A thousand ways to say 'Delicious!'—Categorizing expressions of deliciousness from restaurant reviews on the social network site Yelp

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ABSTRACT

This study explored expressions of deliciousness—one of the main reasons people make specific food choices over others—from restaurant reviews on Yelp, a popular social network site. Through qualitative content analysis of 205 reviews from 41 food establishments in Hawaii, we found 8 main categories of expressions of deliciousness. These eight main categories created by both concept-driven and data-driven strategies are Sense, Culinary Affair, Matter of Heart, Health, Testimonial and Endorsement, Personal Signature, Consumer, and Restaurant. Each main category was further subcategorized. This meaningful categorization might contribute to healthier eating by helping policy makers and food companies craft effective strategies for healthy eating schemes, healthy menu items, or healthy food products. Marketers of any food product can also increase their market share by utilizing these categories, subcategories, and their underlying concepts in the planning stage. Detailed examples of nudging and social marketing campaigns inspired by our findings were provided. Moreover, social network sites can better serve health conscious and hedonic consumers by personalization through improved algorithms inspired by these categories.

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1. Introduction

There are many factors involved in a complex process of making a single food choice (Furst, Connors, Bisogni, Sobal, & Falk, 1996). Since food selection is primarily motivated by sensory properties detectable in foods such as color, aroma, flavor, and texture (Kittler, Sucher, & Nelms, 2011), emphasizing nutrients alone is not the most effective way to persuade people to eat healthy (Raats, 2014).

There is so much potential in retrospective studies of consumers' dining behavior in an unobtrusive manner. Online restaurant reviews leave digital footprints that provide an unambiguous recording (Golder & Macy, 2014) and restrain the potential for observer effects (Zizzo, 2010). Our study aims to explore deliciousness expressed in different ways on the social network site Yelp. As of March 2015, Yelp ranked 35th among top sites in the United States and is the first of its kind (Alexa, n.d.). Its strong prominence is a clear reason why Yelp was chosen for this study.

We hope to contribute to the ontology of deliciousness that can inspire strategy and execution for marketers and planners, the understanding of food pleasure and nutrition, insights into the construction of food preferences in today's networked world, and improvement of social network sites' algorithms.

1.1. Food reviews on Yelp.com

Yelp was founded in 2004 to help people choose local businesses based on social networking functionality and reviews. It is considered a social network site, which belongs to the realm of social media (Ariyasriwatana, Buente, Oshiro, & Streveler, 2014). To write a review on Yelp, an individual must sign up and provide a star rating along with an open-ended comment (Park & Kim, 2008). Yelpers can add friends; send compliments; send messages; follow a reviewer; see reviews similar to the ones they wrote; find events; see lists that other Yelpers created; participate in talk, a forum where conversations happen; become Yelp Elite, a status gained through authenticity, contribution, and connection (Yelp, 2015b); and vote a review as useful, funny, or cool. As of Q1 2015, Yelp had approximately 142 monthly unique visitors and 77 million local reviews (Yelp, 2015a).

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Extracting expressions of deliciousness from Yelp is an innovative approach. Despite Big Data being criticized for their representativeness, objectivity, accuracy, quality, and context-sensitivity (boyd & Crawford, 2012); we see great potential of Yelp restaurant reviews as valuable insights repository. Yelpers have the freedom to write and publish reviews as long as it is within the ideology of consumption restricted by architecture of the site. Compared to other social network sites, Yelpers tend to suffer less tensions (a) from balancing personal authenticity and audience expectations (Kuehn, 2013), and (b) from concealing and revealing information in the phenomenon of "context collapse" (boyd, 2008; Lewis & West, 2009; Marwick & boyd, 2011; West, Lewis, & Currie, 2009). There were about 16 percent of fraudulent restaurant reviews on Yelp (Luca & Zervas, 2013), which were publicly filtered out by Yelp's algorithm (Mukherjee, Venkataraman, Liu, & Glance, 2013). Even though reviews on Yelp are written by a particular group of consumers, they still reflect and shape how people in society make food choices.

Empirical data demonstrated that Yelp restaurant reviews affected consumers' food choice decision-making; a one-star increase led to 5–9% increase in revenue of independent restaurants (Luca, 2011). Hicks et al.'s (2012) study revealed that the strongest motive for using Yelp.com is information-seeking. Parikh, Behnke, Vorvoreanu, Almanza, and Nelson's (2014) study found socializing (community membership) along with information-seeking (finding good restaurants) as main reasons for engaging with Yelp.com.

It is essential to consider motivation for contributing reviews to Yelp.com. Yelpers altruistically wrote reviews to share experiences with others and help others with their own positive experiences (Parikh, Behnke, Vorvoreanu, Almanza, & Nelson, 2014). Writing reviews on Yelp could be considered a creative activity, in which it empowers users via self-improvement and self-expression (Kuehn, 2011). Vasquez's (2014) discourse analysis identified the five most frequent adjectives on Yelp restaurant reviews: good, great, happy, delicious, and fresh. The site's core values—being useful, funny, and cool—were a possible reason for the informative and entertaining nature, frequent slang expressions, and the appropriation of advertising discourse of Yelp reviews (Vasquez, 2014).

Perhaps we can compare food reviews on Yelp.com to food communication. Within the realm of food communication, food advertisement and food labeling contribute to the perception of deliciousness. Chandon and Wansink (2012, p. 574) stated "food communication influences food perceptions and preferences often beyond volitional control and sometimes outside conscious awareness." Elder and Krishna (2010) study revealed that multisensory advertisement for food product affected taste perception in a higher degree than advertisement that focused only on taste. Food or nutrition labeling is "no longer viewed simply as an information tool to ensure honest commerce, but as a health promotion tool and, for the global food industry, a marketing tool" (Hawkes, 2010, p. 55). A noteworthy finding by Liem, Aydin, and Zandstra (2012) suggests that labeling food as healthy may damage taste perception. This is consistent with Raghunathan, Naylor, and Hoyer's (2006) finding that people unconsciously equate unhealthy food with tastiness. Food labeling is comparable to reviews on Yelp since both set expectations for the deliciousness and healthiness of the experience to come.

1.2. Previous knowledge that help in building coding frame (concept-driven strategy)

The coding frame of this study was built from a combination of data-driven and concept-driven strategies. Delicious food, in traditional definition, unavoidably involves sensory perceptions. From reading through the reviews before the coding stage, we found that (a) there is co-occurrence between discussion of cooking and evaluation of sensory perception; (b) nonfunctional aspects such as emotions, moods, and emotions play an important role in relationships between food and consumers; and (c) deliciousness can be expressed through language as well as nonverbal cues. These served as guidance for the following literature review that is useful for building the coding frame.

1.2.1. Food and sensory perceptions

Conventional meaning of delicious involves pleasing sensory perceptions (Agnes & Guralnik, 2009). There are five tastes: sour, sweet, salty, bitter, and umami (Ikeda, 1909, 2002). Noble (1996) found that aroma and taste stimuli interacted most strongly when the associations were logical, such as the interaction of fruity aroma with sour or sweet taste. Texture and mouthfeel were found to be "major determinants of consumer acceptance and preference for foods and beverages" (Guinard & Mazzucchelli, 1996, p. 213). Saint-Eve et al.'s (2011) study revealed that texture influenced aroma and taste perception. Flavor—an experience resulting from complex combination of smell, texture, and taste (Harvard Medical School, 2011; International Organization for Standardization, 1992)—is a widely accepted criterion in evaluating food. There have been numerous discussions about compatible flavors (Ahn & Ahnert, 2013; de Klepper, 2011; Page & Dornenburg, 2008; Segnit, 2012). Visual stimuli affect taste perception (Koch & Koch, 2003; Ndom, Elegbeleye, & Ademoroti, 2011; Ohla, Toepel, Le Coutre, & Hudry, 2012). North (2012) found that audio stimuli affected taste perception as well.

1.2.2. Cooking

A topic relevant to deliciousness that might come up frequently in food and restaurant reviews is cooking. Lehrer (1969, p. 40–41) described three levels of generality of the word "cook": "preparing a meal," the preparation of non-pastry foods, and "the application of heat which produces irreversible change in the object (food) cooked." Klosse (2013, p. 128) discussed characteristics of numerous principal techniques in cooking such as steaming, microwaving, marinating, and very cold cooking (liquid nitrogen and other molecular novelties).

1.2.3. Moods, emotions, feelings, and food

"Humans' relationships with food and eating are subject to the most powerful emotions experienced in any context" (Lupton, 1996, p. 34). According to Lupton (1996, p. 36), selecting and eating food are "intensely emotional experiences that are intertwined with embodied sensations and strong feelings."

Mood and food choice intricately interact with each other (Gibson, 2006). Platte, Herbert, Pauli, and Breslin (2013) found that anxiety and depression affected the way people perceive taste and, consequently, their food choices. Macht (2008) identified five classes of emotion-induced changes of eating. Cardello et al.'s study (2012) revealed that different food names created different emotions and levels of emotion, e.g., "chocolate" generated many more types of emotions with higher ratings compared to "oatmeal" and "carrots."

1.2.4. Verbal expressions of deliciousness

The study of language and food uncovers insights of deliciousness. Ohashi's (2010) web-based survey revealed trends in Japanese expressions associated most strongly with tastiness. There were three categorizations of expressions: flavor, texture, and information. Texture terms were used most often—five of the top ten expressions—and majority of them were onomatopoeia. Noda's

(2014) analysis showed that the expression Oishii, meaning tasty, was rarely used alone in spite of being the dominant evaluative expression. There have been semantic shifts in the way Japanese people in contemporary society express positive reaction to food in a social setting: they do so by stating that X (a food item) has 'flavor of X' or mentioning that it is 'ordinary X' along with "overtly positive evaluative elements" (Noda, 2014, p. 96).

1.2.5. Nonverbal communication

Nonverbal communication can be found in virtual worlds as well as in real life. Parker, Grace, and Martin (2010) reported that emoticon, all capital letters, acronyms, and exaggerated spellings are used to compensate for the lack of nonverbal and visual cues in online interactions. O'Neill's (2010) study revealed that onomatopoeic expressions and emoticons in computer-mediated communication (CMC) are comparable to nonverbal cues in face-to-face communication. Bielman, Putney, and Strudler (2003) found techniques that community members of a virtual classroom use to compensate for the missing conversational cues: emotes, emoticons, capital letters, acronyms, exaggerated spelling, inferring a voice inflection, splitting message, explaining action in message, punctuation indicating pause or end of thought, and direct message to an individual. In the study of paralinguistic communication and phatic text, Schandorf (2013) identified various new media gestures—the imagistic, expressive, and emblem gestures are applicable to Yelp reviews.

1.2.6. Health trends in eating out

On-the-go lifestyles are associated with having more meals outside of home, a type of meal that is notoriously known for higher calorie intake (Todd, Mancino, & Lin, 2010). However, the health awareness in American consumers has been increasing and restaurants have been responding to it. The National Restaurant Association (2014) found that 71% of adults were trying to eat healthier at restaurants by ordering more healthful dishes than they did in 2012 while 86% of adults confirmed that there were more healthful options at restaurants. The top culinary trends NRA identified for 2014 were children's nutrition, gluten-free cuisine, and health/nutrition. Other popular menu trends are whole-grains, local sourcing, lower-sodium food, fruit/vegetable side dishes for kids, lower-calorie items, and smaller portions for a lower price (NRA, 2014).

Nevertheless, relations between consumers and healthy foods are never simple. Once they believe a menu item is healthy, they consume it in a larger quantity (Provencher, Polivy, & Herman, 2009). Also, customers have a tendency to choose higher-calorie drinks, side dishes, or desserts when they think the main dish is healthy (Chandon & Wansink, 2012). Moreover, the Center for Consumer Freedom (CCF)—a lobby for the restaurant, food, beverage, and alcohol industry—undermined healthiness or an advocate for good nutrition (Simon, 2006) by distortedly portraying all-American values and the way consumers perceive foods with its definition of consumer freedom: "the right of adults and parents to choose how they live their lives, what they eat and drink, how they manage their finances, and how they enjoy themselves" (CCF, 2014).

1.3. Hawaii as a context for this study

People from different cultures relate to food in different ways (Rapaille, 2007); therefore, a place filled with people of various cultures and cuisines from around the world is our ideal context for this study. Hawaii is one of the most multicultural locations in the United States. Since 1980, together with the District of Columbia, their populations have been plurality—in which there is no single ethnic group as a majority (Kittler et al., 2011).

Marked by harmonious ethnic relations and an egalitarian perspective, Hawaii's multicultural model can be symbolized by Okazuya (Japanese American delicatessens serving a mixture of ethnic foods) and the image of the "mixed plate lunch" (Yano, 2006, p. 39). This is similar to what the publisher of the book What Hawaii Likes to Eat describes, "If it's true that we are what we eat, then Hawaii is a genuine melting pot where people meld customs and share traditions on plates full of kimchee, adobo, scalloped potatoes, and a side of rice" (Miura & Shimabukuro, 2007).

Computer ownership and high-speed Internet use for individuals in Hawaii were statistically higher than national averages—91.4% versus 88.4% and 83.3% versus 78.1%, respectively (File & Camille, 2014). However, reviews from individuals that do not live in Hawaii were also analyzed as long as the reviews were about restaurants in Hawaii. Insights from locals and tourists illustrated expressions of deliciousness in a great variety.

1.4. Pleasure in eating out

It is the human nature to enjoy the process of satisfying survival needs (Anderson, 2014). Nature makes sure that the human race continues by allowing us to have fun during sex (Diamond, 1997) and perceive deliciousness while eating.

There are different types of pleasures that are related to food. Food itself can be viewed as a pleasure-giving substance (Lupton, 1996). For many people, cooking and eating are considered pleasure—an entertainment consisting of social enjoyment and sensory celebration (Heldke, 1992). Adults find pleasure from consuming foods that require sophisticated palate such as alcohol, chili, and coffee (Lupton, 1996). Pleasure we get from food does not always come from taste or texture. It can be from sight. The term 'food pornography,' coined by Coward (1984, p. 103), indicates pleasure derived from seeing "perfectly finished and presented food."

Mol (2009) viewed pleasure of consumption and the ethic of asceticism as a continual dialectic in which one makes the other meaningful. However, asceticism also brings pleasure—particularly in medieval religious thought (Bynum, 1987). Lupton (1996) suggested that fasting and dieting can be a source of pleasure for the modern self and concluded that pleasure from food includes both adhering and erring from self-control.

Healthily attractive body resulting from appropriate diet enables the body to be the "vehicle of pleasure and self-expression" (Featherstone, 1991, p. 170). This view directly links nutrition and pleasure together, even though the pleasure is not from sensory perceptions derived from the consumption of food. Furthermore, Mol (2009) found that nutrition can go hand in hand with food pleasure.

There seem to be a definite link between dining out and pleasure. There are various pleasures from eating out ranging from traditional hedonism (Campbell, 1987) to modern urban pleasures (Martens & Warde, 1997). Restaurants are regarded as the spaces where hedonistic self-indulgence tend to take place (Lupton, 1996). Food from restaurants brings pleasure of discovering new cuisines not previously experienced at home (Lupton, 1996). Moreover, memories from experiences at restaurants are often filled with happiness, relaxation, romance, and excitement—making them consistent to the ideal conception of eating out as an event that is pleasurable (Lupton, 1996). Nevertheless, dining out might occasionally lead to disappointment and embarrassment since expectations for the experience are higher than having a meal at home due to association with special occasions and sophistication of a meal "prepared by culinary experts who are paid for their efforts" (Lupton, 1996, p.104).

A dining out experience may be viewed as the commodification

of emotions (Finkelstein, 1989) or "a welcome alternative to the privatisation of social life" (Martens & Warde, 1997). Choices made while dining out may be regarded as "a public demonstration of an individual's possession of both economic and cultural capital" or "a sense of taste" (Lupton, 1996). We will discuss taste as food preference in the next section.

1.5. The construction of food preferences

Food preferences cannot be explained from the physiological experience alone (Milne, 2013). Besides the functionalism (Brillat-Savarin, 1826), we might try to understand the construction of food preferences through social distinction (Bourdieu, 1984), social worlds theory (Gronow, 2004), a theory of attachments of the amateur (Hennion, 2005), and consumer-citizen point of view (Mol, 2009).

1.5.1. Taste as social distinction

Bourdieu (1984) proposed that judgments of taste (including preferences for food) are themselves acts of social positioning, especially good taste is expressed by the elite class who try to differentiate themselves from the rest through their taste in food. The tastes of such elite group then become aspiring for the middle classes. He stated that taste or cultural needs are the result of education and upbringing (Bourdieu, 1984). Le Magnen's (1987) study also revealed that palatability, a concept that is very relevant to deliciousness, is learned. Decisions we make when eating out build our sense of identity as well as reveal our information to others. Furthermore, by looking at food as a cultural product, Bourdieu (1984) made a remarkable comparison:

And statistical analysis does indeed show that oppositions similar in structure to those found in cultural practices also appear in eating habits. The antithesis between quantity and quality, substance and form, corresponds to the opposition—linked to different distances from necessity—between the taste of necessity, which favours the most 'filling' and most economical foods, and the taste of liberty or luxury—which shifts the emphasis to the manner (of presenting, serving, eating, etc.) and tends to use stylized forms to deny function. (p. 6–7)

Johnston and Baumann (2007, p. 217) contended that Bourdieu's analysis of taste in regards to social classes is "less relevant in contemporary, pluralistic societies." Nonetheless, they found Bourdieu's description of exclusivity remained valid—with new forms. Meritocracies strategically display their status in cultural omnivorousness through two frames used to valorize foods: authenticity and exoticism (Johnston & Baumann, 2007). After all, the signification of elite gatekeeper—with substantial cultural and/ or economic capital—continues.

1.5.2. The social worlds of taste

Gronow (2004, p. 38) employed a social world perspective "to analyse the emergence and functioning of diverse and independent socially shared aesthetic standards and etiquettes." Even though modern consumers are free to make their own choices, there are some semi-objective "aesthetic schemes, codes or guidelines of taste which help us to evaluate and choose specific objects of consumption" (Gronow, 2004, p. 45). Gronow (2004) discussed four types of involvement—building on Unruh's (1979; 1980) typology—in any social world: the insiders, the regulars, the tourists, and the strangers. We will later discuss how Yelp users can be explained by this typology.

1.5.3. Taste as explained by the theory of attachments of the amateur

Hennion (2007) viewed taste as a reflective activity, or collective technique, of an amateur. He viewed taste as corporeal activity and social practice (Milne, 2013). Since amateurs do not believe that things have taste, they put taste to test—in which they have to rely on the properties of objects and "individual and collective determinisms of attachment, as on the techniques and devices necessary in a situation for things to be felt" (Hennion, 2007, p. 98).

According to the theory of attachments, basic elements mobilized by any attachment are "the community of amateurs, the devices and conditions of tasting, the body that experiences, and the tasted object" (Hennion, 2005, p. 137).

1.5.4. Good taste as the embodied normativity of the consumer-citizen

Mol's (2009) study of food packages revealed the way bodily pleasure was shaped in socio-material practice, especially between (a) pleasure and health, and (b) pleasure and fairness—what she termed "Healthy and Yummy" (p. 271) and "Fair and Delicious" (p. 274), respectively. She found that (a) nutritious food can go hand in hand with pleasure, and (b) fairness[1] can likewise go hand in hand with pleasure. Moreover, she noted that we need to experience foods and drinks that taste extraordinary in order to discern and appreciate foods and drinks. To cultivate the ability to taste requires more than tasty foods and drinks, "good table companions and a spirited conversation about the meal" (Mol, 2009, p. 278–279) is essential as well.

1.6. Research question

What are categories extractable from Yelp reviews of popular restaurants in a multicultural food scene Hawaii that can be considered expressions of deliciousness?

2. Material and methods

Qualitative content analysis is the methodology most suitable to answer our research question. Kracauer conceptualized this methodology (Groeben & Rustemeyer, 1994). He criticized a purely quantitative content analysis and suggested a shift of emphasis from quantitative to qualitative procedures for the development of communications research (Kracauer, 1952) so that "it does not limit itself to manifest content and frequency counts" (Schreier, 2012, p. 13–14). Qualitative content analysis deals with both manifest and latent meanings, which are interpreted in various depth and level of abstraction (Graneheim & Lundman, 2004). Schreier (2012, p.1) defined qualitative content analysis as "a method for systematically describing the meaning of qualitative material. It is done by classifying material as instances of the categories of a coding frame." For this study, we basically followed the process proposed by Zhang and Wildemuth (2009).

2.1. Population

The population under investigation is Yelpers (review contributors) who registered for Yelp accounts and have written reviews for food establishments in Hawaii.

2.2. Sampling

We purposively selected 205 reviews from 41 restaurants that

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[1] E.g., the Fair Trade label.

Table 1
Sampling.[3]

National/Cultural cuisines	Restaurants
Hawaiian	1) Helena's Hawaiian Food, 2) Waiahole Poi Factory, 3) Candi's Café, 4) Hawaiiana Café & Sushi, 5) Haili's Hawaiian Foods, 6) Waikiki Beachside Kitchen, 7) Maui Kitchen, 8) Atkinson Grill
Japanese	1) Shirokiya, 2) Sushi Sasabune, 3) Tokkuri-Tei, 4) Your Kitchen, 5) Sushi Izakaya Gaku, 6) Tonkatsu Ginza Bairin, 7) Asuka Nabe + Shabu Shabu
American	1) Liliha Bakery, 2) Side Street Inn, 3) Home Bar & Grill, 4) Lewers Lounge, 5) Ray's Café, 6) Joe's Grill Express
Chinese	1) Char Hung Sut, 2) Golden Eagle Chinese Restaurant, 3)Hong Kong Noodle House, 4) Sweet Home Café, 5) Libby Manapau Shop
Korean	1) Gina's BBQ, 2) Million Restaurant, 3) Ah-Lang Restaurant, 4) 678 Hawaii, 5) So Gong Dong
Italian	1) Amena Pizzeria, 2) Bruno's Forno, 3) Formaggio
Thai	1) Bangkok Chef, 2) Siam Garden Café, 3) Thai Issan Cuisine
Vietnamese	1) The Pig & The Lady, 2) Pho Bistro 2
Fusion	1) Alan Wong's Restaurant, 2) Hiroshi Eurasian Tapas

offer various kinds of national/cultural cuisines on http://www.yelp.com/honolulu. On August 8, 2014, we used a search term "X food" in which X was an adjective of a country's name, e.g., Japanese, Chinese, and American. "Hawaiian food" and "Fusion food" were added since Hawaii is the context of this study and fusion food is the result of combing foods from different cultures. We represented the domination in Hawaii's food scene by including only national/cultural cuisines with more than 100 restaurants.

Then, for each type of restaurant (that offers different national/cultural cuisines), we selected the "Highest Rated" filter to get only restaurants with 5 or 4.5 stars. Within these restaurants, we randomly selected only from the ones that have more than 50 reviews.[2] Types of restaurants for our study are Japanese, Chinese, Korean, American, Thai, Vietnamese, Italian, Hawaiian, and Fusion. The amount of restaurant for each type was determined from the number of existing restaurants; 1 restaurant per 200 existing restaurant and 1 restaurant for a type of restaurant with less than 200 but more than 100. See Table 1 for sampling.

For each restaurant, Yelp showed Recommended Reviews as a default. We assumed that there should be more expressions of deliciousness in reviews with higher star ratings compared with lower star ratings.We clicked at Rating to get reviews with 5 stars (highest star rating one can give in Yelp review), then we randomly selected 5 reviews with 5 star ratings from the first two pages (most recent) since "previous studies have discovered that consumers typically pay attention to only those reviews listed on the first two page" (Racherla & Friske, 2012).

2.3. Unitizing

There are different types of unit. Sampling units are "units that are distinguished for selective inclusion in an analysis…ideally in a way that acknowledge natural boundaries" (Krippendorff, 2012, p. 99—100). For this study, each review represents a sampling unit. A unit of analysis—"the entity on which the interpretation of this study will focus" (Boyatzis, 1998, p. 62)—in this study is also a review. Units of coding are "units that are distinguished for separate description, transcription, recording, or coding" (Krippendorff, 2012, p. 100). Units of coding for this study are individual themes. When using theme as the coding unit, researchers are primarily looking for the expressions of an idea (Minichiello, Aroni, Timewell, & Alexander, 1990). A theme in this study might be a single word, a phrase, a sentence, a paragraph, or an entire review that expresses deliciousness in a particular way.

2.4. Developing categories and a coding frame

It is unusual "to create a coding frame that is purely concept-driven or purely data-driven" in qualitative content analysis (Schreier, 2012, p. 89). We built a coding frame by combining two strategies: (a) a concept-driven strategy[4] (deductive category development) based on theory, prior research, everyday knowledge, and logic; and (b) a data-driven strategy (inductive category development). With previous knowledge described in 1.2, we initially identified possible main categories and subcategories. For inductive category development, we employed open coding, a technique from grounded theory (Glaser & Strauss, 1967). According to Corbin and Strauss (2008, p. 195), open coding is "breaking data apart and delineating concepts to stand for blocks or raw data. At the same time, one is qualifying those concepts in terms of their properties and dimensions." As the coding progressed, we refined the coding frame to be able to capture deliciousness from Yelp reviews that we purposefully selected; adding more expressions of deliciousness that emerged from the data and eliminating some subcategories developed from previous knowledge that did not have any instance.

It is important to note that coding is a "cyclical act" (Saldaña, 2013, p. 8). We went back and forth within our data many times to revise the coding frame and make sure that the data were coded consistently. For this reason, we built relational database of deliciousness with Microsoft Access. Compared with dedicated CAQDAS programs,[5] Microsoft Access is more flexible and customizable. The Access relational database can be easily adjusted along several iterations of coding frame development. We controlled all aspects of the database since we built it ourselves. The nature of the relationships in the Access relational data is preserved "by using tables that express those relationships" (P.G. Steinhoff, personal communication, April 13, 2015). We collected reviews as described in the sampling section. Besides the review text, we kept information about Yelper's gender and number of vote for each review (useful, funny, and cool). For each review, we coded various expressions of deliciousness by putting them in different subforms. An individual subform represents one main category and its corresponding subcategories. When we coded, we copied and pasted an instance from the review text, selected a subform that represent the main category, and record the instance with identifying which code (or subcategory) it belongs to.

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[2] Restaurants that offer Filipino food are not selected since there was no Filipino restaurant with 4.5 or 5 that had more than 50 reviews at the time of the study.

[3] As of June 2015, some restaurants were closed and the same search term resulted differently from August 2014 due to Yelp algorithm and changes in Hawaii's restaurant industry.

[4] See 1.2 for concept-driven strategy.

[5] Unlike CAQDAS that works directly "on" the data, Access allows a researcher to code from the data into the database.

2.5. Trying out and test the coding frame on a sample of text

We explained the deliciousness coding frame to our three coders and also trained them how to code. Each of the coder tried coding on 20 reviews, which were a subset of the data. We then use ReCal[6] (Freelon, 2010, 2013), or "Reliability Calculator," to evaluate the coding frame. We use ReCal3 which is the one for three or more coders. The average pairwise percent agreement for various variables fell between 69 and 83%.

After identifying weaknesses of coding frame and correcting misunderstandings of coders, we modified and coding frame and coding rules for the next step, coding all the text and assessing the coding consistency.

2.6. Coding all the text and assessing the coding consistency

We divided reviews to be coded among three coders as 70, 70, and 65. Once all the coding of all 205 reviews was done, we took 10 reviews (that were not the ones used to test the coding frame during the pilot phase) from each coder. From these 30 reviews, each coder had to code 20 reviews that were not theirs. The intercoder/interrater reliability coefficients calculated by ReCal3 were satisfactory; the average pairwise percent agreement for various variables fell between 86% and 95%. This reflected good quality of our coding frame. Moreover, this process allowed us to identify units that were coded differently in which all coders went back and made a final decision together. With the complete understanding, each coder went through her coding again and made revisions as appropriate.

2.7. Analysis

In this stage, we drew conclusion from the coded data. We did this by making queries in Access. We could search for keywords, pull out the exact data of interest such as co-occurrence of themes or concepts, and see the relationships among the data from multiple linked tables.

3. Results

In this study, there are main 8 categories of expressions of deliciousness extracted from Yelp restaurant reviews. These categories and their subcategories both emerged from the data and came from previous research due to the combination of data-driven and concept-driven strategies in the coding frame creation. A Yelper usually employs numerous ways to express deliciousness; there are many categories found within each review.[7] Even though we analyzed only reviews with highest star rating (5 stars), there are a few reviews that indicate how the food could have been better along with description of lacking qualities of the food. Both praises and less-than-perfect evaluation of their meals all contribute to the finding of this study. Since we would like to find as many categories of deliciousness as possible, subcategories with a few instances are reported as well. This is consistent with Berelson (1971, p.20) statement: "Whenever one word or one phrase is as 'important' as the rest of the content taken together, quantitative analysis would not apply." Obvious misspellings were corrected.

3.1. Sense

"Sense" refers to perceptions through taste, smell, touch, and visual. This category is obvious since traditional definition of deliciousness has to do with pleasing sensory perception. Subcategories are Taste, Smell, Touch, Flavor, Visual, and Deliciousness. A description of food with reference to auditory texture or a sizzle from cooking were not found in this study. Music or noise level in the restaurant was coded as Atmosphere, a subcategory of Restaurant.

3.1.1. Taste refers to taste perception, traditionally recognized tastes, and any kind of taste Yelpers mentioned in their reviews. Of all reviews, 30% (61 from 205) contain Taste. There are 74 instances of Taste.

"Both their green and red curry is soooo good. *Perfectly coco-nutty sweet and salty.*"

"*Nothing had just one level of taste* or texture—*that's how good food should be.*"

"It *tastes like my mom's Filipino cooking…*"

"*Wacky and amazing taste bud experience.*"

"The special meal was divine, *spot on with* composition, plating and *taste.*"

"Whatever in it was *so tasty*!!"

"*My taste buds did a happy dance* at Sushi Izakaya Gaku."

3.1.2. Smell refers to smell perception and all kinds of smell from the food. Of all reviews, 1.5% (3 from 205) contain Smell. There are 3 instances of Smell.

"We weren't disappointed…as our dishes arrived, each one wafted its *mouthwatering aromas* that set up our appetites."

3.1.3. Touch refers to texture, temperature, moisture, and spiciness—a painful sensation perceived via pain receptors. Of all reviews, 26% (54 from 205) contain Touch. There are 73 instances of Touch.

"The foie gras was *velvety soft, buttery perfection.*"

"Main courses were miso reduction fish and short ribs that *melt in mouth*!"

"…*super juicy, moist* piece of burger…"

"Pad Thai is very tasty and *the texture was just right.*"

"Last, the poi.[8] I love its *perfect consistency. It stayed on your fork even after your first twist and a short pause, not feeling rushed at all to slam it home…It's how it's supposed to be when eating Hawaiian food. Relaxed and not rushed.*"

"The bun is always *fluffy* and *chewy*, like a version of Chinese white bread. When you get it straight out of the steamer in the mornings, it's *piping hot* as well."

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[6] This free online intercoder reliability Web service was created by Dr. Deen Freelon from School of Communication at American University.

[7] In each quote, italicized part is the instance of the category in discussion.

[8] "The traditional Hawaiian staple, is a starch dish made by pounding boiled taro roots and mixing with water until it reaches a smooth consistency" (Polynesian Cultural Center, n.d.).

"Pad Kee Mao noodles, *straight fire*."

3.1.4. Flavor—*complex combination of smell, texture, and taste—refers to perception of flavor and all flavors mentioned in the reviews. The word "flavor" or its several forms must be present so an instance can be included in this subcategory. Of all reviews, 14% (29 from 205) contain Flavor. There are 29 instances of Flavor.*

"I don't know how they marinade it, but *the flavor is so full* and has that *nice sweet teriyaki type flavor* with that nice grilled taste to it."

"The courses were absolutely amazing; *the Hawaiian infused flavors* were something out of this world."

"…this cake was impossibly light yet bursting with *a deep, hearty chocolate flavor*."

3.1.5. Visual *refers to presentation of food. Of all reviews, 4.4% (9 from 205) contain Visual. There are 10 instances of Visual.*

"The panda waffles are *so cute* and delicious!"

3.1.6. Deliciousness *refers to direct statements that the food is delicious[9]; however, there are different ways to say it.*
Of all reviews, 14% (21 from 205) contain "yummy" and its related forms. There are 24 instances of Yummy.

"All of the soup bases we tried were *yummy*."

"Topped off with a bowl of udon, *yummm*."

Of all reviews, 4.4% (9 from 205) contain expressions from other languages that means delicious. There are 9 instances of deliciousness in other languages.

"*Ono*[10] chicken long rice mini plate with white rice and lomi salmon."

"…so what about the food? *BROKE DA MOUTH*[11] BRAH!"

Of all reviews, 3.4% (7 from 205) contain terms that were invented by Yelper. These terms can simply be a combination of existing terms. There are 7 instances of deliciousness expressed with reviewer-coined terms.

"…the food is so *onolicious*…"

Of all reviews, 12.7% (26 from 205) contain idioms or slangs that indicate deliciousness of the food. There are 28 instances of deliciousness expressed through idioms or slangs.

"I took the mango flavor and lychee and it was *TO DIE FOR*!"

"…and their butter roll is *the bomb dot com*."

"Thank you for the delicious pork hash that has a hint of spam *yumminess* that *hits the spot* each time."

Of all reviews, % (13 from 205) contain swearing or cursing—including euphemisms and mentioning god in vain—that intensify the level of deliciousness. There are 17 instances of deliciousness expressed with swearing and cursing.

"SO *FREAKING* GOOD!!! *Ermahgahhhhd* why didn't I come here earlier?"

"PS. After you're done finishing up your food. You have to try their ice cream pies. *oh lawd*!"

Moreover, one instance of metaphor was found:

"You should really go here and have some bread. *It's like little edible clouds sent from heaven*…"

Last, an instance of onomatopoeia was found as indication of deliciousness:

"Pork hash is basically a big shumai but with pure pork (no shrimp) and a thicker peel which is so deliciously flavored I horde them into a corner and *nomnom* away."

3.2. Culinary Affair

"Culinary Affair" refers to anything relating to the kitchen or cookery. This category is about the process of making delicious food and reasons why something is delicious. Subcategories found are Cooking (including food preparation and seasoning), authenticity, portion, and variety of menu offering.

3.2.1. Cooking *refers to the type, process, or skill of cooking food. This subcategory includes food preparation and seasoning. Of all reviews, 30% (61 from 205) contain expressions of deliciousness expressed through cooking.*

"The fish was cooked to flaky perfection."

"The poi is *made fresh daily* and super yummy."

"…*the quality of food has been consistent*…" (This can be further subcategorized as Consistency.)

"I loved the curry broth because all of the food cooked in it was flavorful and delicious and *I didn't even need any dipping sauce*. They have a lot of dipping sauces but I ended up eating most of my food with the curry broth."

"…*the waiter told me I could order whatever I want and they would make it work*. Seriously? How often does a restaurant offer that up? I seriously can't recall when I've been to a place *so amendable to my needs/tastes*!" (This can be further subcategorized as Personalization.)

"Rich and creamy with *bubbling cheese that stretches for miles* when you take that first mouthful…" (This can be further subcategorized as Ingredient.)

Within 88 instances of cooking, 8 (9%) can be further subcategorized as Creativity:

"Foie Gras Sushi: Omg, I loved this! Looking at the menu, this one absolutely jumped out at me. *What an unconventional take on sushi*!"

"…I have to say that *Da Bag was one of the most innovative dining ideas I have ever experienced*. The whole plate and its ingredients are cooked in a giant aluminum bubble, that expands from steaming…"

3.2.2. Authenticity *is another way to connote deliciousness. Of all review, 8.3% (17 from 205) contain statement that the dish is authentic. There are 21 instances of Authenticity.*

Within 21 instances of Authenticity, 85.7% (18 instances) contain Authenticity of national or cultural dish.

"Their Pad Thai is what Thai food should be…"

"It is *really authentic* so sometimes I don't understand the person who is answering the phone (I do take out only), but who cares…they know how to cook and they always get my order right! Definitely check it out!"

There are 3 instances of Authenticity that do not refer to national or cultural dish: "local food" which refers to Japanese comfort food[12] and particular dishes, i.e., ramen and sushi.

"I bring my mainlanders here too when they come to visit. I like to educate them that not all ramen comes out of a package and taste like plastic."

3.2.3. Variety of Menu Offering *refers to choices one can make at each food establishment.*

Of all reviews, 9% (19 from 205) contain expressions of deliciousness expressed through discussing variety of food options. There are 24 instances.

"The menu is very large so you should have no trouble finding something to choose from."

"My favorite food item is the Okinawan soba. I love this noodle, and *there aren't very many places that serve this*." (This can be further subcategorized as Unique Menu Item.)

3.2.4. Portion *refers to quantity of a dish.*

Of all review, 1.5% (3 from 205) contain statement about delicious food that comes in small portion. There are 3 instances.

"The seared ahi and pasta with ume butter and shiso literally blew my mind! *The portion was small, but I savored every bite."* (This can be further subcategorized as Petite Delicacy)

Of all review, 3% (6 from 205) contain statement about delicious food that comes in an appropriate portion (for each individual). There are 6 instances.

"The portions and selections *is what a real local boy would want cooked, eat n order.*"

Of all review, 15% (31 from 205) contain statement about delicious food that comes in a large portion. There are 33 instances.

"I highly recommend the Spicy Ahi Donburi. It is a *massive serving* of fresh fish and rice."

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[12] Japanese is Hawaii's second largest ethnic group.

"…the Ahi Wrap tasted really good…*The wraps were pretty big. We ended up taking half of it home*."

"The Satay chicken is so good, and *the portion was giant, is there a whole chicken on these sticks or what*?"

3.3. Matter of Heart

"Matter of Heart" refers to deliciousness expressed through intangible and nonfunctional aspects of consumers' relationships with food. Positive non-functional benefits from dining out and desire for particular dish can be an indication of deliciousness. Of all reviews, 51% (105 from 205) contain Matter of Heart. There are 166 instances.

3.3.1. Affection *refers to statements about food or restaurant that contain the following words: like, love, fond of, fan, and favorite. Of all reviews, 38% (77 from 205) contain Affection. There are 102 instances.*

"*Love* the poke and service was exceptional."

"Chantilly…one of my great *loves*!"

"I prefer the flat noodle…The toppings I *like* are the duck, char siu, and wanton."

"Here's what we *liked*:"

"Shave ice: probably one of my *favorite* shave ice places…"

"By far my *fave* sushi spot!"

"I'm such *a huge fan* of Joe's Grill Express now for their breakfast."

3.3.2. Feeling, Emotion, Sentiment, and Mood *that are involved with food can indicate whether the food is delicious. Of all reviews, 18% (37 from 205) contain this subcategory. There are 43 instances.*

"I usually just get the steak plate and I leave *happy*:)"

"I *enjoyed* the tarragon broth…"

"We took a chance on this little neighborhood café nestled in the back of a neighborhood strip mall and walked out *ecstatic*."

"We were *in the mood for pizza* today…"

3.3.3. Indulge the Craving *refers to craving for a dish, fulfilling such craving, and claiming to be addicted to a particular dish. Of all reviews, 5.4% (11 from 205) contain this subcategory. There are 11 instances.*

"I dream of the crunchy rice at the bottom of the Bibimbap in stone bowl…"

"So I'm writing this at 3 AM because I literally can't stop thinking about Sweet Home Café! I had this last Thursday and have seriously been planning my next visit."

"It's so good, *it's addicting*!"

"UMMM *does this have crack on it*?"

3.4. Health

"Health" refers to the statements that are apparently related to health. This does not necessarily follow traditional meaning of being healthy or unhealthy; what a Yelper think is healthy will be coded as healthy, and vice versa. This category identifies the aspiring combination of food pleasure and nutrition (Mol, 2009) as well as the pairing that reflects linkage between unhealthy food and tasty intuition (Raghunathan, Naylor, & Hoyer, 2006). The two subcategories are signifying healthy food choice and signifying unhealthy food choice. Of all review, 23% (47 from 205) contain Health. There are 55 instances of Health.

3.4.1. Healthy Deliciousness
"Healthy Deliciousness" refers to deliciousness that signifies a healthy food choice. There were 37 instances found (18% of all reviews).

"The gokokumai multi grain rice is also very unique, and tricks you into thinking that you are somewhat feasting *healthy*."

"The manapua was really meaty and *no fat*, from what I observed."

"*Their veggie sushi* is perhaps *the best straight-up veggie sushi I've had.*"

"I thought the food was great! ... *The bathroom was very clean. Bathrooms are very important. If the bathroom is dirty and/or has no soap, what does that say about the cleanliness of the kitchen and the food?*" (This can be subcategorized as Hygiene.)

There are two instances that can be further subcategorized as Instantly Delivering Functional Benefit:

"Also, when I'm sick, I always crave their Tom Yum Goong soup.[13]" (This can be further subcategorized as Alleviating Sickness)

"…tom yum soup..right tartness, and spiciness to warm you up on a cold night living on Nuuanu with cold air and rains from the Pali!"

3.4.2. Unhealthy Deliciousness

"Unhealthy Deliciousness" refers to deliciousness that signifies an unhealthy food choice. There were 8 instances found (4% of all reviews).

"Safe to say, I love the food here. Unhealthy, yes. But who can argue food that's always delicious?"

"On most hungry nights I buy their savory onion rolls or the pizza/hot dog rolls, perfect snack for a hot Hawaiian night." (This can be further subcategorized as Late Night Meal)

3.5. Testimonial and Endorsement

"Testimonial & Endorsement" consists of General Word, Ranking and Rating, Approval from Connoisseur, Guarantee, Recommendation/Invitation/Challenge/A Call to Action, Gratitude/Congratulation/Admiration, Celebrity, and Insider/Guru from Food

Industry. These elements emphasize deliciousness of the food is through personal evaluation and evidence of credible others. Of all review, 89% (182 from 205) contain Testimonial and Endorsement. There are 414 instances found for this category.

3.5.1. General Word refers to words that are not exclusively used with food; nevertheless, they convey deliciousness.
There are 224 instances of General Word.

"Every single plate was *amazing*…"

"*Awesome* food…"

"Food was *seriously superb*."

"We got the lobster mac and cheese too and French onion soup, and the caprese sandwich, and burger. *So good*!"

3.5.2. Ranking and Rating refers to comparisons and evaluations of a dish or restaurant in addition to the mandatory star rating that Yelpers are supposed to give for every review they write. There are 78 instances of Ranking and Rating.

"Char Hung Sut has the *best manapua on the island*…"

"*Top 5 greatest dining experiences ever*! I cannot say one bad thing about this restaurant. Literally, everything was fabulous."

"My wife even said the French toast was *better than* Liliha Bakery!"

"I *rate* this place 10 out of 5."

3.5.3. Approval from Connoisseur refers to a food that is so delicious that it passes high standard. There are 9 instances of Approval from Connoisseur.

"*Impressed. I am a sushi snob and this place delivered.*"

"*Haili's and Helen's are the only two places I go to eat Hawaiian food besides my grandma's house!*"

3.5.4. Guarantee refers to a Yelper's confidence that the reader will find the food delicious as well. There are 14 instances of Guarantee.

"*Can't go wrong with their shave ice!*"

"*So go here, and I promise, you will thank me.*"

3.5.5. Recommendation/Invitation/Challenge/A Call to Action ranges from simple suggestion to daring encouragement to try a dish or to visit a restaurant. Discussion of other Yelp reviews was coded as this subcategory as well. There are 100 instances of this subcategory.

"*Definitely check it out!*"

"*I highly recommend the Spicy Ahi Donburi.*"

"Let's start with the Coco Puffs. *You must try at least one then buy a dozen*!!!"

"*I found this hole in the wall food place through Yelp and decided to eat here*…I ordered a bagel sandwich with spam…It was good…" (This can be further subcategorized as Yelp Review.)

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[13] The soup has healing property since it contains natural decongestant.

3.5.6. <u>*Gratitude/Congratulation/Admiration*</u> *refers to gratefulness and praise a Yelper has for the food/restaurant/chef/owner. There are 15 instances of this subcategory.*

"Shout out to Colin!!"

"Thank you for a wonderful meal."

3.5.7. <u>*Celebrity*</u> *refers to celebrity that is not part of the food industry.*

"It's no wonder President Obama dines here a lot."

3.5.8. <u>*Insider/Guru from Food Industry*</u> *refers to a restaurant being featured on a food (TV) show such as No Reservations, awarded, and visited by a local chef.*

"It has received numerous Ilima Awards and was also a winner within the National Top 100 Chinese Restaurants."

3.6. Personal Signature

"Personal Signature" refers to humor, drama and nonverbal communication that accompany expressions of deliciousness. This category emphasizes deliciousness in a humorous way, dramatic style, or with a help of nonverbal cues.

3.6.1. <u>*Humor*</u> *refers to amusing expressions about how delicious the food is. All readers do not have to find it funny; the attempt to joke is sufficient to be coded as Humor. Of all reviews, 9.8% (20 from 205) contain Humor. There are 23 instances found for this category.*

"I just have to find out what dressing they use. Want to use that as my cologne lol."

"*Hold on, got to wipe down the drool off my keyboard….* — Yes, is that good!"

3.6.2. <u>*Drama*</u> *refers to dramatic comments of how delicious the food is. There are a few instances found.*

"My husband and I had a life changing experience there. He started to tear as he ate their chu toro!"

"Until the moment I took the first bite of their chicken papaya, I never knew what 'soul food' was in my twenty five years of life."

3.6.3. <u>*Nonverbal Communication*</u> *refers to the use of computer-mediated communication, comparable to nonverbal cues in interpersonal communication, which implies or intensifies deliciousness. Of all reviews, 65.9% (135 from 205) contain nonverbal communication. There are 277 instances found for this category.*
Of all reviews, 7.8% (16 from 205) contain emoticon. There are also 16 instances of emoticon.

"Came all the way from California for dis:D"

"I could probably go on and on forever about the katsu sauce, breading, and bottomless cabbage and rice, but really… I give this place 5 stars. If you don't agree and if you don't like tonkatsu… Then I will shed a tear for you:'("

Of all reviews, 17% (35 from 205) contain CAPITALIZATION. There are 44 instances.

"I'll try to be as objective as possible… *THIS PLACE KICKS ASSSS*!!!! *5 STARS*!!!! Hell yes."

"I was *SOOOO GOOD*, I cannot wait to go back and have more! (And maybe even a cheeseburger too.):)"

"THE BEST SANDWICH IVE EVER HAD."

"*WOW WOW WOW*…everything was perfect."

Of all reviews, 4.9% (10 from 205) contain exaggerated spelling. There are 12 instances.

"yum*mmmmmmmmmmmm* everything was so dang yum even the Hawaiian salt! are u kidding me! just salt and onions!"

Of all reviews, 60.5% (124 from 205) contain exclamation point. There are 242 instances.

"Must go*!*"

"Outstanding meal*!!!!!!* One of the best meal I had in my life*!!!!!!!*"

Of all reviews, 3.4% (7 from 205) contain vocal segregates. There are 9 instances.

"…i like to add shoyu to the ginger…*mmmmm*!!"

Of all reviews, 3% (6 from 205) contain LOL. There are also 6 instances.

"Mmmm sooo good!!!!! I ate too much cause it was so yummy…Be prepared to crash out after dinner—you are going to want to sleep afterwards, *LOL*"

3.7. Consumer

"Consumer" refers to expression of deliciousness reflected on consumer behavior and insights. Actions do tell whether the food is delicious.

3.7.1. <u>*Mouth Watering*</u> *is a type of deliciousness that involved salivating, even without the presence of the dish. There are 5 instances of this subcategory. Of all reviews, 2.4% (5 from 205) contain Mouth Watering*

"My mouth salivates every time I think about Your Kitchen's pork bowl."

3.7.2. <u>*Frequency*</u> *refers to deliciousness perceived by how often a restaurant is visited or a specific dish is being ordered. There are 20 instances of this subcategory. Of all reviews, 9.3% (19 from 205) contain Frequency*

"Came here yesterday and came back again today."

"It has become my *weekly or bi monthly* to go spot!:)"

"Confession—*I've stayed at Waikiki for 4 days and went there THREE times.* Guess this is pretty telling sign about my opinion on this place."

"For appetizers, *we had the fried calamari every time we went there.*"

3.7.3. Eating Mannerism *refers to different ways Yelpers consume delicious food. It can be enjoyed slowly or with uncontrollable urge.*

"*Their coco puffs are something you need to go home with and not feel bad about having it not arrive home because you ate it before it could get there.* It's that good."

Of all reviews, 2% (4 from 205) contain Eating Mannerism that can be further subcategorized as Ripping the Etiquette Book. There are 4 instances of this.

"Each of the appetizers were really good and the kids were *licking the stuff off the plates.*"

There is one instance that can be further subcategorized as Adventure in a Meal.

"I ordered a bagel sandwich with spam…It was good and *I loved how the egg yolk ran down my sandwich so I had to eat it before it escaped.*"

There is one instance that can be further subcategorized as No Time for Photo. This type of deliciousness is very relevant to the trend of sharing food photos on social media.

"*Forgot to take a picture until half gone…*"

3.7.4. Amount Consumed *refers to eating too much because the food is delicious. This subcategory is also coded as Unhealthy Deliciousness.*
Of all reviews, 2% (4 from 205) contain Amount Consume. There are 5 instances of this.

"*I ate too much cause it was so yummy…*"

"I can't believe we *ate everything and still had the nerve to order dessert!*"

3.7.5. Celebration *refers to indication that a restaurant provides delicious food by being chosen to be a venue for celebrating any special occasion like a birthday, an anniversary, or a wedding. Of all reviews, 3% (6 from 205) contain Celebration. There are 6 instances of this.*

"We even had Haili's cater our *wedding*...I highly recommend Haili's for lunch, dinner, and your *wedding* day!"

3.7.6. Wanting More *refers to Yelper's intention to return to a restaurant because the food is delicious. Of all reviews, 3% (6 from 205) contain Wanting More. There are 6 instances of this.*

"*I'll be doing my Korean takeout here* instead of Yummy and Mama Woo's."

3.7.7. Food Virgin *refers to the first time a Yelper experiences the dish and falls in love with it. There are 5 instances of this subcategory. Of all reviews, 2.4% (5 from 205) contain Food Virgin.*

"*It was my first time eating pho, and I could not have asked for a better experience.*"

3.7.8. Leftovers and Takeout *refers to (a) delicious food that still tastes good (or tastes even better) as leftovers or can be transformed to another delicious dish, and (b) delicious takeout and takeout that still maintains its deliciousness. Of all reviews, 8% (17 from 205) contain Leftovers and Takeout. There are 17 instances found.*

"The fried noodles are the absolute BEST! … *I've kept the fried noodles as leftovers and it tasted even better the next day!* The only thing I know that gets better with age is wine. Food normally isn't like that. *This just goes to say that the food at Candi's is awesome.*"

"The pork is my favorite—seasoning is perfect and the bun itself is soft and fluffy. I *find that it tastes just as good after freezing, thawing, and reheating.*"

3.7.9. Out of Comfort Zone *refers to deliciousness that helps a Yelper step out of one's comfort zone. Of all reviews, 4.4% (9 from 205) contain Out of Comfort Zone. There are 10 instances found.*

"*I'm not a huge fan of dessert, but this sold me.*"

"The Birthday Girl was excited and proclaimed her One Eyed Willie sandwich was awesome and that *the flavors, although 'foreign' to her tastebuds, really woke her up!* …said she'd gladly return and was glad that T*he Pig & The Lady woke her from her otherwise mundane tastes.*"

3.8. Restaurant

"Restaurant" refers to different aspects of a restaurant—such as pricing, service, inconvenience, atmosphere, other customers, and supply of the food—that are related to deliciousness. The fact that consumers are willing to tolerate these negative aspects for the food means that deliciousness outweigh them all. Also, the observation of local patrons and food supply is useful in determining whether the food is delicious.

3.8.1. Worth the Price *is deliciousness that is consider on the expensive side by a Yelper. There are 7 instances of it.*

"I look forward to my next visit, *whenever my wallet can handle it next!*"

3.8.2. Service *refers to delicious food that outweighs less-than-perfect service. There are 2 instances of this subcategory.*

"Have an idea what you want to order before you come in. They have a lot of customers to serve…which means *they are not the 'chatty' type. They are not mean, but just all about efficiency here. If you 'get' that, you won't have any problem with customer service… Don't miss this place…*"

3.8.3. <u>Inconvenience</u> *refers to inconvenience—from going to a restaurant, finding a parking space, waiting in line for seating, waiting for a dish to be served after ordering, eating a hot dish in tropical weather—which a Yelper is willing to trade off for deliciousness.*

Of all reviews, 5.4% (11 from 205) contain Inconvenience from finding a parking space.

"*Even with the bad parking situation of McCully, I still somehow force myself to get food here.* Garlic Chicken is amazing and in my opinion, it's worth it to drive here to get it."

Of all reviews, 2.4% (5 from 205) contain Inconvenience from waiting in line for seating.

"*Although the wait is always super long (20–40 min), especially during times of extreme hunger, I absolutely LOVE Sweet Home Café!*"

Of all reviews, 1.5% (3 from 205) contain Inconvenience from waiting for a dish to be served after ordering.

"*…warning: they ask that you give them 15 min to cook it, and it's worth every min!*"

There is one review that contains Inconvenience from eating a hot dish in tropical weather.

"*Hawaii is very hot but I still find myself always coming here to eat their yummy food! Nabe is usually for cooler weather but the food here is so good that I will come when it's 90+ degrees out!*"

Some visitors took back nice memories about Hawaii and boxes of delicious food they discovered:

"OMG was *so worth the extra weight to carry thru security and on the plane back to Los Angeles*."

Other instances of Inconvenience found include restaurant's location, ridiculous hours, small space, and crowdedness.[14]

"Closed Monday and Tuesday, open Wednesday through Sunday from 6 am to 2 pm. What *crappy hours*. I would usually have to *go out of my way* to come to Libby, as *it's not really close to anything. I'm willing to make the trip because the manapuas are delicious*."

3.8.4. <u>Atmosphere</u> *refers to deliciousness in the context of restaurant's atmosphere—noise level, decoration (interior), and exterior. Of all reviews, 30% (62 from 205) contain Atmosphere. There are 74 instances.*

From all instances of Atmosphere, 28% (21 from 74) contain statements that delicious food is worthy of not-so-pleasant atmosphere.

"*Noise level here is loud but it's okay because I'm busy enjoying my food.*"

"*It's super unattractive on the outside but food is well worth it.*"

"I like a good hole in the wall, and *this is an awesome hole in the wall.*"

From all instances of Atmosphere, 72% (53 from 74) contain statements about having delicious food in a pleasant atmosphere.

"*Quiet, swank piano bar tucked away in the Halekulani. Fantastic drinks, snacks, and coconut cake.*"

"*Sometimes, the most memorable experiences are when you enter an establishment, and it's a portal to a different place. Lewers Lounge excels in doing this by bringing you to a classy, romantic world of jazz and paired with amazing cocktails and service.*"

"*Love the coziness and the comfort food.*"

"*Simply put, great food*, great prices, *and great atmosphere.*"

There are 6 instances of using the word "quaint" in describing pleasant atmosphere in a restaurant that offer delicious food.

"When I say this place is a hole in the wall, it definitely feels like it. Which isn't bad! It's very *quaint*, peaceful, and I loved how homey it looks…my sandwich…was good…"

3.8.5. <u>Where the Locals Eat</u> *refers to deliciousness manifested through local customers. Of all reviews, 3% (6 from 205) contain this subcategory.*

"It's really yummy, pretty affordable, and *the place is packed with locals waiting.*"

3.8.6. <u>Food Supply</u> *refers to food scarcity due to popularity of delicious food. There are a few instances found.*

"*Warning. They sell out fast…*"

4. Discussion

Previous knowledge was well utilized in building coding frame (concept-driven strategy). Knowledge about food and sensory perceptions was simply transformed to be main category Sense with some ideas for creation of subcategories. Sense's subcategories were then refined with knowledge of verbal expressions of deliciousness. Knowledge about nonverbal communication ended up being the largest subcategory within main category Personal Signature. Main category Matter of Heart was basically developed from knowledge about moods, emotions, feelings, and food. Knowledge about healthy food and consumer, along with knowledge about food communication, is a foundation for building and interpreting main category Health. Knowledge about cooking became part of the subcategory Cooking within the main category Culinary Affair. The three main categories Testimonial & Endorsement, Consumer, and Restaurants emerged from the reviews (data-driven strategy). To some level, all categories and subcategories were a combination of both data- and concept-driven strategies.

This timely study reveals interesting and useful results. First, they aid in updating the definition, hence better understanding, of deliciousness in this contemporary time. Marketers and planners can benefit from these categories. Second, we contribute to the knowledge of food pleasure and nutrition. Third, this finding well represents the construction of food preferences in a virtual community with valid explanation from previous research and theoretical framework. Last, social network sites' designers can improve

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[14] Crowdedness is also an indicator that a restaurant offers delicious food.

the algorithms based on our findings.

First, the categories contribute to the ontology of deliciousness from folksonomies that users generated. By categorizing expressions of deliciousness, we define deliciousness in the context of networked society. Humans' cognitive ability for category creation is powerful. We do it in our mind by lumping similar items "together in a single mental cluster" and splitting different mental clusters (Zerubavel, 1991, p. 21). "Philosophers have long assumed that definitions are the appropriate way to characterize word meaning and category membership" (Murphy, 2004, p. 11). An example that fits the proposed definition would be included in the respective category. Vice versa, exploring categories of deliciousness gives us more clarity of how deliciousness is being portrayed on social media—a highly relevant concept for today's food scene. This knowledge can be contributed to a glossary or dictionary of deliciousness, e.g., *Dictionary of Expressions of Tastiness* (Kawabata, 2006). In addition to that, these categories and their subcategories can be combined for endless concepts for food products, restaurants, menu items, and eating schemes. Young (1960), one of important persons from the advertising world, discussed a technique for producing ideas based on Pareto's (as cited in Young, 1960, p. 25) proposal that an idea is a new combination of old elements. He suggested that in brining old elements into new combinations, one must have "the ability to see relationships" (Young, 1960, p. 26). These relationships can be between categories, subcategories, or products (produce, snack, menu item, restaurant, or eating scheme) and concepts deriving from categories or subcategories. Examples will be further discussed.

We can see that quotes from the findings are insightful, vivid, and trendy—making them highly relevant to how consumers nowadays want to be communicated with. Marketers can employ or simply be inspired by concepts underlying categories and subcategories of expressions of deliciousness from our study. Together with other considerations, such as competitor analysis, they can create a Unique Selling Proposition. An example would be how a marketer does a concept test for a new rice cracker snack brand. The target group is university students and young adults living in Hawaii. This marketer may decide to test between two concepts—*a real taste of Japan* (stemmed from Authenticity), and *broke da mouth* (stemmed from Deliciousness)—to test in a focus group research. The research participants would discuss with the moderator about their snacking habits, experiences with rice cracker, and types of rice cracker they want to consume. The marketer would develop the brand and product based on the winning concept. If the winning concept is *a real taste of Japan*, all executions will reflect an essence of Japanese food. The brand name of the rice cracker might be Japanese. There might be Japanese characters and graphic design on the package. Flavors of this rice cracker will include Yakisoba, Sukiyaki, and Tonkatsu. If the winning concept is *broke da mouth* (this pidgin phrase is very popular in Hawaii), all executions will be tailored to local people in Hawaii. A brand name of the rice cracker might be Hawaiian. The slogan might contain *broke da mouth* or *ono*. Possible flavors for this concept are Kalua pork, Loco moco, and Lomi lomi salmon.

Second, the subcategory Healthy Deliciousness that we found demonstrates that food pleasure and nutrition can coexist when eating out. On the other hand, Unhealthy Deliciousness also exists. It is important that marketers and planners try to utilize Healthy Deliciousness for their products or eating schemes since it has potential to make consumers eat healthy food in a sustainable way. Public and private sectors can translate the subcategory Healthy Deliciousness and any concept derived from it into healthy nudges. Nudge is "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives" (Thaler & Sustein,

2008). Schools should allow sellers of healthy snack, such as delicious fruit cup created based on Page and Dornenburg (2008) compound flavor combinations, to sell it next to hot dog and soda booth in a cafeteria. Supermarkets can choose to promote healthy food items by rotating different fruits and vegetables as special produces of the week. These special produces will be placed near the cashier, with reduced prices and free recipe cards. Restaurants can attract health-conscious consumers or make their existing customers consume more healthy food by creating healthy and delicious menu items and promoting it by randomly give free meal to customers that order a healthy menu item. For example, every third and seventh customers of each day who order a healthy and delicious menu item as main dish would get a free meal.

Public health agencies can promote healthy eating through social marketing, application of commercial marketing techniques to non-commercial ends. The campaign name might be "Healthy Deliciousness" with the strategy to encourage the target audience (such as adults) to have at least one meal that is both healthy and delicious through social media, celebrity endorsement, and advertorial. The target audience would see celebrities from entertainment industry posting a photo with healthy and delicious meal with a short message (description of the meal or simple recipe) ending with #HD on Instagram as a campaign kick-start. The #HD would soon spread to twitter, Facebook, and hopefully Yelp reviews. Then the target audience would see advertorials, advertisements in the form of editorial content, of successful professionals in mainstream magazines. The audience would feel like these professionals were telling them about their success and how healthy and delicious food is part of it. For example, a dancer might reflect on her well-received show and how she make it with serious practice and healthy meals that are also pleasurable to consume. The execution could go on, e.g., outdoor advertising and product (healthy and delicious food) placement in TV series and movies.

Third, the construction of food preferences on Yelp can be effortlessly explained and understood with previous research and theoretical framework. From the perspective of taste as social distinction (Bourdieu, 1984), it is clear that the Yelp Elite is the elite gatekeeper. To gain Yelp Elite status, a user must use real name, add clear profile photo, and actively participate on the site. We also found subcategories that are consistent with Johnston and Baumann (2007) interpretation of Bourdieu's description of exclusivity in the new forms of exoticism and authenticity: they are Creativity (subcategory of Culinary Affair's Cooking) and Authenticity (subcategory of Culinary Affair), respectively. Our findings illustrate Bourdieu's (1984) discussion of antithesis between quantity and quality or substance and form. Delicious foods that are cheap were often mentioned in a functional way, e.g., "*filling*" and "*best bang for your bucks.*" On the contrary, delicious foods that are on the higher end were often written about creative presentation and dramatic reaction after the tasting. Regarding the social worlds of taste (Gronow, 2004), different groups of Yelp users are comparable to the typology from the social world perspective. Yelp Elite are 'the insiders' who create the content for others to utilize. Heavy Yelp users are 'the regulars' who are familiar and attached to the social world, i.e., always check Yelp when looking for restaurants or menu items to try and tend to write reviews about their dining out experiences. Light Yelp users are 'tourists' that occasionally visit a social world, possibly read reviews once in a while and rarely contribute by writing reviews. Non-users of Yelp are 'strangers' who are not involved with the site and might not even heard of Yelp. Gronow (2004, p. 54) described: "Regulars and insiders have an important task to enact their social worlds for the benefit of interested tourists and offer their treats in nice ready-made packages." In the case of Yelp.com, these 'ready-made packages' come in

the forms of average star rating, photos (including food porn), and numerous reviews containing valuable content ranging from recommended menu items to emotions and experiences revolving around meals outside of home. Next, we look at Yelp.com through the theory of attachments of the amateur. Yelpers read and give feedbacks to one another's reviews, discuss what they order, how and how much they eat it; therefore, Yelp.com is a virtual venue for the "community of amateurs" (Hennion, 2005, p. 137). Yelpers might write reviews as an act of sharing their tastes—something emerging from attachments between Yelpers (tasting bodies) and foods (tasted objects)—as well as acknowledging other's tastes (by voting for other Yelpers' reviews and sending other Yelpers messages) in order to stay active in the communities of amateurs (Hennion, 2005). Last, we reviewed good taste as the embodied normativity of the consumer-citizen. There might be more people eating out alone in this contemporary time. Writing and reading reviews on Yelp perfectly replace and enhance "a spirited conversation about the meal" (Mol, 2009, p. 279) that we all need.

Last but not least, social network sites might expand what their algorithms can do to better serve the needs of health conscious and/or hedonic consumers. Lists of restaurants categorized by type of expressions of deliciousness would be interesting. For example, someone who wants to celebrate a special event with close friends might wants to try a restaurant that received many comments from the subcategory Drama, which might imply memorable experiences.

5. Conclusion

In this qualitative content analysis study, we found eight main categories of expressions of deliciousness from 205 Yelp reviews of 41 restaurants in Hawaii. The eight main categories are Sense, Culinary Affair, Matter of Heart, Health, Testimonial and Endorsement, Personal Signature, Consumer, and Restaurant. Each main category was further subcategorized. Sense's subcategories are Taste, Smell, Touch, Flavor, Visual, and Deliciousness. Culinary Affair's subcategories are Cooking, Authenticity, Variety of Menu Offering, and Portion. Matter of Heart's subcategories are Affection; Feeling, Emotion, Sentiment, and Mood; and Indulge the Craving. Health's subcategories are Healthy Deliciousness and Unhealthy Deliciousness. Testimonial and Endorsement's subcategories are General Word, Ranking & Rating, Approval from Connoisseur, Guarantee, Recommendation/Invitation/Challenge/A Call to Action, Gratitude/Congratulation/Admiration, Celebrity, and Insider/Guru from Food Industry. Personal Signature's subcategories are Humor, Drama, and Nonverbal Communication. Consumer's subcategories are Mouth Watering, Frequency, Eating Mannerism, Amount Consumed, Celebration, Wanting More, Food Virgin, Leftovers and Takeout, and Out of Comfort Zone. Restaurant's subcategories are Worth the Price, Service, Inconvenience, Atmosphere, Where the Locals Eat, and Food Supply. Some of the subcategories were also further subcategorized. These categories and subcategories demonstrate various ways Yelpers express deliciousness via online restaurant reviews.

To the best of our knowledge, we are one of the first to categorize expressions of deliciousness on social media. The mentioned categories and subcategories may tremendously help in brainstorming for concepts that are highly relevant to consumers in networked societies. We also contextualize the construction of food preference in the sphere of social media. Categories, subcategories, keywords (instances), and their underlying concepts from our study might be a step necessary for developing quantitative research, building a software, and improving algorithm for better filtering system of any social media site that might be—directly or indirectly—involved with food from restaurants and dining. We

hope to contribute to larger market shares and, most importantly, daily consumption of meals full of Healthy Deliciousness.

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