Food Distribution Research Society

Journal of Food Distribution Research
Volume 54, Issue 2, pp. 121–134

Savor the Flavor: Consumer Preferences and Variety Seeking Associated with Spicy Foods

Chadelle Robinson[a], Gracie D. Hooten[b], Katie Adams[Φc], and Nancy Flores[d]

[a]*Assistant Professor, Department of Agricultural Economics and Agribusiness, MSC 3169 NMSU, P.O. Box 30003, New Mexico State University, Las Cruces, NM 88003, USA*

[b]*Graduate Student, Department of Agricultural Economics and Agribusiness, MSC 3169 NMSU, P.O. Box 30003, New Mexico State University, Las Cruces, NM 88003, USA*

[c]*Graduate Student, Department of Agricultural Economics and Agribusiness, MSC 3169 NMSU, P.O. Box 30003, New Mexico State University, Las Cruces, NM 88003, USA*

[d]*Extension Food Technology Specialist, Department of Family and Consumer Sciences, P.O. Box 30003 MSC 3470, New Mexico State University, Las Cruces, NM 88003, USA*

Abstract

Individuals have a basic internal need for variation in their daily lives. This study aims to expand the discussion of variety seeking consumers' interest and willingness to incorporate spicy flavors in their daily diets. Primary data was collected through an online survey, to run MANOVA and ANOVA analysis. Results provide details of attribute-level variety seeking and their interest in different types of spicy food items specifically associated with differences in age, race, and education. These differences were associated with two spicy foods categories, snack/chip food, and fresh peppers. This project was funded by the New Mexico Chile Association.

Keywords:

Introduction

Marketing of chile and chile-related products has expanded throughout the Unites States, along with the increasingly appealing spicy and hot flavors. Consumer tastes have been evolving as they enjoy more bold, authentic, interesting flavors. Most recently, 61% of consumers say they like or

ΦCorresponding author: Email: katieada@nmsu.edu

love spicy foods (Nation's Restaurant News, 2022). This trend has continued to grow from the original 22% in 2007 (Glazer, 2007). According to the "2015 Flavor Consumer Report", 58% of males and 51% of females reported they prefer "spicy" food flavors. The report also states that 78% of consumers enjoy moderately spicy foods and 55% crave spicy food flavors (Tristano, 2016). Consumers are embracing spicy flavors and incorporating many of these flavors into their daily diets.

Each variety of chile peppers has varying spice levels and varying levels of intensity. The different forms of chile include fresh, frozen, dried (where it can be sold in pods), canned, jarred (in puree form), pepper flakes, and powder (which is finely ground). Chile can also be used in a variety of foods as a flavor enhancer, as well as an ingredient, in toppings, and in sauces. Chile peppers can be utilized to enhance and differentiate foods while providing some unique spicy culinary experiences associated with consuming chile.

Research is needed to explore and evaluate U.S. consumers' variety-seeking interests and preferences for spicy chile and chile products. Through the utilization of a national online survey tool and panel survey company, CINT data were collected. The objective of this research will provide perspective about U.S. consumers' variety-seeking habits, specifically related to chile and spicy foods. The results of this research will allow for the development of appropriate marketing strategies, direction for product development, and will benefit grocery retailers, chile growers, and processors.

Literature Review

Spicy Food Consumption

Lillywhite (2013) used primary data collected in December 2012 from an online survey exploring consumer preferences and shopping behaviors for both spicy peppers and chile peppers. Researchers found that of the 1,096 respondents, 33% stated, "I love spicy food," and 41% stated, "I enjoy some spicy foods." Researchers found that many consumers enjoy spicy peppers, and that consumption varies by pepper type and form. According to survey results, of pepper types available in the market, the most popular are not necessarily the "hottest" or "mildest." This study provides a better understanding of the demand for U.S. spicy peppers, as well as U.S. consumer preferences for them.

Ludy (2012) investigated the differences in sensory, personality, physiological, and cultural attributes in regular spicy food users and non-users. Subjects completed a screening session for sensory perception and experience with spicy foods, finding that users have an increase in frequency of chili pepper consumption, like chili pepper burn, and like the taste of chili pepper in food. Chili users reported chili pepper makes food taste better, without hot spices, food tastes too bland. Sensation seeking was greater among users who had consumed spicy foods since childhood. It is important to understand the underlying acquisitions of spicy food preferences, as trends in spicy food consumption are surpassing U.S. population growth.

There are a number of theoretical implications that pertain to the discussion of variety seeking. It has been conceptualized as an integral part of consumer decision making and choice behavior (Trijp, 1995). However, it is just one aspect of the many branches associated with consumers' choice behavior. Variety-seeking behavior has been defined as "the biased behavioral response by some decision-making unit to a specific item relative to previous responses within the same behavioral category, due to the utility inherent in variation per se, independent of the instrumental or functional value of the alternatives or items" (Trijp, 1995). Further defined as "the tendency of individuals to seek diversity in their choices of services and goods" (Kahn, 1995) or "the tendency for a person to switch away from a choice made on the last occasion" (Kim and Drolet, 2003). It can also be defined as "internal or personal motivations and external, or derived, driving forces based on external situations" (Kahn, 1995). One of the earliest findings by Maddi (1968) was that human beings seek varied or novelty experiences for the inherent satisfaction they bring (Maddi, 1968; Tang and Chin, 2007).

Initial discussions of variety seeking focused on brand switching and the motivation behind brand switching. Hans (1996) used data acquired through a computerized panel of 1,000 Dutch households to examine variety-seeking behavior over time. Seven major predictor variables were measured: need for variety, involvement, perceived differences between brands, hedonic features, strength of preference, purchase frequency, and purchase history. Results show all interactions to be statistically significant and that product category-level variables exert their effects on behavior in interactions with the person's need for variety.

Erdem (1996) used estimated market structure models on four products using A.C. Nielsen scanner panel data for margarine, peanut butter, yogurt, and liquid detergent. These models studied variety seeking across brands within each of these four product categories. The results provide strong evidence for variety seeking and examples of habit persistence associated with brands consumed in the past.

Tang and Chin (2007) used A.C. Nielsen Homescan data to examine variety-seeking behavior over time to understand and predict the two types of purchases, repeat purchase and brand switching in Hong Kong from July 2002 to December 2002. This research included several food items: packaged rice, liquid milk, and instant noodles in addition to other non-consumables. Utilizing the same five predictor variables from Hans (1996), researchers found "people who have a higher need for variety are more likely to engage in variety-seeking behavior than in repeat purchasing. Variety-seeking behavior is more intense in product categories with larger numbers of brand alternatives, and it is dependent upon the consumers' purchase history.

Olsen (2016) used a national Norwegian representative survey to better identify the differences and similarities between impulse buying and variety seeking. This research examined the Big Five personality traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The traits were measured using an extended version of the TIPI developed by Gosling (2003). The results suggest that variety-seeking buyers are more calm and emotionally stable than impulse buyers (Olsen, 2016).

The variety-seeking conversation continues with Inman (2001), who deviates from the product offering level and brand switching conversation. Inman breaks down variety seeking to reflect the specific product attributes. Attribute-level variety seeking is important to "gain a deeper understanding of the product-based mechanisms underlying exploratory behavior. These variety seeking attributes provide specific details to consumer switching behavior and to managers trying to develop new products" (Inman, 2001,). This research evaluated 1,900 households in St. Louis, Mo., using A.C. Nielsen wand panel data over a 3-year period and focused on tortilla chips and cake mix purchases. This research provides evidence that consumers tend to switch more intensively between flavors, which is a sensory attribute of the product, versus switching brands, a non-sensory attribute.

Attribute-level variety seeking has also been associated with both hedonic and utilitarian products. Baltas (2017) was successful in recognizing that consumers seek more variety in hedonic-type products, specifically when considering the sensory attributes. When considering utilitarian-type products, there is little known about any level of variety seeking. For products that are clearly not hedonic or utilitarian, variety-seeking behavior does not differ across sensory and functional attributes (Baltas, 2017).

For the purpose of this research, we are interested in attribute-level variety seeking as it pertains to consumers' decisions based on attributes of unique spicy foods. These spicy foods are considered hedonic types of products, and individuals are intrinsically motivated for variation in their consumption decisions (Hans, 1996).

Objective

This research explores the U.S. consumer's preferences and attribute-level variety-seeking practices as they relate to consumption of two hedonic food categories: highly processed spicy snack/chip foods and fresh spicy peppers. Our aim is to better understand current U.S. consumers' attribute-level variety-seeking interests and to identify differences among consumer groups for U.S. consumption of spicy foods and spicy peppers.

Methodology

Population and Sample

A survey was developed using Qualtrics XM, an online survey tool, and approved by the NMSU IRB (#22526). The survey was compatible with both mobile and desktop devices. The instrument was then distributed by CINT, a global online survey panel management company. Survey participants received a small amount of monetary compensation if they completed the survey negotiated by the respective panel company. The survey was distributed from January 17, 2022, to January 25, 2022. Distributing the questionnaire over different time frames assisted with the collection of diverse demographics of respondents. A total of 2,908 responses were collected with an average time to complete the survey of 14 minutes. The sample is representative based on the current U.S. Census for gender, age, and ethnicity. In the initial cleaning of the data, data cells left

blank were seen as an error and were screened out as were those surveys completed in under a minute, resulting in a final sample size of 2,034 respondents. Respondents' demographics are reported in Table 1.

To better understand the respondents and how they are involved with household meal prep, questions pertaining to their current cooking habits were included. When asked if they were "primarily responsible for making food purchasing decisions?" 83% identified they were the primary food purchaser within the household. Seventy-nine percent confirmed they were "responsible for making cooking decisions" within their household. When asked, "Are you willing to try new recipes?" 92% indicated they were willing. Finally, when asked, "How willing are you to try new foods, ingredients, or products?" 83% indicated they were willing "about half the time" or better to try new products.

Table 1. Demographics

Variables	Frequency	Survey (%)
Gender	*N* = 2,024	
Males	974	48.10%
Females	1,050	51.90%
Age	*N* = 2,036	
18–34 years	626	30.70%
35–44 years	460	22.60%
45–54 years	316	15.50%
55–64 years	323	15.90%
65 or older	311	15.30%
Race	*N* = 2,036	
White or Caucasian	1,396	68.60%
Black or African American	308	15.10%
American Indian or Alaska Native	45	2.20%
Asian	127	6.20%
Native Hawaiian or Other Pacific Islander	12	0.60%
Other	148	7.30%
Hispanic or Latino	*N* = 2,036	
Hispanic or Latino (of any race)	413	20.30%
Not Hispanic or Latino	1,623	60.10%
Annual Household Income	*N* = 2,036	
Less than $25,000	485	18.10%
$25,000–$49,999	570	19.70%
$50,000–$99,999	583	28.70%
$100,000–$149,999	257	15.30%
$150,000 or more	141	6.90%

Table 1. Continued

Variables	Frequency	Survey (%)
Education	*N* = 2,036	
Less than high school graduation	109	9.10%
High school graduate (or equivalency)	501	27.60%
Some college or associate's degree	683	25.80%
Bachelor's degree	501	23.40%
Graduate or professional degree	242	11.90%

Methods

The data were analyzed using IBM SPSS Statistics version 25 to conduct a multivariate analysis of variance (MANOVA) to provide empirical estimates related to model variables. MANOVA analyses are designed to examine multiple dependent variables to recognize interactions between independent variables and to detect whether groups differ among each other (Field, 2014). The consumption of Highly Processed Snack/Chip type products and Fresh Spicy Peppers were utilized as the dependent variables. These two dependent variables represent the extreme opposites of food products with similar "spicy" taste profiles. To break this down further, within the survey participants were asked to indicate if "they consume Hot/Spicy Chips (Hot Cheetos®, Takis®, Hot Funyuns®, Lays Kettle Cooked Jalapeno®)" by selecting "yes" (n = 1,115) or "no" (n = 920). Respondents were asked if "they consume Spicy Peppers (jalapenos, serrano, habanero, green chile)" by indicating "yes" (n = 1225) or "no" (n = 810). Overall, 900 respondents indicated they consumed both spicy products. A Pearson correlation coefficient was computed to assess the linear relationship between Hot/Spicy Chips and Spicy Peppers. There was a positive correlation between the two variables, r (2032) = [.457], p = [.001].

The eight independent demographic variables included: Age, Gender, Annual Household Income, Race, Education, Hispanic or Latino, Number of Adults in Household, and Number of Children in Household. The independent variables found to be statistically significant within the MANOVA will be further analyzed using an ANOVA to specifically identify where the differences are located within each of the individual demographic groups. The two dependent variables remain the same, Highly Processed Snack/Chip type products and Fresh Spicy Peppers.

Results

MANOVA

MANOVA was conducted to evaluate the differences between the populations of consumers who eat highly processed snack/chip type products and fresh spicy peppers. The Levene's Test is utilized to assess the null hypothesis that the variances in separate groups are equal (Field, 2014). Levene's test indicated the variances are significantly different in separate groups: Highly Processed Snack/Chip Products (F [1,2021] = 5.705, p = .017) and Fresh Spicy Peppers (F [1,2021] = 9.089, p = .003). Table 2 reports the results for the MANOVA Tests Between-Subjects Effects utilizing the Pillai's Trace. The demographic variables *Gender* (p = .001)*, Age* (p = .000)*,*

Hispanic or Latino ($p = .003$), *Annual Household Income* ($p = .039$), and *Number of Children in Household* ($p = .000$) were found to be significant. Differences were considered significant at an alpha level of .05 ($p < .05$).

Table 2. MANOVA Tests of Between-Subjects Effects

Variables	*df*	*F*	*Sig.*
Gender			
Highly processed snack/chip products	[1, 2023]	10.706	.001*
Fresh spicy peppers		8.401	.004*
Age			
Highly processed snack/chip products	[1, 2023]	179.991	.000**
Fresh spicy peppers		27.434	.000**
Race			
Highly processed snack/chip products	[1, 2023]	.180	.671
Fresh spicy peppers		1.055	.305
Hispanic or Latino			
Highly processed snack/chip products	[1, 2023]	11.485	.001*
Fresh spicy peppers		4.184	.041*
Annual household income			
Highly processed snack/chip products	[1, 2023]	.369	.543
Fresh spicy peppers		6.256	.012*
Education			
Highly processed snack/chip products	[1, 2023]	.069	.793
Fresh spicy peppers		1.740	.187
Number of adults in household			
Highly processed snack/chip products	[1, 2023]	3.134	.077
Fresh spicy peppers		.308	.579
Number of children in household			
Highly processed snack/chip products	[1, 2023]	20.483	.000**
Fresh spicy peppers		8.913	.003*

Note: *= $p < .05$, **= $p < .000$

ANOVA

Highly Processed Snack/Chip Products and Fresh Spicy Peppers were considered dependent variables with Gender, Age, Hispanic or Latino, Annual Household Income, and Number of Children in Household as the independent variables (see Table 3). Differences were considered significant at an alpha level of .05 ($p < .05$); significant differences are *Gender* for Fresh Spicy Peppers ($p = .023$), *Age* for both Highly Processed Snack/Chip Products ($p = .000$) and Fresh Spicy Peppers ($p = .000$), *Hispanic or Latino* for both Highly Processed Snack/Chip Products ($p = .000$) and Fresh Spicy Peppers ($p = .000$), *Annual Household Income* for Fresh Spicy Peppers ($p = .004$), and *Number of Children in Household* for both Highly Processed Snack/Chip Products ($p = .000$) and Fresh Spicy Peppers ($p = .000$). The MANOVA also identified three demographic variables:

Race (p = .590), Education (p = .396), and Number of Adults in Household (p = .073) to not be statistically significant, requiring no additional testing.

Table 3. ANOVA Output Results

Variables	*df*	*F*	*Sig.*
Gender			
Highly processed snack/chip products	[1, 2022]	1.256	.263
Fresh spicy peppers		5.196	.023*
Age			
Highly processed snack/chip products	[5, 2034]	59.853	.000**
Fresh spicy peppers		10.298	.000**
Hispanic or Latino			
Highly processed snack/chip products	[1, 2034]	65.023	.000**
Fresh spicy peppers		16.911	.000**
Annual household income			
Highly processed snack/chip products	[4, 2034]	1.083	.363
Fresh spicy peppers		3.789	.004*
Number of children in household			
Highly processed snack/chip products	[2, 2034]	60.409	.000**
Fresh spicy peppers		17.802	.000**

Note: *= $p < .05$, **= $p < .000$

Significant Variables

Gender was found significant in the MANOVA, requiring the additional step of employing an individual ANOVA to identify where the differences were located within each of the Gender groups. The Gender Mean Plot (see Figure 1) reports the relationship of gender on consuming fresh spicy peppers; males (μ = .63) (n = 611) consume more Fresh Spicy Peppers than females (μ = .58) (n = 606). There was no significant relationship between gender and the Highly Processed Snack/Chip Products dependent variable.

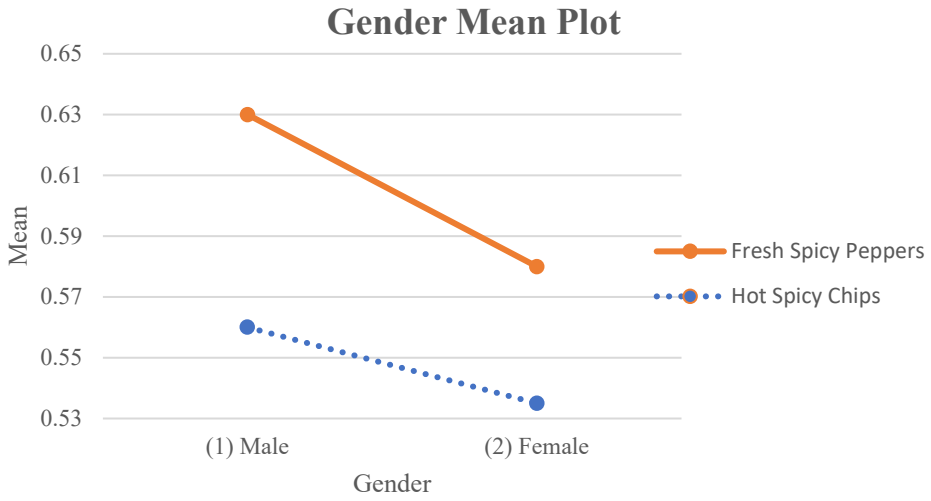

Figure 1. Gender Mean Plot

Age as a variable was found significant within the MANOVA; thus, an ANOVA analysis was completed. The ANOVA revealed statistical significance for both Highly Processed Snack/Chip Products and Fresh Spicy Peppers. These relationships displayed in the Age Mean Plot (see Figure 2) for Highly Processed Snack/Chip Products show the level 1 age category (n = 119), those 18 to 20 years, consumes more spicy snack/chip type products (μ = .84) than the other five groups. As age increases for Highly Processed Snack/Chip Products, consumption decreases. In addition, the Fresh Spicy Peppers relationship demonstrates the level 2 age category (n = 334), those 21 to 34 years, consumes more fresh spicy peppers (μ = .69) than the other groups.

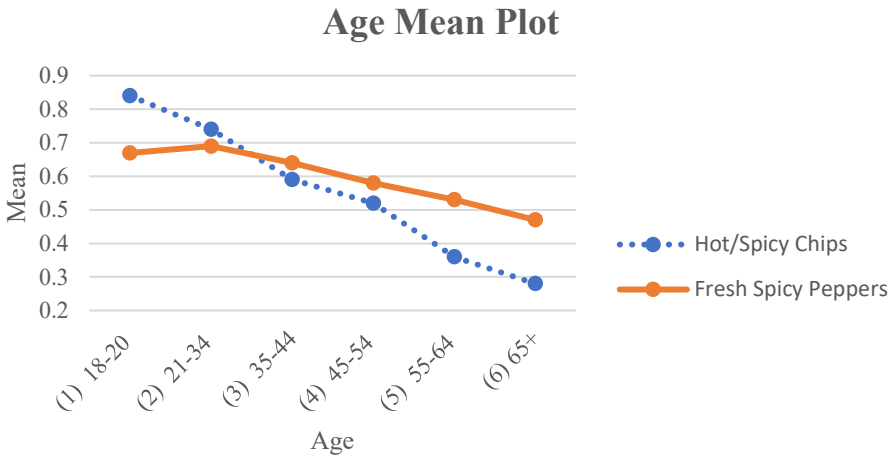

Figure 2. Age Mean Plot

Those respondents who indicated they identify as Hispanic or Latino were found significant within the MANOVA, requiring ANOVA analysis. The ANOVA results displayed in Figure 3 revealed that those who identified as Hispanic or Latino were significant for both Highly Processed Snack/Chip Products (μ = .72) (n = 298) and Fresh Spicy Peppers (μ = .69) (n = 285) compared to those who do not identify as Hispanic or Latino.

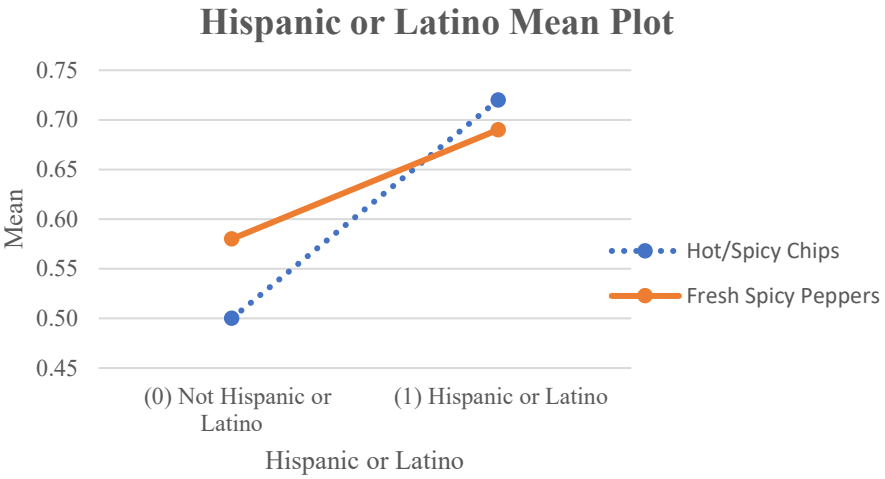

Figure 3. Hispanic or Latino Mean Plot

The MANOVA identified Annual Household Income as significant. The ANOVA was completed, and the Annual Household Income Mean Plot (see Figure 4) provides the details, where Annual Household Income was found significant for Fresh Spicy Peppers (μ = .67). The level 5 income category (n = 78), which is $150,000 or more, consumes more fresh spicy peppers when directly compared to the other income level categories. Interestingly, there was no significant difference among annual household income levels when evaluating the highly processed snack/chip category.

Number of Children in Household was statistically significant within the MANOVA; therefore, an ANOVA was conducted. The ANOVA identified Number of Children in Household as significant for both Highly Processed Snack/Chip Products (μ = .71) and Fresh Spicy Peppers (μ = .71). Figure 5 illustrates those consumers in the level 2 category (*n* = 116), who represent households with three or more children, and consume more of both spicy snack/chip products and fresh spicy peppers than those with no children or one to three children.

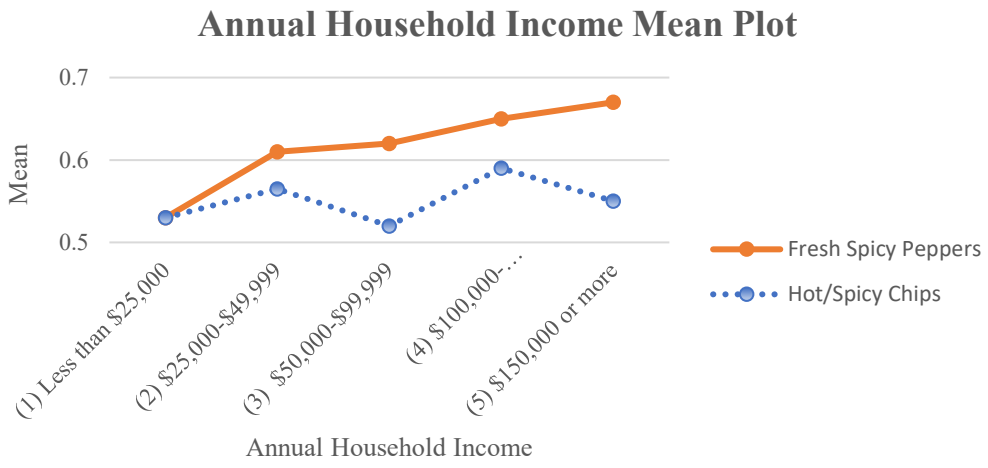

Figure 4. Annual Household Income Mean Plot

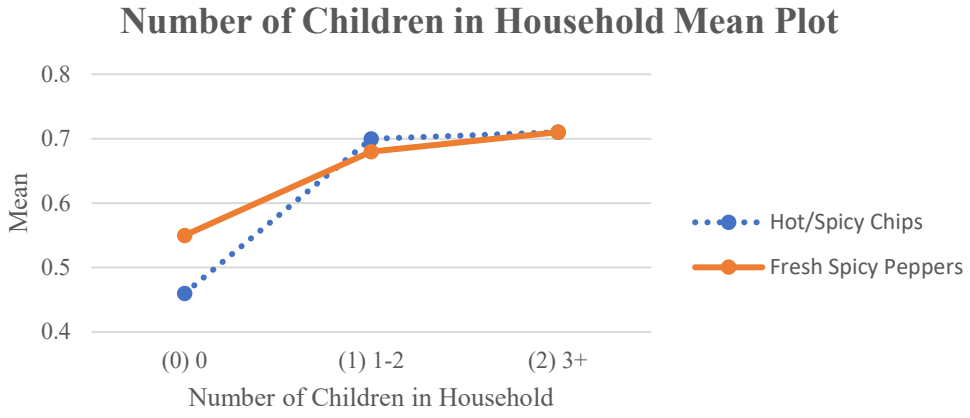

Figure 5. Number of Children in Household Mean Plot

Discussion

This research provides some direction to better understand the attribute-level variety-seeking tendencies of consumers for both spicy snack/chip products and fresh spicy peppers. The eight variables—gender, age, education, Hispanic or Latino, income, number of adults in household, and number of children within the home all provide insight into the variety-seeking efforts of these consumers.

When considering gender's effect on consumption of these two product categories, there was no difference between the two groups pertaining to processed snack/chip products. Both males and females enjoy these spicy snack/chip products. However, when considering the fresh spicy peppers, males are more likely to consume than females.

The age variable was significant for spicy snack/chip products with the 18–20-year-old age group consuming the most is no surprise. These products are easily sourced, require no additional effort to prepare, and are affordable. These young consumers add variety into their daily diets and enjoy the spicy taste attribute of these snack items. When evaluating the fresh pepper consumers, there is a similar trend with consumption being higher in the younger age groups and tapering off as they get older. When considering these two products, the rate of consumption declines for both as age increases. However, fresh pepper consumption declines at a slower rate, with many consumers enjoying these spicy additions to their daily diets well past 65 years of age.

Those consumers who identify as Hispanic or Latino consume more of both spicy snack/chip products and fresh spicy peppers than consumers who do not identify as Hispanic or Latino. This supports Tang and Chin's (2007) argument that a consumer's variety seeking is reflective of past experiences. The five income levels provide evidence of consumers' continued consumption of spicy snack/chip products. As incomes increase, the consumption of spicy snack/chip products remains relatively stable. This trend is not reflected for the consumers who eat fresh spicy peppers. The spicy pepper consumers with the lowest income bracket have the lowest level of consumption; however, this consumption increases along with the income brackets. Consumers in the highest income bracket of $150,000-plus consume the most fresh spicy peppers. Those consumers with high incomes have more disposable income to allow for purchases of fresh spicy peppers.

The final variable, number of children within the household, also provides an interesting perspective. Families with three or more children consume higher levels of both spicy snack/chip products, as well as fresh spicy peppers than those families with fewer than three children. Larger families with more than three children have a larger demand for food in general for meals or snacks.

Conclusion

Understanding consumers' desires for variety can offer clear and actionable implications for retailers (Baltas, 2017), processors, and producers. This study provided evidence of consumers' attribute-level variety-seeking tendencies associated with spicy products. This project also provides evidence and guidance for spice processors, food manufacturers, and chile producers

interested in developing new food products to meet today's demands from these attribute-level variety-seeking consumers. Being able to specifically identify variety-seeking consumer differences provides direction for new product development and an opportunity to improve the demand for spicy products. The demographic details shed light on developing new products and marketing campaigns to attract interest from variety-seeking consumers searching for the spicy profile of familiar attribute-level products.

The two types of products included in this research provide very different examples of spicy food products while providing perspectives pertaining to the differences among consumers who enjoy them. The products are offered in many forms and variations; however, both represent the spicy taste profile, and both have different types of consumer interest. Overall, the survey results and analysis provide added perspectives about U.S. consumers' behavior associated with spicy attribute-level variety seeking.

Attribute-level variety-seeking consumers of all ages, genders, annual household incomes, races, education levels, Hispanic or Latino identifications, number of adults in household, and number of children in household are eating highly processed spicy snack and chip products. Of the consumers who like to explore and consume spicy processed snack foods, such as Hot Cheetos®, Takis®, Hot Funyuns®, and Lays Kettle Cooked Jalapeno®, evidence of differences among study participants were found in age, Hispanic/Latino, income, and number of children in the household. Interestingly, there were no differences between the categories for gender, race, education, and number of adults in household. These results provide evidence that males and females of all races and education levels enjoy spicy snack/chip products. The willingness to try new products and recognize the similar spicy taste profile of these products allows for attribute-level variety-seeking opportunities for these consumers.

However, the attribute-level variety seeking associated with the consumption of fresh peppers provided a different perspective. Attribute-level variety seeking for spicy peppers depended on gender, age, Hispanic or Latino, annual household income, and number of children in household. Within this product category, race, education, and number of adults in household were not found to have differences related to the consumption of spicy peppers. This product category provided evidence that attribute-level variety seeking and consumers' willingness to consume fresh spicy peppers is not associated with differences in race, education levels, or number of adults within the household.

Attribute-level variety seeking provides a "deeper understanding of the product-based mechanisms underlying exploratory behavior. These variety seeking attributes provide specific details to consumer switching behavior and to managers trying to develop new products" (Inman, 2001). In marketing spicy food products, managers should consider the product category and demographic details associated with the food category. Attribute-level variety seeking associated with spicy foods can provide opportunities to associate a familiar taste experience with new products. Marketers should consider providing consumers with new spicy products while recognizing the importance of demographics. More importantly, marketers should realize race, education, and number of adults in household have less of an effect on consumption than gender, age, income,

and number of children in the household. Consumers will continue to search for variety in their daily diets and incorporate spicy products, often inferring details associated with attribute-level variety seeking.

Limitations and Further Work

This study suffered from limitations involved with conducting an online survey and using CINT panel data. The survey data were collected through the online distribution with expectations the sample would represent the U.S. Census breakdown for age, gender, and ethnicity. Limitations with CINT include the inability to confirm respondents' true location. To ensure those completing the survey were located in the United States, respondents provided their zip code. Upon further evaluation, some of these zip codes were incomplete, which may indicate the sampling completed by CINT may have occurred outside of the United States. Another limitation is that the survey instrument was based on respondents' ability to recall, introducing a possible source of error.

There are opportunities for further work analyzing the survey results. This data may provide additional details regarding the respondents and their shopping habits, consumption patterns, and interest in spicy foods, as well as chile. Obtaining shopping cart data to further explore consumer purchases is another option for analyses trends related to attribute-level variety seeking, as is investigation into which attributes are essential to consumption when evaluating spicy foods. Conducting interviews of those spicy food consumers could provide insight on their perceptions, priorities, and requirements of spicy products.

References

Baltas, G.K. 2017. "Does Variety Seeking Vary between Hedonic and Utilitarian Products? The Role of Attribute Type." *Journal of Consumer Behavior* 1–11.

Erdem, T. 1996. "A Dynamic Analysis of Market Structure Based on Panel Data." *Marketing Science* 359–378.

Field, A. 2014. *Discovering Statistics Using IBM SPSS Statistics* 4th ed. Thousand Oaks, CA: Sage.

Glazer, F. 2007. *Consumer Trends. NPD: Consumers Are Seeking More Bold, Authentic Flavors.* New York, NY: Nation's Restaurant News. Available online: http://www.nrn.com/product-watch/npd-consumers-are-seeking-more-bold-authentic-flavors.

Gosling, S.R. 2003. "A Very Brief Measure of Big-Five Personality Domains." *Journal of Research in Personality* 504–528.

Hans, C.M. 1996. "Why Switch? Product Category- Level Explanations for True Variety-Seeking Behavior."*Journal of Marketing Research* 281–292.

Inman, J.J. 2001. "The Role of Sensory-Specific Dsyiryy in Attribute-Level Variety Seeking. *Journal of Consumer Research* 105–120.

Kahn, B. 1995. "Consumer Variety-Seeking among Goods aAnd Services." *Journal of Retailing and Consumer Services* 2(3):139–148.

Kim, H., and A. Drolet. 2003. "Choice and Self-Expression: A Cultural Analysis of Variety-Seeking." *Journal of Personality and Social Psychology* 85(2):373–382.

Lillywhite, J.S. 2013. "Spicy Pepper Consumption and Preferences in the United States." *HortTechnology* 868–876.

Ludy, M. 2012. "Comparison of Sensory, Physiological, Personality, and Cultural Attributes in Regular Spicy Food Users and Non-users." *Journal of Appetite* 19–27.

Maddi, S.R. 1968. "The Pursuit of Consistency and Variety." In R.P. Abelson et al., eds. *Theories of Cognitive Consistency: A Sourcebook*. Chicago, IL: Rand-McNally, pp. 267–274.

Nation's Restaurant News. 2022. *Consumer Trends—Flavor of the Week.* New York, NY: Nation's Restaurant News. Available online: http://nrn.com/consumer-trends/nashville-hot-converges-two-big-food-trends.

New Mexico State University. 2008. *Nutritional Information.* Las Cruces, NM: New Mexico State University, Chile Pepper Institute. Available online: https://cpi.nmsu.edu/_assets/documents/Nutritional-Information.pdf

Olsen, S.T. 2016. "Differences and Similarities between Impulse Buying and Variety Seeking: A Personality-based Perspective." *Journal of Psychology and Marketing* 36–47.

Tang, E., and I. Chin. 2007. "Analyzing Variety Seeking Behavior Using Panel Data." *Journal of International Consumer Marketing* 7–31.

Trijp, H. 1995. *Variety Seeking in Product Choice Behavior: Theory with Applications in the Food Domain.* Wageningen, Netherlands: Wageningen University and Research ProQuest.

Tristano, D. 2016. "Flavor Consumer Trend Report." *Bringing the Heat*. Retrieved from Prepared Foods: https://www.preparedfoods.com/articles/117694-spice-flavor-trends-in-foodservice