After computing the MCA a hierarchical cluster analysis (HCA) with the Ward algorithm was performed on the MCA coordinates of the first five axes (about 50% of variance). The identified clusters were described by computing the modalities probability of characterising each cluster according to a hypergeometric law (Lebart et al., 2006). MCA and HCA were performed with SPAD software (version 5.5, CISIA-CESRESTA, Montreuil, France).

2.2.3. Open-ended question analysis

The textual variable of the open-ended questions lead to a *consumer × sentences table.* Following Symoneaux, Galmarini, and Mehinagic (2012) and Galmarini, Symoneaux, Chollet, and Zamora (2013) synonymous were regrouped to avoid terms that could lead to low frequency of elicitation (<2%). In case of ambiguous comments, no action was taken and all terms were kept without any regrouping. The terms obtained were then organised into semantic categories and sub-categories and the frequencies of elicitation were obtained from counting the number of consumers that provided the terms included in each category and sub-category (Sester, et al., 2013). Chi-square tests were conducted to highlight differences in respondents' answers.

3. Results

The results are organised in two parts. The first one presents respondents general drinking beer habits, data from all respondents is taken into account for this analysis (N 207). The second part is focused on craft beer awareness and only data from respondents who mentioned "yes" to craft beer consumption (N = 72, which is 35% of the total sample) were considered for the analysis.

3.1. Beer drinking habits

Besides beer, the most consumed beverage was whisky (22% of consumers), followed by tequila (21%), red wine (15%), vodka (14%), mezcal (11%), rum (9%), brandy (7%), white wine (4%) and pulque (3%) a local fermented beverage. Significant differences across demographic variables were seen for vodka (women = 23% vs. men = 9%, p-value < 0.05), and mezcal (women = 6% vs men = 13%, p-value < 0.05). Among the 72 different beer brands mentioned, Corona was the most frequently named by the respondents (34.6%). A classification of beers according to origin (national vs. foreign),

colour (dark vs. blond) and type (craft vs. industrial) showed that respondents mentioned mainly national industrial blond beers (72%), followed by national industrial dark beer (51%), export industrial blond (20%), national craft dark (18%), national craft blond (9%), and export craft dark (4%).

The majority of respondents buy beers either in convenience stores (35.6%), supermarkets (30.3%) and traditional trades, which are small grocery stores called *"changarros"* (27.4%). Only a small amount of respondents buy them at specialized beer stores (15.9%), and a few directly at bars (14.9%) or other places (10.10%). When splitting data by demographics, significant differences were found only within income levels. Lower income users buy more beer at traditional trades (39.3%) than higher income ones (13.6%, p-value < 0.05) and medium income consumers buy more beer at convenience stores (52.9%) than lower income ones (27.9%, p-value < 0.05). No difference was found in convenience shopping between high (27.3%) and low income users (27.9%).

A gap was observed between consumption and craving for beer. A total of 62% respondents declare consuming beer at home while only 33% of them crave for beer in home. Likewise, 61% of respondents declare consuming beers in bars while only 40% declare craving beers in bars. Based on these differences a hypothesis can be made: beer fulfils a benefit to a percentage of consumers that wish to consume another beverage, but find in beer an alternative to that need. As for home intake, there is a gap of 29% between consumption and craving, in other words, 29% of beer consumers crave for another thing or beverage but drinks beer instead, for an in–home context.

3.2. Relationship across habits of consumption variables

The first two dimensions of the MCA carried out on questions 3 to 10 are shown in Fig. 1. They explain 35.78% of variation and reveal a multidimensional view of beer drinking habits. The first dimension opposes craft beer consumers to industrial beer. Craft beer consumers (on the left) tend to drink more national craft dark and national craft blond beer, they also tend to buy beer in specialized stores and to consume thirteen or more beers in a regular week, both during week days and week-ends. They are mostly elderly men. On the contrary, industrial beer consumers (on the right) tend to buy beer in convenience stores and supermarkets, consume and crave at bars, mostly women who consume it during week-ends, and especially national industrial beer. The second dimension is separating consumers by social consumption (night clubs) vs. private consumption (at home and with family) as well as different types of craving: product (at home or bars) vs. functional (e.g. at the beach). The inertia explained by dimensions 1 (24.8%), dimension 2 (10.92%), 3 (8.68%), 4 (6.256%), and 5 (4.62%), was of 55.35%. Table 3 shows the three clusters emerging from the HCA performed on the first five dimensions of the MCA (50% of explained variance).

Cluster 1 at the bottom right of Fig. 1, represents 41.1% of the respondents. It includes mostly industrial beer consumers. The modalities that best characterise this cluster in order of importance are: graduate study level, consumption and craving at bars; younger consumers (18–24 years) drink between 4 and 6 beers a week with family/friends. High percentage in graduate study level can be a sampling bias for interviewing consumers at a beer festival that gather consumers for expo and conferences. Cluster 2 at the left of Fig. 1, represents fewer consumers (34.8%). It is composed mostly of craft beer users; they are mainly men, young adults (25–35 years) and with a higher income level, they crave for beer at bars but also at the beach and consume considerably more beer than other clusters (10–12 beers/week). They shop at specialized beer stores and are characterised by their awareness towards craft beer. The third cluster is the smaller one (24.1%). It includes mostly occasional and social industrial beer consumers. The respondents in this cluster drink mainly during weekends, consume less beer than other clusters (between 1 and 3 beers/week), tend to belong to a medium income level, consume at restaurants and night clubs, crave for beer in restaurants and this is the only cluster that is characterised by another beverage consumption: tequila.

3.3. Craft beer awareness and consumption

The craft beer awareness and consumption part of the questionnaire was administered only to respondents who declared

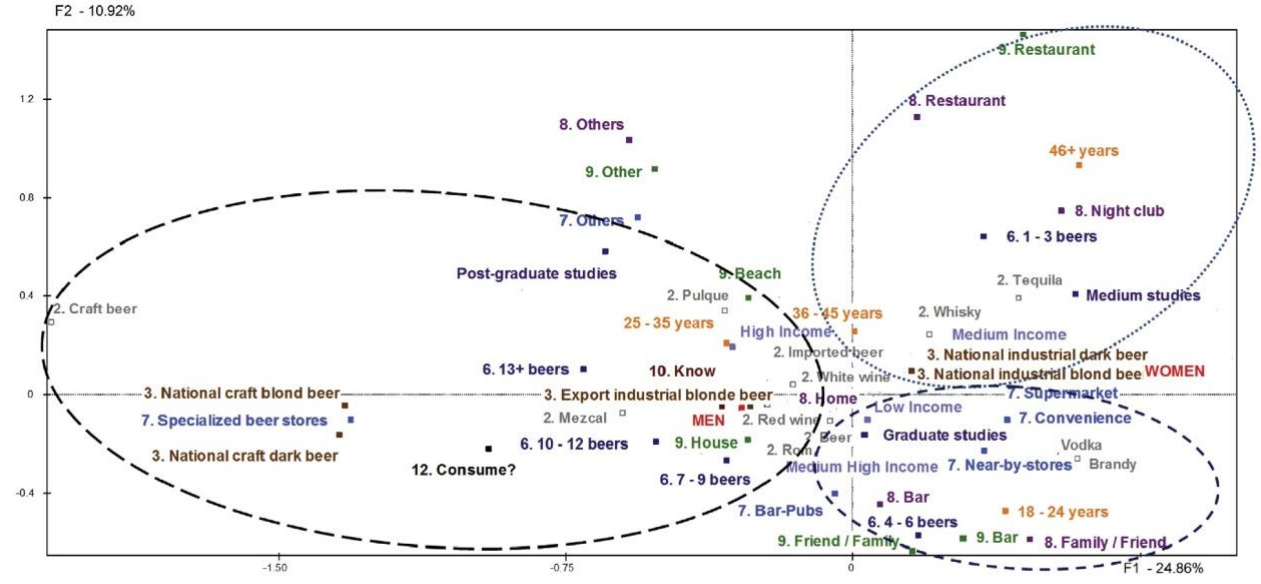

Fig. 1. Two dimensional MCA graph. The ellipses represent the three clusters yielded by the HCA performed on the five first MCA factors: Cluster 1 at the low right group is composed mostly of industrial beer consumers, cluster 2 at the top right represents the occasional industrial consumers, and cluster 3 at the left group, the craft beer consumers.

Table 3
MCA clusters after performing a hierarchical cluster analysis and a hyper-geometric law to assess the probability of characterization of the modalities.

Cluster 1: Industrial beer consumers (N85–41.1%)				Cluster 2: Craft beer consumers (N72–34.8%)				Cluster 3: Occasional industrial consumers (N50–24.1%)			
Variables	% In cluster	P-value	Relative weight	Variables	% In cluster	P-value	Relative weight	Variables	% In cluster	P-value	Relative weight
Q22. Graduate studies	81.18	0.007	148	Q10. Know craft beer	100.00	0.000	154	Q4. Drink at weekends	76.00	0.002	120
Q8. Consume at bar	85.88	0.000	126	Q23. Men	77.78	0.000	128	Q6. Consume 1–3 beers/week	70.00	0.000	72
Q9. Crave at bar	74.12	0.000	83	Q21. 25–35 years	63.89	0.010	108	Q20. Medium income level	44.00	0.000	51
Q21. Age 18–24 years	52.94	0.000	74	Q12. Consume craft beer	59.72	0.000	72	Q8. Consume at restaurants	62.00	0.000	47
Q6. Consume 4–6 beers/week	51.76	0.000	69	Q9. Crave at house	44.44	0.008	68	Q2. Drink tequila	38.00	0.001	43
Q8. Consume at family's/friend's	28.24	0.000	29	Q20. High income level	36.11	0.00	44	Q9. Crave at restaurant	40.00	0.000	22
				Q3. Consume national craft dark beers	43.06	0.000	38	Q8. Consume at night clubs	18.00	0.002	15
				Q7. Buy at specialized stores	29.17	0.000	33				
				Q6. Consume 10–12 beers/week	25.00	0.002	30				
				Q9. Crave at beach	23.61	0.000	23				
				Q3. Consume national craft blond beers	19.44	0.00	19				

drinking craft beer on a regular basis. This represents 72 respondents out of 207 (35%). The semantic analysis of the definition of craft beer provided by these 72 respondents yielded four semantic categories and 10 subcategories (Table 4). A global Chi square test was performed and show differences across categories (Chi-test = 324.51; p-value < 0.001). In the elaboration category the frequency of the sub-categories are significantly different between them (Chi-test = 15.186, p-value = 0.01). No differences was seen across beer concept subcategories (p-value = 0.843).

The most frequently mentioned category (67% of respondents) is related to the beer production process. This category was separated in six sub-categories. The most used idea in this category (23.8%) to define a craft beer was "small production". In this semantic subcategory; consumers define it as "a beer produced in a small scale" or "a beer that has a limited production". "Process" was the next semantic sub-category, participants mentioned that craft beer was "the one that is carefully produced", or "with a more complicated process". "Non-industrial" was the next semantic subcategory. Another semantic sub-category was "ingredients", where consumers mentioned that craft beer "used different and selected ingredients". In "Homemade" sub-category the ideas used were the most homogeneous: "made at someone's house", or just "homemade". And finally, the last semantic sub-category was "craft process" were ideas like "craft elaborated beer", or "prepared traditionally" were used.

Table 4
Semantic categories and subcategories used by consumers to define a craft beer.

Categories	Count	Subcategories	Count	Chi-square	P Value
Elaboration	172	Small production	41	15.18	0.01
		Process	33		
		Non-industrial	31		
		Ingredients	29		
		Homemade	25		
		Craft	13		
Beer concept	41	Extrinsic attributes	15	0.341	0.843
		Beer description/origin	14		
		Natural/simple	12		
Commercial	23				
Sensory	22				
Chi-square	324.51				
P-value	<0.001				

Beer concept/product was the next semantic category, which was also divided in sub-categories. The first sub-category was "extrinsic attributes", followed by "description/origin" and "natural/simple". The next semantic categories were not divided into sub-categories and are *commercial* and *sensory*. Commercial principal ideas were: "it is not made by a commercial brand" or a "beer made by small commercial industries". The sensory principal ideas were: "with a more original flavour", "of unique flavour". To sum up, the central idea behind the definition of a craft beer is based on its elaboration principle.

Finally, the craft beer consumed consisted in a list of 43 different beers. The most consumed brands were Minerva (41.4% of respondents), followed by Cucapá (28.6%) and Calavera (20%). Some other beers were mentioned by their complete product name like Tempus Doble Malta (24.3%). Among those mentioned beers, some are not considered strictly craft according to the Brewers Association's definition of small production, independent company and traditional ingredients (see: http://www.brewersassociation.org), like Guinness, Noche Buena, Bohemia and Duvel, showing that consumers may have a different concept of what a craft beer is (according to the US Brewers Association).

4. Conclusion

The results from this preliminary study were useful to understand the consumption habits, attitudes and motivations between craft and industrial beer drinkers in an exploratory way. Based on the demographics of the craft cluster, variables such as age and income level were fixed to 20–39 years and high-medium for the main study. The habits of consumption test also helped to design more specifically the consumer ethnography guideline in order to better understand craft beer choice, experience and perception with the craft consumer.

5. Main study – consumer ethnographies

5.1. Methodology

5.1.1. Participants

Twenty-four craft beer consumers were pre-recruited at points of sale, such as restaurants and specialized beer stores in Mexico City. Consumers that accepted the interview were asked to fill out a recruitment questionnaire; those who passed the inclusions

criteria of beer consumption (craft beer), age (20–29 and 30–39 years old), gender (50% men, 50% women), and income (high and medium), were scheduled for an in-home interview. Home visits took place approximately one week after the recruitment and participants received a gift bag containing a craft beer and a beer cup.

5.1.2. Ethnographies guidelines

An ethnography guideline was designed to understand the motivations and attitudes towards craft beer consumption, inspired from sensory ethnographies methodology (Pink, 2009). It consisted of observation and open-ended questions. During the sessions, respondents were asked to let interviewers see where they store their beers: the pantry, the kitchen, the fridge, etc. Respondents were asked to describe events or objects they found, emotions they felt, thoughts they had and how they experienced drinking beer through all their senses. Table 5 show the complete ethnography guideline used. As a general rule, the ethnographies started with general themes, some topics could come before or after, depending on the interviewer but all topics were covered out (Ferrándiz, 2011). Interviews were audio and video recorded.

5.2. Thematic analysis

A verbatim transcription of the sessions was performed in order to obtain all details from respondents' interviews. When performing the transcripts the authors focused on semantic meaning (that is, simply what people said), and so it did not include detail of pauses, false starts, latched responses, etc. as one might find with transcript used in discourse analysis (Langdridge, 2007). The detailed transcriptions were analysed following Shaw (2010) key steps for IPA: familiarising with data, identifying initial themes, writing descriptive summaries, making initial interpretations and clustering themes. The approach is phenomenological in that it is concerned with an individual's personal perception or account of an object or event as opposed to an attempt to produce an objective statement of the object or event itself (Dibsdall, Lambert, & Frewer, 2002). The central objective when performing an IPA analysis as mentioned by Shaw (2010) is to understand what personal and social experiences mean to those people who experienced them. The analysis was made individually, by the first three authors which are native Spanish speakers. Triangulation was used to address the issues of internal validation by using more than one approach of data analysis to answer the research questions (Barbour, 2001). After each researcher performed the analysis separately, disagreements were discussed and a consensus was found. Frequencies of elicitation of each theme were calculated for the complete corpus and also for corpuses separated by gender and age. A 2*2 table was built with the themes as rows and gender and age as variables to perform a Fisher exact test. The goal of this test was to evaluate the effect of gender and age on the frequency of elicitation of the themes emerging from the semantic analysis.

Table 5
Key questions that generate the ethnographies guidelines.

Introduction
◦ Names, explanation of test, confidentiality, etc.
Life style
◦ How is a normal weekday for you? Does it change towards weekend?
◦ Which are the types of food that you like the most? What about beverages? Which types of beverages do you like the most?
◦ Tell me, how often do you consume them?
Beverages attitudes
◦ What about alcoholic beverages? How often do you consume them?
◦ Do you consume them in home, out of home? Where do you buy them?
◦ Are there beverages for special days or occasions?
◦ Are there beverages for you, and beverages for others?
Tour to the fridge, pantry-check and house-bar {if applicable}
Ask participant if we can have a little tour to her/his fridge. Look at products related to alcoholic drinks (sodas, energetic drinks, ice, etc.). Make pantry check for alcoholic drinks, analyse products stored and glassware.
◦ So … where do you usually store your alcoholic drinks and beers?
◦ Is there some product missing? When was it finished?
◦ Do you usually buy the same products/brand/presentation? Why?
◦ Do you have a special place for beers? Beer glassware?
Beer moments and consumption occasions/benefits
◦ What about beer (ask if beer has not come out spontaneously)?
◦ When do you consume beer? Does it change from weekday to weekend?
◦ Is there a special time to take a beer?
◦ Do you consume more beer in home/out of home?
◦ When was the last day you consumed a beer? Tell more about it …
◦ Which type of beer do you like more? Which do you consume more often?
◦ You mentioned (at recruitment) that you liked craft beer? Tell me about it.
◦ Why do you like craft beer? Have you ever thought on that before?
◦ What makes it different from other beers (vs. industrial)?
◦ Where do you consume more often craft beer? Have you noticed/think, why?
◦ Which type of craft beer/brands do you consume more often?
Consumption type: Individual vs. social
◦ When you consume craft beer are you usually alone, with friends … .?
◦ When is the time to drink craft beers? Where is the place to consume it?
◦ Is there a type of beer to share?
◦ Who else consume craft beer at your home? Or friends? Mate?
◦ When do you crave the most for a craft beer?
◦ What about time of the year? Do you consume more when it's cold, hot … ?
◦ Is there a special place to drink craft beer? Why?
Conclusion

6. Results

The 24 in-home ethnographies were performed in a five week period. The ethnographies lasted an average of 26 min and all consumers were eager to talk and show their pantries, fridge, bar, etc. during the interview. After thematic analysis, seven principal themes emerged from the analysis (Table 6). The Fisher exact test showed significant differences across gender and/or age for craft beer experience (higher in 30–39 years old), consumption moments and context (higher in men), attitudes and motivations towards beer (higher in men, 30–39 years old), and barriers toward consumption (higher in women, 30–39 years old).

6.1. Craft beer experience

Craft beer experience emerged as the most recurrent theme within the data *"the [craft] experience lies in trying always new things" (Man, 20–29)*. The experience is explicitly shaped by the cup; its use can limit or enhance it, craft beer is always drank in cup, it is better for its enjoyment: *"well, I like to drink and enjoy more a craft beer in special glasses because this type of beers do not lose their flavour when pouring them in a glass or cup" (Man, 30–39)*. In Fig. 2, the first image shows the frozen chops used for industrial beer consumption and the second one shows the set of glassware that the same consumer uses for craft beer. For some respondents, the product stimulation is perceived as multisensory and the stimulation produced by craft beer is distinguished from that produced by industrial beers in terms of flavour, aroma, texture and colour: *"craft beer is for tasting, to try it, to stimulate the sense of smell and taste"* (Man, 20–29). The craft beers are also marked by a high sensory stimulation: *"I mean, it's from the flavour where this new experience comes from. Then, if I say that I drink it for the flavour, that's an experience"* (Man, 30–39).

Consumers want to know more about the product they consume, from reading courses, taking notes of the beers they have tasted, etc.: *"I have an image record of all the beers I've tasted (Men, 30–39)*. There is also a reflexive process when drinking; consumers usually takes time to think on the beer's flavour, they compare their sensations vs. what is written on the label, what the vendor says or

with previous experiences: *"When you drink a beer in particular, you rather be alone, calm, to taste it well, feel it well, drink it little by little, to really concentrate in the beer, in tasting, catering and everything else" (Man, 30–39).*

6.2. Consumption moments and context

Craft beer is not found as an everyday product, its consumption depends on availability. In general, consumption moments are oriented towards special and ritualised moments: alone to enjoy the product, with a close and small group of friends, a special occasion or by the end of the day. In opposition, industrial beer moments are marked by common moments of socialization or consumption with food or snacks. The difference between both is given in terms of "protagonism"; in industrial moments, beer is one of multiple elements for consumption, and it lacks all types of special connotations, while in craft moments, the beer is the central element of consumption: *"The craft [beer] is for a good moment or perhaps for a more intimate one, with a good friend, because maybe the sensation is different"* (Man, 30–39).

Craft beer context is important for consumers, and there are two main places to drink it: special beer bars are appealing for consumers who want to pay more for a beer and are craft occasional consumers. Consumers who prefer home consumption choose to pay less for the beer and share the moment with closer friends. Other ones prefer a restaurant-context for beer consumption; in this occasion the consumption is not triggered by beer on itself, but mainly by food. The difference between consumption in bar and at home vs a restaurant is that the experience is focused in the beer as the axis of the experience, and at restaurants, the beer becomes an accompaniment: *"Well, I think that in a more intimate place, not a night club or a crowded bar, but a more calm one" (Man, 30–39).*

6.3. Attitudes and motivations towards craft beer

Craft beer is perceived as a high quality product, especially for men: *"for craft beer, I mean a better quality beer and things like that" (Man, 30–39).* Regarding "local production" attitude, respondents preferred to buy craft Mexican beer rather than imported beers, mainly for two reasons: 1) local attachment or even identity, and 2) local beer *"reduces costs by not wrapping the beer in an import process" (Man, 20–29).* A shared attitude among men and women is the idea that craft beer has to do with different styles, rather than the regular lager, *"making craft beer is to make beer with different styles" (Woman, 20–29).* In general, craft beer consumers have a positive attitude towards craft beer, while seeing industrial beer as a secondary, less special product, as seen in a consumer's house who keeps craft beer well placed at the fridge but "symbolically" places the industrial beer next to the trash can (Fig. 3). Respondents' motivations to drink craft beer are generated by three important factors: desire for more knowledge, new tasting experiences and to move away from the mainstream beer consumption. In a greater or lesser extent, the attitude towards the craft beer segment, also matches a search of new and different products and even life style (see Fig. 4).

6.4. Product attributes craving and shopping

The influence of extrinsic attributes is present in craft experience; more sophisticated, nicer packaging and labels can enhance the experience, *"honestly, I let myself go by the label" (Woman, 30–39), "I think I predispose myself a little bit, it's like if I am buying a cool packaging, I think I'm buying a more interesting product, more unique"* (Woman, 30–39). Packaging and labels are the more relevant extrinsic attribute for women to buy craft beer, even more than brands, *"It's like unconscious you know …, it tastes good but the bottle is too ugly. Perhaps I do not buy one beer with a nice label but that tastes bad, I rather look for another option that tastes better, but if there's a beer with a good presentation and that tastes good, I immediately go for it" (Woman, 20–29).* For men, the extrinsic characteristics are less relevant; however, both genders value the craft beer bottles and judge them as unique and authentic. Consumers can crave for craft beer everyday but most of them wait until the weekend to satisfy it. Some of them satisfy it during week days but only in special occasions. Even in weekends, the craving for craft beer is linked to special moments without distractors or crowded places: *"When do I crave for it? I think when it's like that … when it's not drinking for a party or getting drunk, it's simply to drink a beer or two, and you are not going to keep partying, let's say that I'm not going to get drunk from crafts, I think I have never done that"* (Man, 20–29).

Shopping experience is different among genders in two important aspects. The influence of the vendor in the decision of purchase is stronger for women, while men are more influenced by the person that accompanies them to buy beer (men respondents mentioned to buy it more with someone else, while women buy it alone in specialized beer stores). Women search for styles in general and ask for guidance, while men tend to be more focused on novelty seeking and ask the vendor for new beers or brands arrival: *"I don't buy each week, no. It's just in the moment that I crave for one, and I want to go with him [vendor] so he can explain to me"* (Woman, 20–29).

6.5. Individual vs. social experience

Craft beer experience can be either a private or a social moment. Consumers that prefer private experiences are generally those who do not share their liking with their friends or mates, they do not have close persons with whom the experience can be shared, *"Many times you do not share the same experience, not because you do not want to share it, but because it's difficult to get, not everyone has a craft beer available" (Man, 30–39),* that idea is not only given in terms of price, but in terms of someone capable to enjoy and appreciate it. Consumers that share the experience usually belong to a group of close friends that share the same appreciation towards beer and sharing is also an excuse to taste more and different beers,

Table 6
Principal themes that emerged from the ethnography analysis.

Salient themes	Count	Men	Women	Gender P-value	20–29 years	30–39 years	Age P-value
Craft beer experience	252	118	134	0.181	116	136	0.090
Consumption moments and context	128	81	47	0.000	56	72	0.061
Attitudes and motivations towards beer	98	60	38	0.003	38	60	0.003
Product attributes, craving and shopping	122	60	62	0.898	65	57	0.370
Individual vs social experience	48	20	28	0.153	19	29	0.066
Industrial beer experience	48	20	28	0.153	21	27	0.307
Barriers towards consumption	28	7	21	0.000	6	22	0.000

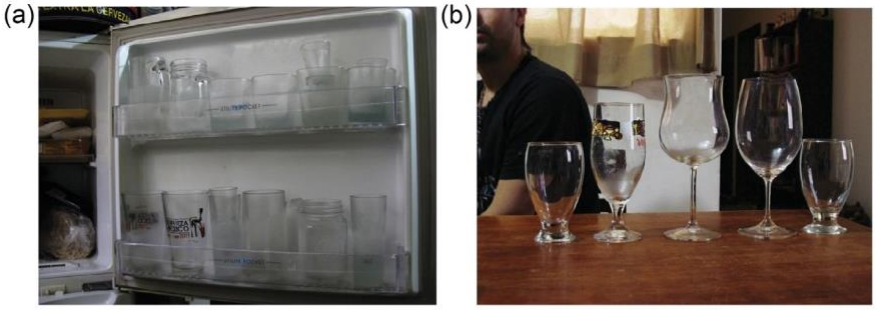

Fig. 2. Male consumer glassware for beer (a) chops at the fridge for industrial beer, and (b) craft glassware for each style.

Fig. 3. A 30 year old woman keep craft beer at the fridge (left) while industrial beers are besides the trash can (right).

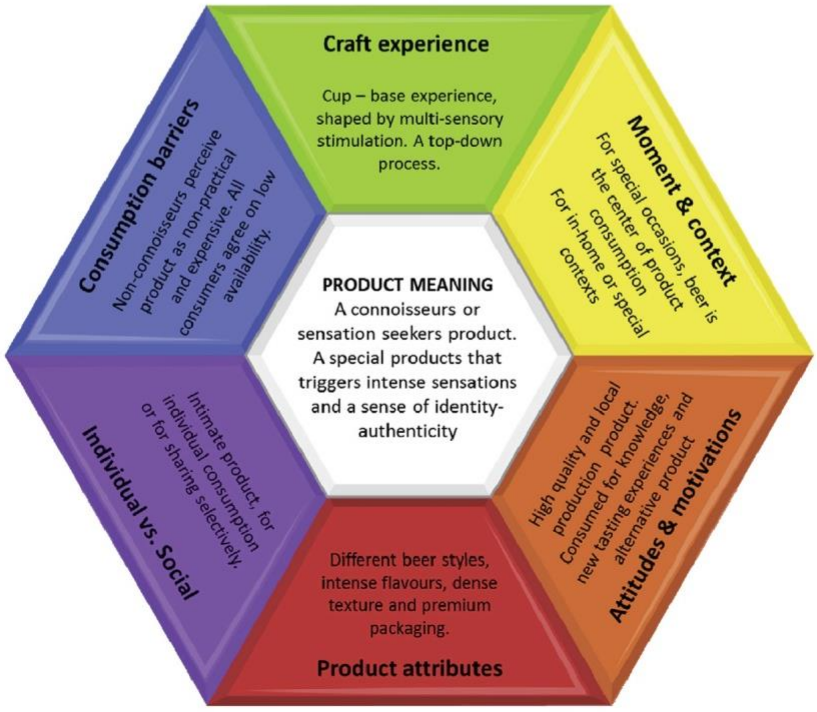

Fig. 4. The craft beer diagram, representing the six main variables involved in craft beer consumption issued out form the qualitative analysis.

as well as to discuss about the beer being tasted, its sensory characteristics, etc.: *"I don't like to share my [craft] beers … If there's someone that found out about it, well I share it but if nobody sees me, I don't" (Woman, 20–29).*

6.6. Barriers towards consumption

Barriers towards craft beer consumption are more verbalized by non-connoisseurs consumers, and specially women. One barrier towards consumption is packaging, or practical aspects of the presentation, for some female respondents who buy industrial beer in a weekly basis. They find that the selling format of craft beer is usually by bottle, *"you cannot just grab the six and done (Woman, 30–39)"*. The second most important barrier is price, even though it is not usually said by consumers in a direct way, they constantly compare the price with that of industrial beers. For some consumers the price is reasonable and for others it is just a product for special occasions. Finally, the availability is also a barrier, some consumers wish to buy craft beer everywhere (restaurants, supermarkets and convenience stores) and for others, the act of going out and look for it in small, specialized stores is part of the experience: *"Until this moment, I think that … why I do not buy them at the supermarket if I pass in front and see them [craft beers]? I like them, but I think that, for me, they are not practical, and it's because for the others [industrial beers] I just grab the six-pack and done" (Woman, 30–39).*

6.7. Industrial beer experience

For craft beer consumers, the industrial consumption is more functional than sensory or affective, but it is definitely a more social experience. Industrial experience for consumers can be of low intensity because it is a very common product, with no outstanding special characteristics. It can be seen as a commodity of the beverage category, its process does not matter as it is only classified in dark vs light beer. Industrial beer is also seen as a product that can be used to get drunk, and craft beer is not explicitly searched for the same purpose. In industrial beer, the drunkenness effect is explicitly and directly searched. Industrial beer experience should be refreshing and should have a thirst soothing effect. Here is evident that the experience is centred in its functional characteristic of thirst quencher, rather than a sensory and affective experience based in flavour and enjoyment: *"Maybe I am too brutal with [industrial] beer. I can drink it daily, and you know I can wake up and drink a beer; I have no problem with it, but I cannot wake up and have a mezcal, or wine or anything else" (Man, 30–39).*

7. Discussion

The goal of the preliminary study was to gain some understanding of beer habits and consumption moments of craft vs industrial beer consumers, as well as to understand who the craft beer users are and how they define this category of beverage. The goal of the main study was to understand the motivations and benefits of craft vs. industrial beer consumption. We know that beer consumption habits in Mexico come from decades ago and are a strong component of Mexican traditions (Euromonitor International, 2013, 2014). This fact helps us understand that about 65% of respondents in the preliminary study were industrial beer consumers (41.1% regular consumers and 24.1% occasional or social-beer-drinkers). Several reasons can explain this figure. Wood and Neal (2009) already mentioned that given the nature of habits formation, consumers are more likely to develop habits for some products and services than others and beer is a product with clear habit formation in a big proportion of consumers interviewed. According to Sheeran et al. (2005), situational cues automatically activate goals and goal activation automatically elicits behaviours. For example, the goal of socializing can elicit the act of drinking among habitual beer drinkers.

The occasional social-beer-drinker cluster (24.1% of respondents of the preliminary study) illustrates this point quite well. The variables that best characterise this cluster are: drinking during weekends and consuming beer in restaurants and night clubs; therefore, in this cluster there is a social component of beer drinking that is triggered by the situation (socialize) or the context (restaurant or night club). These occasional drinkers were also the ones who drink beer less often (1–3/week) and mentioned to drink frequently another beverage: tequila. When performing the consumer ethnographies in the main study, the industrial beer experience was clearly associated with social moments. Although this affirmation is not new and drinking is primarily a social act in most cultures (Heath, 1987), it seems that for industrial beer consumers the goal may be to socialize and they are more prone to automatic reactions to situations, including the decision to drink industrial beer given the intention to socialize. It is well established that increased consumption of alcohol diminishes the capacity for making reasoned-based and well-considered decisions, and hence, forces persons to rely on routines and automatic processes in order to deal with (social) situations (Sheeran et al., 2005).

Even though most of the consumption was found towards industrial beer, the drinking habits are changing. Consumers are paying more attention to quality and local production in Denmark (Mejlholm & Martens, 2006) and the consumption of craft beer is increasing in the US (Choi and Stack, 200%). Craft beer production has raised in Mexico from practically none local craft brands ten years ago, to 153 brands of craft beer and 46 breweries in 2013 (Euromonitor International, 2013). In our study with Mexican consumers, we observed that craft beer consumption arises as a male bonding product; it does not mean that women are not consuming the product but the volume of consumers is concentrated in men.

When performing the consumer ethnographies, it was also evident that men were more attached to craft beer than women. Other studies have also highlighted the gender influence in beer consumption, Roos, Prättälä, and Koski (2001) mentioned that drinking beer and getting drunk among males reflect an attempt to behave in accordance with gender expectations. Mejholm and Martens (2006) found that strong ale beer was more accepted by men vs. women which preferred a regular lager. Besides the masculine halo of the craft beer, there are several reasons why consumers are choosing to break up with the regular industrial beer habits and look towards different options. One of the motivations found to consume craft beer is the search for authenticity, to find a special identity in the product. According to Carú and Cova (2007), persons consume mainly to exist (identity) and not only to live (needs). Consumption has become an activity that involves a production of meaning, as well as a field of symbolic exchanges. Consumers do not consume products or services; they consume products meanings and image and take for granted that an object will fulfil certain functions. It is the object meaning that makes the difference. There is a famous phrase from Fishler (1988) that illustrate this identity process quite well: In *Homo sapiens* food not only nourishes but also signifies. And so, craft beer consumers want to differentiate themselves by drinking.

In craft consumption products, beer may be a part of a major trend in the market of craft and local products (like mezcal in Mexico). Choi and Stack (2005) found a similar trend in the US, where an increasing number of U.S. customers are choosing to express their preference for taste and individuality through their choice of purchasing alternative beers. Individuals are continuously engaged in the symbolic appropriation of goods and services and

use them to construct their own individual identity (Dalli & Romani, 2007). Craft beer consumers do not drink the product for its functional attributes, they consume it for what it means and as a consequence they build an identity, perceived as more authentic and unique, in comparison to the mainstream industrial beer consumption.

8. Conclusions

Overall, this paper highlights the complexity of consumer's relationship with a product, in this case, beer. The results presented in this study, provide an important vision of beer drinking habits among Mexican consumers. The findings are interesting as they provide important insights in the habits and variables involved in beer consumption, especially concerning the craft beer consumers, which is perceived as part of a bigger craft trend. Craft beer consumption emerged, in a qualitative approach, as experienced-based product; the goal towards consumption is not functional but symbolic, as a desire for identity and distinction. However, it is important to better understand the drinking experience of craft vs. industrial beer, to shed more light in the motivations to consume a product for experiential vs. functional reasons.

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References

Aquilani, B., Laureti, T., Poponi, S., & Secondi, L. (2015). Beer choice and consumption determinants when craft beers are tasted: an exploratory study of consumer preferences. *Food Quality and Preference, 41*, 214–224.
Barbour, R. S. (2001). Checklist for improving rigour in qualitative research: a case of the tail wagging the dog? *Education and Debate, 322*, 1115–1117.
Betsch, T., Haberstroh, S., Molter, B., & Glöckner, A. (2004). Oops, I did it again – relapse errors in routinized decision making. *Organizational Behavior and Human Decision Processes, 93*, 62–74.
Brewers Association, http://www.brewersassociation.org/statistics/craft-brewer-defined/, consulted in October, 2014.
Caporale, G., & Monteleone, E. (2004). Influence of information about manufacturing process on beer acceptability. *Food Quality and Preference, 15*, 271–278.
Carú, A., & Cova, B. (2007). *Consuming experience*. UK: Routledge.
Choi, D. Y., & Stack, M. H. (2005). The all-American beer: a case of inferior standard (taste) prevailing? *Business Horizons, 48*, 79–86.
Crowford, A. (1987). Attitudes about alcohol: a general review. *Drug and Alcohol Dependence, 19*, 279–311.
Daems, V., & Delvaux, F. (1997). *Multivariate analysis of descriptive sensory data on 40 commercial beers* (Vol. 8, pp. 373–380).
Dalli, D., & Romani, S. (2007). Consumption experience and product meanings: pasta for young Italian consumers. In A. Carú, & B. Cova (Eds.), *Consuming experience*. UK: Routledge.
Darpy, D. (2012). *Comportements du consommateur*. Paris: Dunod.
Dibsdall, L. A., Lambert, N., & Frewer, L. J. (2002). Using interpretative phenomenology to understand the food-related experiences and beliefs of a select group of low-income UK women. *Journal of Nutrition Education and Behavior, 34*, 298–309.
Eatough, V., & Smith, J. A. (2006). I feel like a scrambled egg in my head: an idiographic case study of meaning making and anger using interpretative phenomenological analysis. *The British Psychological Society, 79*, 115–135.
Elliott, R., & Jankel-Elliott, N. J. (2003). Using ethnography in strategic consumer research. *Qualitative Market Research, 6*(4), 215–223.
Escofier, B., & Pagès, J. (2008). *Analyses factorielles simples et multiples. Objectifs, méthodes et interprétation*. Paris: Dunod.
Euromonitor International. (2009). *Global alcoholic drinks: Beer – Opportunities in niche categories*. London: Euromonitor International. Retrieved from Euromonitor database.
Euromonitor International. (2013). *Artisanal alcoholic drinks: Increasingly an option for Mexican consumers*. London: Euromonitor International. Retrieved from Euromonitor Passport database.
Euromonitor International. (2014). *Beer in Mexico*. London: Euromonitor International. Retrieved from Euromonitor Passport database.
Ferrándiz, F. (2011). *Etnografías contemporáneas. Anclajes, métodos y claves para el futuro*. México DF: ANTHROPOS.
Fishler, C. (1988). Food, self and identity. *Social Science Information, 27*(2), 275–292.
Galmarini, M. V. R., Symoneaux, R., Chollet, S., & Zamora, M. C. (2013). Understanding apple consumers' expectations in terms of likes and dislikes. Use of comment analysis in a cross-cultural study. *Appetite, 62*, 27–36.
Guinard, J. X., Souchard, A., Picot, M., Rogeaux, M., & Sieffermann, J. M. (1998). Sensory determinants of the thirst-quenching character of beer. *Appetite, 31*, 101–115.
Heath, D. B. (1987). Anthropology and alcohol studies: current issues. *Annual Review of Anthropology, 16*, 99–120.
Johansson, G. (2001). Anthropology of drinking. *International Encyclopedia of the Social & Behavioral Science*, 3846–3948.
Langdridge, D. (2007). *Phenomenological psychology. Theory, research and method*. Glasgow, UK: PEARSON Prentice Hall.
Lebart, L., Piron, M., & Morineau, A. (2006). *Statistique exploratoire multidimensionnelle. Visualisation et inference en fouille de données*. Paris: Dunod.
Lelièvre, M., Chollet, S., Abdi, H., & Valentin, D. (2008). What is the validity of the sorting task for describing beers? A study using trained and untrained assessors. *Food Quality and Preference, 19*, 697–703.
Lo Monaco, G., & Guimelli, C. (2008). Représentations sociales, pratique de consommation et niveau de connaissance : le cas du vin. *Les Cahiers Internationaux de Psychologie Sociale, 78*, 35–50.
López Romo, H. (2011). *Actualización regla AMAI NSE 8*7*. México DF, Mexico: Congreso AMAI 2011.
Mariampolski, H. (1999). The power of ethnography. *Journal of the Market Research Society, 4*(1), 75–92.
Mejlholm, O., & Martens, M. (2006). Beer identity in Denmark. *Food Quality and Preference, 17*, 108–115.
Nield, K., & Peacock, G. (2005). Competition in the U.K. beer market: further intervention in the U.K. beer market mar produce a brand oriented market at the expense of competition and consumer choice. *International Journal of Hospitality Management, 14*(2), 103–106.
Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: the multiple processes by which past behavior predicts future behavior. *Psychological Bulletin, 124*, 54–74.
Pink, S. (2009). *Doing sensory ethnography*. London: Sage.
Riet, J., Sijtsema, S. J., Dagevos, H., & De Bruijn, G. (2011). The importance of habits in eating behaviour. An overview and recommendations for future research. *Appetite, 57*, 585–596.
Roos, G., Prättälä, R., & Koski, K. (2001). Men, masculinity and food: interviews with finnish carpenters and engineers. *Appetite, 37*, 47–56.
Sáenz-Navajas, M. P., Ballester, J., Peyron, D., & Valentin, D. (2014). Extrinsic attributes responsible for red wine quality perception: a cross-cultural study between France and Spain. *Food Quality and Preference, 35*, 70–85.
Sester, C., Dacremont, C., Deroy, O., & Valentin, D. (2013). Investigating consumers' representations of beers through a free association task: a comparison between packaging and blind conditions. *Food Quality and Preference, 28*, 475–483.
Shaw, R. (2010). Interpretative phenonemological analysis. In M. Forretser (Ed.), *Doing qualitative research in psychology | A practical guide*. UK: SAGE.
Sheeran, P., Aarts, H., Custers, R., Rivis, A., Webb, T. L., & Coocke, R. (2005). The goal-dependent automaticity of drinking habits. *British Journal of Social Psychology, 44*, 47–63.
Symoneaux, R., Galmarini, M. V., & Mehinagic, E. (2012). Comment analysis of consumer's likes and dislikes as an alternative tool to preference mapping. A case study on apples. *Food Quality and Preference, 24*, 59–66.
Valentin, D., Chollet, S., Beal, S., & Patris, B. (2007). Expertise and memory for beers and beer olfactory compounds. *Food Quality and Preference, 18*, 776–785.
Valtonen, A., Markuksela, V., & Moisander, J. (2010). Doing sensory ethnography in consumer research. *International Journal of Consumer Studies, 34*, 375–380.
Wood, W., & Neal, D. T. (2009). The habitual consumer. *Journal of Consumer Psychology, 19*, 579–592.

Conclusion

Consumption habits and ethnographies can be considered as the base of the subsequent studies. The results of the studies highlight two important aspects of beer consumption:

- First, according to their consumption habits Mexican beer consumers were divided into three clusters: Craft, industrial and occasional. The craft cluster was defined by a higher proportion of men consumers of 25-35 years, high-income level, consuming beer at home and buying beers at specialized stores. The industrial cluster, on the other hand, was defined by a higher proportion of younger consumers (18-24 years) that regularly consume beer at bars. With this information, the subsequent studies may have relied on these demographic characteristics to recruit consumers that may fall in the craft or industrial cluster.

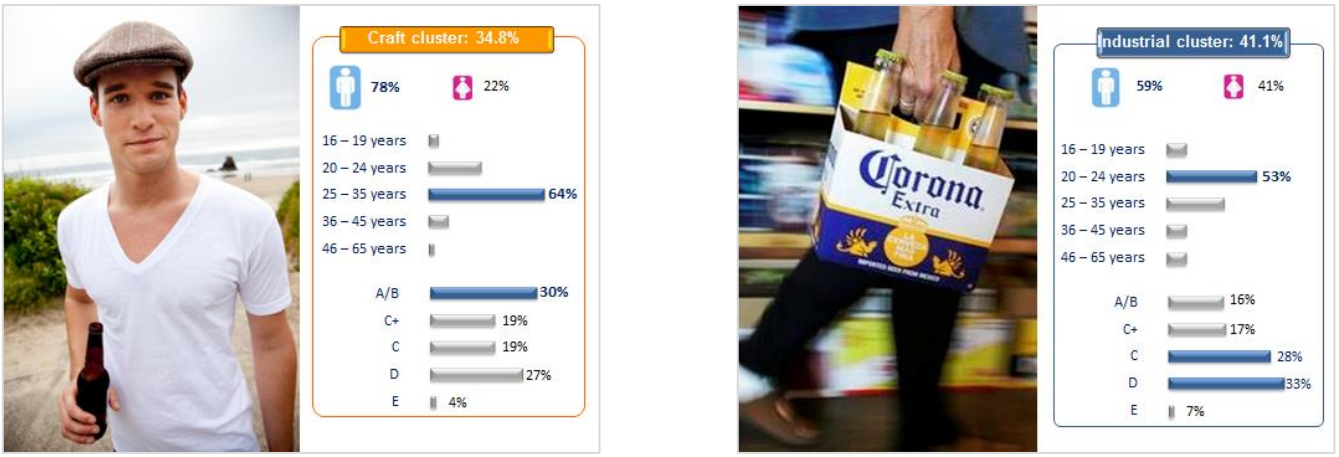

Fig. 10. Illustration of the consumer target obtained with the habits of consumption test.

- Second, the consumer ethnographies let us see that the drinking experience of craft beer was more complex than that of industrial beer. The craft beer consumption emerged as a more experienced-based rather than functional or goal-dependent. We conclude that craft beer consumers do not drink the product for its functional attributes; they consume the product for what it means and as a consequence, they build an identity, perceived as more authentic, more unique, in comparison to the mainstream industrial beers consumption.

V. Chapter 2 – The building blocks of the drinking experience

Introduction

Once we understand the demographic characteristics of the consumer of craft and industrial beer, plus the habits, attitudes, and motivation towards its consumption. The following step is to explore the variables that are involved during the beer consumption experience. In other words, to understand which are the building blocks of the experience.

Based on the previous information described in the literature review, we found that humans have always been equipped with a set of systems to interact and adapt to the environment. A sensory system to receive information from the surrounding, and affective system that provides us with an emotional response to stimuli, and, a cognitive system to make sense and process information (Hekkert & Schifferstein, 2008). We, therefore, hypothesize that these three systems may give structure to the experience of drinking beer.

Taking into consideration all the literature in product experience, one can imagine that we can use this concept as it is, in the food and beverage domain. But is it the same? Are the variables involved in the product experience the same as the variables involved during food and beverages interaction? We know from the study one that the act of incorporating the stimuli into ourselves (food) may give rise to a set of meanings or variables that may not be the same as the ones of the product experience.

The objective of this study is to explore which are the variables involved in the interaction with beer (industrial and craft) and how are they relate to the product experience concept.

The delivery of this study was:

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Article submitted to the International Journal of Consumer Studies on April 2016.

The Building Blocks of the Drinking Experience

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ABSTRACT

In today's market, every product seems to be marked by the label of "experience". It is expected that successful products give consumers "extraordinary experiences." Although the research in consumption experience is growing, much work still needs to be done to understand the food and beverage experiences. A qualitative study was conducted using contextual focus groups to explore the building blocks of the drinking experience of beers. Results showed that drinking experience is shaped by our cognitive, sensory or affective systems. Elements such as attitudes, consumption habits, and individual versus social consumption, shopping experience, and product benefits are also responsible for shaping the experience. Gender differences occurred in the affective experience, as women search more for relaxation while men for excitement and stimulation. Finally, we did not found evidence that beverages were considered as possessions by consumers, which differentiate it from product experience concept. Drinking experience might be a more suited concept to refer to the affective, sensory or cognitive effects that a beverage has on a consumer while product experience is a more suited concept for material possessions.

KEYWORDS Product experience, experiential consumption, beer, qualitative research.

INTRODUCTION

Throughout the years, we have seen the changes in the pattern of consumption in capitalist societies, and consequently the benefits searched by the consumers. The first era of consumption ranges from 1880 to 1945; the industrial serial production and the creation of the departments' stores marked a change in the consumption pattern. Here the goal towards consumption was guided by functional benefits. The second era of consumption was born around 1950's and marked the moment in which the production and mass consumption were no longer reserved to privileged classes. Individuals were released from traditional norms, leading the society towards hedonism (Lipovetsky and Charles, 2006) and symbolic motivations in their consumption (Bordieu, 2010), to become a postmodern society. The late 1980's have seen a new phase of consumption in capitalist societies, the era of hyper-consumption and hypermodernism. Production systems, distribution, and consumption, are now impregnated, penetrated, shaped by operations of a fundamental aesthetic nature. The style of beauty, the evolution of tastes and the sensitivity are imposed every day even more as strategic imperatives of the brands. According to Lipovetsky and Serroy (2013) what defines the hyper-consumption capitalism is an aesthetic approach of production.

The changes in the use and the quest for aesthetic products make an echo in the food and beverages consumption with sophisticated bottles, beautiful packages, special presentations, hyper-realism and product individualization. Today, every product seems to be marked by the label of "experience", our new sacred word as mentioned by Carù and Cova (2003). Successful products in the market should give consumers "experiences" (Pecoraro and Uusitalo, 2014), "memorable experiences" (Pine and Gilmore, 1998) or "extraordinary experiences" (Linberg and Ostergaard, 2015). Not only to differentiate themselves across a mass of products available in the market but also to help consumers to escape from their ordinary daily lives. However, when we think we have understood the experience concept in products and services (Carù and Cova, 2003; for a review), what can we still learn in the experience evoked by food and beverages? How is this experiential turn affecting food choices and preferences? The purpose of this article is to address those questions by focusing on the drinking experience.

LITERATURE REVIEW

The experiential turn

The origin of the experience economy can be searched in the service industry, in which the product sold is not a physical object but a memorable event (Pine and Gilmore, 1988). Experiences are no longer part of the entertainment or tourism industry; they are the heart of the design production, of the food and the

beverage industry, and consumption venues (Vicdan and Firat, 2015). The concept of experience is directly linked to the contemporary lifestyle; in which the contemplative time is considered a waste of time to be avoided at all costs. Every minute is saturated with activities: we "need" to do something and more quickly, to have the impression or illusion, of doing more (Carù and Cova, 2007).

The hyper-individualist regime of consumption unfolds in an experience, in hedonism and emotions, in one word: aesthetics. The important aspects of consumption in capitalist societies from now on are to feel, to leave the moments of pleasure, discovery or escapism (Gilovic et al., 2015). Aesthetic and experience have changed the way we perceive and speak. The terms used to designate professions and economic activities now carry the stamp of the aesthetic ambition: gardeners become landscapers, haircutters into hairdressers, florists in floral artists, tailors in artistic directors, and car manufacturers in automobile designers (Lipovetsky and Serroy, 2013). In this experiential and aesthetic approach to consumption, consumers express themselves constantly: at work, with their contacts, in sport, in leisure, with clothes, the underwear (Jantzen et al., 2006), in such a way that soon there will be no activity that is not marked by the label of expression or communication (Lipovetsky, 1983). The Mac consumers, for example, are different from the other computer users, by the sensation of belonging to a group in which the computer is not only a machine, but a symbol, an attitude, and a way of life.

Product experience

The literature in experience research is spanning many fields and types of "experiences", going from "product experience" (Desmet and Hekkert, 2007) to "consumption experience" (Darpy, 2012), "user experience" (Warell, 2008) and even "drinking experience" (Schifferstein, 2009). Product experience is defined as the entire set of effects a product has to a user. The product experience thus includes its perception, the identification process it triggers, the cognitive associations and memories it activates, the feelings and emotions it elicits, and the evaluative judgements it brings about (Schifferstein and Cleiren, 2005). In a very simple categorization of concepts, "consumption experience" refers to the general experiential research in consumer behaviour area. "Product experience" is used to define the experience of a material object: a designed object, a packaging or even a food product. "User experience" implies a repetitive interaction and usability of a product and is usually used for software, computers, and on-line platforms.

Product experience has been studied from many different perspectives. For example, Desmet and Hekkert (2007) have studied the framework of product experience in which they distinguish three components: the aesthetic experience, experience of meaning and emotional experience. The aesthetic level involves a

product's capacity to delight one or more of our sensory modalities. The meaning level involves the symbolic significance of products, and the emotional level involves the affective system in which emotions are elicited by the manipulation of a product. In a study to identify dominant sensory modalities in product experience, Schifferstein and Cleiren (2005) conducted a study with food and non-food. To assess each modality potential contribution to overall product experiences, the authors developed a split-modality approach, in which participants' experienced real-life products (a black permanent marker, a tennis ball, a deodorant spray, a boiled egg, a bag of crisps, and a can of orange soft drink) through only one modality: vision, touch, audition, or olfaction. Authors concluded that vision and touch are likely to dominate product perception and experience in real-life situations.

In the beverage domain, alcoholic beverages have been studied for their capacity to evoke positive or negative emotions (Arellano-Covarrubias et al., 2014), modify mood (Desmet 2008). As well as for their cultural relevance (Simonnet-Toussaint 2006), their functional benefits (Guinard et al 1998), and economic impact (Euromonitor 2014). Among alcoholic beverage, beers, and especially craft or speciality beers seem to be particularly well suited. In a previous study with Mexican consumers, Gómez-Corona, et al. (2016) concluded that motivations to drink craft beers are generated by three important factors: the desire for more knowledge, new tasting experiences, and move away from the mainstream beer consumption. They found that the motivation to consume craft beer emerged as more experience-based than functional. In Denmark, Mejlhom and Martens (2006) found that consumers are changing their pattern of consumption towards local beer as a way to search national identity. In their study with Danish consumers, men preferred strong ale beer, perceived as local and an identity product, while women preferred a regular lager beer.

Thus, the aim of this research was to understand the building blocks of drinking experience in consumers that search for an experiential consumption. Following this theoretical framework we tested the following hypothesis: 1) The elements (e.g. attitudes, habits, and emotions) involved in the drinking experience of craft versus industrial beer are the same; however some of them may be dominant during the consumption of craft beer while other should be dominant for industrial beer consumption; 2) The experience of drinking industrial beer is similar across consumers' genders, and 3) The experience of drinking craft beer is different for men and women.

METHOD

Fifty-one beer consumers were recruited at selling points, such as restaurants and specialized beer stores in Mexico City. Consumers who passed the inclusions criteria of beer users (craft or industrial beer

consumption at least once a week), age (25 - 35 years), gender (men or woman), and accepted to take part in the study were scheduled for a focus group session two weeks later. Each session included 6 – 8 participants, and was divided by gender and type of consumption (e.g. women-craft). The sessions were performed as "contextual focus groups" in a contemporary Mexican restaurant that regularly serves craft and industrial beer as part of their menu. A session guideline was developed (Table 1) to make sure that all the focus groups follow the same questions and general sequence.

Table 1

Key questions in the focus group session.

Introduction / Rapport
o Thanks for coming… Presentation of the focus' dynamics
Introduction to the category
o Tell me, what you usually drink. For example, in a normal day like… today?
o What do you drink during weekends? Week-days?
o What about beers. Explore consumption habits…
o What's beer for? Why drinking it?
Product experience / Drinking experience
o Now let's talk about what it is to drink beer…
o And if we talk about senses, what's more important? The taste, the colour, appearance, the smell…?
o What do you think when you drink a beer?
o Talking about the way you feel, what do you feel when you drink a beer?
o What's more important to enjoy your beer: the taste, what you think or what you feel?
Factors influencing product experience
o What makes you enjoy more your beer? And less?
o How do you drink your beer? Direct from the bottle, in cups?
o Do you like beer to be the same all the time?
o Are there special places to drink beer?
o Do you drink more alone or accompanied?
Closing and final comments

Data analysis. A verbatim transcription of the sessions was performed to obtain all details from respondents' interviews. When performing the transcripts, the authors focused on semantic meaning, and so it did not include detail of pauses, false starts, latched responses, etc. The transcriptions were then analysed using both a thematic analysis and conglomerate analysis in NVivo qualitative data software (Version 10, QSR International Pty Ltd, Victoria, Australia).

Thematic analysis. The detailed transcriptions were analysed following Shaw (2010) key steps for Interpretative Phenomenological Analysis (IPA): familiarising with data, identifying initial themes, writing descriptive summaries, making initial interpretations and clustering themes. The approach is phenomenological in that it is concerned with an individual's personal perception or account of an object or event as opposed to an attempt to produce an objective statement of the object or event itself (Dibsdall et al., 2002). Triangulation was used to address the issues of internal validity (Barbour 2001).

Conglomerate analyses. The conglomerate analysis was performed to evaluate the similarities between the themes used during the coding of all sessions, and explore the similarities or dissimilarities across themes. To analyse these similarities, Jaccard coefficients were computed across themes and sessions. The Jaccard coefficient (Jaccard 1908) is a measurement of similarities among a set of samples (here the sessions of focus groups) and is defined as the size of the intersection (of each of the categories, e.g. attitudes and beer benefits) divided by the size of the union of the samples. The set of Jaccard coefficients is used by NVivo to perform a dendrogram that illustrates the relationship (similarities or dissimilarities) across themes and sessions.

FINDINGS

Thematic analysis

Eight themes emerged from the thematic analysis (Table 2): attitudes towards beer, sensory experience, consumption habits, affective experience, cognitive experience, shopping experience, individual vs. social experience, and beer benefits. The frequency analysis in Table 2 shows that attitudes were the most often theme used to describe the experience of drinking beer, followed by the sensory experience and consumption habits. It is possible to see differences linked to the type of consumption (craft-industrial), for example, attitudes, have a higher frequency in the craft groups of both men and women; industrial consumers talked less about attitudes towards beers. The cognitive and shopping experience themes showed the same pattern as the attitudes, more present in the craft groups.

Table 2.

Principal themes that emerged from the focus group with the elicitation frequency in a total base and by groups.

Salient themes	Total count	Men-craft	Men-industrial	Women-craft	Women-industrial
Attitudes towards beer	50	14	8	20	8
Sensory experience	32	6	10	10	6
Consumption habits	26	8	6	4	8
Affective experience	19	4	5	4	6
Cognitive experience	18	6	3	7	2
Shopping experience	12	4	1	6	1
Individual vs. social experience	10	1	3	2	4
Beer benefits	7	1	4	2	0

Attitudes towards beer

Based on the frequency of elicitation, attitudes can be considered as a central variable in the drinking experience of the beer. Both types of consumers had attitudes towards industrial and craft beer, imported and local. In a general perspective, craft beer consumers (both men and women) talked more about attitudes than industrial consumers. For example, for craft woman consumers', beer is surrounded by a masculine stereotype, *"Hum, I would not trust in someone that sells me a beer and does not have a beer belly (all woman laughs), they obviously need to be potbellied, like a guy…, don't you think?"* In some cases the barriers towards consumption and a masculine halo in craft beer is overcome via product packaging, but in some other cases it is seen as a gender challenge for craft women consumers: *"I think that the aesthetic thing can also help, but I do think, that it has to do with this spirit of adventuring yourself to try new things, why beer has to be a beverage that only men consume?"*

Craft beer consumption reaffirms an identity process of craft consumers for both genders. In the sense of looking for different things *"you do not consume what everyone else do", "is a form of reaffirming your individuality, of reaffirming that you are a human being different from other, and that you do not want to be a damn sheep".* On the contrary, negative attitudes which limit craft beer consumption and even the product trial emerged from the industrial beer consumer focus groups. These negative attitudes concerned the price of craft beers *"all craft beers are expensive",* or the image of craft beer drinkers *"they are hipster-drink".*

Sensory experience

For all participants in all sessions, the temperature was a key element of the experience of industrial beers independently of the context in which it is drunk, whereas the refreshing and thirst quenching properties of beer emerged as the most relevant sensory experience of industrial beer when the consumers are alone to drink them. Some industrial consumers added lemon, salt and even chilli to the beer, as an enhancer of the sensory experience. Some other industrial beer consumers made even more complex preparations, by adding several chillies and fruit mix (such as *chamoy*) or adding seafood to their industrial beer to make it more sensory-stimulant. Watch the frosty mug, smell and salivate with a citric-acid beer, made an industrial beer very much a sensory experience for industrial beer consumers. On the contrary, the craft beer sensory experiences are triggered more by the flavour of the beer itself; no additional elements are added (e.g. lemon), and it is even shocking for all craft consumers to try to add something to their craft beer. While industrial beer sensory experience is focused on flavour or refreshing effect (more evident in industrial men), craft beer yields more a multisensory experience (for both genders).

Consumers in the craft focus groups enjoyed the colour, aroma, flavour and texture of the craft beer. It is its complex stimulation on the consumer that makes it different from industrial beers: *"It is like a combo because you cannot separate things, you cannot say oh it is only the flavour, I just like the aroma…"* For craft men, the strong flavour of beer makes craft beer unique, as well as its variety (stouts, IPA, Porter, etc.) which is not found in industrial beers. Flavour variety is one of the beer attributes that drive craft beer consumers' attention in both men and women, it is a *"flavour paradise"* compare to what they perceive of the industrial flavours, which they separate into two simple groups: light versus dark. For industrial beer, the taste is dominant in their sensory experience. Men usually consume the industrial beer directly from the bottle; therefore, they do not see the colour or cannot smell the aroma of the beer in the bottle. The low-intensity flavour and the refreshing sensation are key components in their experience, *"when you see a frozen mug, and sweaty and you just… pfff, you crave for that beer".*

Consumption habits

Beer is always present at special occasions or in specific contexts; it cannot be substituted by another low-alcohol beverage for both industrial and craft beer consumers but especially for men "*there are some meals you just cannot imagine without a beer".* Women had a strong association between beer and snack, as interrelated products for the same consumption moments. The same thing happened to the smoker beer consumers (seen in all focus group sessions), in which the consumption of beer was strongly related to smoking *"I don't know, but I cannot drink beer without smoking, it is like, I do not know… maybe they make a synergy effect in my happiness".*

Industrial consumers tended to have weekend consumption while the craft consumers gave themselves more permission to drink beer both on weekdays and weekends. In general terms, craft men were more prone to consume beer more frequently and in any day of the week, while women (craft & industrial consumers) and men industrial consumers tended to drink only during weekends. The industrial beer consumption has a seasonal tendency in Mexican consumers, as hot weathers are preferred for its consumption. Men industrial beer consumers vary their consumption during the year, while industrial women are faithful to their current beer brand, all year long. On the other hand, craft beer consumers consumed beer throughout the year, but they vary the type of beer consumed *"it depends on… I like to taste a strong dark beer when it is cold, or when it is hot, very hot I prefer blonder and colder beers*."

Affective experience

The affective experience refers to the emotions evoked during consumption, or the mood changes experienced during drinking. The affective experience of drinking beer is more evident in women. All women in the sessions mentioned that the main effect of drinking industrial and craft beer was relaxation; *"yes, it helps you in those moments of high stress," "you just disconnect yourself, like if it is your relaxation time."* When talking more about the nature of this relaxation, industrial women mentioned that when consumption is made individually, the beer is used to manipulate their current mood. *"If I had a very hard day, I crave for a beer and just relax."* When the consumption is made socially, the affective experience goes towards stimulation and excitement. For women, the relaxation effect achieved by the beer (both craft and industrial) is not a direct consequence of the percentage of alcohol present in the beer, as no other beverage seems to have the same effect; it has to do more with a sensory stimulation, and the alcohol that triggers the affective experience, *"I think that with some food and beverages are like [the stimulation of] the senses, and when something touches you deeply is like… wonderful".*

The affective experience that emerged from men focus groups is quite different from that of women focus groups. Craft men expressed surprise and arousal rather than relaxation, *"I get aroused when I see a beer that I did not expect to find in a store; it just surprises me!"* This same surprise is felt when men find the first seasonal industrial beer in Mexico called *Noche Buena*, which is a beer produced during winter *"It is like that emotion of being the first to have a Noche Buena in my hands."*

Cognitive experience

Craft beer experience is a combination of sensory and cognitive experience; craft consumer takes the time both to feel the sensory characteristics of beers and to think about the experience itself. For craft consumers (both men and women) with a higher level of knowledge on beer, the cognitive experience is more present and even dominant. Whether they are connoisseurs or beginners, craft beer consumers are eager to get information about the product, especially men. For craft women, it is just expressed as willing to read the bottle labels; they do not search for more information. There is a very small proportion of craft women consumer, which like craft men, search for more information, and for those consumers, the more information they have, the better they will enjoy the beer as if knowledge is an enhancer of the drinking experience of craft beer.

With the industrial beers, there is no such thing as a cognitive experience, industrial consumers barely think on the product, the beer is seen as a tool for distraction, therefore, they do not reflex on the beer or on the experience of drinking it as illustrated by the following statement from an industrial beer man

consumer: "*the last I want to do when I drink beer is to think in something*". For some craft consumers, having more knowledge about the beer triggers a consumption in which the beer cup plays an important role during the consumption, as an enhancer of the drinking experience. Here the cup is an experience enhancer, and sometimes a central part of drinking craft beers. For craft women, there is no consensus on the beer cup drinking experience, but for both men and women craft consumers, it seems that the higher the knowledge of beers, the more the beer cup participate in the drinking experience: seeing the colour of the beer, smell, and taste.

Shopping experience

Novelty seeking is a fundamental part of the shopping experience in craft beer consumers, especially for men. Sometimes only novelties are searched, and in other occasion's consumers buy a mix between favourite and new beers *"I always buy the beers I like, plus something new"*. For the majority of craft women, there is an active influence of the vendor on the craft beers bought; most of them mention that they tend to talk to the vendor to exchange opinions and expectation on beer, this way, shopping becomes a process of knowing the product. For both men and women craft consumers, the label is an important variable for craft beer shopping, consumers get closer to the information, even if they do not search the information in an explicit way, they read labels as an aid for decision-making, but also for understanding more the craft beer category. The main difference between craft men and women shopping experience is that men search more by brand: *"well you already know what types of brands you are looking for"* while women searched more by style, they identify the style they like and they express that to the vendor, so that he recommends a similar product, regardless of the brand: *"there is someone [at the beer store] that helps you choose your beer, you just say the types of beers you like, and… done!"* In contrast, for industrial woman consumers, the brand is the central variable for shopping beer.

Individual versus social experience (co-experience)

Drinking as a social or individual moment can differentiate the way in which the products are experienced. The industrial beer was seen as a social product mainly for men. For industrial beer consumers, conviviality is a experience beer enhancer. In social moments, the industrial beer is seen as an additional component during social interaction; it is not a central element of the occasion, and it passes to a second term *"You enjoy beer; I think… that with your friends".* For industrial women, the beer consumption has a strong social connotation. It is used for conviviality, and individual consumption is occasional "*generally is for conviviality, I do not see myself drinking alone*". For the cultural reason, the

beer consumption is mainly made socially in industrial women. They even have a strange feeling of guilt when they drink by themselves; when drinking socially that guilt goes away, as if it was divided by the number of women present at the moment of drinking *"the more woman the less guilt [all laughs]", "I don't know but when I drink alone I think I am such a drunk, but when more people is present I don't feel that way".* The company, like co-experience, is an enhancer of the craft drinking experience for some craft consumers, but craft men tend to drink alone their craft beer, or with a very reduced group of friends. A "good" beer can be enjoyed alone or socially. It is preferred alone when it is a special beer or when there are no other craft beer consumers. When men connoisseurs enjoy together a good craft beer, it becomes a memorable experience *"I think there is a kind of relation between good beers and conviviality".* On the other side, individual drinking experience is more related to relaxation (in craft women groups); consumer becomes aware of the sensory attributes of the beer.

Beer benefits

The benefits that the respondents' searched when consuming beer varied considerably between craft versus industrial consumers going from functional benefits to emotional benefits. Industrial beer was perceived (by industrial men and women) as a very flexible product that helps as thirst quencher, for social interaction, to drink during a meal, or even as an ingredient of more complex preparations like *michelada* (beer with lemon and salt), clam-chela (*michelada* with tomato juice), *gomichelas* (*michelada* with chilli and sweet gums). The industrial women consumers searched the product as a mood modifier, to help during stress moments. The craft consumers, both men, and women search in craft beer sensory stimulation, but also functional benefits like getting drunk, *"two beers is enough for me [to get drunk]",* although no excess is explicitly searched.

Conglomerate analysis

Figure 1 shows the dendrogram resulting from the conglomerate analysis based on the Jaccard coefficients computed on the types of words used within each theme. The first point that can be noted on this figure is that the themes are divided into two main blocks. The first block contains the attitudes, affective, cognitive and sensory experience. The cognitive and sensory experiences are both closely related to each other as if the presence of one experience triggers the other. The sensory experience was relevant for both type of beer consumer; however, craft consumer experience was more multi-sensory while for industrial beer consumers the taste was dominant. The cognitive experience was dominant for craft beer consumers and especially for men. The affective experience was also close to the cognitive and

sensory experience. The cognitive experience was relevant mainly for craft consumers and especially men, and almost no cognitive experience was seen for industrial beer consumption (for industrial beer users, both men, and women).

The second block contains the shopping experience, benefits, consumption habits and individual vs. social experience. The shopping experience is quite separated from the other themes, which can be due to the fact that it occurs in a different stage of consumption (e.g. from the cognitive or sensory experience), and is because shopping is done previous to product consumption. On the other hand, the benefits for consumption were also different across craft and industrial beer. Industrial beer can be a very flexible product for all types of consumers, suitable for different purposes and craft beer was more searched for symbolic (as an identity object for craft men) and slightly functional (to get drunk for both craft men and women). At the end of the dendogram, we see consumption habits and individual versus social experience. Women and craft beer consumers/users were more associated to social consumption while craft beer consumers and men could be both social and individual (only for men).

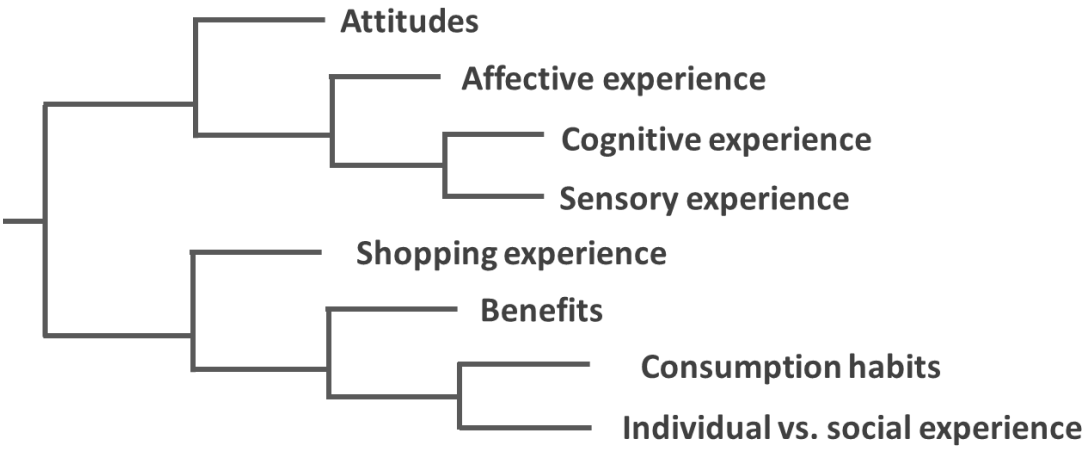

Figure 1. Conglomerate analysis of the themes that emerged from the analysis. The similarities across themes were obtained using Jaccard coefficients to evaluate the similarities of words used in each theme.

DISCUSSION

The objective of the present study was to understand which are the building blocks of the drinking experience of beer and assess the possible differences in drinking beer for gender (men and women), and consumer habits (craft and industrial beer). Three hypothesis were tested in the study, first, one referring to the elements forming the experience, second the fact that the experience of drinking industrial beer is the same across consumers' gender, and the last hypothesis concerning the fact that the experience of

craft beers will be different across genders. The subsequent discussion is elaborated following these hypotheses.

The drinking experience elements

By having a general view of the results we can consider that the main hypothesis regarding the elements (attitudes, shopping experience, etc.) involved in the drinking experience of craft *versus* industrial beer was confirmed, all these elements are present for both products. In this experiential approach, we see that the main elements of the drinking experience can be the themes that emerged from the analysis: affective, sensory and cognitive, as we use our sensory, affective and cognitive systems to interact with the products and give meaning to that interaction. The other elements involved in the drinking experience are the attitudes towards beer and even to the alcoholic drinks category, the consumption habits, the shopping experience, the benefits that the consumers find on beer, and finally the type of consumption: individual *versus* social. All elements are the building blocks of the drinking experience. Gentile et al., (2007) mentioned that the dimensions of the customer experience are: sensory (involves all types of sensory stimulation), emotional (involving the affective system through the generation of moods, feelings and emotions), cognitive (involving all mental processes linked to information processes), pragmatic (a component coming from the practical act of doing something, like using a product in a certain way), lifestyle (coming from the affirmation of the system of values and the beliefs of the person often through the adoption of a lifestyle and behaviours), and relational (involving the person and beyond, his/her social context, his/her relationship with other persons or also with his/her ideal self).

Affects, senses or cognition will then shape the experience. The salience of each element will differentiate the experience across different food products, but also between consumers. When women respondents talked about the relaxation effects of drinking beer, it is the affective element which is salient during the beer consumption. It is then the consumer that searches for a more cognitive, sensory or affective experience. For Hirshman (1984), the desires for consuming sensory and cognitive experiences may be in relative balance or may be greatly disproportionate, in different consumers. Hence, some persons may desire to consume a balanced mixture of cognitive and sensory experience, while others desire to obtain a higher level of one type of experience about the other.

The affective experience of drinking beer is not only shaped by the emotions evoked, but also by moods. Both industrial and craft men consumers were more influenced by the emotional aspect of consumption, whether it was a pleasant surprise for being the first to buy a beer or arousal for finding a craft beer in an industrial venue. We know that emotions change when meanings change; emotions are changed when

events are appraised differently (Frijda, 2007). For women, the effective experience is more related to mood manipulation with beer as they use the product to shift from anxiety or stress to calmness and relaxation, *"you just disconnect yourself when you drink beer, is like you know that is a relaxation moment"*. Desmet (2008) mentioned that products serve important mood-manipulating functions. People seek for opportunities to alter unpleasantly and maintain pleasant moods, and products are used as instruments for mood management.

Based on the results of the focus group, the sensory experience can be defined as the effect the beer has on a consumer derived, from direct sensory or multisensory stimulation. In this sensory experience, the consumer is consciously searching one-sense stimulation, or a multisensory stimulation, like the one craft beer consumers' had with the product; the main objective of this simulation is a sensory pleasure. According to Frijda (2007), sensory pleasures tend to come from objects that are the proper triggers of appetite competences. Sensory pleasure can be easily measured as a product overall liking. However the senses involved in a sensory experience can vary within the same category like craft vs. industrial beers, and across different types of products.

The cognitive experience found in the drinking experience was similar to the one mentioned by Hirschman (1984) for cognitive experience seeking consumers. For her, this type of experience sought to stimulate cognitive activity, that is, to stimulate or activate thought processes. Younger persons may be more motivated to consume experiences of a sensory and novel nature because they have biologically higher activity levels. In our study, the cognitive experience was more relevant in men, and a very low relevance of this dimension was found in the industrial segment.

When we see the shopping experience of craft beer (especially) we can agree with Arnould and Price (2002) separation of the consumption in pre-experience (in beer consumers the craving is more relevant at this point and triggers the consumption), core consumption and remembered consumption experience. In the pre-experience, we can put the shopping experience, craving and hedonic aspects (Gilboa et al. 2016), as consumers are just enjoying one part of the product. Attitudes and habits are more important at this point and the final one. Figure 2 shows a representation of the building blocks of the drinking experience, based in our findings. The shopping experience was more important for craft consumers, which perceived the beer purchase as part of the experience, contrary to the industrial beer consumers who saw the purchase as an irrelevant piece of the experience.

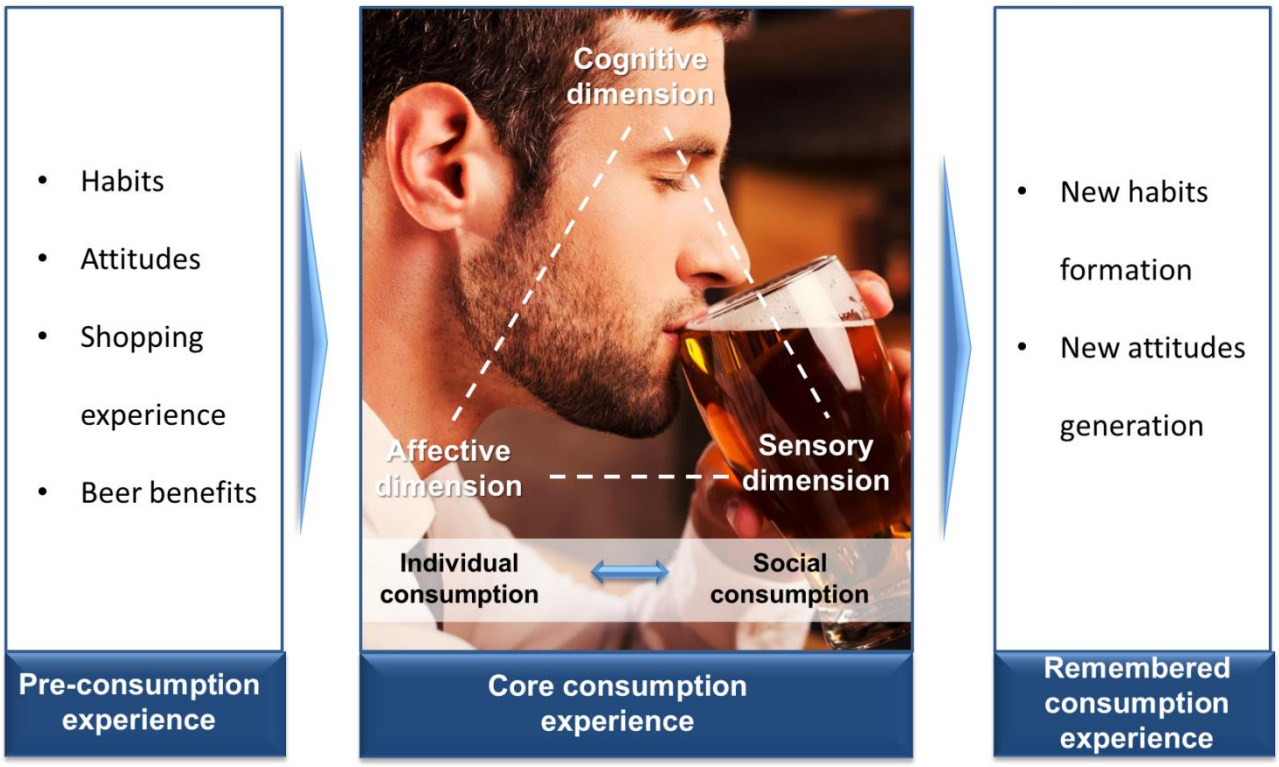

Figure 2. A schema of the drinking experience of craft and industrial beer; separating the main elements of the core consumption experience (cognitive, affective and sensory) which can be individual or social, and the other elements involved for a pre-consumption or remembered experience.

Gender and habits effect on the drinking experience

It has been previously mentioned by Desmet and Hekkert (2007) that the experience is shaped by the characteristic of the user (e.g. personality and background) and those of the product. In our study comparing two different products, industrial beer experience was similar among genders. The craft beer experience seems to be dominated by the cognitive and shopping experience for men while in women it is dominated by the sensory and affective experience. Gender and habits (previous experience with craft beer) are then also responsible for shaping the experience depending on the product. Following a gender approach in the craft drinking experience, Gómez-Corona et al. (2016) found differences in the perception of craft beer among men and women. In their study in beer habits and motivations, craft beer consumption arises as a male bonding product; it does not mean that women are not consuming the product, but the volume of consumers is concentrated in men.

Previous experience evoked a more cognitive experience in the craft beer consumers while for the industrial consumers the salient experience seems to be more sensory and affective. In a study on beers'

representation using a free association task, Sester et al. (2013) concluded that although perceptual characteristics of beer remain an important component of consumers' representations, semantic and experience-based associations are a key component to explain the representation that consumers have of the beer category. This suggests that the previous experience (tasting craft beer) will shape the representation of the beer being tasted.

The relevance of the cognitive experience of craft beer consumption unlike industrial one can also be explained by the search of meaning in men consumers (Gómez-Corona et al., 2016). Craft beer involves a field of meaning and symbolic exchange; it is used as a product that can build the consumer identity through a symbolic system that is shared with the other craft consumers. As stated previously by Thomson and Holt (2004), men's everyday consumption practices may construct a specific socio-cultural articulation of masculinity.

Towards the use of the concept of drinking experience

Based in the definitions given of the product experience given by researchers (Desmet and Hekkert, 2007; Schifferstein and Cleirin, 2005) and compared to variables involved in the drinking experience of beer, some differences were found in the concepts. One of the main differences between drinking and product experience is that in the purchase of a food product like beer, the food product does not become a possession. Food and beverages are experiences, not possessions; we only possess food for a small period during the purchasing, until we decide to incorporate it into ourselves, and transform it into an experience. Only some packaging can become a possession after consumption, food and beverages are vehicles of experiences not of possessions.

CONCLUSION

The building blocks of the drinking experience are similar across beers, and the difference across experiences relies on the saliency of certain dimensions or variables in one beer (craft) *versus* the other (industrial). The experience (drinking or product) is shaped by our cognitive, sensory and affective system; variables such as attitudes, consumption habits, and individual *versus* social consumption, shopping experience, and product benefits are also responsible for shaping the experience. Some variables are more important in the pre-purchase experience, the core consumption or remembered experience, depending in the type of product. The drinking experience concept difers in two major elements versus product experience: food and beverage are not normally considered as possessions after consumption, and some sensory aspects could be more dominant in food and beverages *versus* material objects. "Drinking

experience" might be a more suited concept to refer to the affective, sensory or cognitive effects that a beverage has on a consumer, while "product experience" is a more suited concept for material possessions.

REFERENCES

Arellano-Covarrubias A, Escalona-Buendía HB, Gómez-Corona C. 2014. Comparison of Methodologies to Measure Emotional Responses in Consumers. *6th Congress Food Science, Biotechnology and Safety*. Asociación Mexicana de Ciencias de los Alimentos. Monterrey, México.

Arnould E, Price LL. 1993. River Magic: Extraordinary Experience and the Extended Service Encounter. *Journal of Consumer Research* 20(1): 24–45.

Barbour RS. 2001. Checklists for improving rigour in qualitative research: a case of the tail wagging the dog? *British Medical Journal* 322: 1115-1117.

Bourdieu P. 2010. *El sentido social del gusto. Elementos para una sociología de la cultura.* Argentina: Siglo Veintiuno.

Carù A, Cova B. 2003. Revisting Consumption Experience. A More Humble but Complete View of the Concept. *Marketing Theory* 3(2): 267-286.

Carù A, Cova B. 2007. Consumer Immersion in an Experiential Context. In: Carú A and Cova B (eds) *Consuming Experiences*. Oxon: Routledge.

Darpy D. 2012. *Comportements du consommateur*. Paris: DUNOD.

Desmet P, Hekkert P. 2007. Framework of Product Experience. *International Journal of Design* 1(1): 57-66.

Desmet P. 2008. Product emotion. In: Schifferstein NJ and Hekkert P. (eds) *Product Experience*. UK: Elsevier, pp. 1-8.

Dibsdall LA, Lambert N, Frewer LJ. 2002. Using interpretative phenomenology to understand the food-related experiences and beliefs of a select group of low-income UK women. *Journal of Nutrition Education and Behavior* 34(6): 298-309.

Euromonitor International. 2014. Beer in Mexico. Retrieved from: *Euromonitor Passport database*. London: Euromonitor International.

Frijda N. 2007. *The laws of emotion*. New Jersey: LEA.

Gentile C, Spiller N, Noci G. 2007. How to Sustain the Customer Experience: An Overview of Experience Components that Co-create Value with the Customer. *European Management Journal* 25(5): 395-410.

Gilovich T, Kumar A, Jampol L. 2015. A Wonderful Life: Experiential Consumption and the Pursuit of Happiness. *Journal of Consumer Psychology* 25(1): 152-165.

Gilvoa S, Vilnai-Yavetz I, Chebat JC. 2016. Capturing the multiple facets of mall experience: Developing and validating a scale. *Journal of Consumer Behavior* 15, 48-59.

Gómez-Corona C, Escalona-Buendía HB, García M, Chollet S, Valentin D. 2016. Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico. *Appetite* 96(1): 358-367.

Guinard JX, Souchard A, Picot M, Rogeaux M, Sieffermann, JM. 1998. Sensory Determinants of the Thirst-quenching Character of Beer. *Appetite* 31(1): 101-115.

Hirschman EC. 1984. Experience seeking: A subjectivist perspective of consumption. *Journal of Business Research* 12(1): 115-136.

Holbrook MB, Hirschman EC. 1982. The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun. *Journal of Consumer Research* 9(2): 132-140.

Jaccard P. 1908. Nouvelles recherches sur la distribution florale. *Bulletin de la Société Vaudoise des Sciences Naturelles* 44(163): 223 -270.

Jantzen C, Ostergaard P, Sucena Vieira CM. 2006. Becoming a "woman to the backbone". Lingerie consumption and the experience of feminine identity. *Journal of Consumer Culture* 6(2):177-202.

Lindberg F, Ostergaard P. 2015. Extraordinary consumer experiences: Why immersion and transformation cause trouble. *Journal of Consumer Behavior* 14, 248-260.

Lipovetsky G. 1983. *L'ère du Vide. Essais sur l'individualisme Contemporain*. Paris: Gallimard.

Lipovetsky G, Charles S. 2006. *Los tiempos hipermodernos*. Barcelona: ANAGRAMA.

Lipovetsky G, Serroy J. 2013. *La estetización del mundo. Vivir en la época del capitalismo artístico*. Barcelona: ANAGRAMA.

Mejlholm O, Martens M. 2006. Beer identity in Denmark. *Food Quality and Preference* 17(1-2): 108-115.

Pecoraro M, Uusitalo O. 2014. Exploring the everyday retail experience: The discourses of style and design. Journal of Consumer Behavior 13, 429-441.

Pine JB, Gilmore JH. 1998. Welcome to the Experience Economy. *Harvard Business Review*, July-August, 97-105.

Shaw R. 2010. Interpretative Phenonemological Analysis. In: Forretser, M. (ed.) *Doing Qualitative Research in Psychology | A Practical Guide*. UK: SAGE, pp.177-201.

Schifferstein HNJ, Cleiren M. 2005. Capturing Product Experiences: A Split-modality Approach. *Acta Psychologica* 118(3): 293-318.

Schifferstein HNJ. 2009. The Drinking Experience: Cup or Content? *Food Quality and Preference* 20(3): 268-276.

Sester C, Dacremont C, Deroy O, Valentin D. 2013. Investigating consumers' representations of beers through a free association task: A comparison between packaging and blind conditions. *Food Quality and Preference* 28(2): 475-483.

Simonnet-Toussaint C. 2006. *Le Vin Sur le Divan. Des Représentations Sociales aux Représentation Intimes*. Paris: FÉRET.

Thomson CJ, Holt DB. 2004. How do men grab the phallus? Gender tourism in everyday consumption. *Journal of Consumer Culture* 4(3): 313-338.

Vicdan H, Firat AF. 2015. Evolving desire to experience the social "other": Insights from the high-society bazaar. *Journal of Consumer Culture* 15(2): 248-276.

Warell A. 2008. Multi-modal Visual Experience of Brand-Specific Automobile Design. *The TQM Journal* 20(4): 356-371.

Conclusion

The results of the study shows that the concepts of product experience and drinking experience are similar. However, the main difference may be divided into two points:

- Beverages cannot be considered as a material possession, as in the product experience concept. A beer can only be considered as a possession for a small period, until it is decided by the consumer to ingest and incorporate the beer into ourselves and transform it into an experience.

- The second point is that the human systems may give form to the experience of drinking. Affects, senses or cognition can be salient during the interaction of the beer, and some beers may trigger a more emotional response while other may trigger a more cognitive or sensory experience.

These results can be considered the base to develop the tool to measure the experience of drinking or eating but the results also shed light into the use of the concept of drinking experience in the experiential approach. As we can find several words used in the experiential approach as product-experience, user-experience, consumption-experience, the concept drinking-experience was proved the better suited to define the sensory, affective and cognitive reaction when interacting or consuming a beverage.

Chapter 3 - Mental representation of beers

Introduction

In chapter 1, we saw that we can cluster consumers in three major groups: craft consumers, industrial and occasional. In each cluster, some demographic characteristic emerged, such as the predominance of men in the craft cluster for example. Then, in chapter 2 we saw that the variables involved in the experience of drinking beer are the attitudes, consumption habits, individual vs. social experience, the benefits of beer, and especially the sensory, affective and cognitive experience.

In this experience of drinking beer that involves three dimensions (sensory, affective and cognitive), it is important to understand individual and social variables of the consumers. The main objective of chapter 3 is to understand the individual representation of the beers (industrial and craft) to understand how is the consumer representing and giving structure to the beer category in their mind. We hypothesise that there can be a difference in gender and consumption habits. As we have seen that in previous research with beer, there are usually gender differences in the perception of the beer category (Meljholm and Martens, 2006; Aquilani et al., 2015).

Another important aspect of the experience of drinking beer may be the knowledge that consumers have about the products they are consuming, and this point may have an influence on the experience of drinking beer. Craft consumers, as mentioned in Chapter 1 have more information about the beer category and therefore may represent differently the beer category vs. industrial consumers who in general have less knowledge about the beer category. In this study the hypothesis was that the beer consumers' can be differentiated based on their habits and attitudes towards beer consumption.

The deliveries of the studies performed in chapter 3 we were divided in:

- A poster presented at the I Congreso Asociación Española de Análisis Sensorial, Ciudad Real, October 21-23, 2015.
- An article submitted to Food Quality and Preference, in April 2016.

Centre des Sciences du Goût et de l'Alimentation

I Congreso AEPAS, 2015. Ciudad Real, España

Impacto del género y hábitos de consumo en la representación mental de la cerveza

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La manera en la que percibimos el mundo está profundamente influenciada por la categorización. Cuando categorizamos un estímulo, agrupamos ciertos objetos o concepto como equivalentes o análogos, por lo tanto reducimos la complejidad de la información del mundo externo. Al mismo tiempo, mucha información acerca del estímulo se infiere debido a su asociación con una categoría. El objetivo del estudio es explorar la representación de la cerveza artesanal vs industrial y la influencia de hábitos de consumo vs género de los consumidores.

RESULTS

Los resultados muestran que solo algunos consumidores tienen una representación compartida de las cervezas (Fig. 2). La varianza explicada es relativamente baja para el primer componente (34%), indicando que los participantes difieren substancialmente en su evaluación de las cervezas. El baricentro de la representación (Fig. 3) de los hombres artesanales (CM) está separado del baricentro de las mujeres artesanales (CW), indicando una diferencia en su representación mental. Por otro lado, el baricentro de los hombres industriales (IM) y mujeres industriales (IW) son muy cercanos.

Fig 1. 30 cervezas usadas para el sorting task.

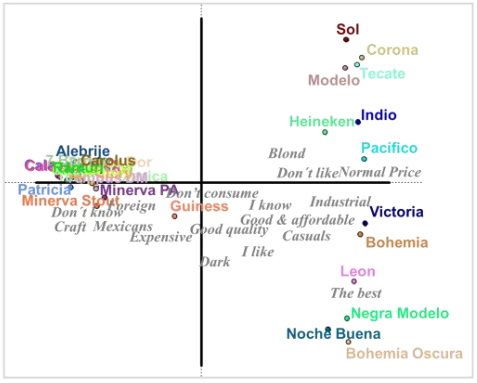

Fig 2. Mapa DISTATIS COMPROMISE , muestra un gradiente en el acomodo de cervezas industriales, las artesanales se colapsan en un grupo. Las palabras que describen a las cervezas se proyectan en gris.

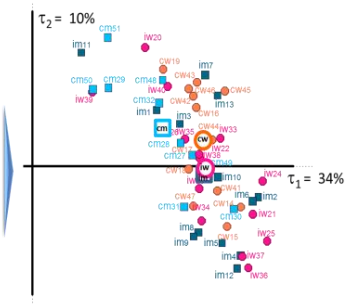

Fig 3. Mapa de DISTATIS RV, cada punto representa un consumidor, los rectángulos son hombres y los círculos son mujeres..

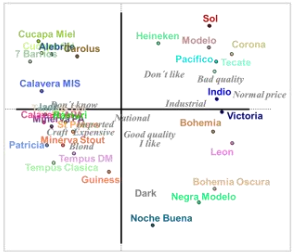

Fig 4. DISTATIS COMPROMISE – Hombres artesanales, muestra una dispersión en ambos grupos de cervezas.

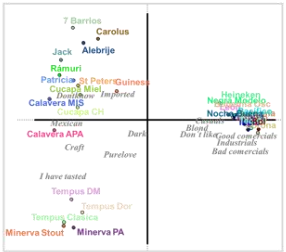

Fig 5. DISTATIS COMPROMISE – mujeres artesanales, las cervezas industriales se colapsan en un solo grupo.

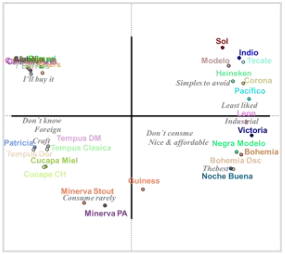

Fig 6. DISTATIS COMPROMISE – hombres industriales, las cervezas industriales se dispersan y artesanales en 2 grupos.

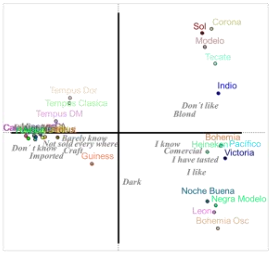

Fig 7. DISTATIS COMPROMISE – mujeres industriales, colapsan por completo las cervezas artesanales en 1 solo grupo.

CONCLUSIONS

El género de los consumidores tiene una influencia en la representación de las cervezas, pero solo en los consumidores artesanales, lo cual sugiere que la información asociada a la categoría artesanal es diferente; mientras que las asociaciones y conceptos ligados a la cerveza industrial es compartida entre géneros.

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Fig. 11. Poster presented at the I Congreso Asociación Española de Análisis Sensorial, Ciudad Real, October 21 -23, 2016.

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Beyond gender and habits. Exploring the differences in a sorting task to describe beers

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Abstract

Why do people eat and drink as they do? This complex question is of great interest to both the academic and industrial world. In recent years, a change of consumption has been noticed in several countries with an increase in interest for traditional and craft products. This is the case, for example, for the beer sector, going from a beer category dominated by one style to a wider range of options of industrial beers and to less commercial options such as craft beers. A change in patterns of consumption is usually an indicator that the perception towards the product is changing. In this study, the objective is to understand the impact of gender (men *versus* women) and type of consumption (craft *versus* industrial beer) on mental beer representations. Four groups of participants were asked to visually sort a set of beer in the presence of brand and packaging. The results show both similarities and differences in the categorization made by each group of consumers. Overall, participants agreed more on their categorization of industrial beers than they did with craft beers. Gender differences were perceived in the sorting task especially in terms of the number of groups used to sort beers, more groups in men; but also in the words used to describe beers. When comparing the results across women and men, it was seen that the latter sort the beers based on previous knowledge (cognitive dimension) while women rely more on the affective dimension (like – do not like) to sort the beers. An interaction effect was also found between gender and type of consumption which highlights the complex relationship that consumers have towards beers.

Keywords: beer, sorting task, DISTATIS, gender, habits of consumption.

1. **Introduction**

Beer has drawn the attention of researchers all over the world (Guinard, Uotani, & Schlich, 2001; Sester et al., 2013, Caporale, 2004; Salcido & Hernandez, 2013). In recent years, a change of consumption has been noticed in several countries (Euromonitor, 2013, Euromonitor 2014) going from a beer category dominated by one style (Lager) to a wider range of options of industrial beers (light, reduced, seasonal, etc.) and to less commercial options such as craft beers. In Denmark, for instance, the awareness of beer quality and the consumption of beer in different contexts have grown among consumers (Mejlholm & Martens, 2006). In a recent study, Aquilani et al (2015) found out that some socio-demographic characteristics are important factors influencing the choice to consume craft beers. In her study with Italian men and women consumers, people aged between 42 and 49 were more likely to drink craft beers than young people aged between 18 and 25, while people over 50 are less likely to drink it.

Another important socio-demographic factor in beer consumption is gender. Different studies have shown that men outnumber women as consumers of speciality or craft beers (Brasseurs du Nord, 2013; Aquilani et al., 2015; Mejlhom & Martens, 2006; Gómez-Corona et al, 2016). According to Donadini and Fumi (2010) beer plays a symbolic role due to its ability to communicate masculinity and group inclusion. Beer is becoming more and more fashionable and connected to modern lifestyles. Contrary to the recent past in which only men were targeted as typical beer consumers, more and more women are attracted to beer as a consequence of marketing activities specifically directed at them that stress the healthy characters of beer and the versatility of this beverage for possible food combinations (Donadini and Fumi, 2010; Euromonitor International 2013).

If a category of products traditionally more appealing to men is becoming more attractive to women, a possible hypothesis is that the perception of that product is changing across genders. We know that gender roles are constructed from cultural and product meanings that constantly shift and vary, depending on the time and place, transmitted via gender stereotypes. Gender stereotypes (e.g. men drinking beer) are

characteristics that are generally believed to be typical either of women or of men (Courtenay, 2000). In our consumer society, there is strong agreement about what is stereotypically categorized as a masculine or a feminine product. For example, in a study that explored the impact of smell on haptic perceptions of texture, Krishna, Elder & Caldara (2010) showed that both smell and texture can be considered masculine or feminine and there is a match between what is considered to be masculine with smells and textures, as well as their feminine counterpart. Culturally, scent and tactile properties lead to specific semantic associations: firm textures are associated with strength and masculinity, while soft textures with weakness and femininity. In a study carried out in Canada, Sellaeg & Chapman (2008) explored the food-related ideals of men living on their own, and their perceptions of how those ideals relate to their actual food practices, the context of living alone, and masculine identities. They showed that the constructions of masculinity and food provide both facilitators and barriers to healthy eating. These constructions and identities are changing from what was traditionally perceived to be masculine, for example, they report that some participants considered food preparation skills to be an important part of an ideal masculine heterosexual (stereotypical) man, "cooking seems to be something that is becoming a lot more known for guys that are single".

These two researchers show that the ideas associated with a product or a category are part of the representation of the product, and as a consequence are part of our mental representation of the world. A way to access these mental representations is to look at how individuals categorize their environment. Indeed, if for some times it was believed that categorization was a reflection of the correlational properties of the environment, it is now admitted that categorization reflects an individual's interpretation of these correlational properties. Thus, looking at the way people categorize foods can be seen as a window into food and drink mental representations.

When we categorise a set of stimuli (objects or concepts), we consider a certain stimulus as equivalent or analogous, thereby reducing the information complexity of the external world. At the same time, a lot of

information about the stimuli is inferred due to their association with a category (Brosh, Pourtois & Sander; 2010). The categorization finds its essential function in the practical role that it plays in the systematization of the environment. The information that a person receives from the environment and from his own actions in this environment can only be integrated if certain cognitive schemas are already deployed or in a condition to be transformed (Tajfel, 1975). How we perceive our environment, is thus profoundly shaped by categorization.

A common task to explore categorization processes is the sorting task (see Chollet et al., 2011 for a review). The sorting task consists of asking assessors to group items depending on their perceived similarity. Sorting tasks are gaining more and more interest in sensory science to evaluate products from a global point of view and to compare different types of assessors (Lelièvre et al., 2008; Bécue-Bertaut & Le, 2011). The final objective of a sorting task is to reveal—via statistical analyses—the structure of the product space and to interpret the underlying dimensions.

The objective of the study was to understand the impact of gender (men *versus* women) and type of consumption (craft *versus* industrial beer) on Mexican consumers' mental representation of beer. In this framework, three hypotheses were developed. Our first hypothesis was that the mental representation of beer in the Mexican consumer is different across genders. Our second hypothesis concerned the type of consumption; we expected craft and industrial consumers to have a different mental representation of beer. And finally, we hypothesised that gender and type of consumption would interact and have a bigger impact on the mental representation of beers compared to the effect of the two variables separately.

2. Material and methods

2.1 Participants

Fifty-one beer participants were recruited at selling points, such as restaurants and specialized beer stores in Mexico City (28 industrial beer users and 23 craft beer users). A filter questionnaire was used to

balance the groups of industrial and craft participants in terms of frequency of consumption (at least once a week), age (25 - 35 years), gender, and income level (medium or medium-high). Income level was defined using AMAI rule for Mexican consumers (Lopez Romo, 2011). Participants were not paid for their participation.

2.2 Material

A set of 30 commercial beers (Fig. 1) was used in the study, 15 industrial and 15 craft beers. The brands were selected based on a previous study (Gómez-Corona & Escalona-Buendía, 2013) as being those most consumed by Mexican consumers. The images of the beers were printed on coloured cards of 9cm * 7cm.

2.3 Procedure

Participants were presented with the thirty beer cards with a colour image of the beer. The order of presentation of the cards was randomized prior to the session. Participants were asked to sort the beer cards individually. No criterion was provided to perform the sorting task; participants were free to make as many groups as they wanted and to put as many beer cards as they wanted in each group. Once participants completed the sorting task, they were asked to provide a few words to explain their categorization criteria.

2.4 Data analysis

The sorting results of each participant were encoded in individual *beer * beer* distance matrices where the rows and the columns are beers, and where a value of 0 between a row and a column indicates that the participant put both beers together, and a value of 1 indicates that the beers where not put in the same group. The verbalization results were encoded in a *beer * word* frequency table. Frequencies of elicitation were obtained by counting the number of participants who provided a given word for each beer, only words mentioned by more than 2% of the participants were considered for the analysis. According to

Lebart, Piron, & Morineau (2006) 2% can be considered as an acceptable threshold to define low elicited frequencies.

Fig. 1. Image and basic information of the set of beers used in the study: commercial name (e.g. Corona), type (e.g. industrial), style (e.g. American lager), percent of alcohol volume (e.g. 4.6%), country of origin (e.g. Mexico), millilitres in the bottle (e.g. 355 mL), and local price (Mexico City in 2015) in euros.

The final matrices were then submitted to three DISTATIS analyses. DISTATIS is a generalization of Multidimensional scaling that takes into account individual data. DISTATIS provides two maps: a product and an assessor map. The product map represents the similarity between the products. A bootstrap resampling technique is used to compute confidence ellipsoids around the products (Abdi, Dunlop and Williams, 2008). The descriptors are projected as supplementary points on this map. The assessor map or DISTATIS RV map indicates how each assessor interprets the common space. This map was used to evaluate if groups of assessors (women *versus* men, craft *versus* industrial consumers) differ in their way of sorting the beers.

A first DISTATIS analysis was carried out on the sorting data of the fifty-one participants. The goal of this analysis was to provide an overall picture of participant's representation of craft and industrial beers. The barycentre of the four groups of participants (craft-men, craft-women, industrial-men, and industrial-women) were projected in the assessor map to assess the effect of gender and type of consumption.

Then, to evaluate the main effect of each variable (gender and consumption type) further, four new DISTATIS analyses were carried out. The first two aimed at evaluating the effect of gender and provided two product maps: a map resulting from the analysis of the women sorting data, and a map resulting from the analysis of the men sorting data. The last two aimed at evaluating the effect of consumption habits, providing a map resulting from the analysis of the industrial consumer sorting data, and a map resulting from the analysis of the craft consumer sorting data.

A final analysis aimed at evaluating the interaction between the two variables. Four DISTATIS analyses were carried out: one on the women craft sorting data, one on the women industrial sorting data, one on the men craft sorting data, one on the men industrial sorting data. DISTATIS analyses were performed with R version 3.1.3 using DistatisR package (Beaton, Chin Fatt & Abdi, 2015).

3. Results

3.1 Overall analysis

Figure 2 shows the DISTATIS compromise map for all participants, defined by the dimensions 1 (34% of variance) and 2 (10% of variance). The first dimension shows a clear separation of industrial beers on the right and craft beers on the left. The second dimension is separating the industrial beers into clear or blond beers at the top *versus* darker industrial beers at the bottom. The confidence intervals of each beer show the separation across products and highlight three groups of beers: industrial blond beers (top right), industrial dark beers (bottom right), and craft beers (left). These last beers are all grouped together with little separation among them, except for Guinness that seems to fall closer to the industrial dark beers in comparison to the rest of craft beers.

The words associated with craft beers are *expensive*, *don't consume*, *foreign*, *Mexicans*, *don't know* and *craft*. The industrial blond beers (Sol, Corona, Modelo, Tecate, Indio, Heineken and Pacífico) are defined as being *blond*, *don't' like* and *normal price*. On the other hand, the darker industrial beers area (Victoria, Bohemia, Leon, Negra Modelo, Bohemia Oscura and Noche Buena) is defined as being *industrial*, *I know*, *good & affordable*, *good quality*, *I like*, and *casuals*.

The distance between the barycentres shows the similarities between the groups of participants. The craft-men barycentre (Fig. 3) is separated from the craft-women barycentre, and from those of industrial men and women, showing that the sorting results of craft-men differed from the sorting results of the other groups. On the contrary, the barycentres of industrial-men and industrial-women are overlaid, suggesting that the perception of beers across those two groups is similar.

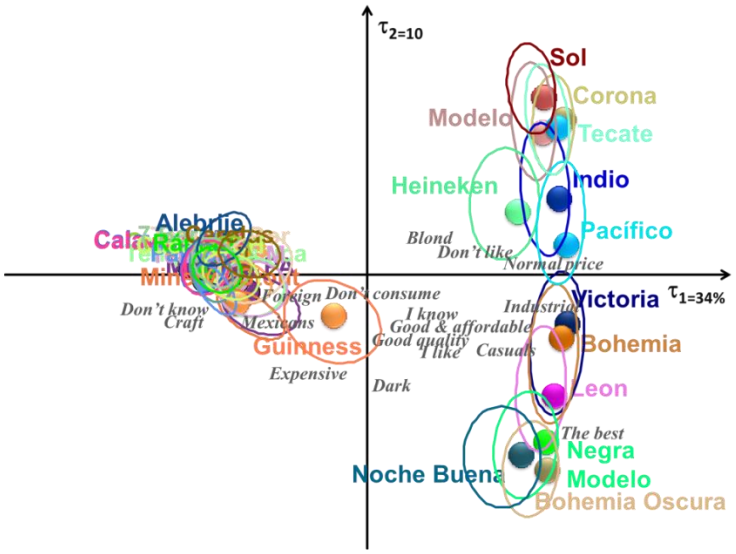


Fig.2. DISTATIS compromise of all participants' sorting task in the plane defined by dimensions 1 and 2. □□indicates the variance explained by each dimension. The products are projected with 95% confidence ellipses computed by bootstrap.

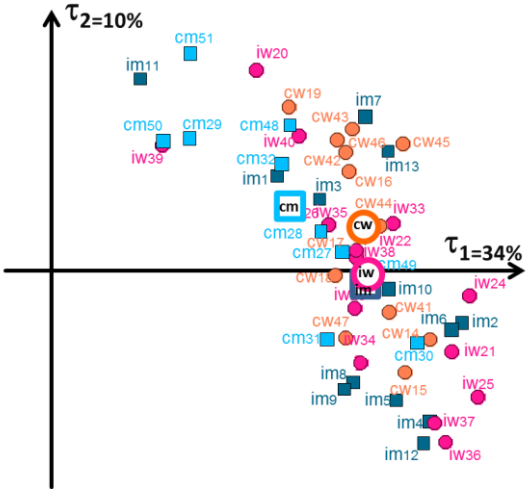


Fig. 3. Distatis RV map. Each assessor is identified by a point on the map. Rectangles represent men, circles are women. Craft vs industrial users can also be identified (CM=craft men; IM=industrial men; CW=craft women; IW=industrial women). The barycentres of CM, IM, CW and IW are also plotted.

3.2 Gender and type of consumption main effect analyses

The gender effect is shown in Figure 4. The variance explained by the first two dimensions is similar for men and women participants (34% and 35%), apparently indicating no agreement between genders. Beers on the men map (Figure 4-a) are organized along a clock-wise gradient going from blond industrial beers at the top right, to industrial darker beers (bottom right), and craft beers at the left. No such gradient

appears for women participants (Figure 4-b) who separated beers in two groups: industrial on the right and craft on the left.

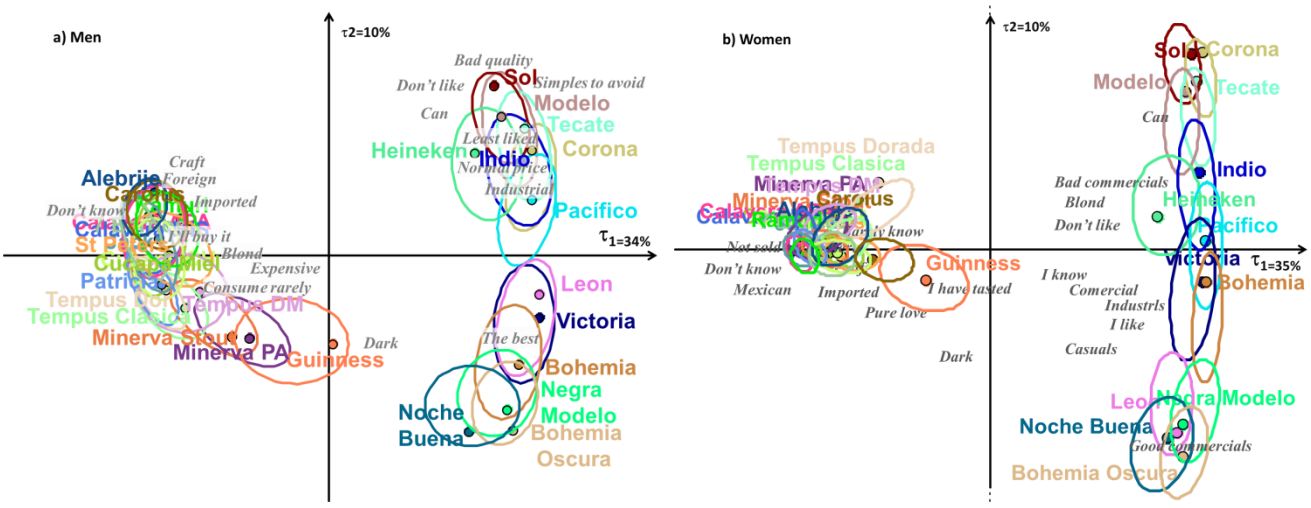


Fig. 4. DISTATIS compromise map of a) Men participants (dimension 1 and 2 explain 44% of variance), and b) Women participants (dimension 1 and 2 explains 45% of variance). The products are projected with 95% tolerance ellipses computed by bootstrap. Words used to define each group are plotted in grey italic letters.

For both genders, the industrial blond beers are associated with two words: *can* and d*on't like*. A gender effect difference on the other hand is observed for darker industrial beers that are defined as *the best* and *dark* (men) and *I know*, *commercials*, *industrials*, *I like*, *casuals* and *good commercials* (for women). A gender effect is also observed for craft beers. Whereas women (Figure 4-b) defined craft beer globally as being *dark, I have tasted, imported, Mexican, don't know, not sold everywhere* and *rarely known,* more differentiation is observed for men (Figure 4-a). The beers at the top left of the men map (Alebrije, Carolus, Calavera and St Peters) are defined as *craft*, *foreign*, *imported*, *don't know*, and *I'll buy it*. On the other side the beers at the bottom left of the map (Minerva PA, Minerva Stout, Tempus DM, Tempus Dorada, Patricia and Cucapa) were defined by men as being *consume rarely*, *expensive*, *blond*, *I'll buy it, imported*, *don't know*. Finally, Guinness (a dark industrial beer) falls in the middle between craft and industrial dark beers and is described by a single word: *dark*.

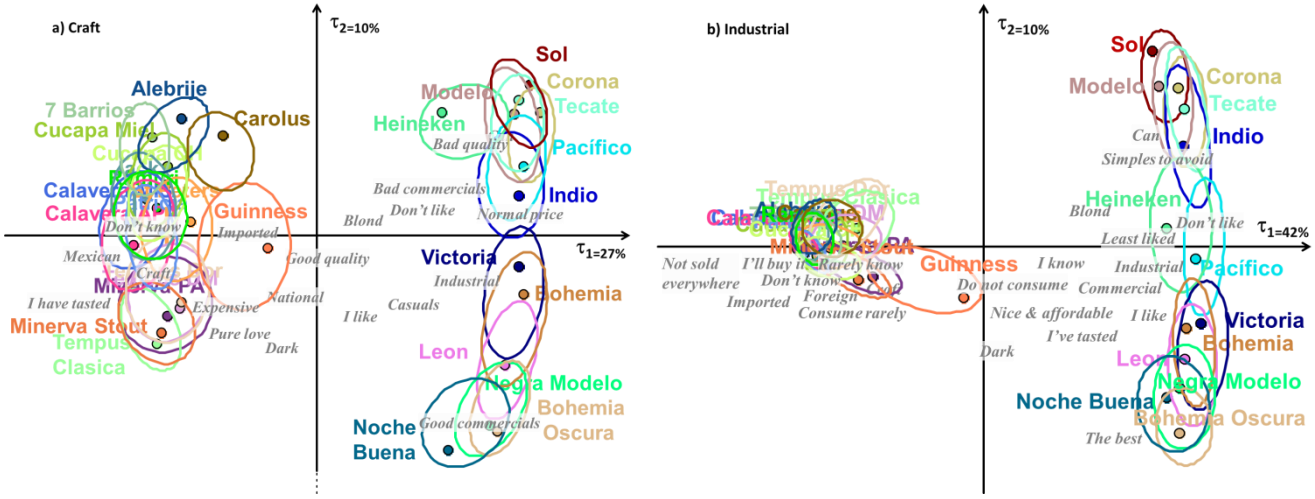


Fig. 5. DISTATIS compromise map of a) craft participants (dimension 1 and 2 explain 37% of variance), and b) industrial participants (dimension 1 and 2 explains 52% of variance). The products are projected with 95% tolerance ellipses computed by bootstrap. Words used to define each group are plotted in grey italic letters.

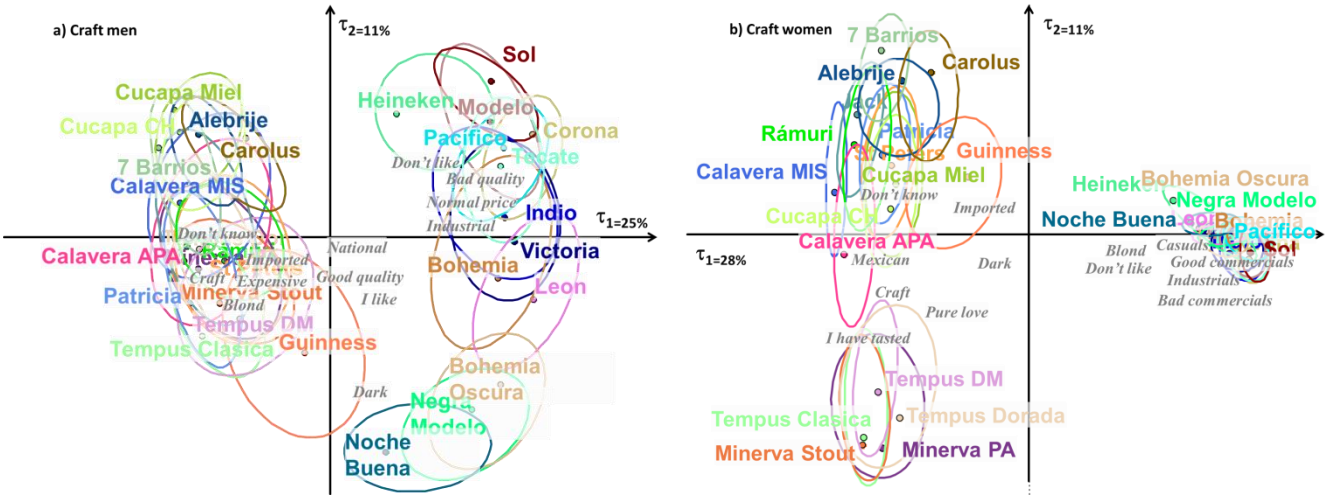
For the type of consumption analysis the DISTATIS maps are shown in figure 5. The percent of variance explained by the first dimension of craft (27%) and industrial participants (42%) evidences a difference in inter-individual agreement. Craft participants showed a lower agreement in the way they sorted the beers than for industrial ones. Craft participants discriminated more craft beers than industrial participants. Beers at the top left of Figure 5a (Carolus, Alebrije, 7 Barrios and Cucapá mielCalavera and St Peters) seem to be less known than the ones at the bottom of the graph such as Minerva PA and Tempus DM which were associated with terms such as *Mexican*, *craft* and *I've tasted or* Minerva Stout, and Tempus Classica which seemed to be defined as *expensive*, *pure love* and *dark*. Guinness stands alone in the craft beer cluster and is described as *imported* and *good quality*.

In Figure 5-b industrial participants show a similar arrangement of the industrial beers (in comparison to the craft participants) but the craft beers seem to form one single group of beers, except for Guinness which is slightly separated from the craft group, towards the industrial dark beers. The craft beers are described differently by industrial beer consumers than by craft consumers: *not sold everywhere*, *imported*, *I'll buy it*, *rarely known*, *don't know, foreign*, *craft* and *consume rarely*.

3.3 Interaction between gender and type of consumption analysis

The percent of variance explained by the first two dimensions is higher for the industrial participants than for the craft ones, but no big difference is seen between genders. Industrial women participants (Figure 6-d) have the higher variance (56%), followed by the industrial men (52%), the craft women (39%), and finally the craft men (36%). The higher variance is a sign of higher agreement across participants, meaning that industrial participants share a common mental representation of beers, while there are more individual differences in craft participants, especially for men.

Among the craft consumers a higher difference was seen in women than men. Craft women made a clearer separation between the beers mentioned as *craft, pure love and I have tasted and Mexican* (Tempus DM, Tempus Clasica, Tempus Dorada, Minerva Stout, and Minerva PA). On the upper craft group, they separate the beers that are associated with *don't know and imported* (Calavera, Cucapa CH, Cucapá Miel, Calavera MIS, Guinness, St Peters, Patricia, Jack, Alebrije, 7 Barrios and Carolus). Another difference found in the craft women versus craft men is that the women craft participants consider all the industrial beers as being just one group defined mainly as *commercials* (*good* and *bad*), while the craft men do make a difference in the sorting of industrial beer, separating them also in a gradient going from blonder to darker beers.



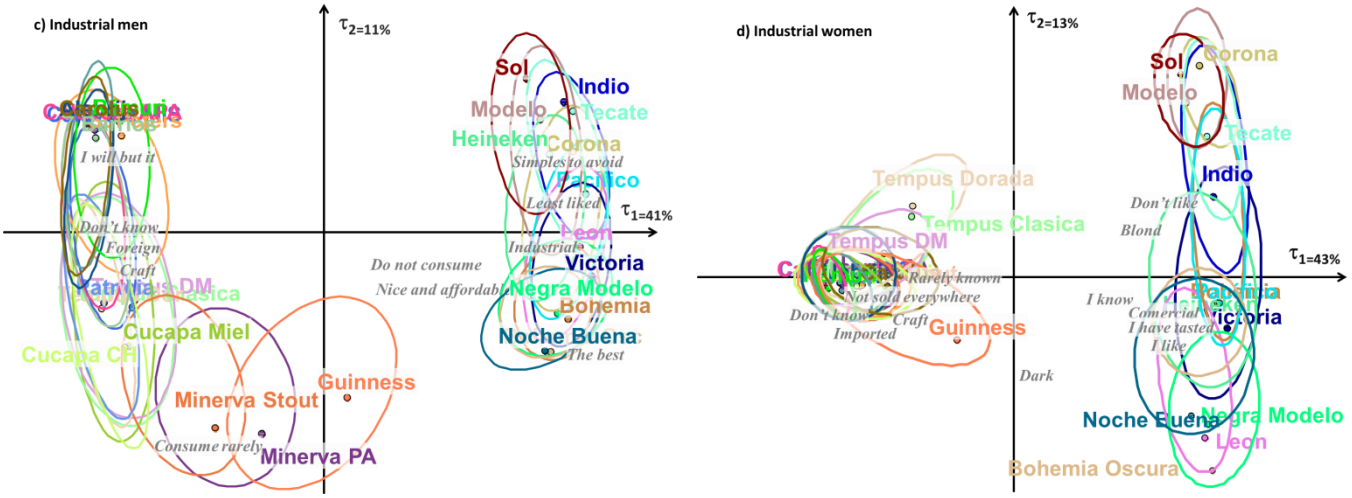


Fig. 6. DISTATIS compromise map of a) craft men (dimension 1 and 2 explain 36% of variance), b) craft women (dimension 1 and 2 explains 39% of variance), c) industrial men (dimension 1 and 2 explain 52% of variance), and d) industrial women (dimension 1 and 2 explain 56% of variance). The products are projected with 95% tolerance ellipses computed by bootstrap. Words used to define each group are plotted in grey italic letters.

In the industrial consumption group, the men participants (figure 6-c) make a similar separation of beers to the one found in the craft men group (figure 6-a), meaning that the mental representation of beer across men is shared, regardless of the difference in their consumption habits (industrial or craft). The only difference across industrial and craft men can be seen in the separation they make based on their habits of consumption. That is to say that craft participants make more differences in the sorting groups of the craft beers and fewer differences between the industrial beers; and on the contrary the industrial men participants tend to separate more the industrial beers between them versus the craft beers which fall closer. On the other hand, the industrial women participants made a bigger separation of the industrial beers in comparison to the men´s industrial sorting and grouped all the craft beers together. But even more important, their sorting results are completely the opposite of those of craft women.

This last figure indicates that the interaction between gender and habits of consumption has a higher effect on the mental representation of beer, rather than the variables isolated in the analysis. It also highlights that the structure of the sorting task results are different; as a beer continuum for men that goes from the industrial to the craft beers. Women on the other hand make a big separation of the beers they

consume (e.g. craft beer) and group the rest of the beers in one group (e.g. industrial beers). These differences between genders may be a sign that the way consumers build their mental representation relies on a different association (symbolisation) of the beers.

4. Discussion

The results from the sorting task show that consumers' relationship with beer is a complex one. When all the data are analysed together, industrial beers tended to be separated in different groups, and craft beers tended to be perceived as a single group. This result could lead to the interpretation that, globally, consumers have a better representation of industrial beers than of craft beers which are considered as a unique whole. However, when the analysis is broken down by gender and type of consumption, it was evident that not all groups of participants shared a common representation of the beer category. Gender and habits of consumption play an important role in beer mental representation.

In agreement with our first hypothesis, we observed that men and women differed in the way they sorted the beers. For women, we observed a clear separation between craft and industrial beer whereas the men beer similarity maps showed a clock-wise gradient going from blond industrial beers to industrial darker beers and finally craft beers. Moreover, women tend to differentiate mostly industrial light beers, clustering industrial dark beers on one side and craft beer on the other side. This result might be put in perspective with previous work showing that women are more likely to prefer light beer compared to men (Chrysochou, 2014, Mejlholm & Martens, 2006). Women preferring lighter beer might have greater knowledge of these types of beers than of dark and craft beers. In agreement with this interpretation, the descriptions of the beer groups provided by the men participants reveal a higher level of knowledge of craft beers (e.g. *craft, foreign, imported,* and *expensive*) than women (e.g. *don´t know, not sold everywhere*, and *pure love*).

A clear effect of type of consumption was also observed, with craft beer consumers separating craft beers much more than industrial beer consumers, supporting our second hypothesis. The analysis of the words generated by the two groups of consumers confirms this difference. Industrial consumers used simpler words than craft consumers to describe the beers like "*I like*", "*I do not know*" or "*good ones*". This observation ties in with previous work by Chrysochou (2014) who reported that the main motivation behind purchase of light beer were "*I like the taste*", followed "*to avoid getting drunk*" and "*I could drink more".* The words used by craft consumers on the other hand were more complex and gave more information on the beers like "*good industrials*", "*craft*", "*imported*" denoting more knowledge of the beer category. Caporale et al. (2004) already highlighted the importance of knowledge on beer perception. The objective of their study was to investigate the extent to which information concerning the manufacturing processes of beer can influence how acceptable the product is to the consumer. Their results indicate that information about the product´s history may well have a psychological effect on the perception of the product.

Taken together, the results of gender and types of consumption suggest that there is a strong interaction between gender and type of consumption, which confirms our third hypothesis. Despite differences in the number of groups made and in the distances between subgroups of beers, the general patterns shown on industrial and craft men consumer maps are quite similar. In both cases, the arrangement of beers follows a continuum going from the beer Sol in an "industrial pole" described as *don't like* (for craft men), and *simples to avoid* (for industrial men) to a "far craft pole" marked by Alebrije beer for both types of men. Interestingly, in both maps the beer Guinness serves as the chain-link that connects the industrial world of beers with the craft ones. This continuum seems to follow craft beer consumers' trajectory. In line with this interpretation, respondents reported starting their beer consumption with the most industrial beers and as time passed they began introducing new beers into their habits of consumption until they reached the darker industrial beers on the market. Guinness is seen as a "starter" beer and a gate keeper for new

experiences; those who like the experience initiate a quest for new beer discoveries, and those who do not, then continued with their regular industrial beer habits. It is then "previous experience" that shapes the difference across industrial and craft men. In previous studies using sorting tasks, Chollet et al (2011) found that for most of the sets of beers in several sorting tasks, untrained assessors were able to perform the sorting task as well as trained assessors, but that trained assessors tended to use more groups than novices or the less experienced. This can explain why craft-men participants made more groups of beers, and the difference might rely again on previous experience. Faye et al (2004) also found similar maps of experienced and inexperienced subjects in a sorting task of plastic pieces, and Lelièvre et al (2008) found that trained and untrained assessors differ in the descriptions of beers in a sorting task, although the categorization of the beers were the same across both groups.

In women, the effect of the type of consumption on beer categorization is stronger. The maps of the craft-women and industrial-women are completely opposed. While craft-women group all the industrial beers in a small group and distinguish between craft beers; industrial-women did exactly the opposite. They grouped all craft beers in a small group and separated industrial beers. It seems as if for women the sorting task is based on a "love and hate" relationship with beers which would be based more on attitudes than on knowledge or previous experiences.

For Fishnein & Ajzen (1975) attitude is a learned predisposition to respond consistently favourably or unfavourably to a given object. In other words, attitudes express the positive or negative orientation of a consumer towards an object. In craft-women maps, a positive attitude is given to craft beers which are separated in two groups: the *don't know* beers, and the *I've tasted* and *pure love* beers. In these two groups, no pattern of beer style could be found. For the industrial-women, the separation was wider for the industrial beers, also separated in two groups, both of them with affective description going from *don't like* (blond industrial beers) to *I like* (dark industrial beers).

Our results are aligned with the Aikman et al (2006) study which examined the bases of food attitudes, and separated them into those based on a cognitive or affective origin. According to the author, individuals can be described in terms of which food attitude base is the most important determinant of their food attitude in general, whether they use more their cognitive system or their affective one to generate an attitude towards food. That is to say that there can be a relationship between classifying a food and classifying an individual according to the informational bases of an attitude (cognitive versus affective). In our study, we found that men are more on the cognitive and knowledge side when classifying beers based on previous experience, and women are more on the affective side. This affective attitude is exemplified by the words used in the description of the beers by women (e.g. *pure love*, d*on't like*, and *I like*).

5. Conclusion

What made the difference in the sorting task: gender or consumption habits? The answer is both, and more exactly, the interaction between them. The analysis of the interaction effects made it possible to see the difference across genders and the cognitive mechanism used to sort the beers. It was found that men sort the beers in a continuum, based on knowledge or previous experience. Women, on the other hand, rely on their attitudes towards the product to sort the beers; we hypothesise that attitudes are from an affective origin, rather than cognitive based.

From a practical perspective, the results from our study can have great value for the beer industry, as it shows how the consumers represent the beer category, the associations linked to them and the proximity across different types of beers.

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References

Abdi, H., Dunlop, Joseph, P., Williams, Lynne, J. (2009). How to compute reliability estimates and display confidence and tolerance intervals for pattern classifiers using the Bootstrap and 3-way multidimensional scaling (DISTATIS). *NeuroImage*, 45, 89-95.

Aikman, S, M., Crites, S. L. (2006). Beyond affect and cognition: Identification of the informational bases of food attitudes. *Journal of Applied Social Psychology*, 36 (2), 340-382.

Aquilani, B., Laureti, T., Poponi, S., Secondi, L. (2015). Beer choice and consumption determinants when craft beers are tasted: An exploratory study of consumer preferences. *Food Quality and Preference*, 41, 214-224.

Ares, G., Deliza, R. (2010). Studying the influence of package shape and colour on consumer expectations of milk desserts using word association and conjoint analysis. *Food Quality and Preference*, 21, 930-937.

Beaton, D., Chin Fatt, C., Abdi, H. (2015). DistatisR: DiSTATIS Three Way Metric Multidimensional Scaling. R package version 1.0. Retrieved from: http://CRAN.R-project.org/package=DistatisR

Bécue-Bertaut, M., Lé, S. (2011). Analysis of multilingual labelled sorting tasks: Applications to a cross-cultural study in wine industry. *Journal of Sensory Studies*, 26, 299-310.

Brasseurs du Nord. (2013). Notoriété, pénétration & image des bières de Spécialités Régionales. Retrieved from http://www.brasseursdunord.fr/wp-content/uploads/2013/01/Tronc-commun1.pdf , June 2015.

Brosch, T., Pourtois, G., Sander, D. (2010). The perception and categorisation of emotional stimuli: A review. In Houwer, J., Hermans, D. (Eds). *Cognition & Emotion. Reviews of Current Research and Theories*. New York: Psychology Press.

Caporale, G., Monteleone, E. (2004). Influence of information about manufacturing process on beer acceptability. *Food Quality and Preference*, 15, 271-278.

Charters, S., Pettigrew, S. (2005). Is wine consumption and aesthetic experience? *Journal of Wine Research*, 16 (2), 121-136.

Choi, D. Y., Stack, M. H. (2005). The all-American beer: A case of inferior standard (taste) prevailing? *Business Horizons*, 48, 79-86.

Chollet, S., Lelièvre, M., Abdi, H., Valentin, D. (2011). Sort and beer: Everything you wanted to know about the sorting task but did not dare to ask. *Food Quality and Preference*, 22, 507-520.

Chrysochou, P. (2014). Drink to get drunk or to stay healthy? Exploring consumers' perceptions, motives and preferences for light beer. *Food Quality and Preference*, 31, 156-163.

Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: a theory of gender and health. *Social Science & Medicine*, 50, 1385-1401.

Do, V. B., Patris, B., Valentin, D. (2009). Opinions on wine in a new consumer country: A comparative study of Vietnam and France. *Journal of Wine Research*, 29 (3), 227-245.

Donadini, G., Fumi, M. D., Lambri, M. (2013). A preliminary study investigating consumer preference for cheese and beer pairings. *Food Quality and Preference*, 30, 217-228.

Euromonitor International. (2013). Artisanal Alcoholic Drinks: Increasingly an Option for Mexican Consumers. Retrieved from Falahee, M., MacRae, A. W. (1995). Consumer appraisal of drinking water: Multidimensional scaling analysis. *Food Quality and Preference*, 6, 327-332.

Euromonitor International. (2014). Beer in Mexico. Retrieved from Euromonitor Passport database. London: Euromonitor International.

Falahee, M., MacRae, A. W. (1995). Consumer appraisal of drinking water: Multidimensional scaling analysis. *Food Quality and Preference*, 6, 327-332.

Faye, P., Brémaud, D., Durand Daubain, M., Courcoux, P., Giboreau, A., Nicod, H. (2004). Perceptive free sorting and verbalization tasks with naive subjects: an alternative to descriptive mappings. *Food Quality and Preference*, 15, 781 -791.

Fischnein, M., Ajzen, I. (1975). *Beliefs, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley. Retrieved from.

Giacalone, D., Bom Frost, M., Bredie, W. L. P., Pineau, B., Hunter, D. C., Paisley, A. Beresford, M. K., Jaeger, S. R. (2015). Situational appropriateness of beer is influenced by product familiarity. *Food Quality and Preference*, 39, 16-27.

Gómez-Corona Carlos, Héctor B. Escalona Buendía. (2013), "Conociendo al Consumidor de Cerveza Artesanal," Congreso Cerveza México: Artesanos por la Industria, Ciudad de México, Septiembre 2013.

Gómez-Corona, C., Escalona-Buendia, H. B., García, M., Chollet, S., Valentin, D. (2016). Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico. *Appetite*, 96, 358-367.

Guinard, J.X., Uotani, B., Schlich, P. (2001). Internal and external mapping of preferences for commercial lager beers: comparison of hedonic ratings by consumers blind versus with knowledge of brand and price. *Food Quality and Preference*, 243 – 255.

Krishna, A., Elder, R. S., Caldara, C. (2010). Feminine to smell but masculine to touch? Multisensory congruence and its effect on the aesthetic experience. *Journal of Consumer Psychology*, 20, 410-418.

Lebart, L., Piron, M., & Morineau, A. (2006). *Statistique exploratoire multidimensionnelle. Visualisation et inference en fouille de données.* Paris: Dunod.

Lelièvre, M., Chollet, S., Abdi, H., Valentin, D. (2008). What is the validity of the sorting task for describing beers ? A study using trained and untrained assessors. *Food Quality and Preference*, 19, 697-703.

López Romo, H. (2011). Actualizacion regla AMAI NSE 8*7. Mexico DF, Mexico: Congreso AMAI 2011.

Mejlholm, O., Martens, M. (2006). Beer identity in Denmark. *Food Quality and Preference*, 17, 108-115.

Ngo, M. K., Piqueras-Fiszman, B., Spence, C. (2012). On the colour and shape of still and sparkling water: Insights from online and laboratory-based testing. *Food Quality and Preference*, 24, 260-268.

Parr, W. V., Mouret, M., Blackmore, S., Pelquest-Hunt, T., Urdapilleta, I. (2011). Representation of complexity in wine: Influence of expertise. *Food Quality and Preference*, 22, 647-660.

Rebollar, R., Lidón, I., Serrano, A., Martín, J., Fernández, M. J. (2012). Influence of chewing gum packaging design on consumer expectation and willingness to buy. An analysis of functional, sensory and experience attributes. *Food Quality and Preference*, 24, 162-179.

Sáenz-Navajas, M. P., Ballester, J., Peyron, D., Valentin, D. (2014). Extrinsic attributes responsible for red wine quality perception: A cross-cultural study between France and Spain. *Food Quality and Preference*, 35, 70-85.

Salcido, V., Hernandez, A. (2013). The Mexican craft beer market – A market assessment. USDA Foreign Agricultural Service. Retrieved from: http://www.mexico-usda.com

Schifferstein, H. N. J., Fenko., A., Desmet, P. M. A. Labbe, D., Martin, N. (2013). Influence of package design on the dynamics of multisensory and emotional food experience. *Food Quality and Preference*, 27, 18-25.

Sellaeg, K., Chapman, G. E. (2008). Masculinity and food ideals of men who live alone. *Appetite*, 51, 120-128.

Sester, C., Dacremont, C., Deroy, O., Valentin, D. (2013). Investigating consumers' representations of beers through a free association task: A comparison between packaging and blind conditions. *Food Quality and Preference*, 28, 475-483.

Tajfel, H. (1975). La categorización social. In Moscovici, S. (Ed.). Introducción a la psicología social (pp. 349-388). España: Editorial Planeta.

Conclusion

The results of the study show that there is an impact of gender and habits of consumption in the sorting task of beers, this indicates that the mental representation that consumers have of the beer is different. Independently from the type of consumption (or knowledge) the craft and industrial men sort the beers more or less the same. The pattern of the representation formed a gradient that went from the most industrial beers to the extreme craft beers. In the middle of the men's representation of beer it lays Guinness that seems to be the port of entry from the industrial to the craft world. This beer was described during the sorting task as a starter beer, and in the consumer ethnographies performed in chapter 1; similar comments were obtained about the role of Guinness as a starter beer in the craft consumption.

On the other hand, women sorting task indicated that the attitudes are playing an important role in their representation of beer. Women's map tended to have in one part a complete discrimination of one type of beers like craft (for the craft consumers) while the industrial beers have been collapsed in a single cluster. The same results were obtained but transposed to the beer types. Industrial women made a clear separation across industrial beers and put in a single cluster all the craft beers. In both cases a love-hate relationship was found.

Overall, the results show that men rely more in knowledge when representing the beers while women rely more in their attitudes.

VI. Chapter 4. Social representation of craft beer in two different countries, Mexico and France

Introduction

After seeing the habits and attitudes towards beer consumption (chapter 1), the building blocks of the drinking experience (chapter 2), and the mental representation, it was considered that the social approach was missing, in order to better understand how is culture influencing the representation of the concept of beer. Being the craft beer the most interesting for its capacity to stimulate the senses, affects and cognition.

The social aspects of the representation of the craft beer were studied in this article. We used the approach of social psychology and more specifically the structural approach (Abric, 1994) to study the representation of craft beer. By using the structural approach, it is possible to identify the structure of the representation and how the concepts and ideas are merged in the mind of consumers of craft and industrial beer. A cross cultural approach was added to the study in order to explore the differences between two countries that are experiencing a change in their pattern of consumption of beer. In France and Mexico there has been an increased interest in different beers such as speciality and craft.

In our case, the approach of the social representation is used to study the differences across cultures (countries) and not social groups. However, in both countries the participants of the study were divided into craft and industrial beer consumers in order to compare the representation in these four groups: Mexico-craft, Mexico-industrial, France-craft, and France-industrial.

The objective of the study was to explore the representation of craft beer in Mexican and French consumers, and identify how the culture is influencing the act of representing an object, in this case the craft beer. Here the hypothesis is that the experience of drinking beer is influenced by the consumers' individual differences such as mental and social representations.

The results of the study were presented as:

- Oral presentation at the 11th Pangborn Sensory Science Symposium, Gothenburg Sweden, 2015.
- Article submitted to Food Quality and Preference in March 2016.

Oral presentation at the 11th Pangborn Sensory Science Symposium, Gothenburg Sweden, 2015.

Power point slides used during the oral presentation

Changes in beer consumption

Awareness of beer quality and the consumption of beer in different contexts have grown among consumers.

Since the 1990's, craft breweries have re-emerged as an alternative to mainstream beer.

Craft beer is growing at double digit rate in the past 5 years (+25% in 2013), consumption driven by men.

Craft beer is perceived as a high standard quality beer and chosen for its variety of flavours.

Men outnumber women in their choice for speciality and craft beer.

Mejlholm & Martens (2006); Choi & Stack (2005); Euromonitor international (2014) and Gómez-Corona et al., (Submitted); Aquilani et al. (2014); Brasseurs du Nord (2013);

3

A change in product consumption, reveals a change of the perception towards that product

- The way we perceive a product guide our relationship towards its consumption.
- Therefore... It's important to identify:
  - How is the relative meaning towards the object built?
  - What is the representation we have of that product?

These questions can be answered through the theory of **social representations** (Moscovici).

More precisely... via the **structural approach** (Abric)

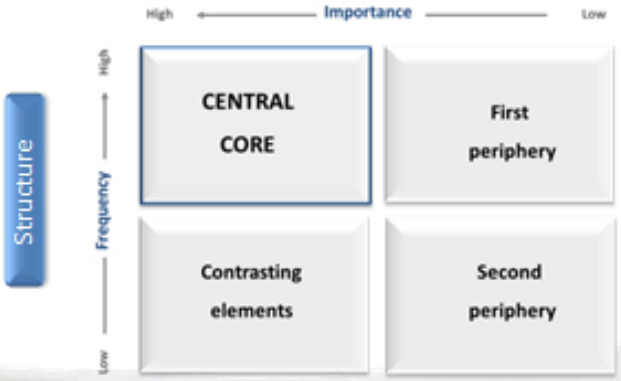
S. Moscovici

Lo Monaco & Guimelli (2008); Moscovici (1961); Abric (1994)

4

The social representation is an organized set of information, opinions, attitudes, and beliefs about a given object

- Social representations are socially developed and shared.
- It's main goal are to help individuals to explain, understand and to have coherent and concrete actions of the world surrounding us.



5

Cross cultural study of the social representation

Understand the social representation of the craft beer in two countries experimenting a change in their beer consumption

1. How do the elements of the representation change due to a culture effect?
2. Are differences between craft & industrial consumers greater in one country vs. another?
3. Is the representation more stable or shared across certain consumers (craft…)?

6

Study framework

Consumers:

- **N=150 / country**
- **Male** consumers (50% craft users & 50% industrial users)
- 19 – 51 years (**19 – 29 years 61%**)
- **Recruited in situ** - > In HallTest (similar education level, income and professional activity)

Questionnaire – structure:

- Four words that come to your mind when I say **"craft beer"** — Word association
- **Rank** from the most important to the least important. — Ranking
- Give **positive** or **negative** connotation (7-point scale) — Valence

7

8

1. Corpus – textual analysis across countries shows similar results

Lemmatization ● Re-group synonyms ● Translate

	Total		Craft		Industrial	
	🇫🇷	🇲🇽	🇫🇷	🇲🇽	🇫🇷	🇲🇽
Total words	600	600	300	300	300	300
Types (prior lemmatisation)	272	276	170	160	173	175
HAPAX (after lemmatisation)	185	186	114	109	123	127
Diversity index	0.45	0.46	0.57	0.53	0.58	0.58
Rarity index	0.68	0.67	0.67	0.68	0.71	0.73

9

2. Correspondence analysis and hierarchical clustering show 3 groups: FR; MX-C; MX-I

- French consumers have similar word associations
- Mexican consumers form 2 groups, Industrial (19-29 years) , and Craft (30-50 years).

10

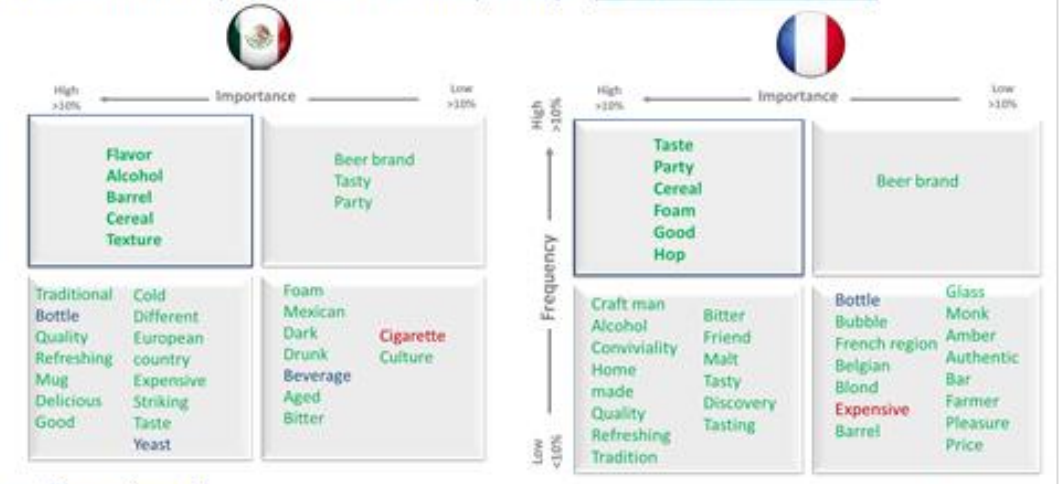
3. Prototypical analysis of the social representation based in importance vs. frequency: **Industrial consumers**

- Share "**alcohol**", "**party**", "**tradition**" in central core
- **Absence of first periphery** elements
- "**beer brand**", "**quality**"; "**glass vs. mug**" "**cheap vs. expensive**" in 2° periphery

Mean valence
Negative
Neutral
Positive

11

3. Prototypical analysis of the social representation based in importance vs. frequency: **Craft consumers**



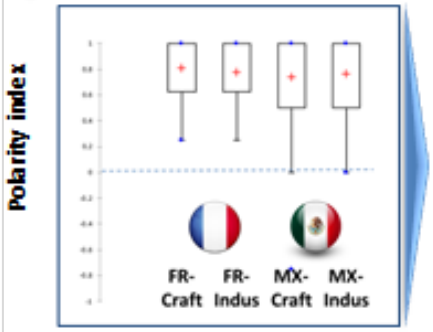
- Share "**cereal**",
- **Elements in 1° periphery, sharing "beer brands"**
- **Do not share elements in 2° periphery**

Mean valence
Negative
Neutral
Positive

12

Even though the elements of the representation are similar, the structure identified via MDS is different

4. Valence as a variable to define the central core's structure



1. Valence means

	Valence mean
Taste	2.61
Party	2.56
Cereal	2
Foam	1.8
Good	2.55
Hop	2.25

2. Create valence distance matrix (FR –Craft)

ABSOLUTE value of the valence differences

	Taste	Party	Cereal	Foam	Good	Hop
Taste	0.00	0.25	0.62	0.82	0.06	0.37
Party	0.25	0.00	0.56	0.56	0.19	0.11
Cereal	0.62	0.56	0.00	0.20	0.56	0.25
Foam	0.82	0.56	0.20	0.00	0.76	0.45
Good	0.06	0.19	0.56	0.76	0.00	0.31
Hop	0.37	0.11	0.25	0.45	0.31	0.00

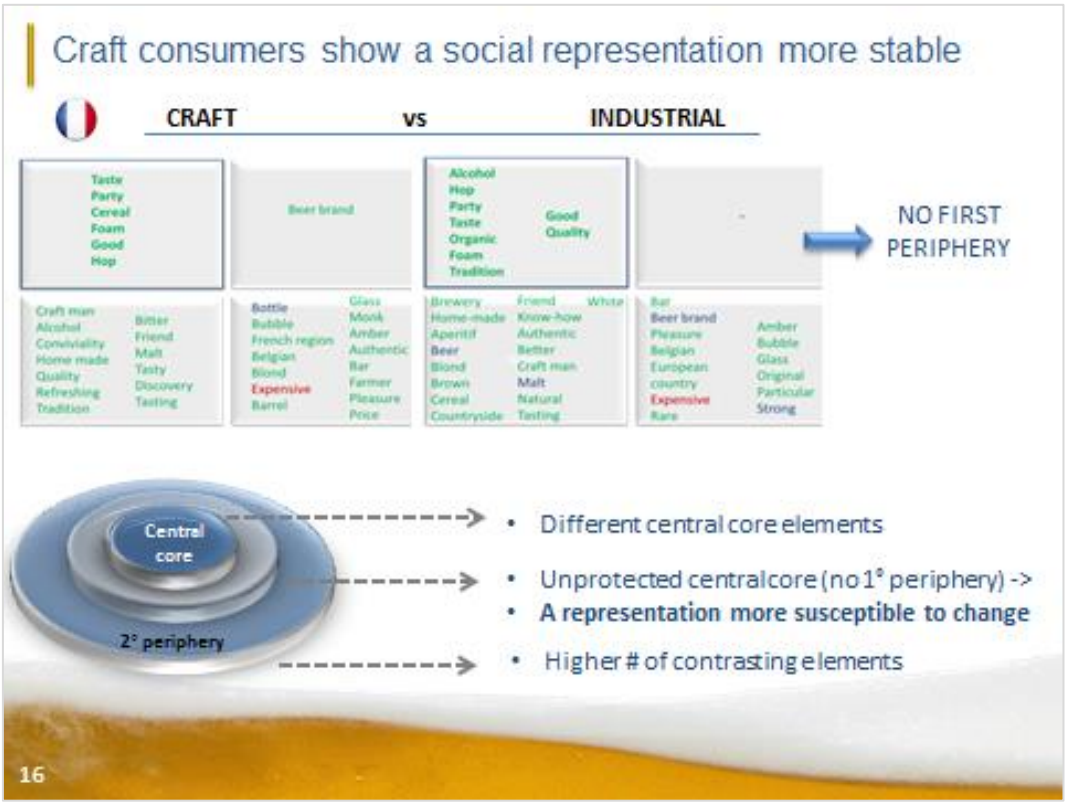
- *Similar results (mean scores)*
- *+ variations in MX*

Multidimensional scaling (valence)

Gives a structure of the central core based on elements' attitudes

Taste
Party
Cereal
Foam
Good
Hop


Conclusions
15


Craft consumers show a social representation more stable
CRAFT
vs
INDUSTRIAL
Tasty
Party
Cereal
Foam
Good
Hop
Beer brand
Alcohol
Hop
Party
Taste
Organic
Foam
Tradition
Good Quality
NO FIRST PERIPHERY
Craft man
Alcohol
Conviviality
Home made
Quality
Refreshing
Tradition
Bitter
Friend
Malt
Tasty
Discovery
Tasting
Bottle
Bubble
French region
Belgian
Blond
Expensive
Barrel
Glass
Monk
Amber
Authentic
Bar
Farmer
Pleasure
Price
Brewery
Home-made
Aperitif
Beer
Blond
Brown
Cereal
Countryside
Friend
Know-how
Authentic
Better
Craft man
Malt
Natural
Tasting
White
Bar
Beer brand
Pleasure
Belgian
European country
Expensive
Rare
Amber
Bubble
Glass
Original
Particular
Strong
Central core
2° periphery
• Different central core elements
• Unprotected central core (no 1° periphery) ->
• A representation more susceptible to change
• Higher # of contrasting elements
16

Drink like a man in two different cultures…

- **Industrial consumers share central** elements in the representation, regardless the difference in their consumption.
- **Similar words associated in industrial vs craft**, for FR consumers suggesting a shared level of information (symbolization).
- Elements of representations may be **similar (CA), but the structure is different (MDS)…** the way the representation was built relies in different associations across elements.
- Central structure in FR (4 variables) & MX (dichotomic) show the **impact of culture** in the elaboration of craft beer representation. Approach of industry to both markets should be different… For craft, but not necessarily for industrial beer.

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(Jodelet, 1989); (Bonardi & Roussiau, 2014)

Thank you!

• M. LELIÈVRE-DESMAS • H. ESCALONA • D. VALENTIN • S. CHOLLET •

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Representation of craft beer amongst men in two different cultures

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ABSTRACT

Consumption of craft beer has been changing worldwide; it passed from a rarely known, to a common product among consumers. In the past years craft beer sales have been growing faster than the dominant lager-style in countries with different beer tradition, like Mexico and France. A change in consumption habits is a sign that the representation of the product is changing. It is therefore valuable to understand the elements and structure of this new representation. The present study was conducted to understand the impact of culture and consumption habits on beer representation. Three-hundred men consumers (craft and industrial beer users) were interviewed in Mexico and France. Participants were asked to perform: 1) free word association task using "craft beer" as inductor word, 2) ranking task of the evoked words based on their importance, and 3) valence rating task of each evoked word. Each word was characterized by a mean importance value and a frequency of elicitation to identify their role as central or peripheral elements in the representation. Results showed that consumers from same culture share similar social representation of craft beer, even when they have different consumption habits (craft - industrial). Mexican consumers share *alcohol*, and *flavour* as central elements in their representation but share only one peripheral element *tradition*. French consumers share two central elements *taste* and *party*. When comparing consumers across cultures, French and Mexican craft participants share no central elements in their representation towards beer; whereas industrial beer consumers share one element *alcohol*. Craft consumers seem to have a more structured social representation sustained or nourished on consumption habits, while the representation of industrial beer consumers seems less resistant, or capable of changing over time.

Key words: *drinking experience, craft beer, cross cultural, Mexico, France.*

1. Introduction

In the alcoholic beverage domain, beer plays an important economic role, accounting for 78% of the worldwide alcoholic beverage market share (Euromonitor International, 2009; 2014a). The beer category has been dominated for a long time by a single beer style: lager beer. But in the last decade a growing interest for craft and specialized beers has been noticed in several countries. For example, the awareness of beer quality and the consumption of speciality beer in different contexts (e.g. at a restaurant, pub, café or at-home) has grown amongst Danish consumers (Mejlholm & Martens, 2006). In the US since the 1990s, craft beers have re-emerged as an alternative to the mainstream beers. According to Choi and Stack (2005), an increasing number of U.S. consumers express their preference for taste and individuality through their choice of purchasing alternative beers. In Italy, Aquilani et al. (2015) found that craft beer is perceived as a high standard quality beer and is chosen for its variety of flavours. In Mexico, craft beer has been growing at double digit rate in the past five years (Euromonitor International, 2014a) whilst craft breweries are starting to gain more consumers all over the country. In France the number of small breweries is on the rise (+13% increase) and small breweries currently enjoy strong regional popularity, as French consumers are showing growing interest in craft beers as a way of discovering authentic tastes and supporting local entities (Euromonitor International, 2014b).

If we focus on Mexico and France, despite very different beer consumption histories, we can note a similar increase in craft and speciality beers sales every year. In Mexico the formal production of beer dates from the 19th century in which less than 10 breweries could be found in Mexico City (Reyna and Krammer, 2012); whilst 13,336 breweries were known in the North of France by the end of the 19th century (Brasseurs de France, 2015). Nowadays, Mexico is the biggest exporter of industrial beer in the world (Euromonitor International, 2014a), and France is the 8th producer of beer in Europe and one of the countries with the lowest consumption of beer in Europe (Euromonitor International, 2014b). Although beer consumption is largely dominated by industrial beers, craft beer is gaining a share of market in both Mexico and France. Then, why is craft beer consumption changing simultaneously in two countries with a different beer culture?

As food choices and habits are usually rather stable over time (Wood and Neal, 2009) it is often considered that a change in product consumption is a sign that the perception towards the product is changing. Therefore it is important to understand and identify how the relative meaning of the product is built, and what is the general representation that consumers have towards that product. In the context of social psychology, a representation is defined as a set of elements that are functionally articulated. Elements can be a set of concepts, of phrases or sentences, ideas, images, opinions, attitudes and values

(Moscovici, 1989). This representation system has three dimensions: the set of elements which are the knowledge that individuals have towards an object, the general attitude that marks the positive or negative connotation of an individual or group towards the object; and, the field of representation or structure which organises, arranges and ranks the elements of the representation (Bonardi & Roussiau, 2014).

There are different approaches to study the representation of a concept. For example associative elicitation techniques (Grebitus and Bruhn, 2008), and best-worst scaling (Thomson and Crocker, 2014) are used to build "concept mapping" or "semantic networks". Free association (Sester et al., 2013) and sorting tasks (Chollet, et al., 2011) are used to access "conceptual or perceptual representations". And finally, free association tasks combined with ranking and attitudinal measurement (Abric, 1994) are used to access "social representations".

In sensory science the use of the framework of social representations is not new. It has been used to study the concept of wine minerality (Rodrigues et al., 2015), complexity in wine (Parr et al., 2011), wine and culture (Mouret et al., 2013), representation of ethical and unethical food (Mäkiniemi et al., 2011), organic food innovativeness (Bartels and Reinders, 2010), and new food representations (Huotilainen and Tuorila, 2005). In most studies the culture or subculture to which the individual belongs emerges as a key component in the interpretation of the representations that the individual has towards a particular object. Culture influences individual or social group representations processes by moulding their behaviour; orienting their tastes and indicating the direction of the preferences towards a given object. For instance, Mexicans learn to eat chili when they are kids and appreciate its taste by transforming a hot-pungent sensation into a pleasant one (Rozin, 1984). French people learn to drink and appreciate wine when they are young and learn to enjoy red wine with certain foods and white wine with others (Simonnet-Toussaint, 2006). Eating chili and drinking wine are cultural identifiers. French and Mexican cultures, as with many other countries, are full of meanings and symbolisations associated to the act of eating and drinking. Just as drinking and its effects are imbedded in other aspects of culture, many other aspects of culture are imbedded in the act of drinking (Heath, 1987).

Our objective is to explore the representations of craft beers in two countries (Mexico and France) that are currently experiencing a change in beer consumption habits, passing from a market dominated by one beer style, to a market that is increasing its product offering into a wider range of beer styles such as speciality and craft beers. This study is relevant from two different points of view. First, from a social psychology point of view it clearly identifies the impact of culture in the representation of craft beers, and therefore explores the differences in the symbolisation of the craft beers concept. Second, from a marketing perspective it will help identify the effect of consumption habits (craft beers users *versus*

industrial users) on the representations of craft beer. This information can have an impact in the decision taken for example in advertising and communication. The study focus is on men, as it has been previously demonstrated that men outnumber women in their choice for speciality and craft beers in France (Brasseurs du Nord, 2013) as well as in Mexico where men represent almost 80% of craft beer consumers (Gómez-Corona et al., 2015).

In summary, the objective of the study is to investigate the representations of craft beers for Mexican and French men, and the impact of consumption habits (industrial *versus* craft beer users) on these representations. Three hypotheses were tested through the structural approach of social representation (Abric, 1994). According to this approach a representation is defined as a group of cognitions and beliefs which are shared by a social group and organized as a central core surrounded by a peripheral system. The central core is made of highly consensual elements and its main role is to give a structure and meaning to the content of the representation. Elements found here are directly linked and determined by historical, sociological and ideological conditions. They constitute the common collectively shared bases of the object of the representations (Abric, 1993). Surrounding the central core, the peripheral elements reflect individual experiences and can be considered as an interphase between the central system and the daily reality of a social group (Lo Monaco and Guimelli, 2008). The peripheral elements constitute the experiences and past histories of the participants. It protects the central significance of the representations by absorbing new information or events capable of challenging the central core. Our first hypothesis was that the elements of the social representations of craft beers differ with culture (Mexican *versus* French). The second hypothesis was that the structure of the representations varies with consumption habits: stronger and more shared by craft beer consumers than by industrial beer consumers. And finally, our third hypothesis was that consumption habits and culture would interact: we expected the difference between craft and industrial consumers to be greater in France than in Mexico.

2. Material and methods

2.1 Participants

Three hundred male participants were recruited at a central location in Mexico City, Mexico (N=150) and in Paris, France (N=150). The study in France took place one week before the Mexican study. An intercept sampling procedure was used at affluence points in Paris and Mexico City; the interviewers stopped any possible consumer and invited them to participate in the study. The inclusion criteria were: male gender, age between 19 and 51 years, to consume beer at least once a month, and to identify

themselves as being either industrial or craft beer consumers. Previous studies with Mexican beer consumers (Gómez-Corona, et al., 2016) show that biggest proportion of craft consumers are between the ages of 25 – 35 years and have University level. Therefore, the recruitment focused on younger consumers with high education level. Participants who passed the inclusion criteria were invited to take part in the study in a room conditioned for consumer tests. The recruitment was performed in the same way in both cities in order to have a similar proportion of ages, education level and professional activity (Table 1), and therefore have the same type of consumers (in terms of demographic characteristics) in both countries.

Table 1

Demographic characteristics of the consumers recruited for the study in France (N150) and Mexico (N150).

	France	**México**		**France**	**Mexico**
Type of consumption	**%**	**%**	**Professional activity**	**%**	**%**
Craft beer	50	50	Employee	27	35
Industrial beer	50	50	Student	23	27
			Professional	10	17
Age	**%**	**%**	In search of	7	6
19 – 29 years	61	61	Merchant	5	6
30 – 39 years	24	25	No activity	3	5
40 – 51 years	15	14	Worker	3	1
			Retired	1	1
Education level	**%**	**%**	Artist / Musician	11	1
University	69	60	Freelance	10	1
High school	21	34			
Elementary	10	6			

2.2 Procedure

The consumer interviews were conducted individually, and lasted less than ten minutes. They included a free word association task followed by a ranking and then, a rating of the evoked words. A first phase of familiarization with the word association procedure was used. Participants were asked to mention the first four words that came to their mind when the experimenter said the word "sky" and then the word "hammer". After this familiarization phase, when participants felt comfortable with the procedure, the formal study began. Participants were asked to give four words or expressions that come to their mind when the experimenter said "craft beer". Afterwards, they were asked to rank these four evoked words from the most important (1) to the least important (4), when considering the craft beer. Finally,

participants were asked to evaluate their positive or negative attitude of each word related to the inductor word (craft beer) on a 7-point scale going from -3 (completely negative) to +3 (completely positive).

3. Data analysis

Before conducting any analysis, the evoked words were formatted and grouped. The first step was to verify typing and/or spelling mistakes in the original language, Spanish for Mexico City and French for Paris. The second step was to operate a lemmatisation (Bécue-Bertaut, Álvarez-Esteban and Pagès, 2008) which converts every word into its standardized form called lemma by: a) deleting all connectors, auxiliary terms and adverbs from each comment, and b) standardizing the evoked words in infinitive for the verbs, singular for the nouns and masculine-singular for the adjectives. The third step was to regroup synonyms using a thesaurus which helped to identify the evident synonyms in the database. The words with the higher frequency of elicitation were used to group all its synonyms. The fourth step was done with ambiguous words which were difficult to regroup. They were analysed carefully by two researchers who decided if they could be regrouped or left as an independent word (with low frequency of elicitation). This step was done cautiously to avoid over interpretation or over grouping of words (Symoneaux, Galmarini and Mehinagic, 2012). And finally, the fifth step was to translate the final words to English using a double translation approach, consisting in two basic steps: one person translates the words from Spanish/French to English; afterwards that English words are given to another person who translates the English word into its original Spanish/French language. If a perfect match was found, the translated word was kept; otherwise the translators changed the word several times in order to find an agreement between them, to assure keeping the meaning of the word when translated to English. Once the evoked words were formatted, the data analysis included three different analyses, each one being used to test different hypotheses (table 2): a textual analysis, a prototypical analysis and a correspondence analysis.

Table 2

General schema of the steps used to analyse the craft beer representation with the results, pre-analysis, data used for the analysis, split of the data and principal outputs.

	Step 1. Textual analysis	**Step 2. Prototypical analysis**	**Step 3. Correspondence analysis**
Hypothesis tested	**H1:** The elements of the social representation of craft beer are different due to an effect of culture	**H2:** The structure of the social representation of craft beer is different, depending on the consumption habits	**H3:** There is an interaction between consumption habits and culture
Data used	Evoked words after formatting and categorization.	Evoked words after formatting and categorization, ranking, and polarity index.	Evoked words after formatting and categorization.
Data split	By country By type of consumer	By country By type of consumer	By country By type of consumer

			By ages (19 -29 / 30 -50 years)
Outcome	1. Frequency table of categories 2. Conglomerate analysis of the categories	Representation structured map	Correspondence analysis map Hierarchical clustering of variables
Results	Identification of the type of words used and their meanings (in categories)	Structure of the social representation of the craft beer	Identification of differences / similarities across ages and type of consumers

3.1 Textual analysis

A textual analysis was done to understand the type of words and meanings used by consumers whilst referring themselves to the object of the representation "craft beer". The textual analysis was performed in two steps. First, we separated the words generated by country (Mexico and France), and in a second step the words were separated by type of consumption (craft and industrial). At this point four lists were obtained: Mexico-craft, Mexico–industrial, France-craft and France-industrial. For each list, the words were organized in different semantic categories, according to their meaning (Table 3). For example, if a consumer mentioned the word "quality" it was decided by the authors to categorize it as an "extrinsic attribute". Several trials were performed until all authors agreed on the semantic categories to be used in the analysis. At the end, seven different semantic categories were obtained (Table 3). To test the differences of word frequencies, a Fisher exact test was performed between both countries and type of consumers for each semantic category.

The coding of the words was made using NVivo qualitative data management software (version 10, QSR International Pty Ltd, Victoria, Australia). After performing the Fisher exact test, a conglomerate analysis was done by computing Jaccard coefficients based on the similarities of the semantic categories used in each group (Mexico *versus* France). The Jaccard coefficient (Jaccard, 1908) is a measurement of similarities amongst a set of samples (here the subgroups of consumers) and is defined as the size of the intersection (of each of the semantic categories, e.g. intrinsic attributes, beer styles, etc.) divided by the size of the union of the samples. The set of Jaccard coefficients is then used to compute a dendrogram that conglomerate the relationship across categories.

3.3 Prototypical analysis of the social representations

According to Abric (2003) social representations can be divided in four zones (Fig 1) by crossing the importance of the evoked words with their frequency of elicitation. The first zone regroups the elements with high frequency and considered as very important, it is the central core zone. Zone 2 regroups the more important peripheral elements, named the first periphery. In zone 3 we found the contrasting elements which have low frequency of elicitation (less shared elements) but considered as being very important. This zone usually reveals the existence of minority sub-groups with a different representation.

Zone 4 named the second periphery, provides the elements less present and considered not important in the representation.

With this purpose in mind, a frequency and an importance cut-off points were determined in each subgroup (Mexican-craft, Mexican-industrial, French-craft, and French-industrial) following Rodrigues et al. (2015). The frequency cut-off point was obtained by visually displaying the frequency of occurrence of the evoked words in decreasing order; the cut-off point was taken to be the frequency at which the difference between two successive frequencies is maximal. The importance cut-off point was obtained by averaging the ranks of the evoked words, from one to four, which represent the theoretical mean of the importance (2.5).

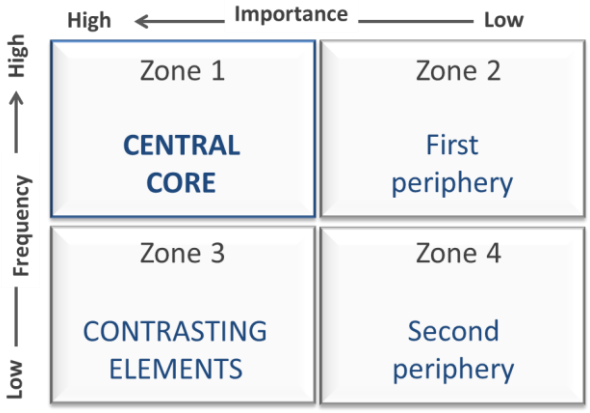


Fig 1. Prototypical analysis showing the 4 zones in a structural approach of the social representation (adapted from Abric, 2003).

3.4 Polarity index

To evaluate the implicit attitude associated with the social representations, a polarity index (De Rosa, 2003) was calculated. As the participants were asked to evaluate the positive or negative connotation of each evoked word, the polarity was calculated as:

$$\text{Polarity index (P)} = \frac{\text{Number of positive words} - \text{Number of negative words}}{\text{Number of total evoked words}}$$

The polarity index can be calculated by participant (to define a positive or negative valence of their representation) or by word (to define a positive or negative connotation of each elicited word). In this study, the polarity index was calculated by word. In this case the formula used is the same but the frequencies for positive and negative are referred to the same word. For example, the polarity index of

drunk is calculated by the number of times it has positive connotations, minus the frequency of its negative connotations, divided by the total frequency of elicitation of the word *drunk*. The index can take a value from -1.0 to +1.0. Values of P from -1 to -0.1 indicate that the word has in general a negative connotation. Values of P from +0.1 to +1.0 indicate that the majority of the participants gave a positive connotation to that word (De Rosa, 2003).

3.5 Correspondence analysis (CA)

In order to find possible differences across ages, each subgroup of participants (Mexican-craft, Mexican-industrial French-craft, and French-industrial) was split in two (19-29 years and 30-51 years). An eight by thirty-three contingency table was then built; the lines were the participant subgroups and the columns were the words obtained in the previous step for Mexican and/or French participants. In order to avoid unstable results in the CA, words with low elicited frequencies were omitted from the analysis. According to Lebart, Piron, and Morineau (2006) 2% can be considered as an acceptable threshold to define low elicited frequencies. Accordingly, we kept in our analysis all words with a frequency of elicitation higher than 2%. After computing the CA a hierarchical cluster analysis (HCA) with the Ward algorithm was performed on the CA coordinates. CA and HCA were performed with FactoMineR (Lê, Josse and Husson, 2008) in R version 3.2.1.

4. Results

4.1 Textual analysis

The objective of the textual analysis was to identify the type of words that the participants associated to the inductor word “craft beer” and by this mean to investigate the differences between Mexican and French participants. The total corpus counted 600 words in both countries, as each participant (N=150 France and N=150 Mexico) was instructed to give four words. At the end of the corpus analysis and coding, a final list of seven semantic categories were obtained (table 3): intrinsic attributes, extrinsic attributes, context & moments of consumption, hedonic aspects, drinking experience, origin of beer and beer style. The categories most frequently cited were intrinsic and extrinsic attributes, context & moments of consumption, and hedonic aspects.

A Fisher exact test was performed between countries to compare the words evoked by craft or industrial beer consumers. For craft participants, a significant difference was found for the origin of beer category: 14.3% for French participants against 4.7% for Mexican participants. The words more often used in this category were *Belgian, Mexican, Abbey* and *monk*. For the industrial beer participants, three significant

differences were found across countries. French participants talked more about the intrinsic attributes of the beer (31.7%) than Mexican ones (24%). In this category the more often used words were *alcohol*, *bitter*, and *hop*. In the same way, French participants used more words (5%) that fall in the beer style category than Mexican participants (1.7%). The most common words used in this category were the name of styles such as *Trappist*, *Pale Ale*, but also the colour of the beer like *blond* or red *beer*. On the other hand, Mexican participants talked more about the drinking experience (16.7%) than French participants (8.7%). Words in this category are for example, *discovery*, *refreshing* and *interesting*.

Table 3

Categories used to organize the words of Mexican and French participants. Frequencies are based on the total corpus of 300 words per country and type of beer consumer (e.g. Mexico – craft beer users). Categories for which a significant difference was observed between France and Mexico (Fisher exact test, □=0.05) are indicated in bold, meaning that one category was **used more** in one country *versus* the other.

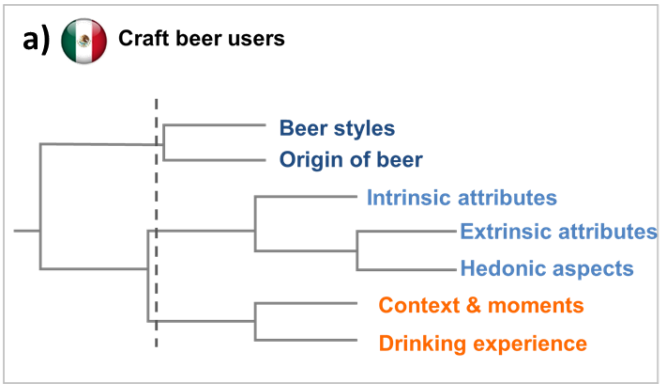
		Craft (%)			Industrial (%)		
Category	**Example of words used by participants**	**Mexico**	**France**	**P value**	**Mexico**	**France**	**P value**
Intrinsic attributes	*Alcohol, bitter, hop*	31.7	26.7	0.209	**24.0**	**31.7**	**0.045**
Extrinsic attributes	*Quality, beer brand, price*	24.0	22.0	0.628	21.7	19.0	0.478
Context & moments of consumption	*Party, summer, holiday*	17.3	15.3	0.581	18.7	21.3	0.475
Hedonic aspects	*Good, pleasure, tasty*	10.0	6.0	0.097	9.3	6.0	0.167
Drinking experience	*Discovery, refreshing, interesting*	9.0	9.7	0.899	**16.7**	**8.7**	**0.005**
Origin of beer	*Belgian, Mexican, Abbey*	**4.7**	**14.3**	**0.000**	8.0	8.3	1.000
Beer style	*Trappist, Pale Ale, blond*	3.3	6.0	0.175	**1.7**	**5.0**	**0.038**

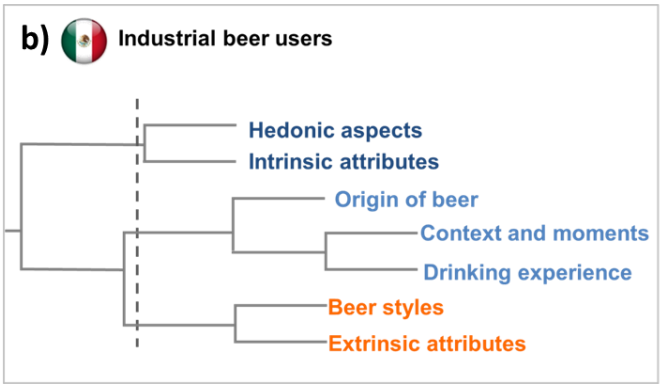
To better understand the relationship between categories a conglomerate analysis was performed by country and by type of consumption. The conglomerate analysis shows that the semantic categories used by both types of Mexican participants can be grouped into three clusters (Figure 2a and b). Although the global structure is similar for the two types of participants, the compositions of the clusters are completely different. For craft beer users, the beer styles and origin of beer fall in the first cluster. The second cluster is composed of three categories: intrinsic and extrinsic attributes and hedonic aspects. The final cluster is composed of the categories of consumption moments and drinking experience. For Mexican-industrial participants, the first cluster is related to the hedonic aspects and the intrinsic attributes. The second cluster contains the categories of the origin of beer, context and moments and the drinking experience. Finally, the beer style and extrinsic attributes fall in the third cluster. Therefore the differences are evident across Mexican participants. Whilst craft participants relate the beer styles with the origin of the beer; the industrial participants relate the beer styles with extrinsic attributes. The same happens with the drinking

experience which is associated to the consumption moments in craft beer users; for industrial beer participants the drinking experience is related to the origin of beer and context & moments.

In the case of the French participants, a similar global structure seems to emerge with four clusters for both types of participants (Figure 2c and d). Some similarities were found in the structure of these clusters. The first cluster is formed only by the origin of the beer category. The second cluster is also similar between both types of participants and is formed by the categories of context and moments, and the drinking experience. The differences between types of participants are found in the third and fourth clusters. For craft participants the third cluster is formed by the hedonic aspects and intrinsic attributes, and the fourth cluster is formed by beer styles and extrinsic attributes. On the other hand, the industrial participants' third cluster is formed by extrinsic and intrinsic attributes, and the final fourth cluster is formed by beer styles and hedonic aspects.

In a general view, the French participant dendrograms have a similar structure between craft and industrial whereas the Mexican participant dendrograms do not share any common structure; although the number of clusters is the same. The relationship between categories was different between Mexican craft and industrial participants. When comparing the type of consumption between countries, the only similarity was found in the cluster that groups context & moments with drinking experience, which was similar in craft Mexican and French participants. For industrial participants, no similarity was found across Frenchs and Mexicans.





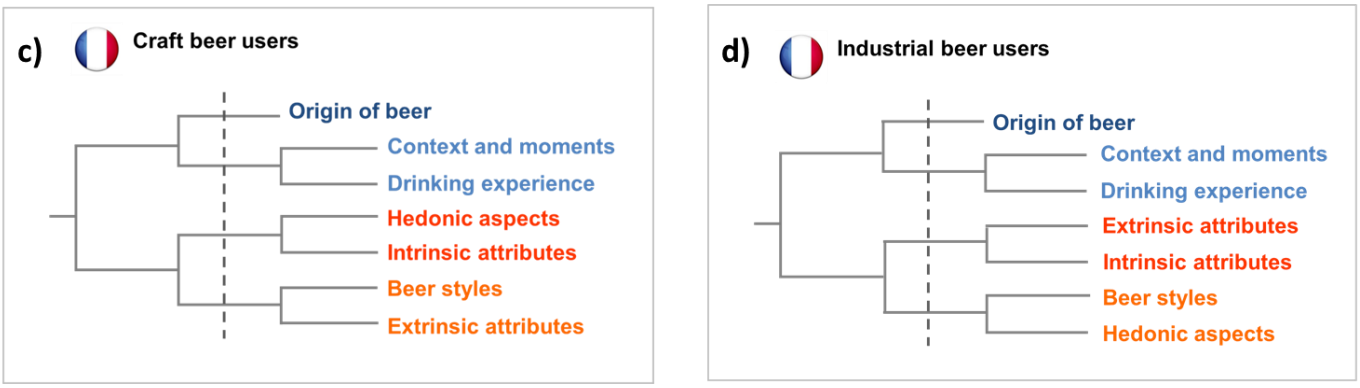


Fig 2. Conglomerate analysis of the categories of words evoked by a) Mexican-craft beer users, b) Mexican-industrial beer users, c) French-craft beer users, and d) French-industrial beer users. Semantic categories with the same colour have a higher similarity across them based in a Jaccard index.

4.2 Prototypical analysis and polarity index

The results of the prototypical analysis associated with the polarity index of the words are presented by experimental condition (Fig. 3). The cut-off citation frequencies that were calculated were different for each experimental condition: 9 for Mexico-craft, 7 for Mexico-industrial, 8 for France-craft, and 6 for France-industrial that indicate a lower agreement between French than between Mexican participants for the concept being studied.

For Mexican craft beer consumers (Fig. 3 a) the central core (top left zone) which groups the words considered as being very important and shared by most of the participants (high frequency of elicitation) contains two sensory words (*flavour* and *texture*), one intrinsic attribute (*alcohol*), one ingredient (*cereal*), and one object (*barrel*). According to the polarity index all have positive connotations. The first periphery in the right-upper zone contains only positive words too: *beer brand*, *tasty* and *party*. The second periphery, in the lower-right zone contains words with different polarity index, meaning that the valences of the words are different. *Drunk* has a negative connotation, and the rest of the words have a positive polarity index. In the contrasting elements in the lower-left zone all words are positive and highlights the hedonic aspects of the craft beer with the words *good* and *delicious*, drinking experience characteristics like *refreshing*, and objects such as *mug* and *bottle*.

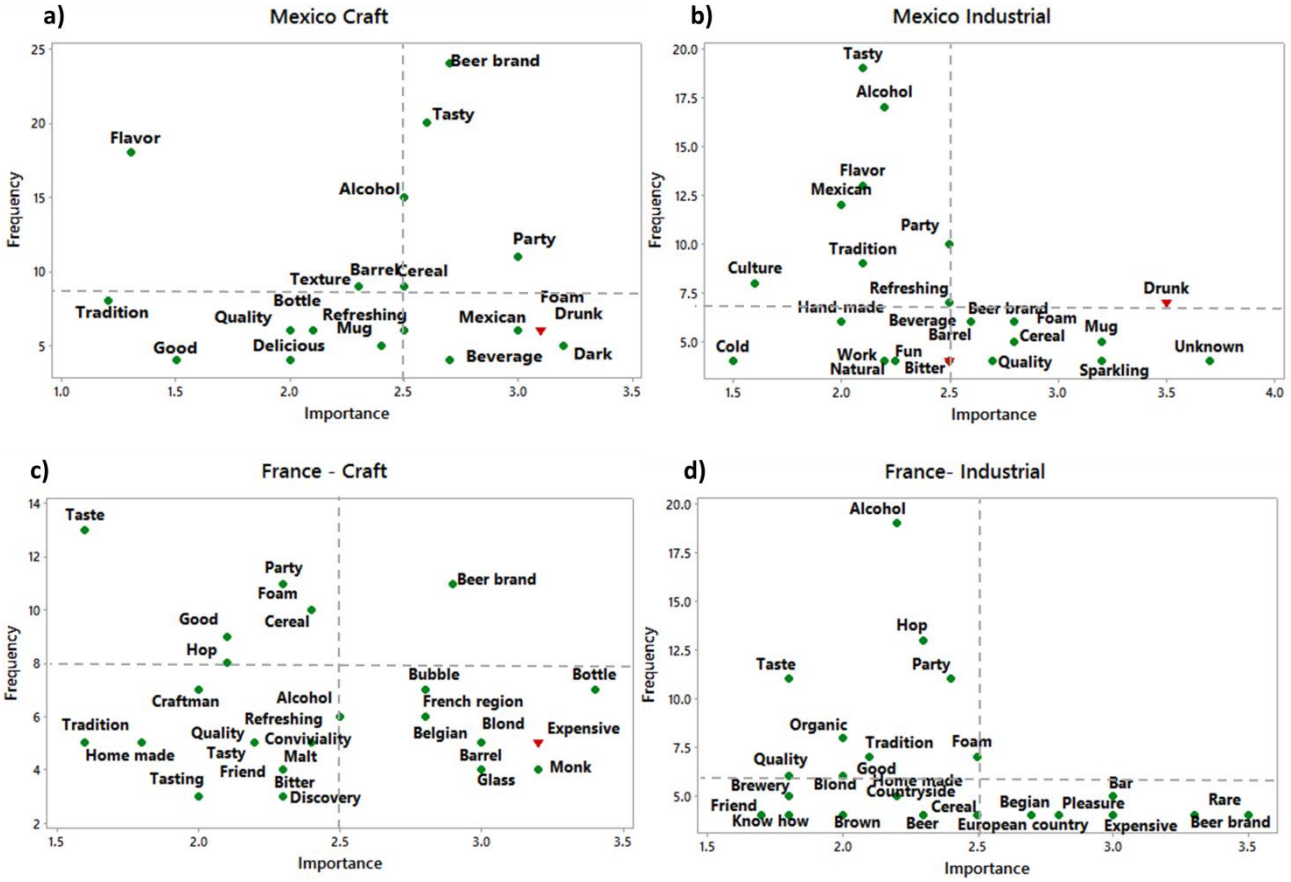


Fig 3. Prototypical analysis of the social representation of the "craft beer" by the four experimental groups: a) Mexican craft beer users, b) Mexican industrial beer users, c) French craft beer users, and d) French industrial beer users. Green dots indicate words with positive connotation and red triangle with a negative connotation, according to the polarity index. The map is built with the frequency of elicitation and the importance is given by the ranking of words (1=more important, to 4=less important)

The Mexican-industrial (Fig. 3b) central core is defined by words with positive polarity index such as *tasty*, *alcohol*, *Mexican*, *tradition*, *culture*, *party* and *refreshing*. The distance between words can also give us an idea of the relationship between them (based on their importance and frequency of elicitation). *Tasty* and *alcohol* are closer to each other *versus flavour* and *Mexico*. The first periphery contains only one element which has a negative connotation (*drunk*) according to its polarity index. The second periphery contains more words with a positive polarity index: *unknown*, *beer brand, quality*, *mug*, *foam*, *sparkling* and *cereal*. The contrasting zone contains also one negative word (*bitter*), and the rest are positive. The words in the contrasting zone: *hand-made*, *cold*, *beverage*, *barrel*, *natural*, *work*, *fun* do not reveal the appearance of a sub-group *versus* the central core, as both zones contain words with similar characteristics.

The results from France-craft participants (Fig. 3c) show that in the central core, the words used to define the craft beer concept are all positive: *taste, party*, *foam*, *good*, *hop* and *cereal*. This group of participants only share *cereal,* as element of the central core representation, with the Mexican craft participants. The

first periphery is only formed by *beer brand*, present also in the Mexico-craft first periphery. The second periphery is formed by several elements, all positive except for *expensive* which has a negative polarity index. Two of the words in this second periphery refer to the origin of the craft beer: *French region* and *Belgian*. Three other elements refer to objects: *bottle*, *glass* and *barrel*. The other elements are *bubble*, *expensive* and *Monk*; none of them are shared with the same zone of craft beer users in Mexico. The contrasting elements of the representation are quite similar to the central core in term of term category, as they also refer to ingredients (*malt*), intrinsic attributes (*alcohol* and *quality*), and hedonic aspects (*tasty*). The main difference between the core and the contrasting elements are words that refer more to social and cultural aspects, such as *conviviality*, *tradition* and *friend*.

Finally, the results from the France-Industrial participants (Fig. 3d) show a central core with a high number of positive elements: *alcohol*, *hop*, *party*, *taste*, *organic*, *foam*, *tradition*, *good* and *quality*. Despite having several words in the central core, no element was found in the first periphery, leaving the core unprotected. In other words, the elements of the central core will change more easily, as there are no closely associated elements that can "protect" or cover them. Two elements of the second periphery are related to the origin of the craft beer (similar to France craft group): *European Country* and *Belgian*. The other elements present are: *bar*, *beer brand*, *pleasure*, *expensive* and *rare*. The contrasting zone has all the elements with a positive polarity index: *beer, brewery, home-made, brown, blond, cereal, countryside and friend*. These elements have also a meaning close to that of the central core elements; therefore we cannot consider that a subgroup is present for the French-industrial participants.

In general, the results of the prototypical analysis show that craft beer users have a more solid (elements in first periphery protecting the representation) and shared (higher frequency of elicitation) representation of craft beer than the industrial consumers, whatever their country (Mexico or France).

4.3 Correspondence analysis

The first two dimensions of the CA (Fig. 4) account for 64.35% of inertia. Axis 1 is a country dimension; it separates the Mexican (on the left) from the French (on the right) beer consumers. Axis 2 is separating the two French age groups. The younger French consumers (19-29 years) are in the lower part of the map, whilst the older French consumers (30 – 50 years) are in the upper part of the map. For Mexican participants, axe 2 is separating craft consumers at the top of the graph from industrial consumers in the lower part of the graph. The results of the hierarchical cluster analysis (HCA) show three clusters, which highlight the cultural differences across participants by separating Mexican participants in two clusters, whilst all the French participants form one single cluster.

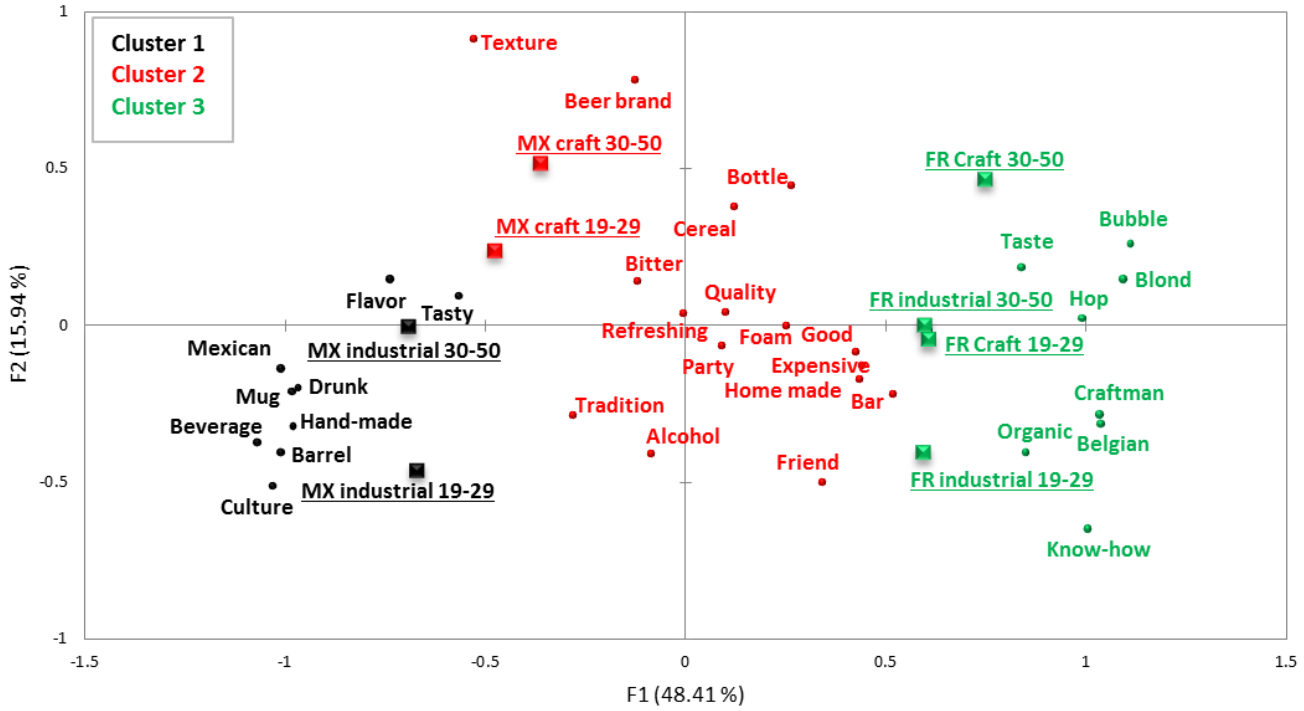


Fig 4. CA of words in circles and the experimental conditions in squares. The hierarchical clustering of the CA shows that variables can be clustered in 3 groups. Mexican industrial users in cluster 1, Mexican craft users in cluster 2, and the four groups of French participants in cluster 3.

Cluster 1 consists of Mexican industrial beer consumers of both 19 – 29 and 30 -50 years. These participants identify the craft beer with the words: *flavour*, *tasty*, *Mexican*, *mug*, *drunk*, *beverage*, *barrel*, *hand-made* and *culture*. The second cluster groups the Mexican craft consumers, with a wider range of words such as sensory attributes (*texture*, *bitter*), extrinsic attributes (*beer brand*, *quality*), intrinsic attributes (*foam*, *alcohol*) and words related to the drinking experience (*refreshing*) and hedonic aspects (*good*). Cluster 3, on the other hand is made by all French participants. The participants of 30-50 years are in the upper part of the cluster, whilst younger consumers are in the lower part of the same cluster. French participants identify the craft beer also with intrinsic attributes (*bubble*, *organic*), sensory attributes (*taste*, *blond*), origin (*Belgian*) and related to the process (*craft man* and *know how*).

5. Discussion

The present study investigated the cultural differences in the representations of craft beer by French and Mexican male consumers, and how their consumption habits (craft beer users *versus* industrial beer users) may affect these representations. The first hypothesis, namely that the elements of the social representations of craft beer are culture dependant, was confirmed by the results of the textual analysis.

The type of words used by French and Mexican participants differed in their meaning. Mexican participants used more words that fall in the categories of drinking experience (*discovery, refreshing, interesting*). On the other hand the French participants used more words related to the intrinsic attributes (*alcohol, bitter, hop*) of beers which serve to describe the product. Additionally, French participants also talked more about the origin of the beer (*Belgian, abbey, monk*) and the beer styles (*Trappist, Pale Ale, blond*), which also serve to describe the product. The results of the conglomerate analysis showed that French participants (both craft and industrial beer users) shared a greater number of elements in their representations towards craft beer (origin of beer, context & moments – drinking experience). On the other hand the craft and industrial beer participants in Mexico shared fewer elements in their representations. If, according to Jodelet (1984), the representation that a group develops defines its members with goals and specific procedures, it would suggest that for our study the description of the product is the main axis of the representation for French participants, whilst the drinking experience is the main axis for Mexican's representation of craft beer.

Our second hypothesis concerning the structure of the representations was partially confirmed. The idea that the structure of the social representation is stronger for craft than for industrial consumption was confirmed. However the representation is not shared cross-culturally by craft beer users, as previously discussed in our first hypothesis. In fact, the France and Mexican craft groups only share one core element (*cereal)* and one element of the first periphery (*beer brand*). The participants of the Mexico craft group had central elements highly shared (high frequency) and protected by a robust first periphery. Following this line, we can assume that Mexican craft users developed a richer first periphery with more elements that protect or "cover" the central core of the craft beer concept through their consumption habit of craft beers. More generally, the first periphery information is more salient for consumers having a higher level of knowledge of the object being studied (Lo Monaco, 2008), in our case**,** craft beer. That way, a high level of consumption and of knowledge will enable the subjects to have a robust central core and to feed the peripheries of the representation. These consumers will have more associations between elements of the first periphery and the central core of the craft beer representation.

The structure of the representation in the industrial French beer users has no element in the first periphery, and Mexican-industrial has only one negative element: *drunk*. The first periphery, according to Abric (1994) has three essential functions: to define the representation, regulate the information coming from the environment and protect the central core of the representation. This concept of protection is a key element in the structural approach of social representations. The protection is a layer of words and concepts that "cover" the meaning of the central core, which is shared by and is important for a social

group. As the representation has no element in the first periphery, this would suggest that the representation of craft beer for industrial consumers may change in a rather small period of time. We know from Bonardi & Roussiau (2014) that a social representation is a dynamic structure evolving in a quasi-permanent reconstruction. We can change it in limited fragments or with larger pieces, but we do it all the time under the influence of conditioning and orientation coming from our society or from our belonging group. In the case of industrial beer users a large piece of the representation is susceptible to change. In the central core, the industrial beer users share *alcohol*, *tradition*, and *party*. In the case of France the craft and industrial groups share more elements, but the structure of their representations is different (figure 3) and this may be due to different associations across elements. Jodelet (1984) pointed out that the subject is considered as producer of meaning, it expresses its representation in the sense that it gives to it experiences in the social world. The social character of the representations arises from the use of code systems and interpretation provided by the social group, or the projection of values and social aspiration. In this sense, the representations are also considered as the expression of a particular group of persons within the same society.

The third and final hypothesis regarding the interaction between consumption habits and culture was not validated. Actually our results showed rather the contrary. We found that Mexican craft and industrial beer consumers had a different representation of craft beers, whereas all French consumers had the same representation, whatever their consumption habits were (craft *versus* industrial). In fact three clusters emerged in the CA, one with the Mexican industrial beer users, one with the Mexican craft beer users and the third one composed of all the French participants. Our hypothesis was based on the fact that beer has been consumed in France for centuries (Brasseurs de France, 2015), with a market hold by industrial breweries for a long time but largely competed by small craft breweries for 10-20 years, possibly making sub-groups of consumers more connoisseurs than others that would shape a different representation of beers. Actually it seems that the consumption of beer in France that comes from centuries, could lead to a similar representation across all consumers, whether they are craft or industrial beer consumers. On the other hand, Mexico has less history in the consumption of beers (Reyna and Krammer, 2012). In general, CA results shows cultural differences in the representation of craft beer. Mexican industrial beer users do not associate the same words to define a craft beer in comparison to Mexican craft users. French participants on the other hand, used similar words to define the craft beer, whatever their beer consumption (industrial *versus* craft beer users).

In the craft arena, the Mexican beer consumption increased by 25% during 2013 and from every 975 litres consumed in the country, one litre comes from craft brands (Euromonitor International, 2014a). In a

recent study in Mexico, craft beers consumption emerged as experienced-based product; the goal towards consumption was not functional but symbolic as a desire to build identity and distinction (Gómez-Corona et al, 2015). This current economic and production scenario may have impacted the representations that Mexican craft consumers have of the craft beer, which falls in the middle of Mexican industrial consumers and French consumers in the correspondence analysis results. In France, on the other hand, the most significant differentiating factor of craft beers producers is their capacity to leverage on "*terroir*" traits, just like wines, which positions them as an economically-viable choice in support of local entities whilst also conveying regional uniqueness. In addition, producers of craft beers also differentiate themselves by brewing in local heritage with their beers. For instance, Tri Martolod, a craft brewery in the north-west of France, uses elderflowers which are abundant in the region to brew a unique sweet elderflower-beer (Euromonitor International, 2014b).

6. Conclusions

Our study shows that the social representation of craft beer differs across cultures. In France the description of the product is the main axis of the representation whilst in Mexico it is led by the drinking experience and hedonic aspects. The study also shows that French participants share the same elements in their representation, regardless of the difference in their consumption habits (industrial *versus* craft). The similarity of the words associated to their representations suggests a shared level of information (symbolization) between both beer users. Mexican participants show bigger differences across the type of consumers, and the industrial beer users' representations of craft beer is less protected by other words in the first periphery, suggesting representations more prone to changes. Craft Mexican participants have a more stable and rigid representation, completely different from Mexican industrial participants. This fact can explain that as the representation of the beer is changing across consumers, their habits of consumption are also changing, a fact that is being perceived in the market. With constant growth of craft beer share of market, however, it is going in two different directions: product-based for French consumers and hedonic – experienced based for Mexican consumers. Finally, the industrial consumers in France and Mexico share more elements in their representations than craft consumers. This point could be particularly relevant for breweries, as the way they approach the industrial market in Mexico and in France could be the same (in terms of representation or symbolisation of the product), but certainly not for the craft market.

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References

Abric, J. C. (1994). Méthodologie de recueil des représentations sociales. *Pratiques sociales et représentations*, 59-82.

Abric, J. C. (1993). Central system, peripheral system: Their functions and roles in the dynamics of social representations. *Textes sur les Représentations Sociales*, 2 (2), 75-78.

Abric, J. C. (2003). La recherche du noyau central et de la zone muette des représentations sociales. In Abric, J. C. (Ed). *Méthodes d'étude des représentations sociales*. Ramonville Saint-Agne : ÉRÈS.

Aquilani, B., Laureti, T., Poponi, S., Secondi, L. (2015). Beer choice and consumption determinants when craft beers are tasted: An exploratory study of consumer preferences. *Food Quality and Preference*, 41, 214 – 224.

Bartels, J., Reinders, M. J. (2010). Social identification, social representations, and consumer innovativeness in an organic food context: A cross-national comparison. *Food Quality and Preference*, 21, 347-352.

Bécue-Bertaut, M., Álvarez-Esteban, R., Pagês, J. (2008). Rating of products through scores and free-text assertions: Comparing and combining both. *Food Quality and Preference*, 19, 122-134.

Bonardi, C., Roussiau, N. (2014). *Les représentations sociales*. Paris : DUNOD.

Brasseurs de France, <http://www.brasseurs-de-france.com/ >. Consulted in September, 2015.

Brasseurs du Nord (2013). Notoriété, pénétration & image des bières de Spécialités Régionales. Retrieved from: <http://www.brasseursdunord.fr/wp-content/uploads/2013/01/Tronc-commun1.pdf > in September, 2015.

Choi, D. Y., Stack, M. H. (2005). The all-American beer: A case of inferior standard (taste) prevailing? *Business Horizons*, 48, 79-86.

De Rosa, A. S. (2003). Le « réseau d'associations ».Une technique pour détecter la structure, les contenus, les indices de polarité, de neutralité et de stéréotypie du champ sémantique lié aux représentations sociales. In Abric, J. C. (Ed). *Méthodes d'étude des représentations sociales*. Ramonville Saint-Agne : ÉRÈS.

Euromonitor International. (2009). *Global Alcoholic Drinks: Beer – Opportunities in Niche Categories*. Retrieved from Euromonitor database. London: Euromonitor International.

Euromonitor International. (2014a). *Beer in Mexico*. Retrieved from Euromonitor Passport database. London: Euromonitor International.

Euromonitor International. (2014b). *Beer in France*. Retrieved from Euromonitor Passport database. London: Euromonitor International.

Gómez-Corona, C., Escalona-Buendía, H. B., García, M., Chollet, S., Valentin, D. (2015). Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico. *Appetite*, 96, 358-367.

Guimelli, C., Brel, P., Piermattéo, A., & Lo Monaco, G. (2012). Représentations sociales et applications dans le champ du marketing du vin. *Psihologia socială*, (29), 53-70.

Heath, D. B. (1987). Anthropology and alcohol studies: Current issues. *Annual Review of Anthropology*, 16, 99-120.

Huotilainen, A., & Tuorila, H. (2005). Social representation of new foods has a stable structure based on suspicion and trust. *Food Quality and Preference*, *16*, 565–572.

Husson, F., Josse, J., Pagès, J. (2010). *Principal component methods – hierarchical clustering - partitional clustering: why would we need to choose for visualizing data?* Retrieved from: <http://factominer.free.fr/docs/HCPC_husson_josse.pdf> in September, 2015.

Jaccard, P. (1908). Nouvelles recherches sur la distribution florale. *Bulletin de la Société Vaudoise des Sciences Naturelles*, 44 (163), 223 -270.

Jodelet, D. (1984). *Répresentations sociales : phénomènes, concept et théorie*. In Moscovici, S. (Ed.) *Psychologie sociale*. Paris : PUF.

Jodelet, D. (2008). Social representations: The beautiful invention. *Journal for the Theory of Social Behaviour*, 38 (4), 411-430.

Lê, S., Josse, J. & Husson, F. (2008). FactoMineR: An R Package for Multivariate Analysis. *Journal of Statistical Software*. 25(1), 1-18.

Lo Monaco, G., & Guimelli, C. (2008). Représentations sociales, pratique de consommation et niveau de connaissance: le cas du vin. *Les cahiers internationaux de psychologie sociale*, (2), 35-50.

Lo Monaco, G., Gaussot, L., & Guimelli, C. (2009). Consommation de vin, pensée sociale et construction sociale de la normalité. *Pratiques psychologiques*, *15*(4), 473-492.

Mäkiniemi, J. P., Pirttilä-Backman, A. M., Pieri, M. (2011). Ethical and unethical food. Social representations among Finnish, Danish and Italian students. *Appetite*, 56, 495-502.

Mejlholm, O., Martens, M. (2006). Beer identity in Denmark. *Food Quality and Preference*, 17, 108-115.

Moscovici, S. (1961). *La psychanalyse, son image et son public*. Paris : Presses Universitaires de France.

Moscovici, S. (1989). Des représentations collectives aux représentations sociales : éleménts pour une histoire. In Jodelet, D. (Ed.). *Les répresentations sociales*. Paris : PUF.

Mouret, M., Lo Monaco, G., Urdapilleta, I., & Parr, W. V. (2013). Social representations of wine and culture: A comparison between France and New Zealand. *Food Quality and Preference*, *30*(2), 102–107.

Parr, W. V., Mouret, M., Blackmore, S.,Pelquest-Hunt, T., Urdapilleta, I. (2011). Representation of complexity in wine: Influence of expertise. *Food Quality and Preference*, 22, 647-660.

Reyna, M. C., Krammer, J. P. (2012). *Apuntes para la historia de la cerveza en México*. Mexico City: INAH.

Rodrigues, H., Ballester, J., Saenz-Navajas, M. P. Valentin, D. (2015). Structural approach of social representation: Application to the concept of wine minerality in experts and consumers. *Food Quality and Preference*, 46, 166 – 172.

Rozin, P. (1984). The acquisition of food habits and preferences, in J. D. Matarazzo, Weiss, S. M., Herd, J. A., Miller, N. E., Weiss, S. M. (Eds). Behavioral Health: *A handbook of Health Enhancement and Disease Prevention*. New York: Wiley & Sons.

Simonnet-Toussaint, C. (2006). *Le vin sur le divan. Des répresentations sociales aux représentations intimes.* Bordeaux : Féret.

Symoneaux, R., Galmarini, M. V., Mehinagic. (2012). Comment analysis of consumer's likes and dislikes as an alternative tool to preference mapping. A case study on apples. *Food Quality and Preference*, 24, 59-66.

Vidal, J., Brissaud-Le Poizat, A. (2014). *De l'exploration des liens entre représentation sociale, catégorisation et stéréotype*. In Rateau, P., Moliner, P. (2009). *Représentations sociales et processus sociocognitifs*. Rennes: PUR.

Wood, W., Neal, D, T. (2009). The habitual consumer. *Journal of Consumer Psychology*, 19, 579-592.

Conclusion

One of the main conclusions is the axis of the representation. It was found that in France the description of the product is the main axis of the representation whilst in Mexico the representation is led by the drinking experience and hedonic aspects. Besides, it was found that the differences between the representations of the craft beer are similar in French consumers (craft and industrial) whilst in Mexico the differences between craft and industrial consumer are bigger. The results highlight that the culture has a big effect in the representation of the beer.

The fact that the craft beer representation is shared in the industrial and craft beer consumers in France was explained with the historical consumption of beer in the country. France is a country with a big history on beer and a presence of two neighbours with a strong tradition on beer: Germany and Belgium. This fact made a more common use of the concept craft beer than in Mexico. The Mexican consumers of craft seems to be completely opposed to the industrial beer in terms of habits of consumption (as seen in Chapter 1), but also in terms of mental and social representation of the concept.

VII. Chapter 5 – Measuring the drinking experience of beer in real context situations

Introduction

The objective of the final study was to propose a tool to evaluate the weight of the three components of the experience of drinking craft and industrial beers: sensory, affective and cognitive. A Check-All-That-Applied (CATA) method was used.

The protocol was designed using the results from the previous studies:

- Phrases to use as stimuli in the CATA test came from the Consumer ethnographies (Chapter 1) and a focus group (Chapter 2).
- Participants' demographic characteristics came from the study of habits and attitudes towards beer consumption (Chapter 1).
- The variables to study were selected based on the results of the focus group study (Chapter 2).
- Hypotheses tested were built based on the results of the sorting task (Chapter 3), and social representation study (Chapter 4).

We hypothesized that beers can have a similar liking but the systems used during the interaction can be different. Some beers may evoke or provoke a more cognitive experience while other may have a bigger sensory or affective experience.

The deliveries of this chapter are:

- A poster presented at the 11th Pangborn Symposium, Gothenburg, Sweden in 2015.
- Article to be submitted to Food Quality and Preference, entitled "Measuring the drinking experience of beer in real context situations."
- An oral presentation and a chapter entitled "How to measure the drinking experience of beer to drive new product development" in the proceedings of the Summer Program in Sensory Evaluation symposium (SPISE 2016) in Ho Chi Minh City, July 29-31. Not presented in this thesis.

11th Pangborn Sensory Science Symposium. Sweden 2015

Consumption experience research: The impact of affects, senses & cognition

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The way we consume a product is influenced by the type of interaction we have with it. Some consumers may search for stimulant sensory experiences, while others may bring on a more emotional or cognitive interaction. We hypothesized that products can be studied based on 3 dimensions; affects, senses or cognition, that will then shape the experience of products. A study was design to explore if a given system was more involved during product consumption, more specifically beer consumption.

Study 1 – Sorting task

- **30 words were selected** from previous studies that could reflect sensory, affective & cognitive dimensions.
- Words were printed and submitted to free **sorting task.**
- **N= 30 consumers**
- **Sorting data** analyzed with a **Multidimensional Scaling**

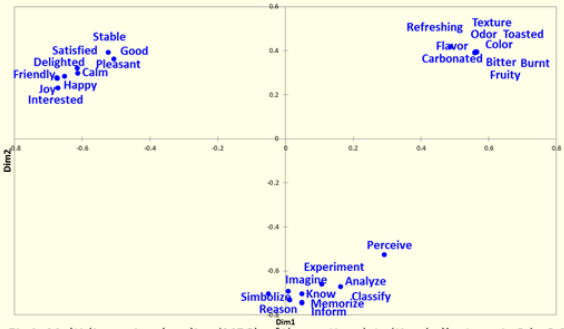

Fig 1. Multidimensional scaling (MDS) of the sorting data (Kruskal's stress in 2d = 0.025)

Results from study 1 show that words could be effectively clustered in three groups: sensory affective & cognitive. Then, this list can be used in a CATA questionnaire to assess the impact of senses, affects or cognition during product consumption.

Study 2 – Contextual CATA

- **400 consumers interviewed contextually** while drinking a beer in an **industrial beer bar (50%) & craft bar (50%).**
- **30 words from study 1** were used to build a CATA questionnaire. Consumers' were asked: **Which words represent better the way you feel or think while you are drinking your beer?**
- Results were analyzed with a **Chi test** to verify independency of observations, **Z-test of proportions**, and **correspondence analysis** (CA).

Table 1. Frequency table of words selected by craft vs industrial consumers. Independent Chi Test P-value <0.001. Significant differences across dimensions were done using a Z-test of proportions. Salient dimension for craft beer is sensory, and affective for industrial.

Consumer	Sensory	Affective	Cognitive
Craft	506	424	183
Industrial	545	663	141
P-value	*0.089*	*<0.001*	*0.001*

Brands & types of beers consumed by participants during the interview were divided in 4 groups: industrial blond, industrial dark, craft blond and craft dark beers, and submitted to a CA.

Fig 2. CA and hierarchical cluster (HC) of the CATA data, show 3 groups of beers: industrial (dark & blond), craft dark and craft blond beers.

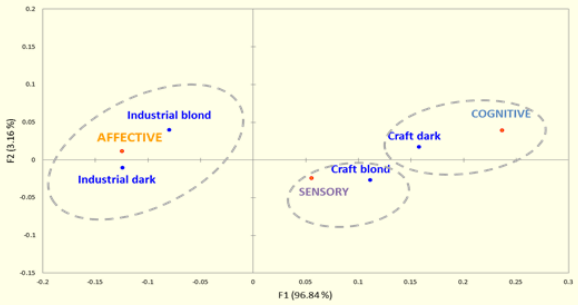

Fig 3. CA of the CATA list collapsed in sensory, affective and cognitive dimensions show 3 clear clusters. Industrial (affective), craft blond (sensory) &craft dark (cognitive).

Fig 4. Based in the HC of the CA (Fig 2 & 3) an experience map of the beers was made for the salient dimensions during consumption: affective, sensory & cognitive.

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This exploratory study on the drinking experience of beer, show that products can be separated based on the salient dimensions during product consumption. The map created indicates that industrial beer bring on the affective and sensory dimension; sensory for craft blond, and cognitive for craft dark beer.

Fig. 12. Poster presented at the 11th Pangborn Symposium, Gothenburg Sweden.

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Measuring the drinking experience of beer in real context situations

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Abstract

Consumers interact with products using three mental systems: affect, senses and cognition. These systems give rise to "consumer experience", a concept that is gaining the attention of product developers in the quest to design successful products in the markets. However, there is no agreement on how to measure the contribution of the three systems in consumer experience. Two studies were conducted to measure the experience of drinking craft and industrial beer. The first study consisted of the selection of phrases that were related to each system in an online survey with 75 consumers. A set of 18 phrases from this first study were selected to perform a second study in which 400 consumers had to drink beer, rate their liking and select phrases (using a CATA question) that better described their drinking experience. Results evidenced that the eight beers evaluated were rated similar in expected liking (p-value 0.080) and purchase intention (p-value 0.341). However, a difference between beers was observed for the CATA phrases. Cognitive phrases were more frequently checked for craft beers, while sensory, and affective phrases were more frequently checked for industrial beers (p-value<0.05). A Multiple Factor Analysis for Contingency Tables (MFACT) with CATA phrases as active variables and liking and purchase intention as supplementary variables showed that the sensory and cognitive systems were more related to liking vs.

the affective system. Overall, the results indicate that craft beer evokes a more cognitive experience than industrial beers, while the latter evoke a more sensory or affective experience. To conclude, a CATA approach analyzed with MFACT can be a proper way to access the experience of drinking beer, and bring more light in the quest to develop specific experiences during product consumption, whether these experiences are affective, sensory or cognitive.

Keywords: product experience, consumption experience, beer, MFACT.

1. Introduction

Today, the word "experience" is directly linked to our contemporary lifestyle of consumption. In hypermodern societies, the goal towards consumption has shifted from functional to experiential. Moreover, today the production systems, distribution, and consumption are now impregnated and shaped by symbolic meanings, hedonic responses, and aesthetics. The style of beauty, the evolution of tastes and the sensitivity are imposed every day even more as strategic imperatives of the brands. According to Lipovetsky and Serroy (2013) what defines the hyper-modern capitalism is an aesthetic approach to production. This change in consumption pattern is what has been called since the past years as the "experiential view" (Holbrook and Hirschman, 1982).

"Experience" itself is an interesting word that can mean different things. In 1994, Dubet wrote that the notion of experience is ambiguous and vague, especially because it evokes two contradictory phenomena which are important to link. In the first sense, the experience is a way of feeling, to be invaded by an emotional state. This is how we usually talk about an aesthetic experience, loving experience, etc. To this emotional experience, a second meaning is juxtaposed: the experience is a cognitive activity. It is a way to build what is real and specially to verify it, to "experience it."

Throughout the years, we have seen an increasing number of publications concerning the experiential consumption (Pine & Gilmore, 1998; Carú and Cova, 2003; Desmet and Hekkert, 2007; Gilovich et al.,

2015). We can see by these publications that experience is not an amorphous concept, and these publications evidence a common use of the concept. While the concept of experiential consumption may seem to be rather novel in sensory science, the experiential and material aspects of purchase and consumption have been studied for decades in consumer psychology (For a review see: Schmitt, Brakus and Zarantonello, 2015). However, while the bibliography in consumption experience that studies material objects has been growing (Desmet and Hekkert, 2007; Warell, 2008; Darpy, 2012; Schmitt, Josko Brakus and Zarantonello, 2015; Gilovich, Kumar and Jampol, 2015), experiential measurements of food and beverages have been less explored (Schifferstein, 2010; Morewedge et al., 2010; Schifferstein et al., 2013).

In material objects, the more common term to express the study of consumption experience is "product experience". Actually, the concept of product experience has been used to refer to material objects as well as food and beverages, and it has been defined as the entire set of effects a product has to a user. The product experience thus includes its perception, the identification process it triggers, the cognitive associations and memories it activates, the feelings and emotions it elicits, and the evaluative judgements it brings about (Schifferstein and Cleiren, 2005). Product experience has been studied from many different perspectives. For example, Desmet and Hekkert (2007) have studied the framework of product experience in which they distinguish three components: the aesthetic experience, experience of meaning and emotional experience. The aesthetic level involves a product's capacity to delight one or more of our sensory modalities. The meaning level involves the symbolic significance of products, and the emotional level involves the affective system in which emotions are elicited by the manipulation of a product.

In a study to identify dominant sensory modalities in product experience, Schifferstein and Cleiren (2005) conducted a study with food and non-food. The idea behind the articles is that when people interact with products, all sensory modalities are open to receive information. To assess each modality potential contribution to overall product experiences, the authors developed a split-modality approach, in which

participants' experienced real-life products (a black permanent marker, a tennis ball, a deodorant spray, a boiled egg, a bag of crisps, and a can of orange soft drink) through only one modality: vision, touch, audition, or olfaction. Participant had to describe the sensory experience, identify the product and indicate their associations and memories linked to this experience. Authors concluded that vision and touch are likely to dominate product perception and experience in real-life situations. Vision is likely to have an even larger impact on product experiences than touch in real-life situations because visual information is processed more quickly. In another study more focused on food products, Schifferstein et al. (2013) investigated how the sensory dimensions of a dehydrated food product were experienced at different stages of product usage: choosing a product on a supermarket shelf, opening a package, cooking and eating the food. In his study, vision was the most important modality at the buying stage, followed by taste. Smell was dominant at the cooking stage, and taste was the most important while eating the food.

Typically, the food industry has studied food experiences by conducting a number of separate, consecutive tests for the different key moments. However, consumption experience is not the sum of individual measurements or the average score in a hedonic scale. Rating overall liking and purchase intention has become so common and fundamental in consumer research for industries that it would seem inappropriate to act against them. Schifferstein and Cleiren (2005) have mentioned that when consumers interact with products, a variety of product aspects act as stimuli for the human senses. Humans have always been endowed with a set of systems to interact with the external world. We have a sensory system to perceive changes in the environment, a cognitive system to make sense and process information (Hekkert & Schifferstein, 2007), and an affective system that provides us with an emotional response to stimuli (Scherer, 2005).

Building on this idea, almost all acts that involve food and beverage consumption may have as an outcome the stimulation of our thoughts, emotions, and our senses. This idea immerse in the heart of the consumption research is the birth of the concept of cognitive, sensory or affective experience. Experience

is not a linear continuum of hedonic consumption. Instead, it is a combination of three dimensions: sensory, affective and cognitive. Based on the previous theoretical framework, the objective of this study is to measure the experience of food in three basic dimensions: affective, sensory and cognitive; more specifically the experience of drinking beer. Two hypotheses are tested. First that the drinking experience of beers can be separated based on the salient dimension (human system) used during the food product interaction; it can be more sensory, affective or cognitive. Second, that products can have a similar acceptability (e.g. overall liking or flavour liking) but will differ in the type of system more used, or salient (sensory, affective or cognitive) during the product interaction and consumption.

2. Material and methods

A quantitative study was done in a real context situation (restaurant). A set of eight beers (Figure 1) were selected based on a previous study (Gómez-Corona et al. 2016), in which Mexican beers were divided into four groups: 1) blond industrial beers, 2) dark industrial beers, 3) well-known craft beers, and 4) unknown craft beers.

Group 1 Blond-industrial		**Corona** Industrial American lager 4.6% Alc. Vol. Mexico 355 mL 0.7 €		**Pacífico** Industrial American lager 4.8% Alc. Vol. Mexico 325 mL 0.7 €
Group 2 Dark-industrial		**Victoria** Industrial Vienna lager 4% Alc. Vol. Mexico 355 mL 0.6 €		**Bohemia Obscura** Industrial Vienna lager 5.5% Alc. Vol. Mexico 355 mL 0.9 €
Group 3 Craft-known		**Tempus Alt** Craft Altbier 5.2% Alc. Vol. Mexico 355 mL 1.4 €		**Minerva Pale Ale** Craft Indian Pale Ale 5% Alc. Vol. Mexico 355 mL 1.3 €
Group 4 Craft-unknown		**6 Hileras** Craft Porter 5.5% Alc. Vol. Mexico 355 mL 2.3 €		**CucapáChupacabras** Craft American Pale Ale 5.8% Alc. Vol. Mexico 355 mL 1.4 €

Fig. 1. Image and basic information of the set of beers used in the study: commercial name (e.g. Corona), type (e.g. industrial), style (e.g. American lager), percent of alcohol volume (e.g. 4.6%), country of origin (e.g. Mexico), millilitres in the bottle (e.g. 355 mL), and local price (Mexico City, 2016) in euros.

2.1 Participants

Four hundred consumers were recruited in Mexico City at a central location. An intercept sampling procedure was used at affluence points; the interviewers stopped any possible consumer and invited them to participate in the study. The inclusion criteria were: gender (50% men and 50% women), age (20- 49 years), consume beer at least once a month, and to identify themselves as being either industrial or craft beer consumers. Participants who passed the inclusion criteria were invited to take part in the study. Consumers' demographic information is shown in Table 1. The location in which the study was done is a restaurant-bar in Mexico City (Piloncillo & Cascabel, in Figure 2) which serves as part of their regular beverages, industrial and craft beers.

Fig.2. Images of the restaurant in which the contextual study was carried out, during February 2016. The restaurant serves industrial and craft beer as part of their menu.

Table 1
Demographic characteristics of the consumers recruited for the study.

Beer user	**N**	**%**
Craft	200	50
Industrial	200	50
Age	**N**	**%**
20 – 29 years	154	38.5
30 – 39 years	153	38.2
40 – 49 years	93	23.2

2.2 Procedure

Participants evaluated only one beer (out of eight) as a pure monadic evaluation. The beer was randomly assigned to the participants after they filled the filter questionnaire and mentioned to be either industrial or craft beer consumer, but balancing the beers between genders. Industrial consumers evaluated only an industrial beer, and craft consumers evaluated only a craft beer. A total of 50 consumers evaluated each of the eight beers.

Once participants were assigned to a beer, the interview was divided into two steps: a non-tasting step and a tasting step. In the non-tasting step, participants were given a beer and were instructed to look at the beer and to fill out a questionnaire. The questionnaire (Table 2) was designed to evaluate the salient system used during product interaction (sensory, affective or cognitive) using a CATA list of phrases. Craving, liking and purchase intention questions were also added at the end of the questionnaire.

In the tasting step, participants were given a glass and a beer opener. They were instructed to open the beer and drink it (directly from the bottle or in the glass), as they preferred. They were asked to take their time to drink the beer as they usually drink it and to answer the questionnaire in the meantime. The questionnaire included CATA questions, 5-points scale dor purchase intention and liking was evaluated with a 9-points scale (Table 2). At the end, they were asked to call the interviewer which check that the questionnaire was completed. Participants were not paid.

Table 2
Questionnaire used in the study in the non-tasting and tasting steps.

Non-tasting step	Tasting step
1. CATA [1]	1. CATA [1]
2. Craving [2]	2. Overall liking [3]
3. Expected liking [3]	3. Colour liking [3]
4. Purchase intention [2]	4. Flavour liking [3]
	5. Texture / consistency liking [3]
	6. Aftertaste liking [3]
	7. Purchase intention [2]

[1]CATA questions; [2] 5-points scale; 3 9-points scale.

1.3 CATA phrases selection

The set of CATA phrases used in the study were obtained with a pre-test in which consumers had to rate the appropriateness of 45 phrases (15 per dimension) to describe a beer, and to indicate which dimension (sensory, affective or cognitive) does this phrase belongs to. The phrases were obtained from previous qualitative studies (focus groups and ethnographies) with beer, conducted by the authors (Gómez-Corona et al., 2016). A pre-test study was conducted online with seventy-five Mexican consumers of beer to select the phrases. The results of the pre-test study give space to the final list of phrases (Table 3 and annexe 1 for Spanish version) that were used in the main study with 18 phrases (6 per dimension).

Table 3
Set of phrases used in the CATA questions separated by sensory, affective and cognitive dimension.

Sensory dimension	Affective dimension	Cognitive dimension
The most important thing of this beer is the flavour	I would like to share this beer with someone close to me	I like to know the style of the beer that I am drinking
The experience of this beer comes from its flavour	Drinking this beer is like a big sensation of pleasure	I would like to know who produces this beer
It's worthy to take some time to enjoy this beer	Drinking this beer relaxes me, calm me	I found ludic and entertaining to drink this beer
I like beers like this, that are balanced between flavour, aroma and body	Drinking this beer can help in those moments of tension	This is a beer for thought
What makes me enjoy this beer is its cold temperature	This beer changes my mood	I would like to take a picture of this beer to remember it
I enjoy the aroma of the beer	I feel great drinking this beer	I like to read the label of this beer

1.4 Data analysis

1.4.1 Univariate analysis

The questions with a scale for the non-tasting step (craving, expected liking and purchase intention) and the tasting step (overall, colour, flavour, texture and aftertaste liking and purchase intention) were analysed using a one-way ANOVA to explore the differences across products and variables. A two-way ANOVA was also used to see the differences across gender and age. Whenever a p-value less than 0.05 was obtained, a Tukey multiple comparison test was performed.

The data of the CATA questions were analysed based on their frequency of selection. Global chi-square tests were performed to observe differences in participants' responses to each variable followed by a multiple comparison using a Z-test for proportions. The analysis was performed by each phrase, and a global analysis was performed merging all the frequencies of each phrase into a total frequency per dimension: sensory, affective and cognitive. All analyses were performed on Minitab software (version 16.1.0, Minitab Inc., State College, USA).

1.4.2 Multivariate analysis

A principal component analysis (PCA) was performed on the scale variables of the non-tasting step (craving, expected liking and purchase intention) and tasting step to see the relationship between variables and products. The results of the CATA questions were compiled three frequency sub-tables: products*sensory phrases, products*cognitive phrases and products* affective phrases. Two separate Multiple Factor Analysis of Contingency Tables (MFACT) were performed on the three frequency tables one for the non-tasting step and another for the tasting step.

MFACT is an extension of multiple factor analysis (Escofier and Pagès, 2008). It is dedicated to analyse multiple frequency table it has the advantage of centring different contingency/frequency tables (in our case each dimension: sensory, affective and cognitive) on its own centroid and balances the influence of each sample in the global analysis to prevent one table to play a dominant role (Kostov, Bécue-Bertaut & Husson, 2013, 2014).

A hierarchical cluster analysis (HCA) with the Ward algorithm was performed on both the PCA and MFACT coordinates of the first five axes. The identified clusters were described by computing the variables probability of characterizing each cluster according to a hypergeometric law (Lebart et al., 2006). All the multivariate analyses were performed in R version 3.2.4. The function "MFA" of the

package FactoMineR (Le, Josse & Husson, 2008) was used for MFA for contingency tables (Kostov, Bécue-Bertaut & Husson, 2013).

3. Results

3.1 Liking results

The results of the non-tasting step (Table 4) show that all beers were rated similar in expected liking (7.1 overall mean; p-value 0.080) and purchase intention (3.95 overall mean; p-value 0.341). These results evidence that the variables expected liking and purchase intention are not capable of showing the differences across a range of different types of beers, which we hypothesise will be different in liking scores. However, the variable craving did show significant difference across beers (p-value 0.026). The beer with the lowest craving mean was Corona (3.7), which is an industrial beer while the highest craving was found for Minerva Pale Ale (4.1) which is a well-known craft beer in the Mexican market.

Table 4
Mean scores and significant differences across products for the non-tasting and tasting condition liking variables.

	Corona	**Pacífico**	**Victoria**	**Bohemia Oscura**	**Tempus Alt**	**Minerva Pale Ale**	**6 Hileras**	**Cucapá Chupacabras**	**P-Value**
Non-tasting step									
Craving	3.7 a	**4.0 a,b**	**3.9 a,b**	**4.0 a,b**	**4.2 b**	**4.1 a,b**	**4.0 a,b**	**4.1 a,b**	**0.026**
Expected liking	6.7	7.2	7.0	7.1	7.1	7.2	7.3	7.3	0.080
Purchase intention	3.7	3.9	3.9	4.0	4.0	4.1	4.0	4.0	0.341
Tasting step									
Overall liking	7.1	7.5	7.3	7.4	7.6	7.6	7.4	7.5	0.168
Colour liking	6.6 a	**7.2 a,b**	**7.2 a,b**	**7.2 a,b**	**7.5 b**	**7.5 b**	**7.4 b**	**7.4 b**	**0.003**
Flavour liking	7.0 a	7.6 b	7.3 a,b	7.4 a,b	7.6 b	**7.7 b,c**	7.4 a,b	7.2 a,b	**0.012**
Texture liking	6.8 a	7.1 a,b	7.2 a,b	7.4 a,b	7.4 a,b	**7.7 b,c**	7.4 b,c	7.4 a,b	**0.002**
Aftertaste liking	6.6 a	7.3 a,b	7.1 a,b	7.2 a,b	7.4 b	**7.5 b,c**	7.3 a,b	7.0 a,b	**0.015**
Purchase intent	3.8	4.2	4.1	4.1	4.2	4.2	4.1	3.9	0.205

Numbers in **bold** indicate mean scores significantly higher evaluated.

In the tasting step, overall liking and purchase intention variables were not capable of showing the differences across products (p-value 0.168 and 0.205, respectively). On the other hand, the variables that

did evidence differences across products are colour liking (p-value 0.003), flavour liking (p-value 0.012), texture liking (p-value 0.002) and finally the aftertaste liking (p-value 0.015). In colour liking the beers with the highest mean score were Tempus Alt and Minerva Pale Ale (7.5), while the lowest mean score was for Corona (6.6). In flavour, texture, and aftertaste liking the beer with the highest score was also Minerva Pale Ale while the lowest mean score was found for Corona.

The results from the two-way ANOVA (Table 5) show that the consumers, in general, made a similar evaluation of the beers. There was no difference in the evaluation of gender for any variable. A significant difference was found in the gender*beer interaction for craving (p-value 0.046), but only for Corona beer. The men's mean score was higher when compared to women's evaluation (4.0 vs. 3.4). By taking a look at the age evaluations, a significant difference was found in the evaluation of flavour liking (p-value 0.042). However, no interaction effect across age*beers was found. Consumers age between 20 – 29 years evaluated lower all the beers (mean 7.3), followed by 30 – 39 years (7.4) and the ages of 40-49 years evaluated higher (mean 7.6) compared to the younger group of age.

Table 5
P-value of the ANOVA for the non-tasting and tasting steps show differences for craving (gender*beer) and flavour liking (age).

Variable	Gender	Gender*Beer	Age	Age*Beer
Non-tasting step				
Craving	0.360	**0.046**	0.419	0.739
Expected liking	0.135	0.831	0.095	0.280
Purchase intention	0.238	0.599	0.295	0.535
Tasting step				
Overall liking	0.926	0.962	0.559	0.457
Colour liking	0.861	0.350	0.090	0.155
Flavour liking	0.701	0.971	**0.042**	0.678
Texture liking	0.374	0.692	0.144	0.121
Aftertaste liking	0.967	0.926	0.119	0.158
Purchase intention	0.479	0.684	0.404	0.808

To understand the relationship between liking variables, a PCA was performed for both steps. First, in the non-tasting step the PCA (figure 3-a) shows 95.9% of inertia in the first two dimensions. The three

variables (expected liking, purchase intention, and craving) are correlated between them the same as to the first factor. In the tasting step (figure 3-b) the PCA explains the similar inertia (95.2%) to the non-tasting step. All variables are also correlated between them and to the first factor. These results indicate that in general, the variables measure the same liking phenomena. In the case of purchase intention, it is more correlated to flavour than overall liking.

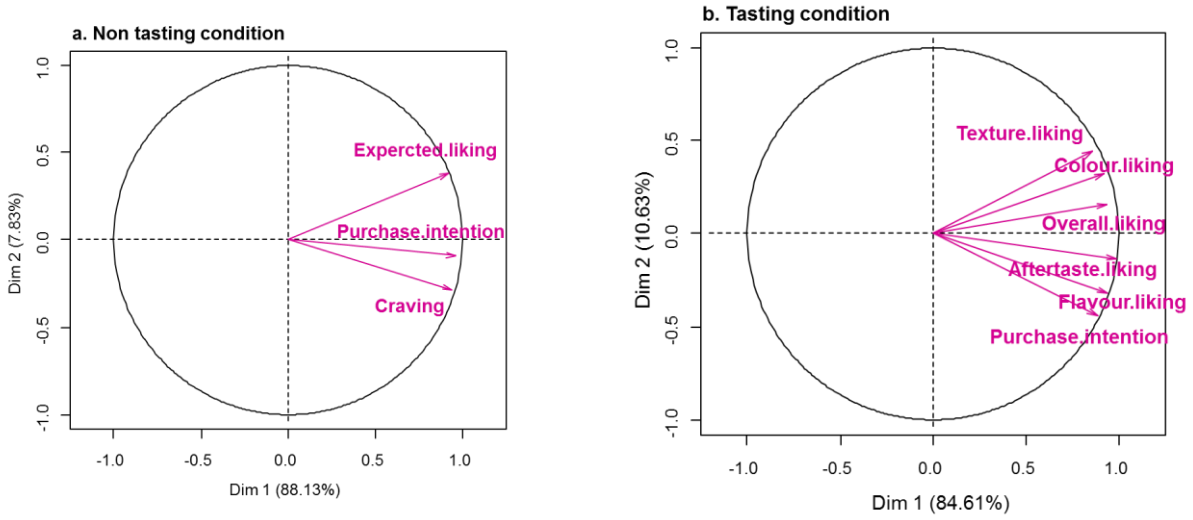

Fig 3. Principal component analysis of the linking variables in a) non- tasting with 95.9% of inertia in the first two dimensions, and b) tasting step with 95.2% of inertia in the first two dimensions.

3.2 CATA (dimensions) results

The CATA lists were separated by dimension: sensory, affective and cognitive. Table 6 show the total frequencies by dimension. In the non-tasting step two beers have a significantly higher frequency of the sensory dimension (Victoria and 6 Hileras). In the affective dimension, the only beer with a significantly higher frequency is Corona. In addition, on the cognitive dimension only the craft beers have a higher frequency (Tempus, 6 Hileras and Cucapá Chupacabras). The frequency of use of terms within the sensory dimension increases in the tasting step. Corona has the lower frequency compared to the other beers. The affective dimension is higher for 3 out of 4 industrial beers (Corona, Pacífico and Victoria).

Finally, the cognitive dimension is higher in the four craft beer evaluated, while the industrial beers have a lower frequency.

Table 6.
Total frequencies of the phrases by dimension in non-tasting and tasting phase. Bold numbers indicate significant differences between products.

	Industrial beers				Craft beers			
	Corona	Pacífico	Victoria	Bohemia Oscura	Tempus Alt	Minerva Pale Ale	6 Hileras	Cucapá Chupacabras
Non tasting								
Sensory	101 a	115 ab	**129 b**	111 ab	120 ab	116 ab	**125 b**	116 ab
Affective	**100 a**	74 b	83 ab	61 b	87 ab	76 b	66 b	65 b
Cognitive	54 a	37 ab	29 b	47 a	**114 c**	77 d	**109 c**	**121 c**
Tasting								
Sensory	101 a	**137 b**	**128 b**	**135 b**	**150 b**	**150 b**	**136 b**	**151 b**
Affective	**92 a**	**88 a**	**96 a**	67 b	95 a	79 ab	71 ab	79 ab
Cognitive	48 a	29 b	38 ab	18 b	**117 c**	**80 c**	**95 c**	**92 c**

After completing the frequency analysis, the data was analysed using MFACT and liking scores were plotted as supplementary variables to evaluate which dimension was more correlated to liking (craving and expected liking were plotted for the non-tasting step; flavour, aftertaste, texture, and colour liking were plotted for the tasting step). In the non-tasting step, the inertia in two dimensions reaches 72.98% of explained variance showing a good explanation in the first two dimensions. In the tasting step, the inertia in dimension 1 and 2 shows 60.4%, about 10% less than the inertia explains in the non-tasting step, indicating a larger variability of the data (which is reflected in less inertia in factor 1). The first two axes of the liking variables are well correlated to sensory (dim 1), as well as affective ad cognitive (dim 1). Taking into considerations the first five axes, the group representation shows that in the tasting step the liking is much more correlated to the sensory dimension, followed by the cognitive phrases and the affective variables is represented much separated from liking (Figure 4). These results evidence a similar behaviour of the variables regarding the relationship between them, being the cognitive variable and

"intermediary" of the sensory and affective variables. However, the results suggest that the variables that could explain better the liking scores are the sensory and cognitive ones.

The individual factor maps of Fig 5 show the effect of each variable (sensory, affective or cognitive) in the position of each product on the map. In the non-tasting step, the products Bohemia Oscura, Tempus Alt, Victoria and 6 Hileras are equally described by the three variables. On the other hand, the products Pacifico and Corona are described differently by each of the variables, the sensory and affective variables are correlated between them, but the cognitive goes to another way, it is not correlated to the other variables.

In the case of Minerva Pale Ale, the sensory variable is completely opposed to the affective and sensory variables (which are correlated between them). For the beers Bohemia and 6 Hileras there is just a black point in the map, indicating that the three dimensions (sensory, affective and cognitive) are confused.

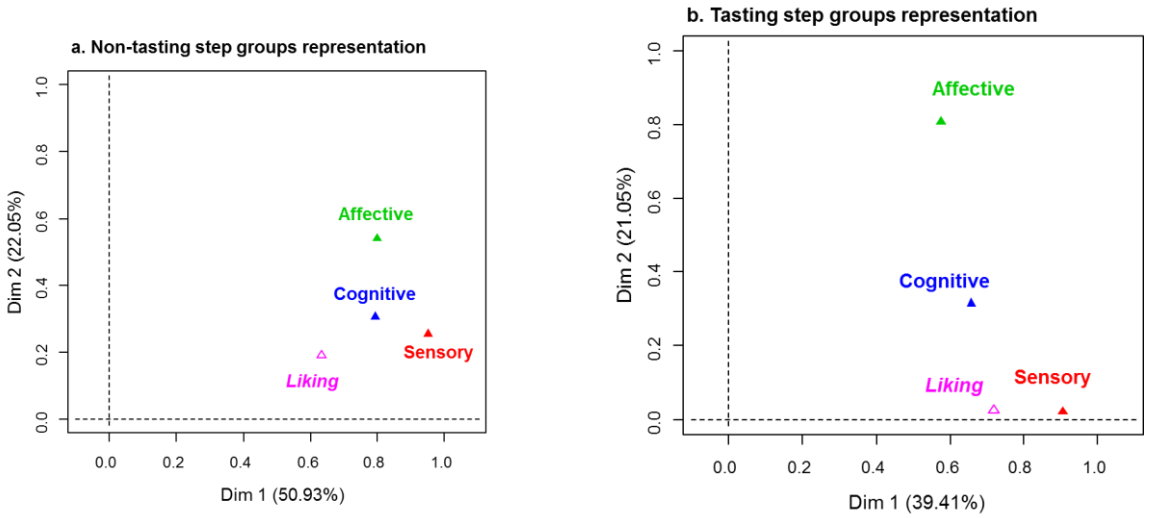

Fig 4. Group representation map of the MFACT variables (sensory, affective and cognitive) with the liking scores plotted as supplementary variable for the a) non-tasting and b) tasting steps.

In the tasting step, the cognitive and sensory variables are correlated for Bohemia Oscura, but for Victoria, Cucapa, and Minerva Pale Ale each variable point to a different direction, indicating a disagreement between variables. However, in both cases the non-tasting and tasting steps highlights a clear separation between industrial beers at the left and craft beers at the right; the factor 1 of the analysis

is then separating types of beers, and the factor 2 is separating the variables across sensory, affective and cognitive.

An HCA was done to identify the different clusters of products in the MFACT map and to be able to characterize each cluster in its dominant variables (Table 7). In the non-tasting step, five clusters emerged, and the HCA show that six variables were selected as being significant (HCA P-value test) to describe the clusters. Cluster 1 is formed by Corona and Victoria and the phrases that described the beers are one sensory "what makes me enjoy this beer is its cold temperature" and one affective phrase "drink this beer relaxes me, calm me". Cluster 2 is formed by the beer Pacifico and is characterized by one sensory phrase "the experience of this beer comes from its flavour". Cluster 3 is formed by Bohemia Oscura and is characterized by one sensory phrase "the most important thing of this beer is the flavour". Cluster 4, formed by Tempus Alt and Cucapá Chupacabras is not characterized by any particular phrase. And Cluster 5, formed by Minerva Pale Ale and 6 Hileras is characterized by one affective phrase "I feel great drinking this beer", and one cognitive phrase "I found ludic and entertaining to drink this beer".

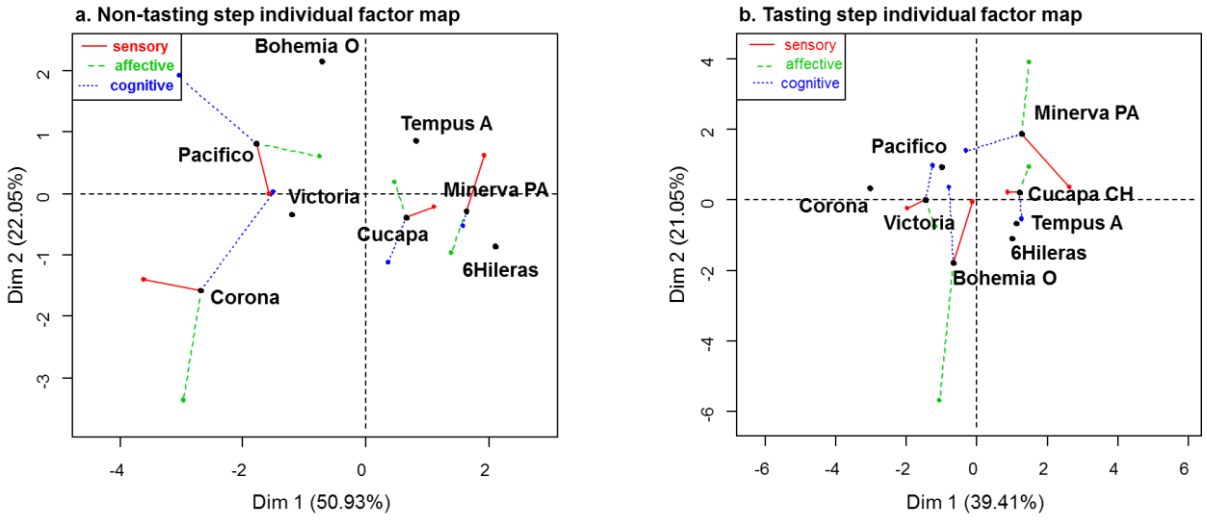

Fig 5. MFACT individual factor map with the individual effect of the variables (sensory, affective and cognitive) superimposed for a) non-tasting step and b) tasting step.

For the tasting step (Table 7) four clusters emerged from the analysis. Cluster 1 is also defined by Corona and Victoria, and the phrases that characterize the cluster are one from the sensory dimension "what makes me enjoy this beer is its cold temperature", and another form the affective one "I feel great drinking this beer". Cluster 2 is formed by the beers Pacífico and Bohemia Oscura. The phrase that characterizes the cluster is "the most important thing of this beer is the flavour" which is from the sensory dimension. In cluster 3, there are three products: Tempus Alt, 6 Hileras and Cucapá Chupacabras. The phrases that characterize this cluster are all from the cognitive dimension "I would like to know who produces this beer", "I like to read the label of this beer", and "I found ludic and entertaining to drink this beer". And finally, cluster 4 is formed only by Minerva Pale Ale; with no specific phrase is associated with this cluster.

Table 7
MFACT clusters after performing a hierarchical cluster analysis and a hypergeometric law to assess the probability of characterization of the clusters for the non-tasting and tasting step.

Non-tasting step					
Cluster	Products	Liking	Variable	P-value	Phrases
1	Corona	6.7	Sensory	0.032	What makes me enjoy this beer is its cold temperature
	Victoria	7.0	Affective	0.014	Drink this beer relaxes me, calm me
2	Pacífico	7.2	Sensory	0.011	The experience of this beer comes from its flavour
3	Bohemia Oscura	7.1	Sensory	0.028	The most important thing of this beer is the flavour
4	Tempus Alt	7.1	-	-	-
	Cucapá Chupacabras	7.3	-	-	-
5	Minerva Pale Ale	7.2	Affective	0.014	I would like to share this beer with someone close to me
	6 Hileras	7.3	Cognitive	0.042	I like to read the label of this beer
Tasting step					
Cluster	Products	Liking	Variable	P-value	Phrases
1	Corona	7.0 a	Sensory	0.028	What makes me enjoy this beer is it is cold temperature
	Victoria	7.3 ab	Affective	0.046	I feel great drinking this beer
2	Pacífico	7.6 b	Sensory	0.017	The most important thing of this beer is the flavour
	Bohemia Oscura	7.4 ab			
3	Tempus Alt	7.6 b	Cognitive	0.011	I would like to know who produces this beer
	6 Hileras	7.4 ab	Cognitive	0.025	

	Cucapá Chupacabras	7.2 ab	Cognitive	0.019	I found ludic and entertaining to drink this beer
4	Minerva Pale Ale	7.7 bc	-	-	-

The flavour liking was also added as an extra column in table 6 to highlight the fact that products that obtained similar acceptability measures were perceived differently in the cognitive, sensory or affective variables. For example, Pacífico, which has a flavour liking of 7.6, compared to Tempus Alt that also obtained 7.6, but the variables involved during the product consumption were completely different. Pacífico was more associated to sensory phrases during consumption while Tempus Alt was associated to the cognitive variable. Another example can be Corona and Cucapa Chupacabras, which had a similar acceptability evaluation (7.0 -7.2) but also fall in different clusters (sensory-affective vs. cognitive).

4. General discussion

Our study help addresses the gap in the product experience research by showing two important things. The first one is that liking and purchase intention variables can be less discriminant than we think. Products with similar liking were associated to different variables such as sensory, affective and cognitive. And second, is that these variables can explain the way we interact with products and more specifically, the experience of drinking beer. Purchases do not come stamped with "experiences" or "possessions". Instead, it is the set of psychological processes that tend to be invoked by experiences and material goods that determine how much satisfaction they provide (Gilovich, Kumar and Jampol, 2015).

The fact that product with similar acceptability score (e.g. overall liking) can give space to different reactions in consumers have been previously explored in emotional responses. In an article with fine fragrances, Porcherot et al. (2010) measure the liking of two products and afterwards the emotions associated to these fragrances. The results of her study showed that both products had similar mean liking scores, but differed in the emotions evoked. One fragrance evoked more nostalgic - amusement- mouth

watering while the other evoked more romantic – desire-in love. In a similar line, Warrenburg (2005) demonstrated that although vanilla and clementine can be evaluated as equally pleasant, clementine was perceived as more stimulating whereas vanilla was more relaxing.

Our hypothesis stating that the product or drinking experience can be measured in three components or a dimension (affective, sensory and cognitive) was proved right, in other words it is possible to assess the impact of a dimension during the product consumption. In the non-tasting conditions, the products can be separated into 5 clusters. Cluster 1 associated with sensory and affective experience, cluster 2 and 3 more associated with sensory experiences. Cluster 4 was a mixed of the four dimensions, and finally the cluster 5 was a mix of affective and cognitive dimensions. In this step, the liking scores of the products seemed to be more correlated to the sensory and cognitive variables, although the affective variable was plotted close in the individual MFACT map.

On the other hand, in the tasting condition phase, the differences across products were more evident. Four clusters emerged, products in cluster 1 were more associated to the sensory and affective variables, cluster 2 to the sensory, cluster 3 to cognitive (with all craft beers in this cluster) and the final cluster 4 with no specific variable associated (also a craft beer). At this point the liking variables plotted in the variables' individual MFACT map show a clear correlation between liking and the sensory and cognitive variables while the affective phrases were not easily related to the liking scores; indicating the type of independence between emotions and likings results. However, this grouping of products according to the salient variable involved in the product consumption can give space to the definition of the experience into a sensory, affective or cognitive experience.

The idea of having a sensory, affective or cognitive experience is not new. In a previous research with a set of 12 material and food products, Gentile, Spiller & Noci (2007) used a factor analysis to group the dimensions of the experiential consumption. The underlining dimensions were considered as sensorial, emotional, cognitive, pragmatic, lifestyle and relational. The results of the factor analysis showed that

each product reported both pure components (that is, factors that can be related to a single experiential component) and "mixed components" (that is, factors whose variables belong to different experiential components). Mixed components can be considered as a cue for the hypothesized existence of interrelations between components, which in turn stand for complex experiences. Complex experiences emerge as a specific case in which the components are so intimately intermingled that consumers are unable to draw any separation between them. In agreement with Gentile, Spiller & Noci (2007) we found that the consumption experience (of drinking beer) can be described regarding pure components or variables like cognitive (for some craft beers) and mixed (for some industrial beers).

A cluster of products (3 out of four craft beers) shows that the salient variable or dimension was cognitive. And Hirschman (1984) has previously mentioned that there exists a group of consumers that may be defined as cognitive experience seeking. According to the author, the objective of the cognitive experience is sought to stimulate cognitive activity, to stimulate or active the thought processes. Examples of cognitive experiences may be buying and reading books, or archaeological tourism. Another important aspect of the cognitive experience is the creation of meaning in consumption, as according to Schmitt, Brakusand Zarantonello (2015) consumers may derive pleasure primarily from consumption that evoked sensory, affective and bodily experiences but derives meaning primarily from intellectual experiences.

An affective experience was also found as a mix component in a cluster of products, mixed with sensory experience. The affective experience was found perhaps stronger in the non-tasting condition that in the tasting condition. And this effect can be in agreement to Schifferstein et al. (2013) that mentions that the emotional quality of products is becoming more and more important for differential advantage in the marketplace because current products are often similar in quality and price. In other words, the emotions evoked by product consumption can differentiate more in a non-tasting condition, in the presence of brand and context, for example. Likewise, Macht et al. (2008) proposed that affective food responses can

best be understood as responses to configurations of stimuli of which the food itself is only a single component.

Finally, the sensory experience of drinking beer was found as a single component in industrial beer and as a mixed component in craft beers. In other words, some beers may evoke a pure sensory experience, while other beers can evoke a mix of sensory and affective experience or sensory and cognitive experience together. Similar to the cognitive experience, Hirschman (1982) has defined that sensory experience seeking implies that the objective of the experience is to stimulate sensory activity, that is, to stimulate one or multiple sense organs. Examples of sensory experiences include listening to music, smelling flowers, eating ice cream and making love. From a sensory perspective, Schifferstein and Cleiren (2005) mentioned that when consumers interact with products, a variety of product aspects act as stimuli for the human senses. Many products stimulate multiple modalities. Each modality is sensitive to a different type of energy and will thus be stimulated by different product aspects, even though some of the information may overlap.

Conclusion

Our study help addresses the gap in the experience research that is related to the use of the concept in the food and beverage consumption domain. We propose that drinking experience can be better understood by taking into consideration three components: sensory, affective and cognitive. One variable or a mix of them can be more salient during the product interaction, and therefore, we can differentiate the products based on these salient dimensions. The results show that while acceptability may be similar between products, the sensory, cognitive or affective experience can be different.

The results of this study may bring more comprehension in the material – experience relationship as food and beverages do not fall at the opposite ends of the same continuum of material object – experience.

Further research is needed to understand better the experience of drinking and eating and its relationship to product experience, for material objects.

References

Carù, A., Cova, B. (2003). Revisting Consumption Experience. A More Humble but Complete View of the Concept. *Marketing Theory* 3(2): 267-286.

Darpy, D. (2012). *Comportements du consommateur*. Paris: DUNOD.

Desmet, P., Hekkert, P. (2007). Framework of Product Experience. *International Journal of Design* 1(1): 57-66.

Dubet, F. (1994). *Sociologie de l'expérience*. Paris : SEUIL.

Escofier, B., Pagès, J. (2008). Analyse factorielles simples et multiples. Paris : DUNOD.

Gentile, C., Spiller, N., Noci, G. (2007). How to Sustain the Customer Experience: An Overview of Experience Components that Co-create Value with the Customer. *European Management Journal* 25(5): 395-410.

Gilovich, T., Kumar, A., Jampol, L. (2015). A wonderful life: experiential consumption and the pursuit of happiness. Journal of Consumer Psychology, 25 (1), 152-165.

Gómez-Corona, C., Escalona-Buendía, H. B., García, M., Chollet, S., Valentin, D. (2016). Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico. *Appetite*, 96, 358-367.

Hekkert, P., Schifferstein, H. N. J. (2007). Introducing product experience. In Schifferstein, H. N. J., Hekkert, P. (Eds). *Product Experience*. UK: ELSEVIER.

Hirschman, E. C. (1984). Experience seeking: A subjectivist perspective of consumption. *Journal of Business Research* 12(1): 115-136.

Holbrook, M.B., Hirschman, E.C. (1982). The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun. *Journal of Consumer Research* 9(2): 132-140.

Kostov, B., Bécue-Bertaut, M., Husson, F. (2013). Multiple factor analysis for contingency tables in the FactoMineR package. The *R Journal*, 5 (1), 29-38.

Kostov, B., Bécue-Bertaut, M., Husson, F. (2014). An original methodology for the analysis and interpretation of word-count based methods: Multiple factor analysis for contingency tables complemented by consensual words. *Food Quality and Preference*, 32, 35-40.

Lê, S., Josse, J. & Husson, F. (2008). FactoMineR: An R Package for Multivariate Analysis. *Journal of Statistical Software*. 25(1). pp. 1-18. http://www.jstatsoft.org/v25/i01/

Lebart, L., Piron, M., & Morineau, A. (2006). Statistique exploratoire multidimensionnelle. Visualisation et inference en fouille de données. Paris: Dunod.

Linares, N, M., Gómez-Corona, C., Escalona-Buendía, H.B. (2015). Consumption experience research: The impact of affects, senses and cognition. Poster presented at the *10th Pangborn Sensory Science Symposium*, Gothenburg Sweden.

Lipovetsky, G., Serroy, J. (2013). *La estetización del mundo. Vivir en la época del capitalismo artístico*. Barcelona: ANAGRAMA.

Macht, M., Dettmer, D. (2006). Everyday mood and emotions after eating a chocolate bar or an apple. *Appetite*, 46, 332 - 336.

Morewedge, C. K., Gilbert, D. T., Myrseth, K. O. R., Kassam, K. S., Wilson, T. D. (2010). Consuming experience: Why affective forecasters overestimate comparative value. Journal of Experimental Social Psychology, 46, 986-992.

Pine, J. B., Gilmore, J.H. (1998). Welcome to the Experience Economy. *Harvard Business Review*, July-August, 97-105.

Porcherot, C., Delplanque, S., Raviot-Derrien, S., Le Calvé, B., Chrea, C., Gaudreau, N., Cayeux. I. (2010). How do you feel when you smell this? Optimization of a verbal measurement of odor-elicited emotions. Food Quality and Preference, 21, 938-947.

Scherer, K. (2005). What are emotions? And how can they be measured? *Trends in developments: research on emotions*, 44 (4) 695-729.

Schifferstein, H. N. J. (2010). From salad to bowl: the role of sensory analysis in product experience research. *Food Quality and Preference*, 21, 1059-1067.

Schifferstein HNJ, Cleiren M. 2005. Capturing Product Experiences: A Split-modality Approach. *Acta Psychologica* 118(3): 293-318.

Schifferstein, H. N. J., Fenko, A., Desmet, P. M. A., Labbe, D., Martin, N. (2013). Influence of packaging design on the dynamics of multisensory and emotional food experience. *Food Quality and Preference*, 27, 18-25.

Schmitt, B., Josko Brakus, J., Zarantonello, L. (2015). From experiential psychology to consumer experience. *Journal of Consumer Psychology*, 25 (1), 166-171.

Warell, A. (2008). Multi-modal Visual Experience of Brand-Specific Automobile Design. *The TQM Journal* 20(4): 356-371.

Warrenburg, S. (2005). Effects of fragrance on emotions: Moods and physiology. *Chemical Senses*, 30, i248–i249.

Appendix 1

Table 8.
List of phrases for the CATA question in the original Spanish language.

Sensory dimension	Affective dimension	Cognitive dimension
Lo más importante de esta cerveza es el sabor	Me gustaría compartir esta cerveza con alguien cercano	Me gusta saber el estilo de la cerveza que tomo
La experiencia de esta cerveza viene de su sabor	Tomar esta cerveza es como una gran sensación de placer	Me gustaría saber quién produce esta cerveza
Vale la pena tomarse el tiempo de disfrutar esta cerveza	Tomar esta cerveza me relaja, me tranquiliza	Me parece divertido y entretenido tomar esta cerveza
Me gustan estas cervezas, balanceadas entre sabor, aroma, cuerpo	Tomar esta cerveza me puede ayudar en esos momentos de tensión	Esta es una cerveza para pensar y reflexionar
Lo que me hace disfrutar esta cerveza es su temperatura fría	Tomar esta cerveza me cambia el estado de animo	Quisiera tomar una foto de esta cerveza para recordarla
Disfruto mucho el aroma de esta cerveza	Creo que me siento genial tomando esta cerveza	Me gusta leer la etiqueta de esta cerveza

Conclusion

The results of this study show three important results which are interesting to link across the studies of the thesis:

- First, the study shows that the hypothesis of the saliency of one or more dimensions of product interaction is true. Some beers provide consumers with a more cognitive experience (almost all craft beers) while other may provide the consumer with a mix of sensory and affective experience (some industrial beers).
- Second, the experience of drinking beer can be different even though the liking of the experience may be the same. In other words, a consumer that goes through a more cognitive experience and a consumer that goes through a sensory experience can express similar acceptability of the products. This result shows that the acceptability can be independent of the experience dimensions.
- And third, the results indicate that the variables of overall liking and purchase intention were the least discriminant in both conditions: non-tasting and tasting. In the tasting condition, the flavour liking and the experience dimensions could differentiate better the beers measured in this study.

VIII. General discussion

In the quest to understand the experience of drinking beer, the work of this thesis compromises five studies in which five hypotheses were tested, and give space to also five chapters. Making a recapitulation, the main objective of this thesis was to contribute to the understanding of food choice and consumption through the study of the subjective experience of drinking craft versus industrial beer. And also to develop measurement tools capable of assessing the influence of the human systems (senses, affects, and cognition) involved in the food/beverage experiences. The five studies were developed to answer to the hypothesis, and they are separated in the discussion to put into reference the current literature review, but also to mention the originality of the methodological approach used in this thesis to understand the drinking experience. The general discussion is then built following five key points which are in a certain way the specific objectives of this thesis: the beer consumer, group versus individual differences that influence consumer experience, variables involved in the drinking experience: affect, senses and cognition, drinking or product experience, and measuring the drinking experience of beer.

The beer consumer

In Mexico the formal production of beer dated from the XIX century in which less than ten breweries could be found in Mexico City (Reyna and Krammer, 2012). Nowadays, Mexico is the biggest exporter of industrial beer in the world. In the past decade, the industrial beer has dominated almost entirely the Mexican market with lager beers, with a very few imported beers that fall outside the lager domain, like Guinness or some craft beer brands from the US. However, since the past five years, a different story begins with a higher production of local craft beer. Mexican beer consumption increased 25% during 2013 and from every 975 litres consumed in the country, one litre comes from craft brands (Euromonitor International, 2014).

If the Mexican market has long time been dominated by industrial beers, why is the craft beer gaining space in the local consumption? We know that habits reflect the wisdom of past experience (Wood & Neal, 2009) and that consumers create habits for the cognitive economy. Consumers need a motive to change an established habit. What is that motive? The results of the study 1, showed that there are three types of beer consumers that can separate into three different clusters. In this study, even though an intercept sampling method was used in a single place (a beer festival) and city (Mexico City), the results are in agreement with Aquilani et al. (2015), in her study, the demographic characteristics of Italian consumers (i.e. age), beer attributes (i.e. perceived quality and aroma which is a proxy of taste) and consumption habits influence the probability of beer drinkers to taste craft beer. Aquilani also observed that aroma and perceived quality, as well as the preference for draft beer and drinking beer frequently or by oneself, are all factors that explain the propensity of ‘‘purely’’ commercial beer drinkers to taste craft beer. Additionally, Mejlhom and Martens (2006) found that strong ale beer was more accepted by men vs. women who preferred a regular lager in Danish consumers. The findings of Mejlholm and Martens also show that speciality beer seems to be more appreciated by men than by women.

In study 1, the results of the consumer ethnography showed that craft consumers want to differentiate themselves by drinking. In craft consumption products, beer may be a part of a major tendency in the market of craft and local products (like mezcal in Mexico). Choi and Stack (2005) found a similar tendency in the US, where an increasing number of U.S. customers are choosing to express their preference for taste and individuality through their choice of purchasing alternative beers. So in the case of the Mexican consumers (and perhaps the same can happen in another market) what is the main reason to break the industrial beer consumption habits and venture in the craft beer world? According to study 1, we concluded that the craft beer consumers do not drink the product for its functional attributes; they consume it for what it means and as a consequence they build an identity, perceived as more authentic

and unique, in comparison to the mainstream industrial beer consumption. Therefore, the consumer of the craft beer in Mexico is different from the industrial beer.

Figure 13 is an attempt to simplify the results of the study 1 regarding consumers' demographics and main motivation towards beer consumption. It is a summary of the article in chapter 1 regarding the habits of consumption and motivation towards beer drinking (table 3 and figure 4 of the article in Chapter 1).

Fig. 13. The craft and industrial consumers' demographics and motivations towards beer consumption.

What did we see in different countries? In chapter 3 we saw that in France the number of small breweries is on the rise (+13% increase), and small breweries currently enjoy strong regional popularity as French consumers are growingly showing interest in craft beers as a way of discovering authentic tastes and supporting local entities (Euromonitor International, 2014). The results from the social representation study (Drink like a man) show that despite craft and industrial consumers having a shared social

representation of craft beer, there is also an increased interest in France for craft and speciality beers. Craft beer is then part of a global trend that can be better explained following an experiential approach (Lipovetsky, 1983).

Group versus individual differences that influence consumer experience

The variables that can have an effect on consumers' experience can be divided in two. Although authors use different types of variables, for this thesis the variables were group (gender, age, type of consumption, income level and cultural) but also individual (attitudes and mental representation). All of these variables can have a direct impact on the experience of drinking beer, and they were studied in one or multiple studies across the thesis.

Starting with the group variables, it was seen that gender and type of consumption may have had the bigger impact in the drinking experience. For example, in the qualitative study of chapter 2, women searched for a more affective experience (in both craft and industrial beer) while men searched for a more cognitive or sensory experience. Talking specifically about craft beer, women searched for a mood change effect in craft beer while men search for a more cognitive stimulation. These results are also in agreement with Mejhlolm and Martens (2006), who found that more men are interested in searching for information regarding craft and speciality beer, while women preferred a regular lager beer.

Gender also plays an important role in the mental representation of beer. In chapter 3, the sorting task showed that a gender difference was perceived in the number of groups used to sort beers, more in men than in women. When comparing the results across women and men, it was seen that the latter sort the beers based on previous knowledge (cognitive dimension) while women rely more on the affective dimension (like – do not like) to sort the beers. An interaction effect was also found between gender and type of consumption that highlights the complex relationship that consumers have towards beers. Type of consumption becomes therefore also an important group variable that influences the experience of

drinking. Nevertheless, the income level was found a secondary variable, in terms that it did not help make differences across consumers. The only difference in income level was found in the first study of habits of consumption, but it was probably an error linked to the type of intercept sampling used in the study.

Culture, in comparison to income level, was found an important variable that gives space to different experiences. In chapter 4, the social representation of craft beer was studied, and the results evidence a clear difference between Mexican and French consumers. The main difference was probably that French consumers shared a similar representation of craft beer (when comparing industrial beer consumers versus craft) while the Mexican consumers did not share at all the same representation (when also comparing industrial versus craft consumers).

Regarding the individual differences, it was found that they might have had a bigger effect on women than on men. For Fishnein & Ajzen (1975) attitude is a learned predisposition to respond consistently favourably or unfavourably to a given object. In other words, attitudes express the positive or negative orientation of a consumer towards an object. In our results with the sorting task of beers in Chapter 3, the women sort the beers following a more attitudinal approach that is traduced in a map of love versus hate beers, while men in the same study relied more on cognition or previous experience to sort the beers.

The variables involved in the drinking experience: affect, senses and cognition

According to Gentile (2009) the dimensions of the customer experience are: sensory (involves all types of sensory stimulation), emotional (involving the affective system through the generation of moods, feelings and emotions), cognitive (involving all mental processes linked to information processes), pragmatic (a component coming from the practical act of doing something, like using a product in a certain way), lifestyle (coming from the affirmation of the system of values and the beliefs of the person often through the adoption of a lifestyle and behaviours), and relational (involving the person and beyond, his/her social

context, his/her relationship with other persons or also with his/her ideal self). In a similar definition of product experience, Schifferstein and Cleiren (2005) affirm that the product experience includes its perception, the identification process it triggers, the cognitive associations and memories it activates, the feelings and emotions it elicits, and the evaluative judgements it brings about.

Table 3.
Variables involved in the consumption experience (in bold are the variables shared across authors)

Gómez-Corona et al. (2016)	Gentile et al. (2007)	Schifferstein and Cleiren (2005)	Schmitt, Brakus, Zarantonello, 2015
1. Attitudes toward the product	**1. Sensorial**	1. Perception	1. Sensory
2. **Senses**	2. **Emotional**	2. Identification process	2. Affective
3. Consumption habits	3. **Cognitive**	**3. Cognitive associations**	3. Intellectual
4. **Affects**	4. **Pragmatic**	**4. Feelings and emotions**	4. Bodily
5. **Cognition**	**5. Lifestyle**	5. Evaluative judgements	5. Social
6. Shopping	6. **Relational**		
7. Individual vs. co-experience			
8. **Product's Benefits**			

Both definitions given by Gentile and Schifferstein have some points in common, and others can be perceived as different. Why are their definitions and variables different? We believe that the differences rely on in the approach they are using and also in the type of objects being measured. The variables mentioned by Gentile are more marketing oriented while the ones mentioned by Schifferstein are more design oriented. In our case, the variables found in Chapter 2 (The building blocks of the drinking experience) are more oriented to beverages and perhaps food. In an attempt to clarify the common points across the three authors a table was built (Table 3) in which the variables are displayed. The common points in the three authors are the emotional, cognitive and sensory variables.

In the case of beer, the qualitative study performed in Chapter 2 with industrial and craft beer consumers showed that there are eight variables involved in the experience of drinking: attitudes toward the product, the sensory experience, consumption habits, affective experience, cognitive experience, shopping experience, individual vs. social experience (co-experience) and the product's benefits. Schmitt, Brakus

and Zarantonello (2015) mentioned very similar variables in their research on consumer experience; sensory, affective, intellectual, bodily and social.

Drinking or product experience?

We have seen that the definitions and variables involved in the consumer experience can vary across disciplines and objects being studied. Marketing, industrial design, and sensory science can reach a level of agreement in the main variables involved, which are the affects, senses and cognition. In the framework of this thesis, it was considered important to stop and make a special point in the discussion to explain why is drinking experience a more suited concept to refer to the subjective experience that a consumer has when drinking a beverage (or in our case an industrial or craft beer).

In the first two studies (consumer ethnographies and focus group), it was found that the main difference between product experience concept (Desmet and Hekkert, 2007) and user experience (Warrel, 2008) versus drinking experience is that the beverages like beer do not become possessions after purchase. Food and beverages are experiences, not possessions; we only possess food for a small period during the purchasing, until we decide to incorporate it into ourselves, and transform it into an experience. Only some packaging can become a possession after consumption, food and beverages are vehicles of experiences not of possessions.

Figure 14 is a summary of the main differences across three concepts used to study consumer experiences. In product experience a distinctive characteristic is that we are analysing a possession of the consumer in which the usability of the object gives space to the product experience. In the case of the user experience, it is also a material possession; however the use of the product regarding interaction is higher in comparison to the product experience concept. User experience is therefore more used in digital platforms, internet sites but also mobile phones and software like the ones used in this thesis (R, Minitab and NVivo). And finally, in the case of drinking experience and perhaps, also, food/eating experience the

main difference is the non-possession of the object being studied, plus the fact that the ingestion of the product is needed to analyse the consumer experience. The consumer needs to drink the beer, incorporate it into their body to measure the subsequent experience.

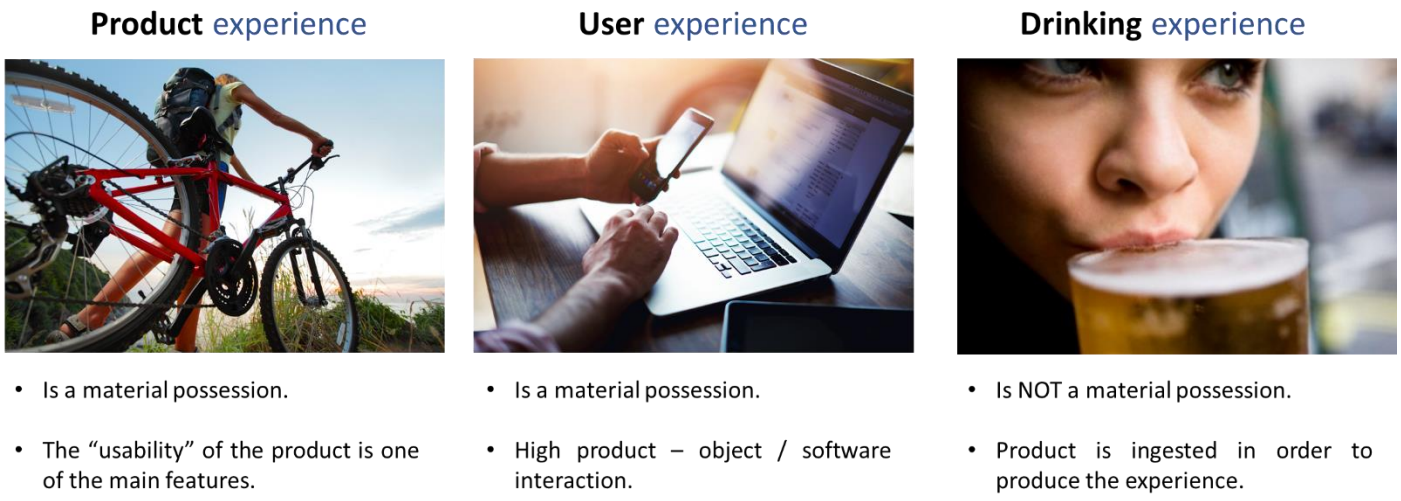

Fig. 14. The main differences across the concepts of product, user and drinking experience.

Measuring the drinking experience [of beer]

The final objective of the thesis was to develop a tool to measure the drinking experience, which takes into consideration the impact of affect, senses and cognition. For this task, two hypotheses were developed, 1) Product experience is formed by a heterogeneous mix of reactions of senses, cognition, and affects. The supremacy of one dimension over the other can shape a unique subjective product experience; and 2) Consumers' characteristics such as age, gender and culture have a direct impact on the product's experience of drinking beer.

The results show that even though purchase intention and overall liking measurements have become so common and fundamental in consumer research, they were not the most discriminative variables in non-tasting or tasting conditions. We can think that it is then possible to "act against them" as Carú and Cova (2003) mentioned. On the approach used to measure the salient dimension it was proved practical that the drinking experience can be divided into a pre-consumption and consumption phase (Fig 15). Moreover, in

each phase, it is possible to measure the salient dimension of the experience: affective, sensory and cognitive. Each product can be unique based in its capacity to trigger a specific experience while having the same acceptability (overall liking) or even purchase intention.

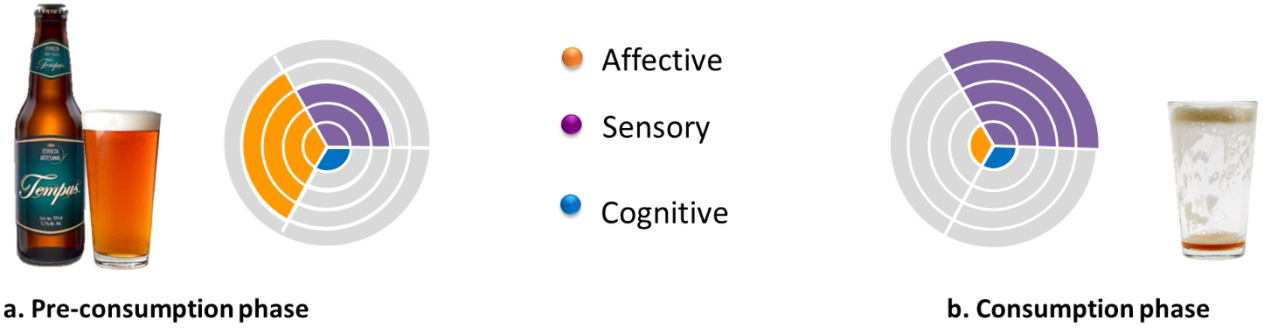

Fig. 15. Illustration of the beer drinking experience. Re-taken from Chapter 2.

By measuring the experience in this type of three-dimensional space, we believe that the experience is not a linear continuum of hedonic consumption, measured with a rating scale, we believe instead, based on the results of the study that the experience is a combination of three dimensions: sensory, affective and cognitive. It also shed more light into the difference in the experience of food and material objects, or services. For example, Guevara and Howell (2005) mention that there is a material-experiential continuum, and beer like electronic devices, music instruments, and sports equipment are often difficult to categorize as material items (e.g. purchases made in order "to have") or life experiences (e.g. purchases made in order "to do") because they share defining features of both. These "material possessions that afford new life experiences", or experiential products, may be a distinct category as they are neither terminal material items nor ephemeral life experiences. More importantly, knowing the effects of these purchases that people make to have in order to do on well-being is critical to understanding the relationship between consumer activities and happiness as well as the accuracy and boundaries of the experience recommendation (Guevara and Howell, 2015).

Instead of having material possessions and experiences at two opposite end of a continuum, Schmitt, Brakus, and Zarantonello (2015) propose to see consumption along two dimensions. One is materialisms, which are the value created for the consumer based on the perceived material and monetary aspects of the purchase and consumption. Experientialism is the value created based on the perceived experiential aspects of the purchase. In other words, consumer experiences have both materialistic and experiential components. Material goods can be bought and sold; experiences cannot (Schmitt, Brakus and Zarantonello, 2015). Taking this idea to our area of craft and industrial beer we see that both beers create an experience, industrial and craft beer do not fall at the opposite ends of a same continuum that can go from experiential consumption to functional, instead, they are different in salient dimension of the experience, whereas this dimension is sensory, affective or cognitive.

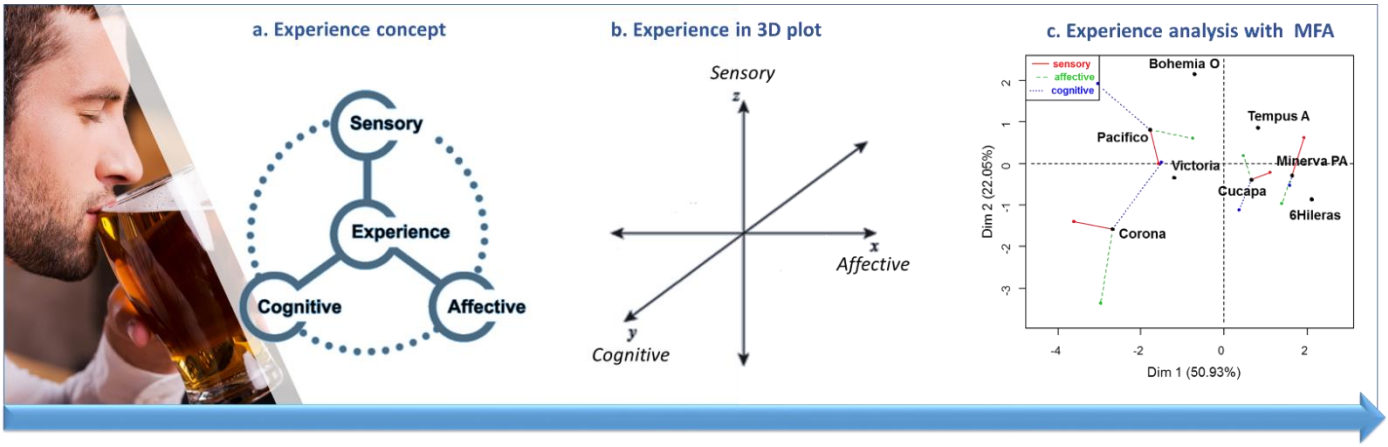

Fig. 16. Illustration of the process of measuring the drinking experience of beer passing through, a) the concept, b) Modelling the experience in 3 dimensions, and finally c) measuring and integrating the experience in statistical analysis.

To summarise, the approach of the thesis made possible to pass from the concept of experience involving three dimensions to the measurement of the experience, the modelisation in a 3 dimensional space and finally measuring and analyzing the experience of drinking with the use of a CATA questionnaire analysed with MFACT to centre the different frequency tables (in our case each dimension: sensory, affective and cognitive) on its own centroid and balances the influence of each sample in the global

analysis to prevent one table to play a dominant role (Kostov, Bécue-Bertaut & Husson, 2013, 2014). During the analysis, it was possible to identify the salient dimension and be in agreement with the previous literature (Schifferstein and Cleiren, 2005; Gentile et al. 2007; Gómez-Corona et al., 2016) that mentions that affect, senses and cognition are present in human-product interaction. Notwithstanding, the contribution of this thesis relies on the fact of the multiple factor analysis MFA approach to measuring the experience. In our approach, the experience becomes a barycentre in an MFA map defined by the sensory, affective and cognitive dimensions; this is how at the end of the five studies of the thesis we measure and define the experience of drinking.

How to measure the experience of a product from scratch? Figure 17 summarises the process step by step: 1) selection of the phrases to identify the sensory, affective and cognitive dimensions, 2) Validate that those phrases are useful for the space of products being measured, 3) measure the experience of drinking using a CATA approach, and finally 4 & 5) Analyse the data using a method for multiple tables such as MFA or MFACT. The experience of the product will be the barycentre of the three variables being measured. Additional variables can be used to measure the experience such as acceptability and purchase intention. Affects, senses and cognition can then be correlated to these additional variables, and identify which ones are responsible for product liking, and therefore contribute to the better understanding of food behaviour and choice in today's consumers.

Fig. 17. Process of the elaboration and analysis of an experience tool.

IX. Conclusions

Beer is not just a beverage, it is surrounded with attitudes, it can evoke positive or negative emotions, is used to manipulate mood (especially in women) and has a complex mental and social representation. Hence, it is an appropriate product to measure the experience of consumption.

The experiential turn that comes related to our current hyper-modern lifestyles makes it important to measure the way we experience food and beverages. It was demonstrated that the experience of drinking (and perhaps also eating) is different from the experience of material objects because food cannot be a material possession, and besides the act of drinking evoke different emotions and cognitive reactions.

To measure the experience of drinking, it is possible to take into consideration a simple CATA questionnaire to find the salient dimension that is used during the product consumption. The thesis demonstrated that it is possible to identify if the consumption of the beer relies more on a sensory dimension, cognitive or affective. The thesis also showed that products can have a similar liking but the experience is different. The five studies performed that the shape of the experience can be different if we take into consideration also the attitudes, the context, the type of consumption (individual vs. social), the habits and benefits searched in the product consumption.

Future research is needed to explore the variables involved in the eating experience, but also the drinking experience of different beverages and validate the number of variables involved in the interaction. The analysis used in the final study with the CATA questionnaire is just one approach of multiple that can be used to measure the experience and identify the salient dimensions of the experience of drinking and eating.

X. Bibliography

Abric, J. C. (1994). Méthodologie de recueil des représentations sociales. *Pratiques sociales et représentations*, 59-82.

Addis, M. and Holbrook, M.B. (2001). On the conceptual link between mass customisation and experiential consumption: An explosion of subjectivity. Journal of Consumer Behaviour 1 (1), 50–66.

Aikman, S, M., Crites, S. L. (2006). Beyond affect and cognition: Identification of the informational bases of food attitudes. *Journal of Applied Social Psychology*, 36 (2), 340-382.

Aquilani, B., Laureti, T., Poponi, S., Secondi, L. (2015). Beer choice and consumption determinants when craft beers are tasted: An exploratory study of consumer preferences. *Food Quality and Preference*, 41, 214 – 224.Addis, M. and Holbrook, M.B. (2001). On the conceptual link between mass customisation and experiential consumption: An explosion of subjectivity. *Journal of Consumer Behaviour* 1 (1), 50–66.

Anderson, Ronald D , and Engledow, Jack L , A factor analytic comparison of U S and German information seekers, *Journal Consumer Research* (March 1977) 185- 196.

Ares, G., Deliza. R. (2010). Studying the influence of package shape and colour on consumer expectations of milk desserts using word association and conjoint analysis. *Food Quality and Preference*, 21, 930-937.

Barthmoneuf, L., Rousset, S., Droit-Volet, S. (2009). Emotion and food. Do the emotion expressed on other people's faces affect the desire to eat liked and disliked products? *Appetite*, 52, 27-33.

Campbell, C. (1997) 'Romanticism, Introspection and Consumption: A Response to Professor Holbrook's, Consumption. *Markets and Culture* 1 (2): 165–73.

Canneti, L., Bachar, E., Berry, M. E. (2002). Food and emotion. *Behavioural Processes*, 60, 157 – 164.

Carú, A., Cova, B. (2003). Revisiting consumption experience – a more humble but complete view of the concept. *Marketing Theory*, 3 (2), 267 – 286.

Choi, D. Y., Stack. M. H. (2005). The all American beer: A case of inferior standard (taste) prevailing? *Business Horizons*, 48, 79 – 86.

Chollet, S., Lelièvre, M., Abdi, H., Valentin, D. (2011). Sort and beer: Everything you wanted to know about the sorting task but did not dare to ask. *Food Quality and Preference*, 22, 507 – 520.

Clarkson, J. (2008). Human capability and product design. In Schifferstein, H. N.J. and Hekkert, P. (Eds.), *Product Experience* (pp. 199 - 213). New York: Elsevier Ltd.

Csikszentmihalyi, M. (1997). Finding flow. New York: Perseus Book. In Carú, A., Cova, B. (2003). Revisiting consumption experience – a more humble but complete view of the concept. *Marketing Theory*, 3 (2), 267 – 286.

Darpy D. (2012). Comportements du consommateur. Paris: DUNOD.

Damasio, A. R. (1994). *Descartes' Error. Emotion, Reason, and the Human Brain*. New York: Avon Books.

Desmet, P. (2002). *Designing Emotions*. Unpublished doctoral thesis, Delft University of Technology.

Desmet, P. M. A., Hekkert, P. (2007). Framework of product experience. *International Journal of Design*, 1(1), 57-66.

Desmet, P., Schifferstein, H. N. J. (2008). Sources of positive and negative emotions in food experience. *Appetite*, 50, 290-301

Desmet, P. A. (2008). *Product Emotion*. In Schifferstein, H. N.J. and Hekkert, P. (Eds.), *Product Experience* (pp. 379 - 397). New York: Elsevier Ltd.

Dubet, F. (1996). *Sociologie de l'Experience*. Paris: Seuil.

Do, V. B., Patris, B., Valentin, D. (2008). Perception du vin dans la culture vietnamienne : comparaison avec la France. *6èmes Journèes du SENSOLIER*, Paris, France.

Ekman, P. (1992). An argument for basic emotions. *Cognition and emotion*, 6 (3/4), 169 – 200.

Euromonitor International. (2011). *Beer in Mexico Report*.

Euromonitor International. (2014). *Beer in Mexico*. Retrieved from Euromonitor Passport database. London: Euromonitor International.

Fischnein, M., Ajzen, I. (1975). *Beliefs, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley. Retrieved from.

Frijda, N. (2006). *The Laws of Emotions*. UK: Psychology Press.

Garber. L.L., Hyatt, E. M., Starr, R. G. (2003). Measuring consumer response to food products. *Food Quality and Preference*, 14, 3 – 15.

Gentile, C., Spiller, N., Noci, G. (2007). How to sustain the customer experience: An overview of experience components that Co-create value with the customer. *European Management Journal*, 25(5), 395 – 410.

Gilovich T, Kumar A, Jampol L. 2015. A Wonderful Life: Experiential Consumption and the Pursuit of Happiness. *Journal of Consumer Psychology* 25(1): 152-165.

Gómez-Corona, C., Escalona-Buendía, H. B., García, M., Chollet, S., Valentin, D. (2016). Craft vs. industrial: Habits, attitudes and motivations towards beer consumption in Mexico. *Appetite*, 96, 358-367.

Guevara, D. A., Howell, R. T. (2015). To have in order to do: Exploring the effects of consuming experiential products on well-being. *Journal of Consumer Psychology*, 25 (1), 28-41.

Hekkert, P., Schiffertsein, H. (2008). Introducing product experience, In: Schifferstein, N.J. and Hekkert, P. (Eds.) *Product Experience*, pp. 399-422, UK, Elsevier.

Hirschman, E. (1984). Experience seeking: A subjectivist perspective of consumption. *Journal of Business Research*, 12, 115 – 136.

Holbrook, H. B. (1987). What is Consumer Research? *Journal of Consumer Research*, 14, 128-132.

Holbrook, M.B., Hirschman, E.C. (1982). The Experiential Aspects of Consumption: Consumer Fantasy, Feelings and Fun'. *Journal of Consumer Research* 9 (2): 132–40.

Huit, W., Cain, S. C. (2005). An overview of the conative domain. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved in February 2012, from http://www.edpsycinteractive.org/brilstar/chapters/conative.pdf

Kleinginna, P.R., Kleinginna, A.M. (1981). A categorized list of emotion definitions, with suggestions for a consensual definition. *Motivation and Emotion*, 5 (4), 345 – 379.

Krippendorf, K., Butter, R. (2008). Semantics: Meaning and contexts of artefacts, In: Schifferstein, N.J. and Hekkert, P. (Eds.) *Product Experience*, pp. 399-422, UK, Elsevier.

Kostov, B., Bécue-Bertaut, M., Husson, F. (2013). Multiple factor analysis for contingency tables in the FactoMineR package. *The R Journal*, 5 (1), 29-38.

Kostov, B., Bécue-Bertaut, M., Husson, F. (2014). An original methodology for the analysis and interpretation of word-count based methods: Multiple factor analysis for contingency tables complemented by consensual words. *Food Quality and Preference*, 32, 35-40.

Labbe, D., Almiron-Roig, E., Hudry, J., Leathwood, P., Schifferstein, H.N.J., and Martin, N. (2009). Sensory basis of refreshing perception: Role of psychophysiological factors and food experience. *Psychology & Behaviour*, 98, 1-9.

Lelièvre, M., et al. (2008). What is the validity of the sorting task for describing beers? A study using trained and untrained assessors. *Food Quality and Preference*, 19, 697 – 703.

Lemaire, P. (2006). *Pyshologie Cognitive*. Bruxelles: De Boeck.

Lipovetsky G. (1983). *L'ère du Vide. Essais sur l'individualisme Contemporain*. Paris: Gallimard.

Macht, M., Dettmer, D. (2006). Everyday mood and emotions after eating a chocolate bar or an apple. *Appetite*, 46, 332 - 336.

Martens, M. (1999). A philosophy for sensory science. *Food Quality and Preference*, 10, 233–244.

Maslow, A. H., (1964). *Religions, Values and Peak-Experiences*. Columbus: Ohio State University Press.

Mejlholm, O., Martens, M. (2006). Beer identity in Denmark. *Food Quality and Preference*, 17, 108 – 115.

Morizet, D. (2011). *Le comportement alimentaire des enfants de 8 à 11 ans: facteurs cognitifs, sensoriels et situationnels*. These: Université Claude Bernard Lyon 1.

Mouret, M., Lo Monaco, G., Urdapilleta, I., & Parr, W. V. (2013). Social representations of wine and culture: A comparison between France and New Zealand. Food Quality and Preference, 30(2), 102–107.

Nield, K., Peacock, G. (1995). Competition in the U.K. beer market: further intervention in the U.K. beer market may produce a brand oriented market at the expenses of competition and consumer choice. *International Journal of Hospitality Management*, 14 (2), 103 – 106.

Oh, H., Fiore, A. M., Jeoung, M., (2007). Measuring experience economy concepts: tourism applications. *Journal of Travel Research*, 46, 119 – 132.

Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological Bulletin*, 124, 54–74.

Parr, W. V., Mouret, M., Blackmore, S.,Pelquest-Hunt, T., Urdapilleta, I. (2011). Representation of complexity in wine: Influence of expertise. *Food Quality and Preference*, 22, 647-660.

Pine, J II. B., Gilmore, J. H. (1998). Welcome to the experience economy. *Harvard Business Review*, July – August.

Pink, S. (2009). *Doing sensory ethnography*. London: Sage.

Pisqueras-Fiszman, B., Alcaide, J., Roura, E., Spence, C. (2012). Is it the plate or is it the food? Assessing the influence of the color (black or white) and shape of the plate on the perception of the food placed on it. *Food Quality and Preference*, 24, 205 – 208.

Piqueras-Fiszman, B., Spence, C. (2012). The influence of the color of the cup on consumers' perception of a hot beverage. *Journal of Sensory Studies*, 27, 324 – 331.

Porcherot, C., Delplanque, S., Raviot-Derrien, S., Le Calvé, B., Chrea, C., Gaudreau, N., Cayeux, I. (2010). How do you feel when you smell this? Optimization of a verbal measurement of odour-elicited emotions. *Food Quality and Preference*, 21, 938-947.

Ramaroson, V., Arvisenet, G., Valentin, D. (2014). Studying the nutritional beliefs and food practices of Malagasy school children parents. A contribution to the understanding of malnutrition in Madagascar. *Appetite*, 81, 67-75.

Reyna, M. C., Krammer, J. P. (2012). *Apuntes para la historia de la cerveza en México*. Mexico City: INAH.

Rodrigues, H., Ballester, J., Saenz-Navajas, M. P. Valentin, D. (2015). Structural approach of social representation: Application to the concept of wine minerality in experts and consumers. *Food Quality and Preference*, 46, 166 – 172.

Seva, R. R., Helander, M. G. (2009). The influence of cellular phone attributes on users' affective experiences: A cultural comparison. International *Journal of Industrial Ergonomics*, 39, 341-346.

Scherer, K. (2005). What are emotions? And how can they be measured? *Trends in developments: research on emotions*, 44 (4) 695-729.

Schiffertsein, H. N.J., Cleiren, M. (2005). Capturing product experiences: a split-modality approach. *Acta Psychologica*, 188, 293 – 318.

Schifferstein, H. N. J. (2009). The drinking experience: Cup or content? *Food Quality and Preference*, 20, 268-276.

Schifferstein, H. N. J., Spence, C. (2008). Multisensory product experience. In: Schifferstein, N.J. and Hekkert, P. (Eds.) *Product Experience*, (pp. 133 – 161). UK: Elsevier.

Schmitt, V. L., (1999). Hosts and Guests. Sage. London. In Walls. A. R., et al. (2011). An epistemological view of consumer experience. *International Journal of Hospitality Management*, 30, 10-21.

Schmitt, B., Josko Brakus, J., Zarantonello, L. (2015). From experiential psychology to consumer experience. *Journal of Consumer Psychology*, 25 (1), 166-171.

Seva, R. M., Helander, M. G. (2009). The influence of cellular phone attributes on users' affective experience: A cultural comparison. *International Journal of Industrial Ergonomics*, 39, 341 – 346.

Stone, H., Siedel, J. (2004). *Sensory Evaluation Practices*. EUA: Elsevier.

Sonneveld, M. H., Schifferstein, H. N. J. (2008). The tactual experience of objects. In: Schifferstein, N.J. and Hekkert, P. (Eds.) *Product Experience*, (pp. 41 - 67). UK: Elsevier.

Tavasssolli, N. T. (1998). Language in multimedia: Interaction of spoken and written information. *Journal of Consumer Research*, 25, (1), 26 – 37.

Urdapilleta, I. (2001). Introduction générale au traité d'évaluation sensorielle. In : Urdapilleta, I., et al. (Eds). *Traité d'Évaluation Sensorielle*. *Aspects Cognitifs et Métrologiques des Perceptions*, pp.XV-XXVIII. France: DUNOD.

Valentin, D., Chollet, S. Beal, S., Patris, B. (2007). Expertise and memory for beers and beer olfactory compounds. *Food Quality and Preference*, 18, 776-785.

Van Rompay, T., Hekkert, P., Muller, W. (2005). The bodily bases of product experience. *Design studies*, 26, 359 – 377.

Walls. A. R., et al. (2011). An epistemological view of consumer experience. *International Journal of Hospitality Management*, 30, 10-21.

Warell, A. (2008). Multi-modal Visual Experience of Brand-Specific Automobile Design. *The TQM Journal* 20(4): 356-371.

Wood, W., Neal, D, T. (2009). The habitual consumer. *Journal of Consumer Psychology*, 19, 579-592.

XI. Annexes – questionnaires and sessions guidelines

1. **Study 1 – questionnaire** (English version)

UNIVERSIDAD AUTÓNOMA METROPOLITANA
Casa abierta al tiempo
Unidad Iztapalapa

Habitudes & Demographics
EXPO CERVEZA

Date: ___/___/___Time: _____ in _____. Pollster name: _____

Good afternoon, my name is_____, and I am a student from UAM / UNAM. Today we are makings some interviews, and your opinion is very important for us, your answers are confidential and the information you give will only be used for academic purposes. There is no right or wrong answrs so feel free to express your own opinion.

Q1. What was the principal reason why you decided to come at this especialized beer expo?

_____

_____

Q2. Are you an alcoholic beverage consumer?

Yes..... 1 (Continue)
No ..... 2 (Thank consumer & end the interview)

Incidents: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

Q3. Which alcoholic beverage do you consume with more frequency? (Wait for spontaneous answers. Only if beer is mentioned continue with interview.)

Beer (gral)	**1** (continuar)	Schnapps	12	Sweet licquors (gral)	23
Imported beer	**2** (continuar)	Brandy	13	Martini	24
Premium beer	**3** (continuar)	Cognac	14	Anis	25
Microbrewey beers	**4** (continuar)	Ginger	15	Other: _____	S
White wine	5	Tequila	16	Other: _____	T
Red wine	6	Mezcal	17	Other: _____	U
Sprkling wine	7	Rom	18	Other: _____	V
Rosée wine	8	Rompope	19	Other: _____	W
Sweet wines	9	Sake	20	Other: _____	X
Tepache	10	Whiskey	21	Other: _____	Y
Pulque	11	Vodka	22	Other: _____	Z

Incidents: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

Q4. You mentioned beer, whichs brands do you consume with more frequency. (Wait for spontaneous answers).

1900	1	Coors	11	Guinness	21
1667	2	Corona	12	Heineken	22
Amstel	3	Corona light	13	Indio	23
Barrilito	4	Cosaco	14	Klöster	24
Beer Factory	5	Cruz Campo	15	Leon	25
Bohemia	6	Cucapá s.e.	16	Mahaou	26
Bohemia scura	7	Cucuapá: _____	17	Miller	27
Bohemia chocolate	8	Cucapá: _____	18	Minerva s.e.	28
Carolus	9	Duvel	19	Minerva: _____	29
Carta blanca	10	Estrella	20	Minerva: _____	30

Mexicali	31	Tempus Clásica	40	Tecate	49
Modelo	32	Tempus Doble Malta	41	Tecate Light	50
Modelo especial	33	Tempus Dorada	42	Victoria	51
Modelo light	34	Saporo	43	XX	52
Montejo	35	Sol	44	XX Ambar	53
Negra Modelo	36	Sol light	45	Other: _____	V
Noche buena	37	Sol limón y sal	46	Other: _____	W
Pacífico	38	St Peters	47	Other: _____	X
San Miguel	39	Superior	48	Other: _____	Y
				Other: _____	Z

Q5. Now tell me, in which days of the weeks do you consume beer with more frecuency? (Admit only one answer)

Working days (Monday to Friday)..... 1 ¿Which day? _____
Weekend (Saturday, Sonday)..... 2 ¿Which day? _____
All week..... 3

Q6. Thinking on the last day when you consumed a beer, can you tell me, where were you?

_____

_____

Q7. Where you alone or accompanied?

Alone 1
Accompanied..... 2 Sepcify: _____

Q8. ¿Which time of the day, was that last day when you consumed the beer? (Admit only one answer)

Before 11:00 am..... 1
Between 12:00 - 2 pm 2
Between 2:00 - 4:00 pm 3
Between 4:00 - 6:00 pm 4
Between 6:00 - 8:00 pm 5
Between 8:00 - 10:00 pm 6
Between 10:00 - 12:00 pm 7
After 12:00 pm..... 8
Do not know / can not remember..... 99

Q9. ¿What type of activity was you doing, when you drank the beer?

_____

_____

Q10. When you drink a beer, do you normally eat something? (Admit only one answer Yes / No, Then multiple option allowed bellow)

Yes..... a ..... (specify bellow)
No ..... b

Nuts & seends..... 1
Food in general ..... 2 .....
Salty snacks..... 3
Poultry..... 4
Fruits..... 5
Another drink..... 6
Other_____ X
Other_____ .....Y
Other_____ .....Z

Q11. How many beers do you consume in a normal week?

Q12. In which of the following places, do you usually buy a beer? (Espontaneaous and multiple answers)

Tienda de la esquina (small neighborhood store) 1	
Supermarket 2	Which_____
Convenience stores..... 3	Which_____
Price clubs (Sam's, etc)..... 4	
Specialized store / wine store..... 5	Which _____
Department store 6	Wic: _____
Other_____	X
Other_____	Y
Other_____	Z
Do not know / can not remember..... 99	

Q13. How much money do you usually spent when you buy beer(s)?

_____

_____

Q14. How much money would you like to spend when you buy beer(s)?

_____

_____

Q15. In which places do you normally consume beer? (Multiple answers)

At house..... 1
In a restaurant..... 2
In the street..... 3
At a bar 4
Sport club..... 5
In a store..... 6
At a night club 7
Friends' / familiy house..... 8
Do not know / can not remember..... 99
Other_____ X
Other_____ ..... Y
Other_____ ..... Z

Q16. In which place do you crave the most for a beer? (One answer only)

At house..... 1
In a restaurant..... 2
In the street..... 3
At a bar 4
Sport club..... 5
In a store..... 6
At a night club 7
Friends' / familiy house..... 8
Do not know / can not remember..... 99
Other_____ X
Other_____ ..... Y
Other_____ ..... Z

Q17. Which types of beer do you like the most? (Multiple responses allowed)

Type	Brand	Type	Brand
1. Regular lager		2. Brown ale	
3. Light lager		4. Indian pale ale	

5.	Premium lager	6.	Belgian / French ale
7.	Amber lager	8.	Strong ale
9.	Dark lager	10.	Altbier
11.	German pilsner	12.	Porter
13.	Bohemian pilsner	14.	Stout
15.	Classic american pilsner	16.	Weize / wheat beer
17.	Vienna	18.	Fruit beer
19.	Munich Dunkel	20.	Spice / herb / vegetable beer
21.	Bock beer	22.	Smoked flavor
23.	Ale (general)	24.	Speciality beer
25.	Cream ale	26.	National beer (mexican, not specifying)
27.	Blonde ale	28.	Imported beer (not specifying)
29.	Pale ale	30.	Premium beer (not specifying)
31.	Irish ale	32.	All types of beer
33.	Clear beer	34.	Dark beer
35.	Light beer	36.	Artisan beer
37.	Other	38.	Other

Q18. Do you know what an artisan beers / microbrewery beers is? (One answer only)

Yes..... 1 (go to next question, Q34)
No..... 2 (go to question 27)

Q19. In your own words, how could you define what an artisan / microbrewery beer is?

_____

_____

_____

Q20. Do you consume artisan / microbrewery beer? (One option allowed)

Yes..... 1 (go to next question, Q19)
No..... 2 (go to question 27)

Q21. Which artisan / microbrewery beers do you consume the most? (Multiple options allowed)

Beer Factory	5	Guinness	21	Tempus Doble Malta	41
Bohemia	6	Mahaou	26	Tempus Dorada	42
Bohemia scura	7	Minerva s.e.	28	St Peters	47
Bohemia chocolate	8	Minerva: _____	29	Other: _____	V
Cucapá s.e.	16	Minerva: _____	30	Other: _____	W
Cucuapá: _____	17	Mexicali	31	Other: _____	X
Cucapá: _____	18	Noche buena	37	Other: _____	Y
Duvel	19	Tempus Clásica	40	Other: _____	Z

Q22. You told me you consume _____ (Question XX) beers. From those beers, how many are they artisan / mirobrewery beers?

_____

_____

Q23. Where do you buy artisan / microbrewery beer? (Multiple options allowed)

Tienda de la esquina (small neighborhood store)..... 1
Supermarket..... 2 Which_____
Convenience stores..... 3 Which_____

Price clubs (Sam's, etc)	4	
Specialized store / wine store	5	Which _____
Department store	6	Wic: _____
Only at bars	7	
Other_____		X
Other_____		Y
Other_____		Z
Do not know / can not remember	99	

Q24. In which places do you consume artisan / microbrewery beer? (One answer only)

At house	1
In a restaurant	2
In the street	3
At a bar	4
Sport club	5
In a store	6
At a night club	7
Friends' / familiy house	8
At holidays	9
At the beach	10
Do not know / can not remember	99
Other_____	X
Other_____	Y
Other_____	Z

Q25. In which place do you crave the most for an artisan / microbrewery beer? (One answer only)

At house	1
In a restaurant	2
In the street	3
At a bar	4
Sport club	5
In a store	6
At a night club	7
Friends' / familiy house	8
At the beach	9
Do not know / can not remember	99
Other_____	X
Other_____	Y
Other_____	Z

Q26. How did you get to know artisan / microbrwery beers? (Multiple answers allowed)

From my family	1
From a friend	2
At a bar	3
At a restaurant	4
From the internet	5
From a beer festival / expo	6
From my significant other	7
At the univerrsity	8
Other_____	X
Other_____	Y
Other_____	Z

Q27. For how many years have you been buying artisan / microbrewery beeers? (One answer only)

Less than a year	1
1 – 3 years	2
3 – 5 years	3
5 – 7 years	4
7 – 10 yeras	5
More than 10 years	6

Before ending the interview, I will ask your personal information that will be use only for academic purpose and will not be revealed.

Q28. Socio-economic level: Counting all the lamps in your house, inlcuding the ceiling, walls and table lamps. How many do you have?

Answer	Points	SEL
0 to 5 lamps	1	E
6 to 10 lamps	2	D
11 to 15 lamps	3	C
16 to 20 lamps	4	C+
21 r more	5	AB

Q29. Age: How old are you?
Q30. In which city do you live?
Q31. Academic degree: Which is your maximum degree of studies?

Gender		Age		SEL		Nationality		City of origin		Academic degree	
Man	1	16 - 19	1	AB	1	MEX	1	MEX	1	< Primaria	1
Woman	2	20 - 24	2	C+	2		2	GDL	2	Primaria	2
	3	25 - 35	3	C	3		3	MTY	3	Secundaria	3
		36 - 45	4	C-	4		4		4	Preparatoria	4
		46 - 65	5	D+	5		5		5	Licenciatura	5
		65 +	6	D	6		6		6	Posgrado	6
Other comments / Other demographic information											

Q32. Would you be interested in participating in a beer consumer study?

Yes ..... 1 (ask contact information)
No 2

Contact information for further studies

Name: _____. Mobile number: _____

E-mail: _____. Phone number: _____

Prefer to be contact by:

E-mail 1
Mobile 2
Local phone 3

2. Study 2 – Consumer ethnography interview guideline

- -

Consumer information Interview #: _________

Name: _______________________ Age: ___________________________

Consumer type: _______________ Another cohort: ___________________________

- -

Introduction (3 min)

Interviewer will present himself and then explain the work he is doing at the University, as a researcher in the food & beverages domain. Explain to the participants the subjects that will be treated during the interview. Clarify to the participant that the information will be treated as confidential, and there is no wrong or write answer.

Study will be divided in 2 phases:

Phase	Characteristics
1	Individual interview at home
2	Interview in a social context (reunion with friends, bar, etc.)

Life style (5 min)

- What's your name? How old are you?
- What do you do for a living?
- Tell me… How is a normal weekday for you?
- Does it change something towards weekend?
- What do you do in your free time?

Family / mate life (5 min)

- Who lives at home with you?
- Who has more responsibility over the expenses? Do you buy yourself the foods and beverages consumed at home?
- Do you eat at home or out of home? What change when you eat AH or OOH?

Food and beverages consumption habits (10 min)

- How would you grade or label the consumption habits you have? Why?
- How is the food that you consume? Could you define it with one word? (E.g. Healthy, fast food, traditional, etc.).
- Do you like it? Would you change / preserve it?
- Which are the types of food that you like the most?
- Where do you consume those products? Why?

- What about beverages? Which types of beverages do you like the most?
- How often do you consume them?

Beverages zoom in (10 minutes)

- What about alcoholic beverages? How often do you consume them?
- Do you consume them in home, or out of home?
- Where do you buy them? Who is responsible in the house for buying the alcoholic beverages? Why?
- Are there beverages for special days or occasions? For example what types of beverages do you consume in weekdays vs. weekend?
- Are there beverages for you and beverages for others?
- Which is the alcoholic beverage that you consume the most?
- So, if I say (the alcoholic drink mentioned) what is the first thing that comes into your mind?

Beer moments and consumption occasions / benefits (15 min)

- What about beer (ask if beer has not come out spontaneously)?
- Repeat previous exercise if beer was not mentioned: If I say beer what is the first thing that comes into your mind?
- When do you consume beer? Does it change from weekday to weekend?
- Is there a special time to take a beer?
- Do you consume more beer in home / out of home?
- When was the last day you consumed a beer? Tell more about it…
- Which type of beer do you like more? Which do you consume more often?
- You mentioned previously (at recruitment) that you liked artisan beer? How long have you been consuming artisan beer?
- Why do you like artisan beer?
- What makes it different from other beers (industrial)?
- In a few words, how could you describe artisan beers? Industrial beers?
- Where do you consume more often artisan beer? Have you noticed/think why?
- Which type of artisan beer/brands do you consume more often?

Consumption type: individual vs. social (5 min)

- And when you consume artisan beer are you usually alone, with friends….?
- When is the time to drink artisan beers?
- Where is the place to consume it?
- Is it a type of beer to share? To take to a party/reunion?
- Which else consume artisan beer at your home? Which else that you know?
- When do you crave the most for an artisan beer?
- What about the time of the year? Do you crave/consume more when it's cold, hot…
- Does it changes when you're travelling, vacations?
- Is there a special place to drink artisan beer?

Tour to the fridge, pantry-check and house-bar {if applicable} (10 min)

Ask participant if we can have a little tour to her/his fridge. Have a good look at the products related to alcoholic drinks (sodas, energetic drinks, ice, etc.). Make pantry check for alcoholic drinks as well as the house-bar and analyse the products stored and the glassware.

- So…where do you usually store your alcoholic drinks and beers?
- Is there some product missing? When was it finished? And when do you think you're going to buy it again?
- Do you usually buy the same products/brand/presentation? Why?
- Is there special glassware for this product/type of product?
- Do you have a special place for beers? Beer glassware?

Conclusions (5 minutes)

…

3. Study 3- Focus group session guideline

- -

Consumer information Session #: _________

Target: ____________ Day: _____________ Hour: ________________________

- -

Information contained in the guideline is topics not closed questions.

This is not a structure necessarily in sequence.

During the conversation, the topics will be investigated in order but privileging the natural flow of the conversation so that certain content may appear before or after the structure proposed.

In the focus group there must be at least 6 participants, and maximum 8. Consider at recruitment.

Introduction / Rapport (5 min)

- Thanks for coming…
- Presentation of the focus' dynamics
  - No good bad answers…., everybody can talk, and we are here to share what is to drink beer. I do not work for any brewery or bar, so you can freely speak out your mind.
- Order beer with waiter
  - We can invite you two beers, can you please write at the back of the menu the beer you like, and after we can ask for the next one. Give menu and then give it to the waiter.
- Participants presentation
  - Here is a sticker with your name. Can you tell me a little about you, what do you do, where do you work? Anything you like to share… like what beer you just ordered?

Introduction to the category (5 - 10 min)

- Tell me, what you usually drink. For example in a normal day like… today?
- What do you drink during weekends?
  - Does it changes from weekdays?
  - Does it change in special occasions? Like which one?
- What about beers. Explore consumption habits:
  - Which types of beer do you consume? Brands, styles, etc.
  - How often? Where do you buy it? Consume it?
  - Which beer do you do not like? (spontaneous)
- What's beer for? Why drinking it?
  - Explore craft vs. industrial (if spontaneous)

- Make them rationalize answers like just to drink or enjoy…
- What's beer good for (functional benefits)? And bad for?

Sorting task exercise (10 min)

- Here you have a set of 30 images with 30 different beers. Please look at them and sort them. You can sort them anyway you like, and make as much as groups as you want (min 2 max 29).
- Give participants post it's and ask to categorize each group they made.
- Does someone wants to share with us, how he/she group the images?
  - Ask why, whenever vague answers are given.
  - While the participant is sharing his sorting task, the assistant should take pictures of the sorting tasks.

Industrial beers	Craft beers
1. Corona	1. Minerva Pale Ale
2. Indio	2. Cucapá miel
3. Victoria	3. Tempus clásica
4. Leon	4. Tempus doble malta
5. Bohemia	5. Calavera Mexican Imperial Stout
6. Modelo	6. Minerva Imperial Stout
7. Heineken	7. St Peters Stout
8. Negra Modelo	8. Calavera American Pale Ale
9. Pacífico	9. Tempus dorada
10. Tecate	10. Jack
11. Bohemia oscura	11. Patricia
12. Guinness	12. Cucapá chupacabras
13. Carolus	13. Alebrije
14. Sol	14. 7 Barrios
15. Nochebuena	15. Ramuri

Note: These beers came out in the habits of consumption test, Annexe 1.

Product experience / Drinking experience (20 min)

- Know that we did this exercise; let's talk about what it is to drink beer…
  - Have you thought on what makes you enjoy beer? Why?
  - What makes you don't enjoy beer? Why?
  - What do you like the most about beers? And least?
  - Are there special reasons to drink beer?

- And if we talk **about senses**, what's more important? The taste, the colour, appearance, the smell…? (wait spontaneous answers)
  - You enjoy beer more with which sense? For example…?
  - Do you use all your senses (multisensory)?
  - Does it happen the same with other beverages? Like which? How?
  - What about the beer temperature? Does it make it different?
- What do you **think** when you drink a beer?
  - Do you think in the product itself? On what?
  - Do you read the labels for example?
  - Do you like to know more about beer? (like reading, search information… wait spontaneous answers)
  - Do you find interesting to drink beer? Are there other beverages that you find interesting?
  - What do you think about new beers? Do you have curiosity to try them?
  - How much does a previous experience influence what you think of beers?
  - What about your memory, do you remember how several beers taste like?
- And talking about the way you **feel**, what do you feel when you drink a beer?
  - Is it relaxing or stimulant? In which sense?
  - Does it happen the same with other beverages?
  - Is it a special mood to drink beer?
  - What beer excites you? Why?
  - Do you find it funny/amusing to drink beer?
- What's more important to enjoy your beer: the taste, what you think or what you feel?
- Do you have a certain types of expectations towards beers? For example…?
- Talking about the moment you buy beer, is it important for you? Why?
- And store beer is it important? Why?
- Can you have the same experience with another product? Why?

Factors influencing product experience (10 min)

- What makes you enjoy more your beer? And less?
- How do you drink your beer? Direct from the bottle, in cups? Why?
  - What happens if you drink from the bottle? Do you enjoy it more/less?
  - What happens if you drink from a cup? Do you enjoy it more/less?
  - If you do not drink it like you like (cup or bottle) would you enjoy it less? Why?
- Do you like beer to be the same all the time? For example X brand taste the same all the time? Why?
  - What happens if the product changes a little?
  - Is it good / bad? (Product heterogeneity for CRAFT BEER)

- Are there special places to drink beer?
  - Do you enjoy beer more in some places?
  - Do you crave more for beer in special places? Why
  - Do you consume more beer in certain time of the year? Why?
- Do you drink more alone or accompanied?
  - Do you enjoy the product the same? Why?
  - How do you think drinking with someone else, influence the way you feel/enjoy your beer?
  - Which is the beer moment? Why?

Attitudes towards beer (5 min)

- What do you think about Mexican beers?
  - Are they good / bad?
  - What else do you think? Why
  - Does that_____(x attribute) makes you enjoy more/less your beer?
- What do you think about imported beers?
  - Are they good / bad?
  - What else do you think? Why
  - Does that_____(x attribute) makes you enjoy more/less your beer?

Closing and final comments (3 – 5 min)

- I think we have finish. Do you have something else to share? A question?
- Thank you very much for your time and all your opinions.
- Anything else…
- End of session

Min time expected: 75 min **Max time expected: 100+ min**

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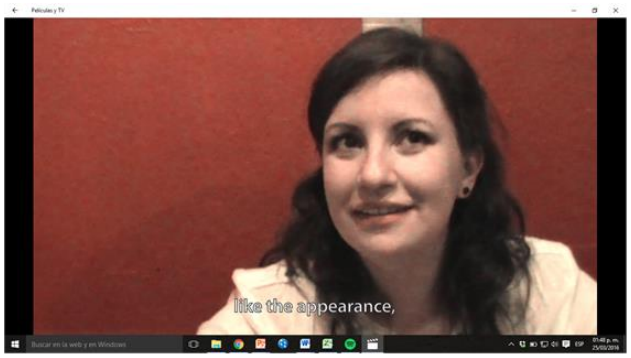
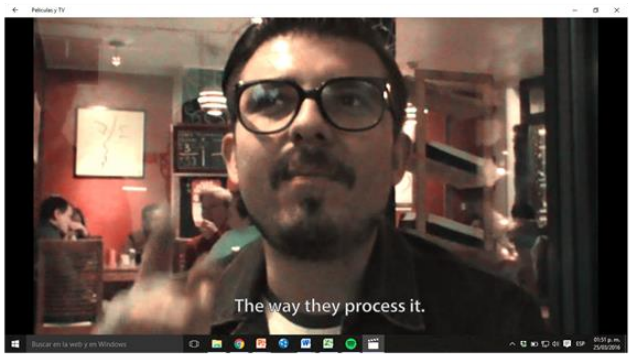
4. [multimedia annexe] **Study 2 – consumer ethnography video edited to fit the poster**

The complete **video** can be found in the following YouTube link: https://youtu.be/kQv0x8rll4U

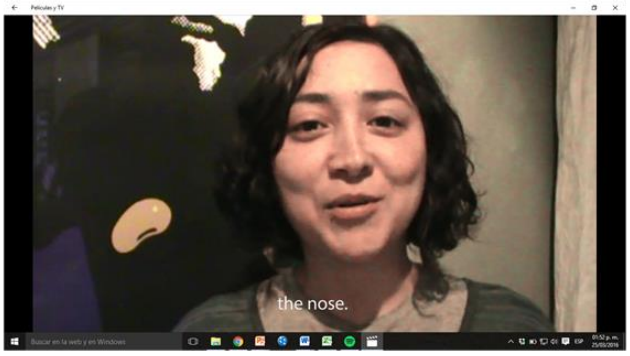
Screenshot 1. Craft men consumer – age 30's.



Screenshot 2. Craft women consumer – age 30's.

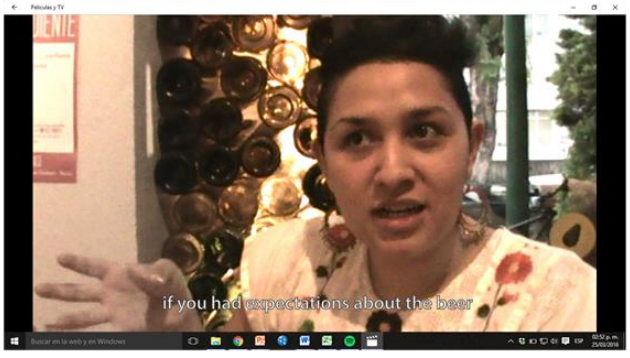


Screenshot 3. Craft men consumer – age 20's.



Screenshot 4. Craft women consumer – age 20's.

Screenshot 5. Craft men consumer – age 30's.



Screenshot 6. Craft women consumer – age 20's.