

Appeal of the Apple: Exploring consumer perceptions of hard cider in the Northeast and Mid-Atlantic United States

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Abstract

Alcoholic or “hard” cider is experiencing a resurgence in popularity, particularly throughout the Northeast and Mid-Atlantic regions of the United States. Yet, many stakeholders struggle to understand how consumers define and distinguish hard cider amongst the sea of options in the saturated alcoholic beverage market. This study aimed to explore consumer preferences of hard cider using a phenomenological, qualitative approach. The research comprised 14 focus groups with regular cider consumers (99 participants) throughout three leading cider producing states in the Northeast and Mid-Atlantic United States: Virginia, Vermont, and New York. All focus group sessions were subject to reflexive thematic analysis for themes broadly related to cider product preference and the cider-drinking experience. Results of the study suggest that cider preference is motivated largely by sensory quality in addition to various other factors including perceived health effects, regionality and proximity, the drinking occasion, and product information. Results also emphasize the importance of nostalgia in cider sensory experiences, as well as the role of social norms in consumer valuation of cider products. Overall, this research highlights diverse consumer preferences for cider, and serves as a framework for using qualitative research methods to explore consumer preferences in the food and beverage industries.

Keywords: cider, nostalgia, sensory, community, regionality

Abbreviations: United States (US)

1. Introduction

Cider, also known as hard cider in the United States (US), is an increasingly popular beverage worldwide (Bundele & Deshmukh, 2022). In the US specifically, the cider industry is seeing a renewed public appeal since its decline in popularity and consumption over the 20th century, growing an average of 6.1% per year in the past five years specifically (Fabien-Ouellet & Conner, 2018; Jacobsen, 2020, 2021; Kline & Cole, 2017; Lombardo, 2022). However, consumer preferences have also begun to shift towards regional brands that produce much smaller volumes of cider compared to the larger brands that led the United States' cider resurgence in recent decades (Wood, 2021; Fabien-Ouellet & Connor, 2018). Though the cider industry is expected to grow over the next five years, cider producers and retailers still lack a clear understanding of the factors which drive someone to become a cider consumer and that contribute to the repeat purchasing of cider products (Yenerall et al., 2022; Fabien-Ouellet & Connor, 2018).

Apples and cider have a rich US history beginning with North American indigenous communities who grew crabapples (Abrams & Nowacki, 2008; Kerrigan, 2008), followed by early European settlers who began organized orcharding and cider-making. During colonial times, different apples from different regions were well-believed to yield ciders of different quality and flavor, cider and apples were a valuable export crop, and it is estimated that by the 1800's almost every home in New England sustained an apple orchard (A. F. Smith, 2014). Five years ago, New York, Virginia, and Vermont ranked 1st, 8th, 12th respectively as US states with the most cideries (West, 2018) alongside a rich apple-growing and cider-making heritage. Though the most current number of cideries per state is not well-recorded, regions such as the Lake Champlain Watershed (Vermont), Hudson Valley (New York), the Finger Lakes (New York), and the Shenandoah Valley (Virginia) have supported active orchards and cider-making cultures for over two centuries (Calhoun, Jr., 2010; Guttman, 2012; Kline & Cole, 2017; M. Smith & Lal, 2017).

To date, research into cider quality has focused heavily on the chemical composition of apples and cider (Antón et al., 2014; del Campo et al., 2006; Le Quéré et al., 2006; Ma, Neilson, Lahne, Peck, O'Keefe, & Stewart, 2018; Ma, Neilson, Lahne, Peck, O'Keefe, Hurley, et al., 2018; Rosend et al., 2019), cider production and processing methods (Alexander et al., 2018; Boudreau, Peck, Ma, et al., 2017; Boudreau, Peck, O'Keefe, et al., 2017; Calugar et al., 2021; Hang & Woodams, 2010), fermentation quality and techniques (Morrissey et al., 2004; Nogueira et al., 2008; Rosend et al., 2020; Sánchez et al., 2014), willingness to pay for cider products (Didier et al., 2012; Fur & Outreville, 2022; Jensen et al., 2021; M. Smith et al., 2021; Tozer et al., 2015), and sensory profiling of ciders made according to different techniques and from specific regions (Cole et al., 2022; Kessinger et al., 2020; Littleton et al., 2022; Phetxumphou et al., 2020). This research has critically added to a scientific understanding of hard cider quality, which can be defined in the context of production time, methods, and the use of specific apple varieties or cultivars. Cider apples have been traditionally prescribed for cider-making in contrast to apples intended for baking or fresh eating because they provide bitterness, tartness, and other flavors which contribute complexity and body to a cider beverage (Alexander & Ewing Valliere, 2020; Merwin et al., 2007; Soomro et al., 2022; Thornton, 2014). Apple quality, and ultimately cider quality, can also be impacted by geography, orchard practices, seasonal

climate, and more (Brennan, 2019; Ma, Neilson, Lahne, Peck, O'Keefe, & Stewart, 2018; Ma, Neilson, Lahne, Peck, O'Keefe, Hurley, et al., 2018; Proulx & Nichols, 1980).

Though the aforementioned research on US cider quality is crucial for supporting the industry, how broader sociocultural, agricultural, and historical factors influence quality within the cider-drinking experience remain unclear. With food and beverage products, sensory and consumer research is useful for identifying environmental and social factors – also known as context – which affect consumption experiences. Consumer research is also critical for the success of new products because it empowers producers to create products that satisfy consumer desires (van Kleef et al., 2005). For this reason, vast amounts of research focus on how and why consumers place value on different products considering the effects of context, and especially in the alcoholic beverage sector (Betancur et al., 2020; Bruwer et al., 2011; Calvo-Porrall & Levy-Mangin, 2019; Charters & Pettigrew, 2007; Desmet & Hekkert, 2007; Schifferstein, 2009; Spence, 2020; Spence & Wang, 2017; Yang & Lee, 2021). In contrast to the beer and wine industries, where product quality and contextual elements of consumption are better understood, hard cider is a newly popular industry sector about which very little is understood in regard to consumer preference and the product experience (Wood, 2021).

Because food and beverage preferences are deeply contextual and experiential (Betancur et al., 2020; Cotter et al., 2022; Galiñanes Plaza et al., 2022; Lahne et al., 2017; Meiselman, 2019; Nijman et al., 2019, 2022), qualitative research can be invaluable for better understanding consumer experiences and preferences. To paraphrase Lawless & Heymann (2010), qualitative research is critical in product research where little is known — as is the case with hard cider — in order to avoid “Type 0” error: asking the wrong question in the first place. Qualitative methodologies are hypothesis *forming*: they provide a road map that future researchers can investigate. Within qualitative research, phenomenology aims to summarize common and shared preferences and perspectives, often utilizing focus groups (Creswell & Poth, 2018; Moustakas, 1994; van Manen, 1990) and reflexive thematic analysis to explore broad themes across what participants say (Braun & Clarke, 2006, 2013; Holton, 1973). Phenomenology within qualitative research considers how multiple “realities” can coexist among those with shared experiences (Braun & Clarke, 2013, p.6). These methods have been used on a variety of food and beverage products to identify consumer affective responses and what other factors influence purchasing habits and consumption patterns (Barlagne et al., 2017; Cardinal et al., 2003; Chung et al., 2011; Gómez-Corona et al., 2016, 2017; Lahne & Trubek, 2014; North et al., 2021). Qualitative research methods have also helped expose social and cognitive experiences, such as *amateurship* (Hennion, 2007) and connectedness (Labelle, 2004), that are possible with food and beverage product experiences (Charters & Pettigrew, 2008; Gómez-Corona et al., 2017; Lahne & Trubek, 2014). In the food and beverage sector, qualitative research helps scientists to develop a holistic understanding of the sensory experience of food and beverage consumption.

The current research uses phenomenological research methods to explore consumer preferences of cider and the subjective, lived experiences of drinking cider in three of the top cider-producing regions of the Northeast and Mid-Atlantic US. This paper reports on the methodological framework and findings of focus group research conducted using an inductive approach and reflexive thematic analysis, in order to take a snap-shot of consumer preferences for cider in the aforementioned region. The primary objective of this research is to develop a

contextualized understanding of *what* consumers in top cider-producing regions prefer and value about hard cider and *why*, without prescribing to any pre-established assumptions regarding these questions.

2. Methods

Focus group sessions were conducted in two phases: (1) focus groups throughout Virginia (April-June 2021), and (2) focus groups in Vermont and New York (July-August 2021). Sessions occurred over the span of six months in part to accommodate social gathering restraints due to the COVID-19 pandemic. Focus group participants were recruited through University and cidery listservs and social media sites, local grocery stores, and word-of-mouth in local communities. These recruitment methods were chosen in order to find cider drinkers from a diversity of backgrounds and livelihoods and are common for qualitative research (Krueger & Casey, 2015). Screening criteria for selection to participate in a focus group included: participants were required to be 21 years or older, participants self-reported as not currently pregnant (or, they had the option to participate in the focus group and not taste provided cider samples), and participants self-reported as drinking cider at least one to two times per month. Consistent cider consumption was required for participation in our cider focus groups because research suggests that those with more product knowledge are more easily able to articulate their preferences (Bell & Marshall, 2003; Hopfer & Heymann, 2014; Jamir et al., 2020; Langlois et al., 2011).

All focus group sessions occurred in contextual settings (i.e., regular cider consumption settings) in order to (1) enhance the accessibility and regional diversity of settings where the research was conducted, (2) to foster more comfortable settings for participants to be honest about their experiences and preferences (Krueger & Casey, 2015), and (3) to stimulate discussion about cider-drinking environments and how that impacts people's cider-drinking experiences. In addition, scholars in sensory science research particularly emphasize the value of contextual, "real-life" research settings for improving the real-world validity of consumer preference testing and sensory science (Krueger & Casey, 2015; Meiselman, 2013; Meiselman et al., 2022; Stelick & Dando, 2018). All focus group sessions were audio-recorded and transcribed.

Focus group sessions followed a semi-structured questioning route (see *Supplementary Material I*) that asked questions related to favorite cider brands/producers, purchasing habits and motivation, expectations differentiating the beer/wine/cider-drinking experiences, packaging, and valued sensory qualities of cider. These questions were designed to broadly probe all aspects of the cider-drinking experience by stimulating discussion around, though not strictly related to, the prescribed questions. All participants were asked to complete a brief, voluntary demographic survey (including questions related to income, age, and gender identity) prior to their participation in a session.

Three (3) cider samples were provided during focus group sessions for participants to voluntarily taste and discuss. For each session, all three ciders used for sampling were purchased locally and made in the respective state, so as to include ciders that were easily recognizable to participants. The three selected samples were chosen to cover a range of possible cider categories, including a modern-style commercial cider, a single varietal cider, and a third cider chosen on by the moderator based on local availability. All cider samples were first

presented blind, then the label and packaging of each sample was revealed after discussion of that sample. Revealing the tasted product and discussing packaging, branding, and other product information following tasting was done to stimulate discussion related to product perception. Participants were encouraged to share their honest opinions about cider, the provided cider samples, and anything pertaining to the cider-drinking experience. This study was approved by the Virginia Tech Institutional Review Board (VT IRB # 20-880). All subjects gave their informed consent for participation.

2.1. Data Analysis

After transcription, all data was analyzed using reflexive thematic analysis (Braun and Clarke, 2006, 2013, 2019) and NVivo software (QSR International Pty Ltd., 2020). Using the NVivo coding software, the processing of focus group data involves highlighting meaningful quotes and tagging them with an initial theme or “code.” Quotes are then organized into multiple (e.g., sometimes over 20) initial codes, which are refined and reorganized until about 3-6 major codes remain, which become the broader “themes” of the data. A thorough account of how to conduct reflexive thematic analysis with the support of software and how reflexive thematic analysis takes into account the subjectivity of the researchers can be found in Braun and Clarke (2013) and Jackson and Bazeley (2019).

Data analysis followed an inductive approach, intended to explore the data “as-is” and without a pre-established theory (Creswell & Poth, 2018). This was done to broadly explore the research question: “What do cider consumers like about hard cider and why?” In doing so, researchers intended to uncover ideas beyond explicit statements of preference. Our analysis considered and reflected on the influence of context on participant’s responses.

Data analysis followed the six phases of reflexive thematic analysis, outlined by Braun and Clarke (2006; 2013): the first author (MDC) conducted all focus group sessions, transcribed all audio-recordings, became familiarized with all data, and generated initial codes and initial themes, constituting the main analysis. The senior author (JL) read all transcriptions for familiarization and reviewed all relevant, initial codes for consistency. Together, they discussed and agreed upon all generated codes, code descriptions, and supporting quotes across the sessions to identify, name, and review the final themes. Second, third, fourth, and fifth authors read and reviewed final themes and supplementary quotes for validity.

3. Results & Discussion

In total, 99 participants (52 female; 39 male) participated in 14 focus groups (5 in Virginia, 3 in Vermont, 6 in New York). Results of the demographic survey completed by 91 participants are shown in *Table 2*. The number of participants per focus group ranged from 4 to 10, and sessions lasted between 50-75 minutes. Details for each focus group session are provided in *Table 1*. Six primary themes summarize answers that consumers presented to questions about their cider preference and the cider-drinking experience: *Perceived Health Effects, The Drinking Occasion, The Importance of Flavor, Cider-making Knowledge, Localness, Community, Nostalgia, and Paying for Cider*. The next section discusses these themes with supplementary quotes in order of apparent complexity: beginning with seemingly simple factors that initially attract consumers to cider and which guide their everyday experiences, and proceeding into the more complex and diverse themes that influence these consumers’

preferences. In this way, our discussion of the proposed themes intends to build a rich, thick story about the cider consumption experience, becoming more detailed and heavily contextualized as discussion on the cider experience unfolds.

We visually summarize most of the documented themes in *Figure 1* and *Figure 2*. In *Figure 1*, we explore how consumers define “good cider” primarily in terms of flavor, the drinking occasion, product information, and price. This graphic intends to make our results actionable and easy to understand using a “choose-your-own-adventure” format. In *Figure 2*, we extend the concepts summarized in *Figure 1* by integrating underlying, latent observations of consumer perceptions and values.

3.1. Perceived Health Effects

What attracts consumers to engage with cider to begin with? In the focus groups, many consumers were initially drawn to cider because they believed cider to cause less intense alcohol-related physical effects and less intense digestive effects. Some consumers exclusively drank cider because of gluten intolerance: *“I started drinking ciders because I was diagnosed with Celiac, so I had to stop drinking beer.”* (Group1_04). Consumers frequently reported feeling less full or bloated when drinking cider compared to beer, and they valued the perceived decreased sugar content of cider compared to wine: *“that’s one of the reasons why I switched to cider I was a dry red wine drinker. And personally because the residual sugar in the wine was higher”* (Group4_05). Consumers also spoke about how the intoxication side-effects of cider were less intense and debilitating: *“I even think, to speak a little crudely the buzz you get from cider is different... than a red wine or drinking bourbon”* (Group8_05). These findings add new evidence to the body of factors which drive consumer interest in cider products (M. Smith et al., 2021; Yenerall et al., 2022). Given that perceived health benefits and effects are relevant in the wine and beer industries (Chrysochou, 2014; Yoo et al., 2013), it may be relevant to further explore the perceived physical effects of cider in order to guide cider marketing related to such elements of the cider drinking experience.

3.2. The Importance of Flavor

When consumers were asked what makes a good cider, what makes a cider their favorite, and what drew them to cider to begin with, the overall theme of flavor was brought up most frequently. In this section, we discuss the importance of flavor in driving consumers’ sensory preferences as well as how consumer preferences related to sensory quality can be framed by sociological theories. All quotes and comments discussed in this section are in reference to general discussion about cider and do not refer to individual cider samples provided during tasting. We begin with a direct explanation of liked and disliked sensory attributes followed by a discussion about consumer interest in learning where specific sensory qualities originate from relevant to the cider production process. From here, we examine how reflecting upon the sensory experience, both when supplemented with extrinsic product information and when not, is a sign of *amateurship* (Hennion, 2007; Teil & Hennion, 2018) — a way of experiencing a product that is attentive, passionate, and reflexive, and opposed to pure consumption, which can be passive and reactive.

Sensory characteristics that came up frequently, such as sweetness, dryness, “complexity”, “funk”, carbonation, tartness, aroma, and aftertaste, all contributed to the

“goodness” of a cider, as depicted in *Figure 1*. For many of the sensory characteristics that consumers described, opinions varied substantially: some consumers liked extreme flavors, though consumers generally preferred a balance of any given sensory attribute. In addition, consumers tended to use sensory terms in ways that are substantially different from their accepted definitions by cidemakers, enologists, and other experts (see, for example, the use of “rancid” below), a phenomenon that has been noted in previous publications (Kessinger et al. 2020).

For example, where one consumer preferred a *clean* flavor profile in cider, others preferred extreme “funkiness” and “rancidity”: *“It’s usually going to a bar... and asking for the most rancid wine or cider and that’s probably the one I’ll like”* (Group9_04). Relevant to dryness and sweetness, many consumers in the present study preferred “dry cider” or a subtle sweetness. Tozer et al. (2015) reported that increasing sweetness decreased consumers’ willingness to pay for cider, while the report by Dawson et al. (2019) suggested consumers prefer both sweetness and acidity, specifically in a sample set of single varietal ciders made from cider-specific apples. Many consumers in the present study emphasized a desire for “tartness” and “acidity,” aligning in part with Dawson et al. (2019). Many cider consumers also preferred sparkling cider and were unaware that non-carbonated cider existed; though one consumer passionately enjoyed “still” cider. These diverse consumer preferences are an example of distinct clusters of cider consumers with different sensory preferences, also recently reported by Cole et al. (2022).

Interestingly, many consumers seemed to express ambivalence towards “apple-y-ness”, where they wanted unique flavors to come from the apples, but they did not want an explicit, sweet, apple-like flavor: *“I don’t like things that taste like apple juice... like a kid’s drink and it’s very apple forward but it’s sweet apple and I would rather have like a tart apple or bitter apple”* (Group6_05); *“I tend to go for ciders that have the straight classic just apple, on the dry side”* (Group12_02). Relatedly, consumers expressed distaste for sticky mouthfeels and excessive sweetness: *“It’s like stickiness... like if my mouth feels sticky after a sip. That’s the opposite of sessionable”* (Group13_01). As another consistent pattern relevant to sensory quality, consumers disliked “eggy” or “sulfuric” aromas — *“It has a big sulfur smell to me, which is kind of off-putting”* (Group2_02) — as well as undefined bad aromas or aftertastes — *“It has an aftertaste, like waking up with like bad breath... that like is lingering”* (Group2_06).

The frequent mention of and consensus on “bad” flavors, such as “sulfuric” aromas, unidentifiable aromas and aftertastes, and excessive sweetness suggest that there is a need for trustworthy information on identification, causation, and remediation of common sensory faults to support improved cider sensory quality. “Funkiness,” often discussed in the context of specific faulted qualities in wine (e.g., “barnyard”) and a characteristic feature of some European ciders (Alexander & Ewing Valliere, 2020; Maykish et al., 2021), was an attribute widely discussed by consumers to offer “complexity” and “depth” in cider. Divided opinions amongst consumers about how much and what kinds of “funkiness” they prefer suggests that intensities and types of “funkiness” may deserve a broader investigation in the context of cider (Colomer et al., 2020; Crauwels et al., 2015; Thompson Witrick et al., 2017). “Complexity” is also a term that has been used ambiguously in the wine industry (Wang & Spence, 2018, 2019), and so investigations into cider complexity may be warranted given the appeal of this dimension of quality to some consumers.

In terms of flavor variation between products, consumers viewed the cider marketplace to have a diverse yet approachable range of sensory options among products, as well as easier-to-understand product information compared to the beer and wine marketplaces where consumers reported too large of a product space to “try them all” (e.g., beer) and too much product information (e.g., wine): *“there’s a lot more variety in what people call a beer... like a whole thing of IPAs [India Pale Ales]... you could never try them all in your whole life, that’s just one part of the whole beer spectrum... I feel like I am more comfortable ordering a cider... because it’s not as dangerous”* (Group2_08). Yet, consumers were also often surprised by the diverse, unique flavor experiences that they got within *individual* cider products, motivating them to explore and develop their own preferences within this new product space: *“I like how unique cider is... cider has a unique flavor and that really stands out and then you start to like personalize”* (Group5_04). Being that the present research is a regional study of cider quality, as perceived by consumers that live in the prescribed regions, these variety-seeking habits and views on availability and accessibility may be unique to cider consumers in major cider-producing states of the Northeast and Mid-Atlantic US. Additionally, a steady influx of cider producers into the US cider sector in recent years (Wood, 2021) — bringing their diverse production practices and unique agricultural resources — has likely contributed to consumer appeal to taste and explore new products and flavors.

Lastly, a majority of consumers liked ciders that were flavored or co-fermented with non-apple ingredients such as seasonal adjuncts, fruits, herbs, botanicals, hops, ginger, or cocktail-emulating ingredients: *“I do enjoy trying ciders that have like seasonal fruits or herbs.”* (Group11_04). Frequently mentioned and enjoyed flavorings were the use of ginger and fruits such as berries, currants, pomegranate, and grapefruit. Flavored ciders were also cited as something that motivated consumers to explore new cider products.

3.2.1. Introducing Amateurship

In contrast to preferences for flavored ciders, some consumers preferred ciders made only with apples. These consumers, representing roughly one quarter to one third of all consumers in the research, seemed to largely dislike flavored ciders because they thought other fruits can easily overpower the natural flavors from the apple: *“I don’t like things that take away from the apple... for me cider should be made from apples and if there are other things... the story is lost”* (Group8_04). These consumers described how they simply liked *“traditional cider”* (Group4_10) because these types of ciders allowed consumers to engage with how cider production factors, specifically apple varieties and place, impact cider sensory quality: *“I like searching out the complexity... there’s always something different, even batch to batch...they’re using a lot of crab apples, they’re sourcing a lot of wild yeast, it’s always something a little bit different. And that’s also why I got into ciders ‘cause I don’t want to drink the same thing over and over again”* (Group7_07); *“you know it’s one apple and you can really taste the layers of flavor... in the area where it’s coming from. So you know it... feels more localized in that way and you can taste the differences in certain fruits or in areas and I think that’s really interesting.”* (Group5_02).

The consumers who are explicitly, consciously interested in better understanding and refining their tastes with practice (i.e., continued consumption) and with supplemental information act as *amateurs* in Antoine Hennion’s model of active and reflexive tasting (2007;

see Figure 2). To these consumers, the sensory experience is an opportunity to learn, question, discover, share, and reflect on their consumption experiences (Hennion, 2007; Teil & Hennion, 2018). These observations are comparable to how product information can stimulate cognitive, reflective taste experiences in other “craft” sectors such as beer (Gómez-Corona et al., 2017), wine (Charters & Pettigrew, 2007, 2008), and artisan cheese (Lahne & Trubek, 2014). In particular, US cider offers the potential for many cognitive factors to enhance the sensory experience, such as cider production time, aging time, fermentation vessels or equipment, fermentation methods or microorganisms, apple varieties, apple-growing practices, apple-growing location(s), and the geographical origins of any other ingredients. However, not all consumers wanted the cider sensory experience to be reflective and thought-provoking — *“I like learning about it... am I going to put together a spreadsheet about what I like[?] I do that for certain things but I'm not doing it about this because I need it to be light, crisp, refreshing and not a THING”* (Group1_02) — an observation that fits Hennion’s description of *non-amateurs* who choose to accept “a casual glass, thinking of other things” (Hennion, 2007, p. 108).

Regardless of whether these consumers seek an active, reflective sensory experience or not, almost all consumers discussed evolving preferences over the course of their cider-drinking: *“when I started [drinking cider], I just wanted something sweet, standard... other people are going out drinking. I want to drink something but I'm not into beer, so I just want something sweet to sip on. But then it started changing, and it's just all over the place... I could do sweet or dry”* (Group6_01). These observations highlight how the more one consumes something, the more one becomes sensitized to new sensations, different sensations, and the sensations that one prefers (Hennion, 2007; Teil & Hennion, 2018). *Amateurship*, in the context of cider consumption, comes in different forms — one can decipher how their tastes have changed and decide to reflect upon the tasting experience, but one can also consciously choose to not do one or both of these things as well. Cider preference also embodies the spectrum of different levels of *amateurship* (Teil & Hennion, 2018), which likely also extend beyond cider consumption: the *non-amateur* is not engaged or concerned with their tasting at all, the young *amateur* has tastes that unconsciously evolve yet are not thoroughly understood, the *amateur* is deeply engaged with the process of tasting and how their perception changes with time and space – and all of these states of *amateurship* can fluctuate.

Beyond the sociological dimensions of active tasting and *amateurship*, the extensive discussion about how sensory quality primarily drives cider consumers’ preferences and drinking experiences with US cider aligns with previous research. Kessinger et al. (2020) reported that expected sensory quality was a leading driver of purchase or consumption intent for cider products among Virginia consumers. Many other researchers have also reported that sensory quality is a key driver of consumer liking in alcoholic beverages overall (Bruwer et al., 2011; Gómez-Corona et al., 2017; Muggah & McSweeney, 2017; Thibodeau & Pickering, 2017). In cider, specifically, diverse preferences for flavor and flavor knowledge among consumers highlights the potential viability of a diversely flavored marketplace, as well as a critical need for educational resources and clear marketing of sensory-specific information oriented towards consumers.

3.3. The Drinking Occasion

Closely related to cider sensory quality, consumers reported a range of occasions that were conducive to drinking cider, which we summarize into two contrasting categories: “casual” consumption occasions and “intimate” consumption occasions. We outline how these consumption occasions are relevant to the cider-drinking experience in *Figure 1*, showcasing their direct relation to elements of sustainability, packaging, ABV content, sensory quality, and food-pairing.

Casual consumption occasions include but are not limited to outdoor activities, summer-related activities, large social gatherings, or relaxing in general. During these types of consumption occasions, consumers preferred lighter, refreshing, and crisp flavor profiles, canned packaging, and generally cheaper prices – all of which went hand-in-hand. Canned cider was widely viewed as “cheaper” and more accessible: “Cans are more approachable... borrowing from beer” (Group8_04). However, cans were often associated with a worse aftertaste. In keeping with discussion of beer and wine alternatives, casual consumption occasions rendered cider-as-beer-replacement, as explained by Group3_02 in two instances: “the [anonymized brand name] cider to me... it's more like having a glass of wine, more delicate... more effervescent, whereas the ciders that I drink it's more like having a pint of beer” and “a [anonymized brand name] cider or an [anonymized brand name] has kind of the same sensation as drinking a beer, except I prefer the flavor.”

Intimate consumption occasions include but are not limited to small social gatherings, dinner and food-pairing, and celebratory occasions. On these types of occasions, consumers were more interested in complex, tannic, or “funky” flavor profiles, allowing ciders to contrast well with food (see *Figure 1* and *Figure 2*). These ciders also tended to be in bottled packaging, rendering intimate consumption occasions as a cider-as-wine-replacement. Bottled cider, though associated with better sensory quality, was viewed as intimidating for some consumers and raised fears of product waste: “A can is comfortable, it's a sizable amount that I can consume and I don't have to waste it” (Group2_05); “I have this thing with wine too where I'm intimidated to open the bottle because I don't want it to go to waste” (Group10_03). Because of this, some consumers also expressed a desire for higher quality cider to be available in 12-ounce glass bottles.

Generally, consumers appeared to have their own internal script for the cider-drinking experience, occasion, and their purpose for drinking: they were either drinking for the intoxicating effects of a “pleasant-enough” beverage or to explicitly experience a product that is made with an intentional level of care. In the latter situation, consumers wanted and valued cider-making information, a critical piece of the reflexive taste experience (Hennion, 2007; Teil & Hennion, 2018): intentional tasting is best suited for certain occasions and a specific ambience. In this way, consumers with more advanced *amateur*-like tendencies will tend to more intimate drinking experiences in order to have that active, reflective experience. Further, consumers viewed the cider industry as one in which different types of products, different standards of quality, and different brands are best suited for different occasions and purposes (emphasized in *Figure 2*). But, they also viewed this division as an asset to the cider industry by making cider capable of simultaneously being a “low-” and “high-brow” product: “It depends on what purpose the cider is serving. So most of the time when I'm drinking cider, I'm thinking of it as a wine replacement. So in that scenario, I want it to be... more pure... more straightforward apple more about the process of being made. But also sometimes you're sitting in the hot sun and you want

it as a beer replacement... I don't think it always has to be a highbrow item it can also be a low brow item" (Group13_03).

3.4. Cider-making Knowledge

This last aspect of *Drinking Occasion* – whether or not the occasion was conducive to learning cider-making information – is connected to the third major theme: *Cider-making Knowledge*. *Figure 1* highlights how intimate drinking occasions allow for the appreciation of more product information. Many consumers were simply interested in learning about how cider products were made and where they came from: *"The more information, the happier I am consuming it"* (Group8_07). Aspects of the cider-making process that consumers specifically liked or were interested in include natural fermentation methods, bottle-conditioning, making cider with "minimal interventions," or an otherwise unique production story: *"The thing that interests me with ciders is fermentation techniques... a lot of them are wild. And the yeast you can put into them to get these different almost textures out of it"* (Group7_02). Consumers also reported an interest in where ingredients for cider were sourced from, the extent of preservative use, food-pairing information, geographical and climatic variables which impact cider quality, related historical information, and cider production time.

Most critically, the agricultural origins of cider motivated some consumers' interest in cider in the first place: *"Part of the draw to cider is here's apples. Here's the cidery. I mean, maybe that's romantic? That's okay. You get some of that with... wine. And I think less so with beer, you might have some breweries where they've got a row of hop vines, but you can make one batch of beer from, from all the hops that you've got growing there... So the connection to that agriculture piece, for me is a piece of it"* (Group13_05). Because apples constitute the core of cider-related agriculture, the apple-to-cider agricultural transformation was a common topic of discussion both naturally and provoked. Despite the common knowledge that cider is made primarily from apples, consumers varied in their knowledge of — and interest in — apples as an agricultural product. In total, about one half of all consumer participants were aware of the existence of different apple varieties, including cider-specific apple varieties, in the first place. Generally, consumers in the Finger Lakes (NY) and Hudson Valley (NY) sessions were much more aware of apple varieties and the use of cider-specific apples in cider-making: for contributing more complex flavors, such as more acid and tannin, to cider products (Lea, 2008; Proulx & Nichols, 1980; Thompson-Witrick et al., 2014; Thornton, 2014). In contrast, consumers in Virginia and Vermont frequently did not have a clear understanding of apple varieties nor of individual varietal character as it is expressed sensorially in a finished cider: *"I just think people don't understand the different apples as well as they do grapes, like you say this is a Merlot everybody knows what it is. You say this is a Pippin apple. No clue"* (Group3_06).

The consumers that were interested in apples were particularly interested in the history of specific apples, wild foraging, the sustainable uses of cull apples for cider-making, and the potential for apple varieties to promote agricultural biodiversity. Traditional style ciders, which prioritize the use of cider-specific apples, help to improve agricultural biodiversity by expanding the number of apple varieties used in cider-making (Miles et al., 2020; Soomro et al., 2022). Expanding apple biodiversity in turn may enhance economic sustainability for apple growers by creating more robust genetic material for apple farming and expanding markets for diverse apples with more complex sensory qualities (Alexander & Ewing Valliere, 2020; Miles et al.,

2017; Peck & Knickerbocker, 2018). Consumer interest in the sustainable use of cull apples recalls findings from M. Smith et al. (2021) who found that sustainability and support for biodiversity are contributing factors in consumer valuation of US cider.

Following discussion about apple varieties and their different uses or contributions in cider, some consumers noted their appreciation for how different apples offered different sensory qualities, which they could use as inspiration for exploring other cider products: *“the idea that you could tell me about a specific variety that goes into this is really fascinating and knowing that, you know you like the Granny Smith taste and then you've got a matrix to be able to say like ‘Oh so here are the ones that use Granny Smith, oh I'll try these.’ And I'll stay away from the Fuji.”* (Group1_02). Evidence of consumer interest in specific apple varieties aligns with research by Yennerall et al. (2020) who also reported similar findings in American cider.

It is relevant to elaborate upon how, in the current American cider food system, knowledge about agricultural production is not shared, common, cultural knowledge (Trubek, 2008) – particularly in regard to cider. In wine, knowledge about the product's origin and processing can be critical for how consumers make discernments about quality (Charters & Pettigrew, 2007; Trubek, 2008). In wine and other products, knowledge also serves to create connections between the consumption experience and the producer (DiStefano & Trubek, 2015; Labelle, 2004; Paxson, 2013). Cider-making information (i.e., the “cider story”) can be a powerful tool in influencing consumers' valuation, particularly when consumers revere the values attributed to agrarian working and living. When consumers express interest in the background of cider, like other artisan products, the unveiling of production information makes cider into an *unfinished commodity* like that originally described by Heather Paxson (2013). As an *unfinished commodity*, the backstory of the raw material and cider-making process is value-adding because it exposes the moral values and craftsmanship of a web of growers and producers; though not all cider-making is reliant upon time-intensive labor and staying true to agrarian ethics. As such, the cider story is not required for all products or for the enjoyment of a product: *“I like that information. It's not necessary for me to drink the cider. But knowing... the little story about it... just makes it feel more special”* (Group5_03). Thus, the agrarian “cider story” must be genuine, accessible, and dosed correctly in the right circumstance in order to appeal to consumers, add value, and spawn any reflective, meaningful sensory experience.

3.5. Localness, Nostalgia, Community

In talking about the backstory of cider products, recurrent themes included the immediate geography (i.e., “localness”), emotional and memory-based connections (i.e., “nostalgia”), and social connections (i.e., “community”) related to the immediate focus group settings. Consumers heavily preferred *their* local cider out of the belief that it had superior intrinsic sensory quality: *“I feel like people care about local cider here because we have good local ciders”* (Group4_02); *“Before local cideries I didn't know there was dry cider. I thought it was Bold Rock or you didn't like cider and so I went to Charlottesville and went to [regional cider brand], and I was like, what? And so now I love it, but I hated cider”* (Group4_03). Consumers also enjoyed local cider out of the desire to support local brands and they placed value in sourcing and supply chain logistics. For example, consumers emphasized their preference for cider made with apples that were unique to and grown within the state, if not within the

immediate sub-region: *“I like the idea of local apple varieties... I like getting the different varieties but I know nothing about them”* (Group1_05).

Relatedly, consumers often described and supported “local” and “small-scale” cider producers synonymously: *“I would lean more towards smaller local cideries... I tend to move away from the big ones”* (Group10_01). Mass produced ciders were consistently viewed as sweeter, more artificial, and less of a place: *“I’ll look at the bottle and go ah manufactured by [nationally-distributed brewing brand], forget that. I’ll throw it back because I want to support the local business and get a taste of a place to it”* (Group12_02). Supporting both local and small-scale brands was important to many consumers out of a desire to not *“support the machine”* (Group13_04). For example, consumers of focus groups which occurred in the Hudson Valley (New York) did not describe a nearby commercially produced and internationally distributed US cider as a *local* brand because it is owned by a craft beer conglomerate. Consumers believed that this commercially-produced brand name was not “local” because they did not and could not source *all* of their apples locally and because the facility did not have a community-oriented feel. Related quotes and observations suggest that consumers classify “local” cider as a product in which *all* of the *apples* are from within the state, if not within the immediate sub-region. These findings contrast evidence of “localness” being defined as the state within which the *cider* is established (Farris et al., 2019) — in other words, the location of the cidery business and the sourcing location of apples for cider-making are not always mutually inclusive, though consumers want them to be. Generally, consumer preferences for local cider align with previous research highlighting US consumers’ growing interest in local products (Bernard & Liu, 2017; Darby et al., 2008; Feldmann & Hamm, 2015), and specifically local cider (Farris et al., 2019; Jensen et al., 2021; M. Smith et al., 2021).

The importance that consumers place on local and small-scale cider represents a more general tuning of tastes away from those of industrialization (Belasco, 2007; Carolan, 2011; Trubek, 2008; Weiler, 2020). But, it is also critical to emphasize how consumers generally preferred local cider for two related reasons: 1) nostalgia and connectedness to *their* place, and 2) the increased community-oriented feel of local establishments.

As previously and briefly mentioned, consumers’ reverence for *their* local cider was rooted in a nostalgia for their locale: *“I think it’s interesting too, all of the ciders that we said were local... I like to choose local, but I was born and raised here. So I feel like that hits a little bit closer to home for me”* (Group4_01). For many, this pride was also deepened by the research settings’ regional cider history: *“It’s special because it’s uniquely connected to where we live. So it has a regional history and connection that maybe beer doesn’t necessarily have”* (Group8_05). For example, consumers discussed how orchard-based cideries reminded them of pick-your-own establishments that they used to frequent as children growing up in the Northeastern US and they told stories of crabapple trees in their backyards and drinking fresh apple juice as a child, suggesting that *these* consumers have a uniquely sentimental connection to apples and cider. Such sentiments are in part suggestive of David Sutton’s narratives of *gemeinschaft* and nostalgia (Sutton, 2001), but are also a step in creating a true, cultural *terroir* for products — consumers from rich apple-growing, cider-producing regions are “searching for their roots” (Trubek, 2008, p. 236) in the beverage that comes from the places they treasure, which Trubek (2008) articulates as *sentir le terroir* (p. 51). Others have described this phenomenon as “neolocalism” in the context of microbreweries (Flack, 1997; Schnell & Reese,

2003). Nostalgic sentiments help to ignite these consumers' interests in deepening their sensory experiences with US cider products because the social standard is to have an appreciation for the fine tastes and common knowledge associated with cider (Hennion, 2007). Further, local cider and apples enable connectedness between the consumer and their agricultural surroundings through nostalgia and cultural specificity (see *Figure 2*), motivating consumers to explore and value the taste of *their* place.

The proximity of many consumers to cideries also influenced their understanding of cider- and apple-agriculture. For example, one consumer from the Finger Lakes (Group13_06) asserted that by supporting local cideries (inferred by the context of the discussion around the preceding quote), you are supporting farmers: *"I mean, these places, you're really paying farmers, right? The people making the cider are growing the apples. They're just as much a farmer as they are a cider producer."* The assumption that cider producers are apple farmers comes from a *Finger Lakes* consumer because many cider producers in the Finger Lakes (New York) are also apple growers, which is much less common in Virginia and Vermont. Geographical proximity is well understood to influence nutritional food knowledge and access as well as cultural aspects of food identity (Trubek, 2008; DuPuis, 2015), and here we affirm how geographical proximity impacts agricultural knowledge and connectedness as well (Eriksen, 2013; Guptill et al., 2013; Labelle, 2004; Reddy & Flick, 1989; McDaniel et al., 2021).

Second, consumers preferred to engage with local cider because these products and tasting environments felt more community-oriented: *"You mentioned local and I think that's where it starts for me... I want to buy from a place that I can go and meet Mark [cider-maker] or meet the folks from [anonymized brand name] and feel like it's part of a community"* (Group11_03). We emphasize consumers' preferences related to localness and connectedness in both *Figure 1* and *Figure 2*. Specifically, the cidery setting was a focal point of this community-oriented expectation with cider. Consumers in regions with many cideries enjoyed traveling to cideries, most relevantly in the Charlottesville (Virginia), Hudson Valley (New York) and Finger Lakes (New York) regions. Visiting the cidery, whether a taproom or orchard, allows consumers to taste products before purchasing them — *"Yeah, we're lucky because of the amount of cideries that are here and the variety that we have... the single greatest source of information is talking to the people and just tasting things"* (Group5_02) — and allows consumers to get more information about how products are made for *"an equivalent trade in spending [my] money"* (Group11_02). Cideries were also described as being more welcoming and less pretentious (see *Figure 1*) as wineries and breweries, and cidery staff were often described as passionate and immensely knowledgeable. Lastly, consumers heavily valued meeting the cider-maker (often but not necessarily at cideries) as a way to build connection and validate a producer's production story: *"but for me John at [anonymized brand name], his story, meeting him, it's like there's a whole relationship there"* (Group9_04).

The way that consumers describe their involvement in cider-drinking communities is distinctive but also analogous to other food systems. Gomez-Corona et al. (2017) noted that a social connection existed for industrial beer consumption, but only for the purpose of ethanol-delivery with friends. In wine, social factors are key for reflecting upon and discussing wine tastes with other tasters (Charters & Pettigrew, 2008; Weightman et al., 2019). Lahne & Trubek (2014) described extensively how social networks and nostalgic memories are at play in the sensory experience of Vermont artisan cheese, where consumers also engaged with farm

stories, ethos of craftsmanship, and recommendations from cheesemongers among others. With cheese in particular, hearing the “cheese story” is integral to the social dynamics of the cheese sensory experience (DiStefano & Trubek, 2015; Lahne & Trubek, 2014). But, as with the case of artisan cheese, only certain communities have an appeal for and find value in agrarian products made with a higher level of care. Of course these tastes are constrained by social and cultural capital (Bourdieu, 1984; Paxson, 2013), to be elaborated upon in Section 3.6, but we suspect that nostalgia and community also play into a regional, value-added narrative for US cider and potentially more food and beverage products as well.

3.6. *Paying for Cider*

Extending off of all of the previous themes, consumers had diverse opinions on how they financially valued cider and what they were willing to pay for different cider products. As context, hard cider made and sold in the US has a diverse value range, with commercial ciders often being priced similarly to commercial or craft beer, and craft or specialty ciders often being priced similarly to wine (e.g., \$20-30 per 750mL bottle). Consumers were generally attracted to cider that was affordable and easily available (i.e., at the grocery store, see *Figure 1*) — making affordability and accessibility highly influential factors on purchase decisions: *“When I said earlier that I drink [nationally-marketed cider brand]... I don't have money to go out and buy fancy ciders all the time”* (Group7_01). In describing how cider should be cheap, one consumer said, *“I still put it [cider] in a category of cheaper than wine, maybe around the price of beer but still a little bit cheaper because it's apple... I don't know why”* (Group10_01). Interestingly, this statement aligns with research on European cider, where young consumers viewed cider as generally cheap (Fur & Outreville, 2022). Though many consumers expressed an interest in the agricultural connections underpinning the cider industry, this quote by Group10_01 reaffirms the knowledge gap among some consumers regarding the apple-agriculture supply chain and the cost of the apple-to-cider transformation (Trubek, 2008). In fact, this knowledge gap has also been identified by cider producers as a major barrier to growth and profitability for the industry (Ostrom et al., 2022).

Even though many consumers innately preferred “what was cheaper”, consumers also viewed the “cider story” as value-adding because they wanted a product that was priced fairly based on the care and intention with which it was made: *“The cheaper, the better. But I know you can't get that if it's artisanal so”* (Group10_02); *“Like there's value added in a story, that will usually make me part with a little bit more money”* (Group5_05). Similarly, consumers valued products that embodied respectable social and ethical standards. For example, consumers in one Vermont focus group were drawn to a tasting sample after its label was revealed, showing that the cider was made to pay homage to the producer's horticulture crew from Jamaica: *“I like that! A tribute to our horticulture crew from Jamaica who've been shaping our orchards for decades”* (Group11_03). In the same focus group, one consumer also said, *“I want a producer that's doing things the right way, is a good environmental steward... producers that say we're sourcing our ingredients from local farmers, or... we aren't using pesticides or harmful things in our products”* (Group11_02). Exemplified through these quotes and others, consumers express a clear desire for cider producers and products that align with their social, cultural, and moral values, when those values are made clear. Further, these values create symbolic capital, as exemplified in the case of artisan cheese and cheese stories (DiStefano & Trubek, 2015; Lahne

& Trubek, 2014; Paxson, 2013). Yet in this case, and as also described by Paxson (2013), we suspect that the present consumers' valuation of the "cider story" is in many ways a side effect of their regional cider heritage.

In keeping with these ideas, consumers also explicitly described a willingness to pay more for *local* cider: *"if it's local, I'm more likely to try it, even if it's a couple dollars more"* (Group3_06). Thus, the social networks created by locality, community, and nostalgia foster a sense of trust in and loyalty to local products. The social communities at work in cidery settings (and other proximally local retail settings), not only allow for the spread of product information and the cider story, but they also create social attachments that motivate consumer spending (see *Figure 1*). These observations hybridize ideas of social embeddedness in local and regional food systems (M. Granovetter, 2011; M. S. Granovetter, 1973; Hinrichs, 2000; Polanyi et al., 1957; Portes & Sensenbrenner, 1993) and Paxson's discussion of how "giftifying" a food commodity enhances the exchange value of a product (2013, p. 60) — when producers or retailers in the cider community share the stories about how cider is made, consumers are able to find value in the idea that a cider product was made by the hands of an identifiable being, from an identifiable local place, shared in a specific community by the giver themselves (see *Figure 2*). These ideas are also an extension of gift economies described by others (Hyde, 1979; Kimmerer, 2013).

Lastly, it is relevant to reflect on why some subjects in the present study were so willing and able to pay more for cider provided all of the values emplaced upon it, while other subjects seemed completely oblivious to the agricultural and ethical values at stake in the US cider industry. As one consumer put it, *"If it's good, I'll pay the money"* (Group6_02); yet, this contrasts Group7_01's prior statement on how mass-produced, cheap cider is all that she can afford. Though these statements are both from people in the Hudson Valley, a prominent orcharding and wine-producing region, the theme they articulate was shared by other consumers and potentially indicates a broader trend: cultural capital (Bourdieu, 1984) is at work in the US cider industry. Those who have a preference for complex-tasting, artisanal cider made from cider-specific apples may enjoy such taste experiences because they can afford them to begin with and they live in geographies and social communities where such styles of cider are normalized. Consumers who view the "cider story" as value-adding may do so because they have extra social and economic capital to give, enabling the taste of "artisan" or "complex" cider to be a marker of social class (Bourdieu, 1984; shown in *Figure 2*). And, these consumers *want* to spend their disposable income rewarding the skilled labor of a craft US cider producer because those empathetic desires have been regionally, culturally embedded within them. We showcase this relationship visually in *Figure 1*, describing how consumers are motivated to explore products in their area and prefer to buy many products at cideries themselves, when possible, because such behavior is the cultural, social norm. In summary, many cultural and social elements of geography influence consumer preferences and valuation for cider in leading cider-producing states of the Northeast and Mid-Atlantic US.

4. Conclusion

Cider in the US is emerging as a popular drink in the alcoholic beverage marketplace, but not without the challenges characteristic of an industry young in its lifecycle. While the present study aimed to thoroughly explore the preferences and perceptions of the cider-drinking

experience, it is not without limitations. Firstly, the present sample of consumers does not include individuals from all states of the Northeast and Mid-Atlantic US, nor does it include the opinions of all US cider consumers living in or from the US. The methods used to recruit participants (e.g., university listservs, cidery social media platforms) for the present study can cause selection bias, though this convenience sampling is a common approach for exploratory, qualitative research. We attempted to ameliorate any resulting biases by hosting focus group sessions at a diverse range of different cider consumption settings, but we cannot guarantee that this ensured representivity. Lastly, this research is subject to the personal reflexivity of the research team, which had a critical role in the data collection, analysis, and writing processes. A more detailed account of the first author's personal reflexivity is provided as *Supplementary Material II*.

While consumer preferences for cider are evolving, much of the concurrent research on US hard cider has focused on production methods, economic valuation, and sensory profiling of cider products — leaving the preferences and perspectives of consumers still minimally understood. Using focus groups and reflexive thematic analysis, this research aimed to characterize consumer preferences of the cider-drinking experience in a select group of US cider consumers from three leading cider-producing states to take a “snap-shot” of preferences in the Northeast and Mid-Atlantic US cider industry. Our results provide relevant insights that support previous research on consumer sensory preferences and valuation of cider products made in the US. Through the use of a qualitative methodology, our research findings also provide rich detail that will help future quantitative studies in the hard cider sector ask the right research questions.

Altogether, these findings primarily showcase how consumers are driven to drink cider for its perceived reduction in negative health consequences and more desirable sensory qualities compared to other alcoholic beverages. Consumers' perceptions of cider quality are also heavily influenced by the drinking occasion, product information (i.e., the “cider story”), and their regional values; and, these extrinsic aspects of cider broadly influence consumers' valuation of cider. With these findings, cider consumers' sensory preferences and knowledge of the apple-to-cider agricultural transformation are also diverse. Nonetheless, the US cider industry is heavily based on social and cultural values; though these findings may be critically unique for geographies with apple-growing and cider-producing histories.

These findings are critical for the US cider industry by highlighting preferences which guide cider consumers. Producers and industry stakeholders may be able to leverage these findings to create and market products that better cater to consumer preferences, and which foster more connectedness, economic fairness, and sustainability in the cider industry. This research will also be meaningful for leaders in the cider industry as they work to more clearly define and separate markers of quality in the US cider industry. Lastly, this research also provides a framework for conducting richly detailed qualitative research in the food and beverage sectors, as a way to deliver a more intimate understanding of consumers' product and sensory experiences. Nonetheless, more research is needed to better understand how the preferences discussed in the present study relate to the preferences of other cider consumers across the US, as well as to the preferences of consumers in the broader alcoholic beverage industry. Lastly, we present a call for more research dedicated to understanding how nostalgia

and agricultural education in local and regional food systems elicits values-based approaches to food consumption and contributes to reflective sensory experiences in the US and beyond.

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7. Author Contributions

Martha D. Calvert: Methodology, Data Collection, Formal Analysis, Writing – Original Draft; Clinton L. Neill: Conceptualization, Resources, Supervision, Funding Acquisition; Amanda C. Stewart: Validation, Writing – Review & Editing; Elizabeth A. B. Chang: Validation, Writing – Review & Editing; Susan R. Whitehead: Writing – Review & Editing, Validation; Jacob Lahne: Conceptualization, Methodology, Supervision, Funding Acquisition

8. Conflicts of Interest

No potential conflicts of interest are reported by the authors.

9. Data Availability

Anonymized data are available from the corresponding author upon reasonable request.

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Tables

Table 1. Descriptions of the focus group settings and general group camaraderie. All participants sat in chairs, placed in a circle, unless otherwise noted.

	Type of Location	Number of Participants	Atmosphere of Session
Group 1	University, Blacksburg, Virginia	5	First session conducted; Participants included mostly graduate students, 1 librarian; session took place in the atrium of a University office building; most consumers appeared to be in their 20's.
Group 2	University, Blacksburg, Virginia	8	Participants included mostly graduate students, two females that are close friends, one avid cider consumer from Roanoke, VA; Participants seemed surprised and overwhelmed by the cider information and preferences shared by the avid cider consumer from Roanoke; most consumers appeared to be in their 20's.
Group 3	Urban cidery, Richmond, Virginia	9	Participants included two couples; 6/9 participants were Blue Bee cider-club members; multiple participants knew each other before the session; session took place in a covered area of the tasting room, away from regular cidery patrons; consumers varied in age substantially.
Group 4	Orchard-based cidery, Keswick, Virginia	10	Participants included 2 mother-child duos, 2 friends; session took place in a reception hall at the tasting room, overlooking orchards, away from regular cidery patrons; all participants reported staying after the focus group to taste ciders at the cidery together; most participants appeared to be in their 20's-40's.
Group 5	Rural cidery (no on-site orchard), Charlottesville, Virginia	6	Participants included one couple, beyond which no participants knew each other prior to the session; session took place in indoor area of cidery tasting room during non-business hours; participants were all avid consumers, 5/6

			preferred cider (out of all other alcoholic beverages) exclusively; most participants appeared to be in their 30's and 40's.
Group 6	Bottle-shop, Fishkill, New York	10	9/10 participants knew each other prior to the session; session took place inside the retail store (display tables were moved to accommodate the session group sitting in a circle), near a tasting bar area, during non-business hours; Many participants were regular patrons of the retail shop; most participants appeared to be in their 30's and 40's.
Group 7	Orchard-based cidery, New Hampton, New York	8	Participants included two couples; session took place on an outdoor deck in the front of the cidery's tasting room, during non-business hours. One participant worked at a nearby cidery as a bartender, one participant was friends with the host locations' cider-maker; two participants appeared in their 20's, 4 participants appeared to be in their 30's-50's.
Group 8	Bottle-shop/Café, Rhinebeck, New York	8	Participants include 4 couples, 2 couples did not know each other prior to the session; session took place on an outdoor picnic table at the front of the retail setting; 2 participants owned the retail setting at which the session took place; all participants appeared to be in their mid- to late-30's.
Group 9	Urban cidery, Hudson, New York	7	Participants included one couple, 4/7 participants knew each other prior to the session; session took place on two outdoor picnic tables in a covered outdoor space at the front of the cidery tasting room, during non-business hours; most participants appeared to be in their 20's or 30's.
Group 10	Artisan food shop, Waitsfield, Vermont	4	No participants knew each other before the session; session took place in an enclosed focus group room, away from regular retail patrons during business hours; all participants appeared to be in their 40's or older.

Group 11	Urban cidery, Stowe, Vermont	4	No participants knew each other before the session; session took place at a picnic table, in an outdoor area of the tasting room, away from regular business patrons, during business hours; all participants appeared to be in their 40's or older.
Group 12	Urban cidery, Middlebury, Vermont	4	Participants included one couple, session took place inside the cidery tasting room during non-business hours; 2 participants appeared to be in their 20's, 2 participants appeared to be in their 50's or older.
Group 13	Orchard-based cidery, Ithaca, New York	8	Participants included one couple and one mother-son duo; session took place under a tent at an outdoor cidery overlooking the cidery's orchards away from regular cidery patrons during business hours; most participants appeared around 30-40 years old.
Group 14	Urban cidery, Rochester, New York	8	Participants included two couples; session took place indoors, inside of the cidery setting during non-business hours; most participants appeared younger than 30 years old; one participant had formal wine-education training.

Table 2. Results of the demographic survey summarized based on participants counts. In total, 91 out of 99 participants completed a survey, including one missing response for Age and five missing responses for Income Range. The average age of all participants was 37.3 years.

State	Count
Vermont	11
New York	48
Virginia	32
Age Range	Count
21-30	28
31-40	38
41-50	10
51-60	9
60+	5
Gender Identity	Count
Male	39
Female	52
Income Range	Count
\$0-25,000	13
\$25,000-50,000	23
\$50,000-70,000	17
>\$70,000	33

Figures

Figure 1. A choose-your-own-adventure for defining “good” cider. This graphic summarizes the majority of answers given by consumers to describe what makes a “good” cider, which was primarily answered in terms of sensory quality, the drinking occasion, product information, and price. Preferences for local products, the cidery setting, packaging, different types of cider products, and different flavors are also emphasized. Overall, consumer preferences for cider and ways of defining quality are diverse and heavily influenced by factors extrinsic to cider products.

Figure 2. A flow chart showing the primary themes emphasized from the data. The larger circles indicate the overarching, primary themes and the square boxes (with dashed lines) indicate broader social theories, including models of active and reflexive taste experiences (Hennion, 2007; Teil & Hennion, 2018), social connectedness (Labelle, 2004; Paxson, 2013), social embeddedness (M. Granovetter, 2011; M. S. Granovetter, 1973; Hinrichs, 2000; Polanyi et al., 1957; Portes & Sensenbrenner, 1993), and cultural capital (Bourdieu, 1984), which contextualize the overarching themes. The descriptive ovals are supporting evidence and sub-themes.