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This dissertation examines cultural influences on food acceptance and rejection behaviors in early-to-middle childhood and emerging adulthood through three papers. Specifically, it explores how food culture within the home environment, proximal environments (such as schools and neighborhoods), and one's own cultural background shape food behaviors and preferences. In Paper 1, picky eating in the home environment is measured by assessing the overlap between parent and child reports of the child's picky eating in a sample of 3- to 10-year-olds. Findings are discussed with respect to the implications of children understanding their own picky eating behaviors. Paper 2 investigates food culture in proximal environments by assessing children's evaluations of foods from different cultures in the context of them being eaten at school. The study finds the strongest support for familiarity in children's food choices, with limited evidence for the effect of individual factors (such as age) and cultural factors (such as neighborhood diversity) on children's lunchbox choices. Finally, Paper 3 explores the intersection of all three types of cultures in shaping food preferences in a sample of Asian American emerging adults. Interviews reveal that parents, friends, peers, and college experiences play a promotive role in shaping the interrelations between cultural foodways and ethnic identity formation. Overall, the dissertation provides insight into the contribution of food cognition in shaping developmental mechanisms such as intergroup learning and ethnic-racial identity. Using qualitative and quantitative research methods, this body of work underscores how the confluence of participants' microenvironments and broader cultural food norms shapes food behaviors as an everyday experience.

CULTURAL INFLUENCES ON FOOD ACCEPTANCE AND REJECTION ACROSS DEVELOPMENT

by

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DEDICATION

I dedicate this to my parents, for their constant love and support. This is for our collective sacrifice of living 8700 miles away from each other.

APPROVAL PAGE

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CHAPTER I: INTEGRATED INTRODUCTION

In Paul Rozin's narrative work titled "Food is fundamental, fun, frightening, and far-reaching" (1999), the author emphasizes both the functional (i.e., nutritive) as well as the affect-driven (i.e., pleasurable or distasteful) aspects of food and eating. The article encompasses an evolutionary account of the foundational nature of food, the heritability of food likes and dislikes, individual differences in food acceptance and rejection, and contextual influences such as cultural norms that shape food preferences (Rozin, 1999). Such an account highlights the holistic nature of the role of eating and food experiences in human life.

The most powerful factor in food acceptance and rejection is taste. When examined both qualitatively and quantitatively, taste is a robust predictor of food preference, as assessed in infants and reported by children, adolescents, young adults, and parents (Ali, Gupta et al., 2022; Birch, 1999; Blissett & Fogel, 2013; Contento et al., 2006; Ludvigsen & Scott, 2009; Mennella et al., 2001; Neumark-Sztainer et al., 1999). Some basic tastes are hereditary, evolutionary, and universal, such as preferences for sweet and familiar tastes (suggestive of safe and nutritionally valuable food) and an aversion to bitter tastes (suggestive of toxins or dangerous substances, Scaglioni et al., 2011; Ventura & Worobey, 2013). Seminal work on the early influences on food preferences has highlighted the genetic transmission of taste preferences through the examination of infants, parent-child dyads, and twins (Birch, 1999; Diószegi et al., 2019; G. Harris, 2008; Mennella et al., 2005; Reed et al., 2006). In this way, taste is a foundational precursor to the development of food preferences. That said, most taste and food preferences are learned along with cognitive, social, and emotional development from childhood into adulthood.

Indeed, food choice is an early-emerging social category that signals similarity, shared group membership, and social relations (Liberman et al., 2017). Children learn about this social

nature of food by observing what is eaten by their peers and adults, and by eating in different social contexts (Mura Paroche et al., 2017). This dissertation seeks to explore a subset of these learned influences on eating behaviors. Specifically, through a series of three papers, the goal of this dissertation is to understand how culture can influence food acceptance and rejection behaviors. In a reconceptualization of Bronfenbrenner's Bioecological Theory, some authors have argued that culture is not solely a broader macrosystem influence but instead is infused in daily proximal environments (Vélez-Agosto et al., 2017). Food is one type of everyday activity that occurs in children's microenvironments and can influence developmental processes. This body of work is particularly interested in three types of culture that can shape food preferences and norms: food culture in the home environment among parents and children, the culture of proximal environments (such as schools and neighborhoods) that can guide food choices, and culture as it relates to racial and ethnic backgrounds. This dissertation examines these influences in two age groups of participants: early-to-middle childhood and emerging adulthood.

The following Introduction will provide an overview of why these three types of cultures are important for studying food acceptance and rejection behaviors, and how they intersect in the current body of work. It will also review socio-cognitive developmental mechanisms pertinent to the age groups of the participants included in this set of studies (3-year-olds through emerging adults). It will end by highlighting the contribution of this body of work and a summary of the three manuscripts, namely 1) children's understanding of their own picky eating (compared to that of their parents), 2) children's evaluations of foods from different cultures eaten in social settings, and 3) Asian American emerging adults' socioemotional understanding of their food-related experiences as second-generation immigrants.

Food Culture in the Home Environment

Parents are early socializing agents of children's food preferences and establish the food culture within the home environment. They influence factors such as access and availability of foods, what foods are modeled (and the extent to which parents participate in modeling), engage in various feeding behaviors like encouragement or pressure to eat, and establish whether and how often meals are eaten jointly as a family (Balantekin et al., 2020; Benton, 2004; Birch, 1999; de Wit et al., 2015; Mitchell et al., 2013; Mura Paroche et al., 2017). Such parental behaviors influence their children's diet quality and quantity, and weight outcomes (Campbell et al., 2006; Couch et al., 2014; Hammons & Fiese, 2011). To this end, a common way of assessing children's food behaviors is having parents report on their children's eating behaviors using validated questionnaires, which are then associated with outcomes such as children's anthropometrics or dietary content (Birch et al., 2001; Fernandez et al., 2018; Musher-Eizenman & Holub, 2007; Wardle et al., 2001). One reason for this methodological preference in eating behavior research is that these behaviors are studied in early childhood when children are either pre-verbal or considered to be too young to report for themselves. It also emphasizes the central role of parents in the early development of children's food preferences (Balantekin et al., 2020; Benton, 2004; Rahill et al., 2020). Herein, two aspects of home food culture are of interest in this dissertation. Firstly, a child characteristic that has received significant attention in eating behavior research and can influence mealtime culture is picky eating behavior. Secondly, are the food practices followed by immigrant families as they integrate into their host cultures while retaining their cultural food practices.

Picky Eating and the Family Mealtime Culture

Food fussiness or selective eating are terms interchangeably used to characterize picky eating: the rejection of foods that can be familiar or unfamiliar, and based on texture or flavor (Cano et al., 2015; M. Patel et al., 2020; Taylor et al., 2015). Although picky eating is not a clinical eating disorder (Jacobi et al., 2008; Norris et al., 2016), the food-avoidant and restrictive behaviors exhibited by a picky eater are common characteristics in early childhood. While some parents acknowledge that their children's food preferences in early childhood are variable by the day and they have to try multiple offerings of food before truly considering it as something their child will not eat (Johnson et al., 2024), other parents describe stress around feeding a picky child. Indeed, parents of picky eaters experience substantive stress in accommodating their children's preferences and food rejection during mealtimes, such as preparing separate meals to cater to their limited food palette (Wolstenholme et al., 2020). This includes feeling guilty that their children do not eat enough fruits and vegetables and feeling undervalued by their children's doctors when they express their concerns (Chilman et al., 2023).

However, some researchers argue that picky eating is not a unidirectional phenomenon with parents dictating what their children should or should not eat (Jansen et al., 2017). Walton and colleagues propose that instead of framing picky eating as "noncompliance" from the child, parents should acknowledge the agency the child is exhibiting in learning their own food preferences, thus making it a relational experience (K. Walton et al., 2017). Building on this, a cognitive mechanism that children concurrently learn in early childhood as they reject or accept foods is food categorization (Lafraire, Rioux, Giboreau et al., 2016; M. Patel et al., 2020).

Food Categorization in the Developmental Context

Categorization is an early-emerging ability that aids in organizing and understanding the world around us. Food is one such "rich real-world category" (Ross & Murphy, 1999). We use multiple dimensions to classify foods such as taxonomic (fruits, vegetables), script (breakfast foods, snacks), thematic (pancakes with chocolate sauce), and evaluative (healthy or unhealthy) categories (Nguyen, 2007; Pickard et al., 2021; Ross & Murphy, 1999). Foods can also be cross-classified (banana is a fruit and breakfast food) and such cross-classification helps in making food inferences and directing food acceptance and rejection behaviors (Mura Paroche et al., 2017; Nguyen & Murphy, 2003; Ross & Murphy, 1999).

Developmentally, children show an incremental understanding of food categorization (see Mura Paroche et al., 2017 for review). Infants have limited capabilities of distinguishing foods by category, as they do not differentiate between the color and texture of items that influence food categorization (Shutts, Condry, et al., 2009). Here, infants did not differentiate between changes in a food's texture and color (green sugar in a champagne glass to orange juice in a bowl) and changes in the food shape (green juice in a champagne glass to green juice in a bowl). From 16 to 30 months of age, they are willing to ingest items that adults would find dangerous or disgusting (such as fake dish soap), a tendency that decreases by preschool (Rozin et al., 1986). In terms of taxonomic categories, preschool children can categorize foods based on fruit-vegetable and edible-nonedible dimensions (Lafraire, Rioux, Roque et al., 2016; Rioux et al., 2016). Even so, younger children exhibit false positives (i.e., placing pictures of fruits in the vegetable box), an error rate that decreases in 4- to 6-year-olds (Rioux et al., 2016). By middle childhood, children's taxonomic categorical skills are consistently accurate (Beltran et al., 2008). While children concurrently display script knowledge of foods by 3-years, the ability to

categorize foods by script and thematic knowledge improves between 3- to 5-years (Nguyen & Murphy, 2003; Pickard et al., 2023). Children also use personal experiences (such as grouping foods based on own taste preferences), perceived messages (such as grouping foods based on nutritional value), and environmental experiences (such as grouping foods based on how they are prepared) to dictate food categorization (Freedman et al., 2021). Between 4- to 7-years, they show evaluative categories, by classifying healthy and unhealthy foods, providing nutritive justifications for their choices, as well as classifying foods as "kid food" and "adult food" (DeJesus, Kinzler, et al., 2018; Nguyen, 2007; Nguyen & Murphy, 2003; Osowski et al., 2012).

Children's food categorization skills are predictive of their food acceptance and rejection behaviors such that children who have a harder time recognizing foods or have a more rigid notion of how foods should look tend to reject those foods that do not fit their representations (Lafraire, Rioux, Giboreau et al., 2016; Rioux et al., 2016). Moreover, children with higher food rejection scores have lower performance on thematic food associations, highlighting that the ability to make thematic associations requires being exposed to different food combinations and the mixing of foods, both of which picky eaters are less likely to have (Pickard et al., 2021, 2023). Herein, cognitive flexibility in 3- to 6-year-old children is negatively related to food neophobia and pickiness, such that these children have a harder time switching from food categories (e.g., dinner foods) to contextual categories (e.g., food combinations) (Foinant et al., 2022).

In this way, children's development of taxonomic and thematic food knowledge is positively associated with their food acceptance and negatively associated with food rejection behaviors. This implies that children who have a harder time being flexible in their food representations might reject foods that would otherwise be deemed appropriate in different

instances (Pickard et al., 2023). Thus, children's exposure to different foods, and by extension, their food categorization skills, can be restricted by their picky eating behaviors. For example, a child who finds it hard to classify green leafy vegetables might reject the food and have reduced chances of learning about the food if their parents do not continue to offer it to the child after the initial rejection (M. Patel et al., 2020), highlighting the bidirectional relation of picky eating between parents and children. Such picky eating behavior can also be extended to cuisine types, where children might show a heightened preference for one culture's food over another.

Cultural Heritage and Family Mealtime

The rejection of one culture's food over another has been documented by immigrant parents. Indeed, in as much as parents shape their children's food preferences as seen thus far, immigrant parents are further guided by cultural practices that influence food culture in the home environment (N. Zhou & Cheah, 2015). Research with Asian and Latinx caregivers emphasizes their vested interest in passing on traditional and nutritive meal practices to their children, and they do so by preparing heritage meals regularly (Ando, 2020; Greder et al., 2012; Momin et al., 2014; Srinivas, 2006; Sukovic et al., 2011; Vue et al., 2011; Zulfiqar et al., 2021). However, they acknowledge how their children show a heightened preference for mainstream Western foods that are eaten by their peers and shown on the media, especially fast foods and sweetened beverages (Ando, 2020; Evans et al., 2011; Greder et al., 2012; Hampl & Sass, 2001; Lv & Brown, 2010; Sukovic et al., 2011; Vue et al., 2011).

This has led children to be picky toward certain cultural foods and vegetables which have created stressful mealtimes for mothers, similar to the findings in the section on Picky Eating. Some mothers resorted to providing a Western meal for their child while they ate their traditional meal to circumvent these situations (Cluskey et al., 2008; Lv & Brown, 2010; Trofholz et al.,

2020; Vallianatos & Raine, 2008). The socio-cognitive development underlying why children of immigrants might exhibit such behavior will be examined in the subsequent section on Peers and Friends. Notwithstanding the tussle between heritage foods and mainstream foods that children of immigrants might exhibit, children also play an active role in influencing their families' food choices by being involved in meal preparation, teaching their parents healthy eating practices, and exposing them to new foods (Auer et al., 2023; Evans et al., 2011; Masek et al., 2023; Ramírez et al., 2018; Trofholz et al., 2020; Vallianatos & Raine, 2008). In this way, the cultural heritage of the family influences the kinds of foods and practices around food that parents and children participate in at home.

Examining the Home Food Culture in this Dissertation

Taken together, the food culture at home, especially parent-child dyadic interactions around food, can influence children's food acceptance and rejection behaviors (de Wit et al., 2015; Fuster et al., 2019; Zulfiqar et al., 2021). Previous research has conceptualized parents as unilateral socialization agents in influencing children's food preferences, but there is a body of literature to suggest that children can also shape their family's eating habits (Ramírez et al., 2018; Vallianatos & Raine, 2008; K. Walton et al., 2017). This dissertation adds to the literature on food culture in the home environment by highlighting children's perspectives on parent-child experiences around food. Specifically, while children's picky eating might be relational (K. Walton et al., 2017), less is known about whether children understand and can report their own picky eating. Paper 1 explicitly measures the degree of overlap between parents' and children's perceptions of the child's picky eating. Additionally, while immigrant caregivers have discussed how their children might develop polarized preferences for mainstream foods above their cultural foods (Greder et al., 2012; Momin et al., 2014; Zulfiqar et al., 2021), less is known about how

their children who have grown up in the U.S. view their own food preferences. Paper 3 explores the role of parents and caregivers in the socialization of cultural food practices from the perspective of immigrant emerging adults.

Food Culture in Proximal Environments

In addition to eating at home and learning about food through parents, children eat in different contexts such as with peers and friends at school. In these environments, peers and friends become important socializing agents in children's food preferences through social learning mechanisms. This learning from others' eating habits is grounded in norm following: adhering to social norms about eating is adaptive (signals what is safe to eat), and facilitates social affiliation (connection with ingroups), while nonconformity can result in social judgment (Higgs, 2015). Neighborhoods are another proximal context that shape food choice as they not only contain access to different kinds of food stores (Bennett et al., 2022) but also vary in the racial and ethnic makeup of the residents. This dissertation operationalizes the neighborhood culture as the racial and ethnic representation in participants' neighborhoods that could have associations with their food choices.

Peers as Influences on Food Culture

It is during preschool that peers become important models and social reference points for food acceptance (see Houldcroft et al., 2014 for review). For instance, peer models can help change children's preference from an initially disliked food (e.g., peas) to improving their opinion of that food (Birch, 1980), and when in competition with teacher models, only peer models are effective in increasing children's food acceptance of new fruits (Hendy & Raudenbush, 2000). The effectiveness of peer models in influencing target children's food intake continues through middle childhood years (Houldcroft et al., 2014; Sharps et al., 2022). Children

also infer group norms by observing peers. To illustrate, in a sample of 6- to 10-year-olds, children were less likely to eat the target food when it was eaten by peers in the numerical minority, inferring that the food was not liked by the majority group (Binder et al., 2019). Moreover, third-and-fourth grade children who discussed food choices with a peer chose less nutritive snacks that were seen as more popular (like cookies) and made more similar food choices to each other, compared to children who did not discuss with a peer (Landwehr & Hartmann, 2024). This highlights the role of social facilitation, wherein observing and discussing what peers are eating can guide children to modify their own food acceptance (Frazier et al., 2012; Salvy et al., 2012). Peers act as social reference points even when they are not directly in front of the child. Here, perceptions of what others are eating can influence children's food intake. For example, 5- to 6-year-old children ate more of a food that was deemed popular with other children than unpopular, as well as more of a food that was deemed popular with children than adults (DeJesus, Shutts, et al., 2018). Such findings indicate that social information about a food can guide food choice.

Of interest to this research is how peers establish the culture in a school classroom by determining the social acceptability of foods. For instance, children are aware of social class as it relates to the brands of snacks that peers might pack (Ludvigsen & Scott, 2009). Moreover, immigrant children can experience rejection of their cultural foods by peers at school. To fit in and be similar to their peers, immigrant children modify their diets to include fast foods, sweetened beverages, and snacks (Ando, 2020; Evans et al., 2011; Greder et al., 2012; Lv & Brown, 2010; Sukovic et al., 2011) to confer with social norms. In this scenario, there appears to be an extension of children's thinking about food categories (lunch foods, conventional foods) into the social realm (judgments about peers who eat such foods). It is less clear if children

negatively evaluate the cultural foods because they are unconventional or unfamiliar, or if they are evaluating the peers who eat those foods as outgroup members. The next section will describe prior literature on children's thinking about groups and how foods can be a marker of group membership.

Developmental Intergroup Learning in Childhood

By 3 years of age, children display ingroup-outgroup categorization tendencies that guide affiliation and preference behaviors (Killen et al., 2013; Skinner & Meltzoff, 2019). One consequence of such categorization is *intergroup exclusion*, or social exclusion behaviors based on demographic categories such as race, ethnicity, or gender that children use to maintain their own group status and norms (Killen et al., 2013). The social-cognitive development of intergroup exclusion has been extensively studied in both ethnic majority and minority samples. Review articles indicate that outgroup prejudice (negative evaluations of outgroup members) tends to increase from preschool until about 7-years of age, after which it starts to decline between 8- to 10-years (Raabe & Beelmann, 2011). However, this trajectory varies depending on children's ethnic ingroup status (if they belong to the majority or minority), the nature of the prejudice (explicit or implicit), and the context of interactions (the degree of contact with the outgroup) (Aboud, 2007; Killen et al., 2013; Raabe & Beelmann, 2011; Skinner & Meltzoff, 2019).

Children's ethnic group status predicts their ingroup favoritism and outgroup prejudice attitudes. By 5-years, ethnic majority children show ingroup favoritism and prejudice toward outgroups, though ingroup favoritism develops sooner and is stronger (Aboud, 2003; Corenblum, 2003). In contrast, ethnic minority children show positive evaluations of peers of their ingroup as well as those from the majority outgroup (Corenblum, 2003; Griffiths & Nesdale, 2006). These intergroup judgments differ with age depending on whether they are explicit or implicit

evaluations. Around 8-years, children from the ethnic majority tend to decrease their explicit outgroup prejudices (Aboud, 2007; Skinner & Meltzoff, 2019). This is evidenced by increases in ingroup-negative and outgroup-positive evaluations (Doyle & Aboud, 1995), indicating cognitive flexibility capacities to reason about ingroup heterogeneity as well as learning what might be socially appropriate (Aboud, 2007). That said, implicit intergroup attitudes appear to be developmentally invariant. Cross-culturally, from 3-years-old, ethnic majority children show ingroup favoritism and outgroup prejudice: they categorize angry faces as the outgroup face (Dunham et al., 2013). This effect is dependent on whether children can categorize by race but is not dependent on age as children and adults performed similarly (Dunham et al., 2013).

Taken together, experimental developmental literature sheds light on children's nuanced understanding of intergroup biases. The literature reviewed thus far has focused on children's ingroup-outgroup reasoning as it relates to children's cognitive, trait, and affective evaluations of outgroup members (Raabe & Beelmann, 2011). However, there is limited and mixed research directly examining how children use such ethnicity-based cognition to guide their thinking around other categories such as food. On the one hand, there is evidence to suggest that children perceive the outgroup as homogenous when it comes to biological properties, but not when psychological properties such as food choice are listed as preferences (Shilo et al., 2019). It is conceivable that children might understand heterogeneity in food preferences when interacting with members of the outgroup. On the other hand, young children hold prescriptive judgments for conformity. When evaluating groups they do not necessarily belong to, they state that members of a group should share the same preferences (like food) such that they negatively evaluate category atypical behavior (Foster-Hanson et al., 2021; S. O. Roberts et al., 2017).

Existing research suggests that the relationship between group membership and shared food preferences emerges in infancy. Infants expect people who socially affiliate and share the same language to share food preferences as demonstrated in a series of experimental studies (Liberman et al., 2016). This translates to their behaviors as well: infants choose foods endorsed by an actor who speaks the native language of the child's home environment over foods endorsed by an actor who speaks a foreign language (Shutts, Kinzler, et al., 2009). By 5-years, children display ingroup reasoning in their food evaluations. When shown novel foods, White and Asian children exhibited their own-ethnicity bias as they were likely to report another own-ethnicity target child would have the same preferences as their own rather than a child from another ethnicity (Lam & Leman, 2009). This ingroup preference extends to children's evaluations of conventionality as they expect cultural ingroup members to eat a familiar conventional food pairing, such as a hot dog with mustard, compared to an unconventional one, such as a hot dog with chocolate syrup (DeJesus et al., 2019). Thus, by school age, children are perceptive that shared food preferences are indicative of ingroup membership and less is known about how such an understanding applies in different social contexts.

Friends as Influences on Food Culture

Herein, it is important to distinguish between "peers" and "friends." The research presented thus far in this section has referred to peers, or individuals who are of similar age or developmental level as an individual, while friends are those who share a voluntary reciprocal relationship (Houldcroft et al., 2014). For children of immigrants, friends can play protective roles in ensuring individuals have culturally promotive experiences. Indeed, for cultural minority youth, talking about cultural heritage and mainstream culture with friends was positively associated with cultural and mainstream identity respectively (Vietze et al., 2019). Additionally,

in a study with Asian American college students, participants who perceived their parents to have a more culture-specific orientation and had more ethnic-oriented friends had stronger ethnic identities, which in turn positively predicted their culture-specific food and entertainment consumption (Xu et al., 2004). Thus, both peers and friends promote food preferences, and more research is needed to explore the specific role of friends (vs. peers) in influencing food choices in immigrant samples.

Neighborhoods as Influences on Food Culture

One way in which neighborhoods influence the food culture of their residents is through the presence of different kinds of grocery stores, supermarkets, and ethnic stores. Supermarkets offer a higher availability of healthy food options such as fresh fruit and vegetables at lower prices than independent grocery stores, and ethnic markets offer fresh produce, meat, dairy, and other ethnic food staples (Joassart-Marcelli et al., 2017; Powell et al., 2007). Immigrant adolescents' lower fast-food intake and standardized BMI scores are enhanced by the presence of health-supporting neighborhoods or neighborhoods that have fewer fast-food outlets and convenience stores (that typically do not have fresh produce, Berge et al., 2014). It has been shown that mixed or racial minority neighborhoods (such as neighborhoods with higher Hispanic and Asian populations) have more grocery stores and fewer fresh fruit and vegetable markets than predominantly White neighborhoods (Bennett et al., 2022; Moore & Diez Roux, 2006). However, in neighborhoods that have a high immigrant population, the presence of ethnic markets can positively create "community food security" through their supply of cost-effective and culturally appropriate foods (Joassart-Marcelli et al., 2017). Hence, grocery stores and supermarkets in a neighborhood determine the access and availability of different kinds of foods.

That said, the variable of interest to this body of work is the racial and ethnic composition of participant neighborhoods that might influence the acceptance or rejection of diverse foods. Literature suggests that intergroup biases are attenuated through contact and exposure with the outgroup (Aboud, 2003; Raabe & Beelmann, 2011; Skinner & Meltzoff, 2019). Such contact can be facilitated by the presence of racial and ethnic diversity in children's neighborhoods. Indeed, children raised in diverse environments show lower racial essentialism than those from homogenous environments (Pauker et al., 2016). In this way, contact with individuals of different races and ethnicities different from one's own can assist in reducing outgroup homogeneity and stereotyping. At the same time, having a higher proportion of own-ethnicity families within one's neighborhood can also be protective, especially for ethnic minority individuals. As it relates to food behaviors, 7- to 18-year-old Hispanic participants who lived in neighborhoods with a higher proportion of Hispanic residents had more fiber and less added sugars in their diet, but this was weaker for youth with a higher U.S. assimilation (Fred Wen et al., 2016). In this way, the ethnic and racial composition of a neighborhood can influence food behaviors. On one hand, having a higher proportion of people of different races and ethnicities can promote thinking about outgroup heterogeneity and acceptance of foreign foods (H. G. Hwang, DeJesus et al., 2021). On the other hand, for immigrants, having a higher proportion of co-ethnic residents can make them feel more connected with their ethnicity and culture.

Examining the Food Culture of Proximal Environments in this Dissertation

As seen in the literature on intergroup learning, peers can influence children's preferences, and they establish the culture within a classroom concerning social norms around foods. Indeed, the school lunchroom is a context rich with multiple intersecting mechanisms: the role of conventionality in influencing what children deem acceptable to eat, how unfamiliarity

toward certain foods can influence food rejection behaviors, and how such rejection can lead to intergroup exclusionary behaviors. Paper 2 investigates how school-age children from different ethnic and racial backgrounds in the U.S. would evaluate people who eat foods from different cultures in the context of them being eaten at school, and if participants across backgrounds would view the mainstream food as a conventional option or if they would show ingroup biases in their food preferences. Paper 3 retrospectively examines school lunchtime experiences in a sample of Asian American emerging adults. Furthermore, Paper 3 also explores the role of friends in shaping immigrant emerging adults' cultural food experiences.

Racial and ethnic outgroup representation in the neighborhood positively predicts children's acceptance of foreign foods (H. G. Hwang et al., 2021), and having a higher representation of same-ethnic individuals within the neighborhood can be protective of ethnic minority dietary experiences (Fred Wen et al., 2016). To add to the literature on how such representation might influence children's evaluations and preferences of culturally diverse foods, Paper 2 includes measures of neighborhood outgroup as a predictor based on U.S. Census data derived from participants' zip codes. In Paper 3, the neighborhood ethnic representation is not explicitly measured but emerges as a factor that has shaped participants' access to foods from their cultural heritage and the extent to which they engaged in cultural food practices outside the home.

Own Cultural Background and Food Preferences

In addition to factors described previously, such as how immigrant children might choose certain foods from dominant cultures to fit in with their peers, and the inferences they make about people who belong to groups different than their own, another way to think about culture is to explore an individual's relation with their own ethnic or racial background. This dissertation

examines the role of one own's culture (defined as the racial or ethnic background of the participants) in driving food choices.

In infancy and early childhood, children understand race and ethnicity through a perceptual lens, as demonstrated by robust own-race preferences in facial recognition studies where participants exhibit a visual preference for stimuli that contain their own-race compared to other-race faces (Anzures et al., 2013). Developmental trajectories of racial understanding purport that children then move from an understanding of race and ethnicity grounded in observable features (such as skin tone, food preferences, and language) from 6- to 9-years to a more social understanding in preadolescence, and finally acquire ethnic consciousness in adolescence and onwards (Quintana, 1998). That said, children's own-race biases have predominantly been examined through visual preference or social evaluative attributes (Aboud, 2007; Anzures et al., 2013), with fewer studies on food choice as an outcome variable. In one study that investigated the effectiveness of models on preschoolers' food choices, authors found children demonstrated own-age and own-gender biases of model choice in food preferences, but not own-race biases (Frazier et al., 2012). However, as described earlier, 5- to 10-year-old White and Asian children demonstrated an ethnocentric bias in their food choices (Lam & Leman, 2009). This way, more research is needed to understand if children demonstrate own-race biases in their food choices. A period during which individuals reflect on what their race or ethnicity means to them is emerging adulthood, making this period a potentially important time to study links between food choice and ethnicity.

Food and Culture in Emerging Adulthood

Emerging adulthood, or the period between 18- to 25-years, is a distinct developmental period for individuals living in industrialized societies (Arnett, 2000). There are many reasons

why this transitional period from adolescence to adulthood is significant. Individuals have demographic variability (such as living away from home for the first time), subjectively experience the volatility of adolescence while making independent decisions for themselves, and undergo increased cognitive reasoning complexity including metacognitive abilities (Arnett, 2000, 2007; King & Kitchener, 2016). Identity exploration is also at its peak, involving the examination of worldviews, career paths, and the reconsideration of beliefs and lifestyles one has grown up with (Arnett, 2000). For immigrant emerging adults, ethnic-racial identity (ERI) is a particularly salient aspect of identity development.

ERI in the Developmental Context

ERI refers to the internalization of one's ethnicity, the sense of belonging to an ethnic-racial group (Huguley et al., 2019; Paat & Pellebon, 2012; Umaña-Taylor et al., 2014), and includes one's "ethnic heritage, racial phenotype, and cultural background" (Phinney, 2006, p.118). The exploration of the sense of self and that of one's ethnicity commences in adolescence, but emerging adulthood can be another period of ethnic identity exploration specifically for ethnic minority youth (Nesteruk et al., 2015; Syed & Mitchell, 2013; X. Zhou et al., 2019). Indeed, identity commitment is not stagnant: it can undergo reformulation, and one might even regress to a prior status before achievement is reached (Kroger, 2014; Marcia, 2002). Thus, achieving a secure ERI among minority adults involves balancing cultural heritage with a sense of belonging in a diverse national space (Phinney, 2006). The transition to college includes milestone changes such as encountering peers from diverse backgrounds, taking part in cultural clubs, making both diverse and same-ethnic friends, and exploring adult independence — all significant experiences that can trigger the (re)exploration of one's identity (Nesteruk et al., 2015; Phinney, 2006; Syed & Mitchell, 2013; X. Zhou et al., 2019). In this way, emerging

adulthood for immigrants is a period wherein they are conceptualizing or reconceptualizing their cultural heritage, and food could be one medium through which they express such reflections.

Food is certainly an integral element of culture (Satia, 2010). There is some prior literature examining how food specifically plays a role in shaping immigrant ethnic identity (Han & Macomber, 2022; Ramírez et al., 2018; Wright et al., 2021). For instance, in a study with Asian high school students of different generational backgrounds, participants differed in the degree to which they perceived food as connection to their cultural identities, with some participants stating it is the main way they express their Asianness, while others felt it was not the "sole" medium of connection to their culture (Han & Macomber, 2022). That said, more research is needed to understand the socioemotional nature of food experiences immigrant emerging adults have undergone and potential protective factors in the relationship between food and cultural identity.

Examining Own Cultural Background in this Dissertation

Thus, experimental literature suggests children demonstrate own-race biases in visual and social evaluation tasks, which decrease with age and exposure to diverse individuals (Anzures et al., 2013). Paper 2 examines if children would choose foods that match their own racial and ethnic background. Moreover, as individuals gain an in-depth understanding of their ethnic identities, food appears to be one way through which they express their cultural identities (Ramírez et al., 2018; Wright et al., 2021). Paper 3 explores if and to what extent food experiences play a role in how second-generation immigrant Asian American emerging adults think of their identity, given that food as a cultural socialization medium is a robust predictor of ERI (Umaña-Taylor & Hill, 2020).

Current Body of Work

Taken together, the food culture in the home, among peers and friends, at school, and within neighborhoods, as well as that dictated by one's own cultural heritage, all shape food acceptance and rejection behaviors. The current body of work assesses a subset of cultural influences during age groups identified as the most sensitive to these developmental mechanisms. Paper 1 asses picky eating in early- to-middle childhood, including preschoolers for whom picky eating is shown to be of the highest prevalence and when food categorization skills start to improve (Cano et al., 2015; Dovey et al., 2008; Nicholson et al., 2018). Paper 2 examines social cognitions regarding foods from diverse cultures in elementary school children, a period when children eat at school and are attuned to group membership (Killen et al., 2013; Skinner & Meltzoff, 2019). Paper 3 explores the socioemotional experiences of cultural food practices in a sample of emerging adult children of immigrants, a period ripe for ethnic identity exploration (Arnett, 2007; Umaña-Taylor & Hill, 2020; Wright et al., 2021). Papers 1 and 3 explore the food culture in the home environment, especially between parents and children. Papers 2 and 3 explore the food culture established by peers and friends, and the ethnic representation in participants' neighborhoods. Papers 2 and 3 also examine the relationship between one's own cultural background and food preferences. Papers 1 and 2 explore these mechanisms in samples of children from different racial and ethnic groups, while Paper 3 focuses on a sample of Asian Americans.

The dissertation aims to contribute to the existing literature in the following ways: Paper 1 takes a measurement focus by assessing a new way to measure picky eating, a construct that has been robustly studied in children and adults. Picky eating has been conceptualized as a relational phenomenon between parents and children (K. Walton et al., 2017), but few studies

include children's reports of their own picky eating (Loewen & Pliner, 2000; Rubio et al., 2008). Paper 1 thus assesses children's own understanding of their picky eating by examining parent-child convergence in the assessment of this behavior. Paper 2 takes a measurement and conceptual focus on existing literature. While significant attention has been given to studying children's school lunchroom experiences, these studies tend to be qualitative in nature. They typically focus on the perspectives of immigrant children (Ando, 2020; Golden, 2020; Nukaga, 2008; Obeng-Gyasi et al., 2020; Seko et al., 2021), or retrospective reports from adults (Guendelman et al., 2011; Salazar, 2007). The few that include children from multiracial backgrounds are conducted outside the U.S. (Karrebæk, 2012; Ludvigsen & Scott, 2009). Paper 2 systematically assesses children's evaluations of foods from different cultures in the school context and includes samples of children from different races and ethnic groups in the U.S. Paper 3 takes a conceptual focus on the literature. This study is a qualitative inquiry with Asian American emerging adults, which is the most common method of exploring food experiences in this area of research and is employed to provide richness to participants' contextual experiences. That said, this study builds on existing research on food, culture, and identity (Han & Macomber, 2022; Salazar, 2007; Wright et al., 2021) to augment our understanding of food experience in second-generation Asian American emerging adults.

The summary of each paper is detailed next. Additionally, this Introduction will serve as the basis for a chapter on food preferences in the upcoming Oxford University Press *Handbook of Perceptual Development*.

Paper 1: Can Children Report on Their Own Picky Eating? Similarities and Differences with Parent Report

A few studies show that children can report on their own food rejection/picky eating, but these are typically conducted with older children (Loh et al., 2013; Rubio et al., 2008). This paper contributes more evidence that children can report on their own picky eating and includes children as young as 3-years, the age group in which picky eating is at its peak (Cano et al., 2015). The study also sought to assess parent-child congruence in children's picky eating scores, especially since picky eating is a stressful and common occurrence for parents to handle (Chilman et al., 2023; Wolstenholme et al., 2020). This sample included 95 children aged 3- to 10-years who were tested at a local children's museum. We adapted the Food Fussiness subscale of the widely used Child Eating Behavior Questionnaire (Wardle et al., 2001) to a child-friendly self-report format. Children reported on their own picky eating using this adapted subscale, while parents reported on their children's picky eating using the standard CEBQ.

Overall, we found that parent scores predicted child scores: the more picky parents reported their children were, the more picky the child described themselves. Child age also positively predicted their own picky eating scores. The discrepancy between parent and child scores was largest and significant only in 3- to 4-year-olds, with parents reporting their children to be more picky, while children rated themselves to be less picky. These results provide confirmatory evidence of the age at which children tend to be the pickiest (Cano et al., 2015; M. Patel et al., 2020), and also highlight potential cognitive constraints in children's understanding of their own picky eating, akin to previous research on preschool children's limited reasoning around food categories (Rioux et al., 2016).

It has been published in *Appetite*: Venkatesh, S., & DeJesus, J. M. (2022). Can children report on their own picky eating? Similarities and differences with parent report. *Appetite*, *177*, 106155.

Paper 2: Children's Evaluations of Culturally Diverse Lunchbox Foods

The series of 3 studies in the second paper expands on qualitative work around children's lunchboxes (Karrebæk, 2012; Nukaga, 2008; Seko et al., 2021) to experimentally investigate U.S. school-age children's evaluations of culturally diverse lunchbox foods. Study 1 examined an online sample of 100 children aged 5- to 12-years and their evaluation of foods from four cultures (mainstream American, Chinese, Indian, and Mexican) on dimensions such as the foods' taste, smell, and messiness, the appropriateness of bringing the food to school, and whether cool kids eat the food. We found that children generally had positive ratings of the foods. However, compared to the mainstream American lunchbox, children rated the Chinese, Indian, and Mexican lunchboxes to be less tasty, more messy, and less likely that cool kids would bring those foods to school. However, older children and children who lived in neighborhoods with a higher proportion of outgroup members were more likely to rate the foods as being alright to bring to school. We sought to build on these results in Studies 2 and 3 by assessing whether children's ratings would map onto their behavioral choices in a hypothetical cafeteria setting.

Study 2 was conducted at a local children's museum with 100 4- to 12-year-olds, and assessed children's choice of where they would sit in a cafeteria and whether children's choices are predicted by their own food choices. We found that the match between children's own preferred lunch and what was displayed in the mainstream American lunchbox was the only predictor of children's choice to sit at the table with the American lunchbox (rather than contextual factors such as neighborhood diversity). This finding was replicated in Study 3 which

examined an online sample of 100 children aged 5- to 12-years. Children's prior exposure to each food and their school's ethnic diversity were also assessed in Study 3, but we did not find any relations between those variables and children's table choices. This paper highlights children's understanding of familiarity, conventionality, and social consequences of behavioral choices, as represented by a sample of school-aged children from a variety of racial/ethnic backgrounds.

It has been published in the *Journal of Experimental Child Psychology*: Venkatesh, S., & DeJesus, J. M. (2024). Children's evaluations of culturally diverse lunchbox foods. *Journal of Experimental Child Psychology, 243,* 105911.

Paper 3: "Korean food is who I am": Food and Ethnic Identity in Asian American Emerging Adults

Building on previous work that has examined the role of cultural foodways in Latinx (Ramírez et al., 2018) and ethnic minority immigrant emerging adults (Wright et al., 2021), this study seeks to explore the role of food experiences in the ethnic identities of second-generation Asian American emerging adults. Asians are the second-fastest growing immigrant population group in the U.S. (Greenwood, 2020), and 1 in 5 Asian American adults report that they have hidden aspects of their cultural identity (including food choices) to fit into mainstream American society (R. Chen et al., 2023). This study examines the socioemotional aspects of food-related experiences during childhood and adolescence in the U.S., by retrospectively capturing both negative and positive experiences. It also seeks to understand the extent to which Asian American emerging adults perceive food as central to the expression of their Asian identities.

Our sample included 20 18- to 23-year-old second-generation Asian Americans. Participants in this qualitative study completed a survey on their demographics and acculturation

and participated in an hour-long interview on Zoom. Interview transcripts were analyzed using thematic analysis for qualitative data (Braun & Clarke, 2006). We find that participants varied in the food experiences they had growing up in the U.S., and a majority of negative experiences reported around cultural foods occurred in elementary school. Moreover, same-ethnic friends, Asian neighborhoods, and the popularization of cultural foods in mainstream media were protective factors in participants' development of positive relations with foods from their heritage culture. About half the sample viewed cultural foods as a connection to their parents and families and found these foods as a central medium to express their Asian identities.

The paper attached is a full draft of the manuscript and has not yet been submitted to Dr. Stein and Puja Patel for review in their capacity as co-authors.

Taken together, using quantitative and qualitative methods, this dissertation will examine a subset of cultural factors that influence food acceptance and rejection behaviors in childhood and emerging adulthood.

CHAPTER II: CAN CHILDREN REPORT ON THEIR OWN PICKY EATING?

SIMILARITIES AND DIFFERENCES WITH PARENT REPORT

Abstract

Picky eating in childhood is associated with children's dietary outcomes and parental feeding experiences. The Child Eating Behavior Questionnaire (CEBQ) is a frequently-used parent-report survey that measures children's eating behaviors, including picky eating. Limited work has adapted the CEBQ into a child-friendly format to measure children's ability to report directly on their own picky eating behavior. We sought to extend previous research by adapting the Food Fussiness subscale of the CEBQ into a child self-report format and measuring parent-child resemblance in scores, with children as young as 3 years. Our final sample included 3- to 10-year-old children (n = 95) and their parents, who were assessed at a local children's museum. The internal consistency of parent-report on the CEBQ FF was $\alpha = 0.9$ and child-report was $\alpha = 0.7$, with parent scores predicting child scores when controlling for child age and child gender. The largest difference between parent and child scores on child picky eating (with parents reporting higher scores) was for 3- to 4-year-old children. Children are able to report on their own picky eating and with age their reports converge with those of their parents, highlighting the potential benefit of collecting picky eating scores from multiple informants (parent and child). We suggest future directions for the validation and extension of this measure.

Introduction

Picky eating refers to being fussy or selective with foods. A component of picky eating, food neophobia, is the aversion to trying new foods. Picky eating is common in childhood and influences child dietary outcomes and parental feeding experiences (Cardano Cano et al., 2015;

Dovey et al., 2008; Taylor et al., 2015). Systematic reviews of this phenomenon focus on the definitions, measurement, and developmental trajectories of picky eating and food neophobia (Dovey et al., 2008; Taylor et al., 2015) as well as the biological foundations of children's food fussiness (J. Lee et al., 2021). The prevalence of picky eating in early childhood appears to peak at about age 3, as observed in a population study with over 4000 participants (Cardano Cano et al., 2015). Picky eating in childhood is also associated with poorer diet quality in young adulthood (Pesch et al., 2020). The early correlates of picky eating in children under 30 months of age have also been studied (Cole et al., 2017)— this review revealed that majority of the studies did not find a relation with child sex and picky eating, had mixed associations of child current weight and picky eating, and had positive associations with nonresponsive parenting and child picky eating. Researchers have also qualitatively examined caregiver beliefs, experiences and practices surrounding picky eating (Wolstenholme et al., 2020) which emphasize how fussy eating creates a negative mealtime environment, and how caregiver beliefs (such as feeding self-efficacy, child's hunger regulation and attributes of fussy eating) influence their feeding practices (Wolstenholme et al., 2020).

Studies of picky eating in childhood primarily rely on parent-report. Therefore, it is unknown if children can self-report on their own picky eating and the extent to which parent[1] and child reports of this phenomenon may overlap. In this paper, we develop a method for children to report on their own picky eating and analyze the consistency of parent and child reports of children's eating behavior. We discuss the potential usefulness of obtaining child self-report of their own eating behaviors.

[1] We use the terms "parent/legal guardian" or "caregiver" based on the terminology used in prior literature (i.e., some papers specifically recruited parents) and who we had permission to include in the present study, but return to this terminology in the Discussion, as many people other than parents can be involved in feeding children.

Measuring Picky Eating via Caregiver and Child Report

The predominant method of measuring children's picky eating is through caregiver report of their child's eating behaviors (Taylor et al., 2015). In this study, we focus on the extensively used Child Eating Behavior Questionnaire (CEBQ) as it has been cited over 1,500 times as of May 2022 and the CEBQ has been adapted for adolescent self-report (Loh et al., 2013) that we sought to model in a sample of younger children. This 35-item 8-subscale parent-report survey was initially validated on children aged 3-to 8-years in the United Kingdom (Wardle et al., 2001). Of particular interest here, we focus on the Food Fussiness (FF) subscale of the CEBQ, which consists of 6-items that index children's food selectivity (in which higher scores represent more pickiness) and is the most popularly used scale to characterize picky eating as of a recent review (Chilman et al., 2021). These items measure whether children are restrictive in the range of foods they eat or are willing to try (*see Table 1 for the exact wording of each item*). The CEBQ FF subscale has been found to negatively predict children's liking toward most food groups (such as vegetables, dairy, and fruit) and positively predict the number of disliked foods (Russell & Worsley, 2016) and is negatively associated with child weight (de Barse et al., 2015; Webber et al., 2009). Parental feeding practices (such as using pressure to eat) and difficult child temperament are also associated with CEBQ FF scores (C. Brown et al., 2018; De-Jongh González et al., 2021; Haycraft & Blissett, 2008; Jansen et al., 2017).

Limited work has examined whether children can self-report on their own selective eating behaviors. One such child-report scale has been developed to measure food neophobia in young children (Rubio et al., 2008). This picture-based scale was initially validated in 5- to 8-year-old French children, with a Cronbach's alpha of $\alpha = 0.8$; children's self-report scores were negatively associated with their willingness to try new foods, measured via pictorial preferences.

Additionally, the CEBQ was adapted and validated in a multi-ethnic sample of 13-year-old Malaysian adolescents (Loh et al., 2013). Overall, the internal consistency of the adolescent-reported scores mapped onto the original parent-report CEBQ, with a 30-item 8-factor structure yielding a better model fit. In this study, the Food Fussiness subscale loaded onto two factors—"dislike towards food" (FF1) and "trying new foods" (FF2) (Loh et al., 2013). Although alphas for each subscale were somewhat low (FF1 = 0.5, FF2 = 0.6), adolescents' scores on each subscale were related (the more dislike towards food, the less willing to try new foods), test-retest reliability was good (ICC = 0.7 for FF1 and 0.8 for FF2), and adolescents' dislike toward food was negatively related to their BMI z-scores. These adaptions and validations highlight how children under 12 and younger adolescents can potentially reliably report on their own eating behaviors.

Importance of Child Self-report on Their Picky Eating

Although caregivers have been shown to be reliable proxies to report on their children's eating behaviors, they might have a different perspective on their child's food experiences (compared to the child themselves) or may underestimate the challenges children experience around food. For example, parents tend to underestimate child food insecurity, and their children's hunger, worry, and anxiety surrounding such insecurity (Bernard et al., 2018; Fram et al., 2013; Landry et al., 2019). Similarly, Braet et al. (2007) report slightly different responses between parents and children on certain scales (e.g., compared to children, parents overreport on emotional eating/external eating behavior and underreport on restrained eating), but it is unclear if these biases indicate one is right and the other is wrong (both could be providing accurate information, just from different perspectives).

A few studies have analyzed the consistency between parent-report and child self-report on the child's eating behaviors. This method bolsters the evidence for children's ability to self-report and provides information from two informants (parent and child) that can expand our understanding of children's eating experiences. In an older sample of college students who reported on their own eating behavior along with their middle-aged parents who reported on their children's eating behavior, there was significant parent-student agreement in ratings of the students' picky eating (Elkins & Zickgraf, 2018). Moreover, in the development of a Food Situations Questionnaire that aimed at measuring children's willingness to try new foods across different imaginary situations, children's self-report of their own neophobia was a stronger predictor of their actual willingness to eat novel foods than parent-report of their child's food neophobia, though parent and child scores were modestly significantly related (Loewen & Pliner, 2000). Thus, these studies shed light on parent-child congruence of children's eating behaviors, though further work is needed to examine this congruence in children under 10 years (as picky eating is especially prominent among younger children), particularly in their understanding of selective eating patterns or their own eating behavior more generally.

From a practical perspective, if children can reliably report on their eating behavior as accurately (or even more accurately) than their caregivers, obtaining child reports may be especially valuable in settings where procuring parental consent and report may not be possible. For instance, for studies conducted in school or childcare settings (in which parents complete consent forms and questionnaires but are not present when children are tested), obtaining child reports may prevent missing data by obtaining food pickiness assessments from children directly. In these settings, it may also be possible for researchers to obtain waivers of consent while still gathering caregiver and child data. Of note, procuring active consent from parents has yielded

sampling biases in terms of participation, with samples comprised of a higher proportion of White children who come from two-parent households (Anderman et al., 1995). In fact, when using an imputation-based method, children who did not participate because of parent non-consent had lower group means on a majority of the measurements assessed (e.g., children's exploratory learning with a toy) compared to children who actually participated because of parent consent (Yu et al., 2020). In this way, studies that do not require parental consent can help generalize findings from typical experimental studies to broader, more diverse samples. Having children report on their own eating can be a helpful way to garner more data when caregivers cannot be present during the testing session and give insight into children's understanding of an everyday experience.

The Current Study

Although prior work has established caregivers as reliable reporters for their children's eating behaviors, there is evidence suggesting that children can report on their own eating experiences and such reports are congruent with parent reports. Children's ability to report on their own eating behavior can be beneficial for experiences that parents may underestimate and to help further understand nuances of children's eating experiences from their own perspective. In this study, we examined parent-child congruence in their reports on children's picky eating, and whether children under age 10 can reliably report on their own picky eating.

We adapted the CEBQ FF subscale into a child-friendly format and assessed its reliability with parent-report. We expected parent and child scores to be associated based on other work that has assessed such resemblance (Braet et al., 2007; Loewen & Pliner, 2000). We also expected to see an age effect, such that older children would have more congruence in their scores with parent-report given such findings in previous research (Braet et al., 2007).

Method

Participants

This task followed a larger study that examined children's beliefs about disgust (DeJesus et al., 2021), as parents were also completing the CEBQ FF for that study. Children from ages 3- to 12-years were recruited for this study at a children's museum in southeastern United States, given that picky eating has been studied extensively in children (Dovey et al., 2008; Taylor et al., 2015), and to further extend the findings of Loh et al. (2013), which studied 13-year-olds' self-reported eating behavior. Parents provided written consent. At the start of the study, children below 6-years provided verbal assent and children aged 7 and older provided written assent.

The procedures of this study were approved by the UNC Greensboro Internal Review Board, IRB Number 19–0254. Data were collected in 2019-20 (prior to COVID-19). As we only recruited three 11- and 12-year-old children during that period, that age group was excluded from further analyses.

Materials and Procedure

Parent Report of Child's Food Fussiness

Parents reported on their child's food pickiness using the Child Eating Behavior Questionnaire (CEBQ) Food Fussiness (FF) subscale (Wardle et al., 2001) which is a 6-item subscale with the following items: 1) My child refuses new foods at first, 2) My child enjoys a wide variety of foods, 3) My child is difficult to please with meals, 4) My child enjoys tasting new foods, 5) My child is interested in tasting food s/he hasn't tasted before, and 6) My child decides that s/he doesn't like a food, even without tasting it. Parents response options were never, rarely, sometimes, often, and always; items were scored such that higher scores indicate

more food pickiness (i.e., items 2, 4, and 5 were reverse coded and the scores were averaged to create a single food fussiness score).

Child Self-Report of Food Fussiness

The main aim of this study was to assess the validity of children reporting on their own food fussiness. Hence, we adapted the items from the parent-report CEBQ FF so that children could answer the questions about themselves (see *Table 1 for full text of questions*). Such an adaptation has been done by Loh et al. (2013) for adolescents. Items were adapted by a group of researchers on our team at a lab meeting (including one parent) after reading Loh et al. (2013). Similar to their approach, we first converted the items from "My child" in the parent version to second person ("you") questions that we could ask children and defined or adjusted words that might not be familiar to children (e.g., "My child enjoys a wide variety of foods" was revised to "Do you like to eat lots of different kinds of foods?"). The item that changed the most from the original was "My child is difficult to please with meals" (to our team this was the least accessible question to children). We revised this item to "Do you like the meals you eat at home?" The CEBQ FF contains two highly similar items ("My child enjoys tasting new foods" and "My child is interested in tasting food s/he hasn't tasted before"), therefore we combined these questions into a single question: "Do you like to taste new foods that you haven't tasted before?" (see also Somaraki et al., 2022, for evidence that the CEBQ has redundant items that do not provide unique information). Thus, our CEBQ FF child-report measure had the following items, 1) Do you like to try new foods that you have never eaten before? 2) Do you like to eat lots of different kinds of foods? 3) Do you like the meals you eat at home? 4) Do you like to taste new foods that you haven't tasted before? 5) Do you ever decide that you don't like a food before you have tasted it?

For each question, children could first answer, “yes”, “sometimes” or “no.” If they answered “yes” or “no,” they were provided with additional options to further explain their response (for yes: “always” or “most of the time”; for no: “not very much” or “never”). Similar to the parent-report scale, this method yielded a 5-point response scale: “never (1),” “not very much (2),” “sometimes (3),” “most of the time (4),” and “always (5).” Items 1-4 in Table 1 were reverse coded. Similar to the adult scoring system, items were scored such that higher scores indicate more food pickiness and scores were averaged to create a single food fussiness score. We note here that the parent-report scale has half the items reverse-coded, while our child-report scale has four out of the five items reverse-coded. Since the child-report items were framed as questions to the children for a verbal response instead of statements requiring a written response (as in the parent version), we thought it would be easier to have children answer questions with limited negations.

We randomized the order of the response options such that one group of children heard the response options in descending order (“yes, sometimes, or no,” order A, $n = 48$) and another group of children heard the response options in ascending order (“no, sometimes, or yes,” order B, $n = 47$). We randomized the response options because children have shown recency biases in their verbal responses to forced-choice questions i.e., they choose the second option more frequently compared to what is expected by chance (Sumner et al., 2019). Moreover, this response order randomization could also help control for the fact that majority of our question items were phrased without negations (unlike the CEBQ parent FF subscale).

Procedure

The data were collected in-person at a children’s museum in 2019-2020. Parents and legal guardians first indicated their child’s age group (whether their child was 3- to 4-years, 5- to

6-years, 7- to 8-years, 9- to 10-years, or 11- to 12-years) to determine study eligibility and whether the child was to provide verbal assent (6 years and below) or written assent (7 years and above). Parents and legal guardians then provided written consent on behalf of their children and filled out a demographics questionnaire and the CEBQ Food Fussiness subscale on an iPad using the Qualtrics app. Using the same iPad, research assistants asked the children questions pertaining to the study in DeJesus et al. (2021), in which children were asked what they thought was "gross," "disgusting," or what a disgust face was reacting to. Children were then asked the questions from the adapted child-report version of the CEBQ Food Fussiness subscale. Children received a small prize at the end of the study for participating.

Table 1. Adaptation of the Parent-Report CEBQ Food Fussiness Subscale

Parent-reported CEBQ Food Fussiness (Wardle et al., 2001)	**Child-adapted Food Fussiness Questions**
My child refuses new foods at first.	Do you like to try new foods that you have never eaten before?
My child enjoys a wide variety of foods.	Do you like to eat lots of different kinds of foods?
My child is difficult to please with meals.	Do you like the meals you eat at home?
My child enjoys tasting new foods. My child is interested in tasting food s/he hasn't tasted before.	Do you like to taste new foods that you haven't tasted before?
My child decides that s/he doesn't like a food, even without tasting it.	Do you ever decide that you don't like a food before you have tasted it?

Note. higher scores indicate more food pickiness. For parent ratings, Items 2, 4, and 5 were reverse coded. For child rating, Items 1-4 were reverse coded.

Data Analysis Plan

Planned Analyses. To measure the internal consistency of the Food Fussiness subscales, we calculated the Cronbach's alpha for the parent and child measures. To examine whether alphas differed by age, we divided children into two groups based on a median split (median = 6.5 years; exact age not available for 12 participants) and calculated alphas for each group.

To examine the relation between the child and parent measures, we planned a linear multiple regression using parent CEBQ FF scores, child age, and child gender to predict child-reported food fussiness.

Exploratory Analyses. When examining differences in internal consistency (via Cronbach's alpha) by age for children, to retain as many participants as possible, we ran an additional analysis that included children for whom we did not have an exact age due to missing date of birth data (9 parents did not provide the child's date of birth and 3 parents provided the birth day/month but not year) but we knew their general age group based on parent-report at the start of the study.

To further examine differences between parent and child reports, in line with previous work that used difference scores when analyzing parent-child resemblance in scores on the same measure (e.g., Elkins & Zickgraf, 2018), we created a difference score between parent and child CEBQ FF scores. The difference scores subtracted child scores from parent scores, such that scores above 0 indicate that the parent's rating was higher and indicated more pickiness than the child's rating, while scores below 0 indicate that the child's rating was higher than the parent's rating. We then tested whether difference scores differed from 0 using a one-sample *t*-test. To

further examine age effects in the context of differences between parent and child scores, we ran a one-way ANOVA with child age group as a predictor of the difference between parent and child scores, with Tukey HSD tests for pairwise comparisons of each age group. Here, we looked at 4 child age groups: 3- to 4-year-olds, 5- to 6-year-olds, 7- to 8-year-olds, and 9- to 10-year-olds.

Results

Descriptive Statistics

The final sample consisted of 95 children ($Median_{age}$ = 6.5 years, $Range_{age}$ = 3- to 10-years). We had 49 girls and 39 boys participate; 7 parents did not report their child's gender. Parents identified a majority of our sample as White (n = 51) and Not Hispanic or Latino (n = 69). In terms of parent education, the majority of the sample had a bachelor's degree or higher (n = 61, s*ee Table 2 for breakdown of demographics by child age group*).

We excluded an additional 22 children based on parental interference (when parents prompted or offered suggestions for answers, n = 6; 5 were in the 3- to 4-year-old age group and 1 was in the 5- to 6-year-old age group), parents translating the study to their child who was not proficient in English (n = 2), or we learned after the study that the adult accompanying the child was not their parent or legal guardian, so could not actually provide consent (n = 14).

Mean parental CEBQ FF rating was 3.0 (SD = 0.8) while the mean child rating across ages was 2.5 (SD = 0.8), both on a scale of 1-5. Mean child ratings did not differ by question order type (if they were given the responses options in ascending or descending order), $t(93) = -.93$, $p = .35$ (s*ee Table 3 for mean scores by child age group).*

Table 2. Demographics by Child Age-Group

	3- to 4-year-olds (*n* = 17)	5- to 6-year-olds (*n* = 36)	7- to 8-year-olds (*n* = 25)	9- to 10-year-olds (*n* = 17)	Total (*n* = 95)
Child gender					
Male	10	14	10	5	39 (41%)
Female	6	20	12	11	49 (52%)
Not reported	1	2	3	1	7 (7%)
Child Race/ethnicity					
White, not Latinx	11	19	15	6	51 (54%)
Black, not Latinx	1	2	2	0	5 (5%)
Asian, not Latinx	0	2	2	2	6 (6%)
Latinx, any race	2	4	0	1	7 (7%)
Multiracial, not Latinx	0	2	0	5	7 (7%)
Not reported	3	6	5	3	15 (16%)
Parent Education					
High school/ GED or less	2	3	0	2	7 (7%)
Some college/ Associate/Vocational	3	7	6	3	19 (20%)
Bachelor or higher	11	23	16	11	61 (64%)
Not reported	1	3	3	1	8 (8%)

Planned Analysis

Internal Consistency of Parent and Child Report

Cronbach's alpha for the parent measure was $\alpha = 0.9$. For the child measure, $\alpha = 0.7$; for younger children ($n = 41$), $\alpha = 0.6$; for older children ($n = 40$), $\alpha = 0.7$.

Predictors of Child-Reported Food Fussiness

To examine the relation between the child and parent measures, the linear multiple regression using parent scores, child age, and child gender to predict child-reported food fussiness revealed that parental reports of their children's food fussiness predicted child-report of their own food fussiness, $b = 0.28$, $SE = 0.11$, $z = 2.46$ $p = .016$ (the more pickiness reported by the parent, the more pickiness reported by the child). Child age also predicted child-reported food fussiness, $b = 0.10$, $SE = 0.04$, $z = 2.15$ $p = .035$ (the older the child, the more picky). Child gender ($p = .432$) was not a significant predictor of children's self-reported food fussiness (s*ee Table 3*).

Table 3. Predictors of Child-Reported Food Fussiness

	Estimate	S.E.	*z* value	*p*-value
(Intercept)	1.030	0.493	2.091	.04*
CEBQ FF Parent rating	0.278	0.113	2.463	.016*
Child gender	0.134	0.169	0.789	.432
Child age	0.096	0.045	2.146	.035*

Note. '*' $p < 0.05$

Exploratory Analyses

Internal Consistency of Child Report (Including Participants Without Exact Ages)

Of the 12 participants who we did not have the exact age for, we were able to retain 8 participants. These 8 participants were in the 7- to 8-year and 9- to 10-year age groups, and hence, on the older side of the median split. The other 4 were in the 5-6-year-old group, which could fall on either side of the median split. The internal consistency for older children of $n = 48$ with these additional 8 children was $\alpha = 0.7$.

Differences Between Parent and Child Reports

Parent-reported child food fussiness was higher than child self-report, $M_{difference} = 0.49$, $t(94) = 4.93$, $p < .001$. The one-way ANOVA with child age group (3 to 4 years, $n = 17$; 5 to 6 years, $n = 36$; 7 to 8 years, $n = 25$; 9 to 10 years, $n = 17$) as a predictor of the difference between parent and child scores found a significant effect of age group, $F(3, 91) = 4.01$, $p = .01$. Posthoc Tukey HSD comparisons revealed that the difference between parent and child scores was larger for 3- to 4-year-old children than other age groups (vs. 5 to 6: $p = .051$; vs. 7 to 8: $p = .031$, vs. 9 to 10: $p = .009$), with no significant differences observed between other age groups (ps > .663), (*see Table 4*).

Table 4. Parent and Child CEBQ FF Mean (SD) Rating by Child Age-Group

Child age-group	Parent-report	Child-report	Difference
3-4 years ($n = 17$)	3.3 (0.5)	2.1 (0.7)	1.2 (0.7)[a]
5-6 years ($n = 36$)	3.1 (0.8)	2.6 (0.7)	0.5 (0.9)[b]
7-8 years ($n = 25$)	3.1 (0.9)	2.7 (0.7)	0.3 (1.0)[b]
9-10 years ($n = 17$)	2.8 (1.0)	2.6 (0.9)	0.1 (0.9)[b]

Note. Significant differences across age groups based on Tukey HSD tests are noted by letters (i.e., 3-4-year-olds, noted with a, differed from other age groups, noted with b, but the age groups noted with b did not differ from each other).

Discussion

In our analyses of parent-child congruence on reports of children's food fussiness, we found that the internal consistency of parent reports was similar to prior research (α= 0.9, Wardle et al., 2001), and similar to or better than prior research for child reports where internal consistency of the food fussiness subscales ranged from α = 0.5- 0.6 in a sample of adolescents (Loh et al., 2013). Moreover, parent scores and child age predicted child scores on their own picky eating. In line with the hypothesis that older children would demonstrate more similarity in their reporting to parents than younger children, we observed the largest differences between parent and child scores among the youngest participants (3- to 4-year-old children), with no further improvement in parent-child congruence beyond that age group.

This study extends the age range of prior work by testing self-report in children as young as 3 years. Overall, children's reports of their own picky eating increased with age. Descriptively, the youngest children self-reported the lowest picky eating scores (*Table 4*). In contrast, parents of these youngest children reported the highest picky eating, which supports prior work that picky eating is at its highest prevalence in this age group (Cardano Cano et al., 2015), leading to the larger difference between parent and child reports at this age (compared to older child age groups). This finding suggests that either the younger children did not understand the task and were more likely to give "yes" answers (which would produce lower pickiness scores on the child FF scale), or that younger children do not see themselves as picky eaters (even if their parents do). It will be important for future research to specifically measure younger

children's perceptions of their picky eating to better understand the developmental trajectories of children's own recognition of their selective eating habits or conceptualization of the phenomenon.

Obtaining the congruence of parent-child report of the child's picky eating also sheds light on differential perceptions of the child's eating behavior. That the discrepancy between parents and children's perceptions of children's fussy eating in younger children could be because the children do not understand they are picky eaters, which could contribute to parental mealtime stress. Indeed, qualitative work has indicated that children who are picky eaters augment parental stress around mealtime, as parents have to navigate different strategies to increase food intake which also impacts their meal preparation (Trofholz et al., 2017). This, coupled with parental biases that influence their ratings of their children's food experiences (Bernard et al., 2018; Braet et al., 2007; Fram et al., 2013; Steinberg et al., 2004) can give a one-sided view of the children's eating experience. Hence, as evidenced by our difference scores in parent and child report, with parents reporting their children to be pickier than children thought they were (particularly for parents of 3- to 4-year-old children), gathering data from multiple informants (e.g., parents and children) can help parse out nuances in perceptions and experiences of selective eating.

Limitations and Future Directions

While this study gives a first insight to young children being able to self-report on their food fussiness, we are limited by the racial and socioeconomic diversity of our sample. The parent-report version of the CEBQ has been validated in diverse samples of parents from different cultural and economic backgrounds as a measure of child eating behavior (Domoff et al., 2015; Quah et al., 2017; Santos et al., 2011; Svensson et al., 2011; Viana et al., 2008), and

future work should validate our findings with more diverse families. Additionally, the CEBQ is an ordinal scale which limits our interpretation of the findings. While we modeled the analytic approach used in previous research (e.g., Domoff et al., 2015; Svensson et al., 2011; Wardle et al., 2001) by using the mean of the subscale (a continuous measure) as a unit of analysis, this approach may not fully capture the ordinal nature of the responses.

We also acknowledge that the congruence of parent and child reports on child health can vary by parent gender (Poulain et al., 2020).We had an unequal number of mothers (n = 60) and fathers (n = 25) fill out the parent survey, so we could not analyze parent gender as a predictor of child-reported picky eating, which would be interesting to consider in future research (e.g., comparing reports of parents who are primarily responsible for feeding children vs. not). Herein, it is important to note that most of the previous work (including ours) has analyzed reports of parents or legal guardians (e.g., birth parents, stepparents, adoptive parents), and not caregivers in general (e.g., teachers, babysitters, childcare staff) who are also involved in children's eating experiences. Future work can expand on gathering data from a wider range of caregivers to improve our understanding of children's pickiness across contexts.

Finally, we relied on a self-report verbal response measure, which children may have found challenging, especially younger children. Out of the 6 children that were excluded due to parental interference in our sample, 5 were 3- to 4-year-old children, and 1 was 5- to 6-years, which may suggest that the youngest children had the most difficulty understanding the scale questions. It would be valuable for future studies to conduct cognitive interviews with children to assess their comprehension of the items and response options on this child-report FF scale. Pictorial measures can also scaffold children's responses (Rubio et al., 2008) and subsequent use of this scale can include pictorial guides, especially with younger children. Furthermore,

previous work has validated the parent-report CEBQ FF against observed child eating behaviors. For instance, in a diverse low-income sample, maternal reports of their children's selective eating were inversely related to their children's observed behaviors: The more picky parents rated their children, the less children ate, the worse children rated foods, and the less children complied with maternal prompts to eat (Fernandez et al., 2018). Similarly, when validated against a naturalistic mealtime observation of child eating, maternal reports of their child's picky eating were negatively associated with child food acceptance and positively associated with child food rejection (Rendall et al., 2020). Therefore, parent report of their children's picky eating has been validated against children's actual behavior and future iterations of our child-report FF measure should also be measured against children's actual eating behavior to augment its validity.

Conclusion

This study takes a step in examining children's ability to report on their food fussiness with an adapted version of the widely-used CEBQ Food Fussiness subscale. Since children appear to reliably report on their own picky eating with age, such self-report could be beneficial in settings where data from parents can be challenging to obtain such as at community testing sites. At the same time, when it is possible to collect reports from multiple informants (including children themselves), marrying these reports of children's eating behavior can be beneficial to further explore the nuances of children's selective eating experiences and the impact they have on family mealtimes.

CHAPTER III: CHILDREN'S EVALUATIONS OF CULTURALLY DIVERSE LUNCHBOX FOODS

Abstract

Previous research indicates that children make ingroup-outgroup judgments based on notions of food conventionality and that ethnic minority children have been teased or bullied for bringing nonconventional foods to school. This series of three studies experimentally investigates U.S. school-age children's evaluations of culturally diverse lunchbox foods. Study 1 examines an online sample of children aged 5- to 12-years and their evaluations of foods from four cultures (mainstream American, Chinese, Indian, and Mexican) on the taste, smell, and messiness of the food, the appropriateness of bringing the food to school, and whether "cool kids" eat the food. Compared to the mainstream American lunchbox, children rated the Chinese, Indian, and Mexican lunchboxes to be less tasty, more messy, and less likely that cool kids would bring those foods to school. In Studies 2 and 3, we examined children's behavioral choices in a hypothetical cafeteria. In both studies, we found that the match between children's own lunch preferences and what was displayed in the mainstream American lunchbox was the only predictor of children's choice to sit at the table with the American lunchbox. Individual (e.g., child age or food pickiness) and contextual variables (e.g., neighborhood diversity) did not predict children's table choices. This research highlights children's understanding of familiarity and conventionality of foods and the social consequences of their behavioral choices.

Introduction

In the film *800 Lunches,* young Akshay, an Indian immigrant to New Zealand opens his lunchbox at school (Someday Stories, 2019). The smell of freshly spiced *biryani* wafts through

the air. He quickly realizes his tricolor chicken rice is different from everyone else's sandwiches and fruit. A teacher comments, “A sandwich would have been easier.” His White classmate questions, “hey, are you a curry muncher?” Akshay throws his *biryani* in the trash. Through elementary school, Akshay’s mother lovingly packs his lunchbox with Indian foods that he throws away or eats in isolation. The experiences in the film raise important questions regarding children’s social experiences in the food domain: How do children evaluate foods from diverse cultures? Do lunchbox contents determine where children choose to sit in a lunchroom? In three studies, the present research explores U.S. school-age children’s evaluations of and familiarity with diverse lunchbox foods, and their behavioral choices based on these foods.

Perceptions and Considerations of Lunchboxes

Lunchboxes bridge children’s private and public spheres: Lunchboxes prepared at home are meant to be eaten in public (Metcalfe et al., 2008). Previous studies, primarily qualitative, have illuminated children’s perceptions of lunches at school. Ludvigsen and Scott (2009) conducted group interviews with 174 children aged 3-4, 9-10, and 14-15 years in the United Kingdom about their school lunches, where 26% of the participants were Black Caribbean, or Asian. When asked to rank factors that influence their food choices, children across ages rated taste as the most important indicator. Children mirrored the lunch choices of their peers: If their friends took packed lunches, they also wanted to bring packed lunches (instead of school lunches). White-bread sandwiches and crisps (potato chips) were the established conventional foods, with reports of Chinese and Indian children who brought chicken or curry being bullied (Ludvigsen & Scott, 2009). Audio recordings and observations of lunchtimes in Denmark revealed that students commented on the contents of ethnic minority children’s lunchboxes, stating that they were “not allowed to bring white bread” to school, aligning with school rules

that prioritized rye bread as healthier and superior (Karrebæk, 2012). Observations and interviews with students in New Zealand indicated that children from ethnic minorities did not bring their cultural foods to school because their peers would "laugh at them", and such foods require the use of utensils (unlike a sandwich) which would "get in the way" (Vasquez, 2013).

Arts-based research studies with immigrant children shed further light on children's perception of what is considered normative to eat at school. For instance, a craft activity with Japanese 6- to 12-year-old children in Canada revealed a food culture mismatch: Some Japanese children reported food shaming experiences because their *bento* boxes with traditional Japanese cuisine differed from prototypical cold lunches in Canadian schools (Seko et al., 2021). African and Caribbean immigrant children in Canada highlighted similar themes through their drawings, including how they would not bring their cultural foods to school to avoid ridicule (Blanchet et al., 2017). Such perceptions of foods from different cultures can lead to the marginalization of ethnic minority students in the classroom. More work is needed to document the experiences of children in the U.S. Between 2010 and 2021, the percentage of Hispanic, Asian, and Multiracial students enrolled in public school increased (National Center for Educational Statistics, 2023), indicating the growing ethnic diversity in American school settings.

Apart from qualitative accounts of school lunches, another method to assess lunchroom experiences is through retrospective interviews with adults. Retrospective reports of Asian American undergraduates indicate that they were more likely than their White American counterparts to have had an embarrassing experience due to their food-related behaviors in school (Guendelman et al., 2011). Similarly, reports of Mexican adults reveal that some struggled to adjust to American school lunches and were cognizant of the sociocultural divide between them and their White American peers, especially in terms of the "cool" foods their

affluent peers would bring. Some participants remembered eating very little at school and rushing home to eat "real food" (Salazar, 2007). These findings highlight that school lunchboxes are an important medium for children's food socialization. The contents not only signify the intersection of home and school, but also come under scrutiny in the social setting of lunchrooms. This study aims to extend the extant literature by studying how U.S. school-age children evaluate foods from different cultures in hypothetical school contexts.

Associations Between Food and Ingroup Preferences

Contextualizing lunchbox foods falls under the broader construct of cultural food socialization. Children's understanding of food preferences is related to notions of conventionality that can drive ingroup-outgroup preferences (DeJesus, Kinzler, et al., 2018). Indeed, children view food as linked to cultural background from an early age: Preverbal infants expect patterns of social affiliation (e.g., whether two people like or dislike each other) and language (e.g., whether two people speak the same language or two different languages) to align with food selection (e.g., infants expect people who like each other or speak the same language to also like the same foods; Liberman et al., 2016). By school age, children can make more detailed judgments about food: By age 5, children rate conventional foods (e.g., milk and chocolate syrup) more positively than unconventional foods (e.g., milk and mustard), and those who eat them (DeJesus et al., 2019). This conventional/unconventional framework also shapes children's perceptions of people from different ethnicities, as they expect outgroup members (people who speak a foreign language) to eat unconventional foods (DeJesus et al., 2019). Such notions of conventionality are shaped by broader societal norms relating to religious beliefs about what can be eaten (Regenstein et al., 2003) or the availability of certain ingredients (Rozin & Schiller, 1980).

The link between food and identity continues into young adulthood. When Asian American undergraduates felt their American identity was threatened by a White experimenter, they rated more prototypically White American foods as their favorite foods or selected them from a fictitious restaurant site (Guendelman et al., 2011). This finding signals that when threatened, people from minority groups alter their food choices to be more conventional. Drawing from these findings on food and social identity, the present studies examine how children evaluate foods that could be viewed as conventional or unconventional, and whether children's social judgments would extend to their behavioral choices in a hypothetical lunchroom setting (i.e., which table they would choose to sit at).

Neighborhood Demographic Diversity

Many aspects of children's social environments may contribute to their exposure to and acceptance of diversity. One such variable is neighborhood diversity. Recent studies have examined links between neighborhood diversity (e.g., the proportion of people in the children's neighborhood who are not of the same race or language background as the child using U.S. Census data) and children's responses (H. G. Hwang, Debnath et al., 2021), including studies that examine children's judgments about foods (H. G. Hwang, DeJesus et al., 2021). These studies have found associations between neighborhood diversity and infants' and children's responses to stimuli with racial and linguistic outgroup members and culturally unfamiliar stimuli. For instance, monolingual English-speaking infants in neighborhoods with higher linguistic diversity were more likely to imitate the actions of a foreign actor (Howard et al., 2014). Additionally, 4- to 7-year-old children were more likely to evaluate labeled foreign foods as more acceptable if parents reported higher neighborhood trust and diversity (H. G. Hwang, DeJesus et al., 2021). Thus, racially diverse environments can increase children's acceptance of

outgroup stimuli. The present study seeks to examine whether children's exposure to cultural diversity in their community is associated with their assessments of culturally diverse foods.

The Present Studies

As highlighted by prior literature, school lunchboxes provide opportunities to examine children's beliefs about food conventionality and the social consequences of eating. Prior studies have primarily used anecdotal and qualitative methods to highlight such preferences and are predominantly conducted outside the U.S. The present studies aim to experimentally investigate U.S. children's evaluations of culturally diverse lunchbox foods.

We focus on children's judgments of 4 lunchbox foods (mainstream American, Chinese, Mexican, and Indian). We treat the mainstream American lunchbox as representative of the dominant culture in the U.S., and examine if perceptions of the Chinese, Mexican and Indian foods would differ from the American lunchbox. We expected children's age to predict their acceptance and behavioral choices toward non-mainstream foods, given previous work on the decline of prejudice from early through middle childhood (Raabe & Beelmann, 2011). We also expected children's outgroup contact, as measured through neighborhood zipcode data, to positively predict such acceptance (Raabe & Beelmann, 2011). With respect to children's own race and ethnicity, we had two predictions: children would show preference for the mainstream American food independent of their racial background, highlighting the significance of this conventional food in children's food choices. Alternatively, children would exhibit preferences for foods from their heritage culture, indicating the prevalence of ingroup preferences.

In Study 1, we assessed 5- to 12-year-old children's evaluation of foods from different cultures on a variety of dimensions, including the taste, smell, and messiness of the food, the appropriateness of bringing the food to school, and whether "cool kids" eat the food. Study 2

assessed children's choice of where they would sit in a cafeteria and whether those choices were predicted by children's own food choices. Study 3 combines the methods of Studies 1 and 2: Children were asked where they would prefer to sit in a hypothetical cafeteria and to assess each food on a variety of dimensions. Studies 1 and 3 were conducted by videoconference; Study 2 was conducted at a children's museum.

In all studies, children's exposure to diversity was examined using parent-reported zipcodes connected to U.S. Census data as a measure of neighborhood diversity. In Study 3, we examined the diversity of children's school environments in an exploratory analysis.

Study 1

Study 1 explored children's evaluations of foods from different cultures in the context of school lunches. We examined children's evaluations of these foods on multiple dimensions: Taste, smell, messiness, appropriateness for school, and whether cool kids would eat that food. We hypothesized that children would have more favorable ratings toward the mainstream American lunchbox, but that their neighborhood diversity would contribute to positive ratings of the non-mainstream American lunchboxes. We also expected that children whose parents reported they frequently take foods from different cultures to school would be more likely to rate the non-mainstream American foods positively.

Children completed another task in this study in which they were asked to match the face of the person they thought would most likely eat the food depicted, from an array of racially and ethnically diverse faces. For most foods, children frequently chose the expected face (e.g., they chose the East Asian's child face when shown a lunchbox with Chinese foods, *see Appendix A).* However, parsing children's understanding of ethnic foods, faces of different racial and ethnic

backgrounds, and associations between the two is beyond the scope of this paper. Here, we focus only on children's evaluations of foods from different cultures.

Participants

Five- to 12-year-old children were recruited in the U.S. for this study given previous findings with children of this age (Karrebæk, 2012; Ludvigsen & Scott, 2009; Seko et al., 2021) and anticipating that participants would have experience eating lunch at school. A G-Power analysis for a medium effect size of $f^2 = 0.15$ (based on the effect size in DeJesus et al., 2019, which examined children's social judgments about foods), $\alpha = 0.05$, and power = 0.8 using multiple-regression analysis with 6 predictors yielded a sample size of 98 children. Parents completed written consent through an online survey. Children provided verbal assent at the start of the study. The procedures of this study were approved by the University of North Carolina at Greensboro Institutional Review Board.

We had a sample of 100 children (51 5- to 8-year-olds, 49 9- to 12-year-olds, 53 female). Seven parents did not provide a date of birth for their children so their exact age could not be calculated; we confirmed age in years when children gave assent. For these 7 children, we estimated their age to be in the middle of the range (e.g., for a 6-year-old, we entered 6.5 years). Parents completed a demographic questionnaire and identified most children as Not Hispanic/Latino (n = 89), with 60 Caucasian/White *(*see *Table 5*). Additionally, 53 parents had graduate degrees, and 31 reported their household income to be more than $120,000.

The study was conducted via videoconference. Our *apriori* exclusionary criteria were:

1) the child cannot see the researcher's screen or experienced Internet issues (n = 2),

2) the child asks to stop the study or walks away from the screen without returning (n = 0),

3) the child observes their sibling participate before them, (n = 0),

4) we do not receive the parent online consent form (n = 1), or

5) the parent interferes with more than 20% of the study questions, (n = 1)

For parent interference, attentional prompts (e.g., "Look at the screen, she's asking you a question!") were not considered interference; parent comments related to the study content (e.g., "you always take sandwiches to school") were considered interference. Supplemental materials (deidentified data and additional analyses) are located on the *Open Science Framework (OSF):* https://osf.io/h46dt/?view_only=76e53c8d120341ed850710b323065e22

Table 5. Child Racial and Ethnic Distribution (Studies 1-3)

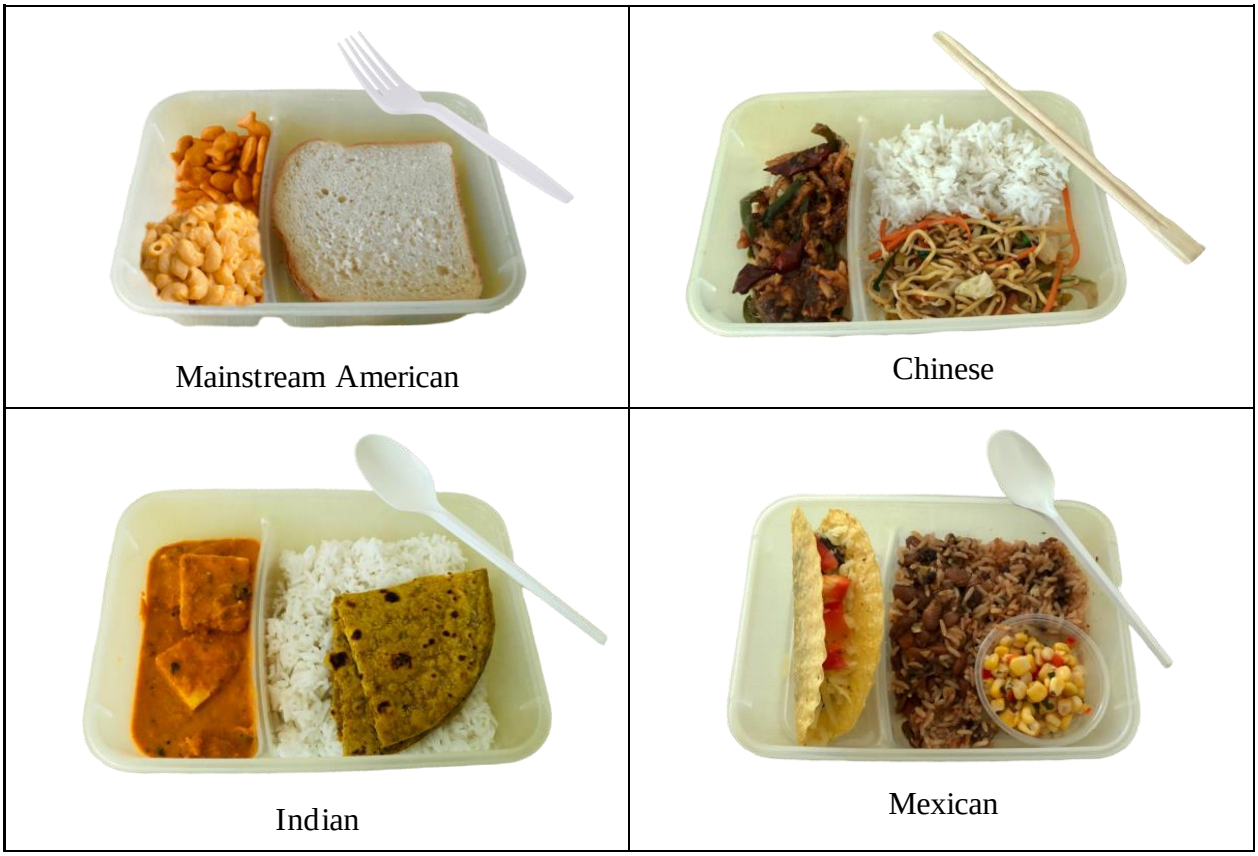
	Study 1	**Study 2**	**Study 3**
White (Not Latinx)	50	47	51
African-American (Not Latinx)	8	20	7
Asian (Not Latinx)	24	6	19
East Asian			8
South Asian			11
More than 1 race (Not Latinx)	3	9	10
Latinx, any race	10	13	12
No response	5	5	1
Total	100	100	100

Materials and Procedure

Food Stimuli

The four lunchboxes for these studies were mainstream American (white bread sandwich, goldfish crackers, macaroni and cheese), Asian Indian (rice, roti or Indian bread, paneer or cottage cheese), Chinese (garlic chicken with noodles and rice), and Mexican (beans, rice, corn salsa, a taco; *see Figure 1).* The foods were intentionally chosen to be Americanized versions of the cultural foods to be more familiar to participants. We acknowledge that they are not representative of authentic cultural foods.

Figure 1. Food Stimuli



We created our own stimuli for each lunchbox; ingredients were drawn from descriptions in previous literature (Karrebæk, 2012; Ludvigsen & Scott, 2009; Salazar, 2007; Vasquez 2013).

Stimuli were pre-tested with a group of adults (*see Appendix A for pilot data*). After pre-testing, it was brought to our attention that the mainstream American lunchbox was the only one without a utensil, therefore we changed a tangerine to macaroni and cheese and added a spoon using Photoshop so that all images included a utensil and a food requiring a utensil. The study was designed in Qualtrics for counterbalancing (the orders of food type were randomly shown across participants) and the randomization of evaluation questions (within each food type).

Food Evaluations

Children were asked to evaluate each lunchbox on five dimensions: Taste, smell, how messy the food is to eat, if cool kids eat the food at school, and if the food is alright to bring to school. These dimensions were based on prior qualitative studies (Blanchet et al., 2017; Ludvigsen & Scott, 2009; Salazar, 2007; Vasquez 2013) including research demonstrating that children's food intake is influenced by its popularity with peers (DeJesus, Shutts, et al., 2018) and how immigrant children are conscious of what "cool kids" eat at school (Salazar, 2007).

For each question, children first rated the food on a three-point scale with positive, neutral, and negative response options (e.g., "do you think this tastes good, in the middle, or bad?"). If children selected the positive or negative response, they were then asked to qualify their response in a follow-up question (e.g., if "good," "is it very good or a little bit good?"). Responses were transformed into a 0-4 scale (0 = really negative, 1 = a little bit negative, 2 = in the middle, 3 = a little positive, 4 = really positive). After children evaluated the food on all dimensions, they were asked, "is there anything else you would like to tell us about this food?" (open-ended, *see Appendix A for coding*).

Parent Food Questionnaire

Parents play an integral role in selecting their child's lunch foods (through packed lunch or selecting school lunch; Cappellini et al., 2018). Here, parents were asked about the factors they consider when packing their children's lunches (based on Bathgate & Begley, 2011; Sutter et al., 2019, *see Appendix A for full text and descriptive statistics).* Of special interest is "how often the child takes foods from different cultures to school" (M = 1.27, SD = 1.14).

Neighborhood Outgroup Composition

Using the 2019 American Community Survey (ACS, U.S. Census Bureau, 2019), we extracted the proportion of outgroup members in the participant's zipcode (the proportion of people who were not the same race and did not speak the same languages as the participant), based on H. G. Hwang, DeJesus et al. (2021). For example, for a Hispanic White participant who heard English and Spanish at home, their *racial outgroup* was everyone who was not Hispanic and not White in the neighborhood, and their *linguistic outgroup* was everyone who did not speak English and Spanish in the neighborhood. Racial and linguistic outgroup values were not associated (r = -.002, p = .98) and were summed into a neighborhood *outgroup composite*. Higher values indicate a higher presence of individuals who differ in race/ethnicity and language from the child. The score could not be calculated for 6 participants who did not provide their zipcodes.

Videoconference Procedure

Data for this study were collected from May 2020 – February 2021. Study sessions were conducted via videoconference (Lourenco & Tasimi, 2020; Sheskin et al., 2020; Venkatesh & DeJesus, 2021). Participants were recruited through an existing database of volunteer families,

Children Helping Science (an online platform aimed to support researchers running studies virtually), social media posting, and word-of-mouth.

Once the study appointment was scheduled, parents were emailed a Qualtrics survey which contained the informed consent, media release form, demographic form, and food questionnaire to complete before the appointment. During the appointment, we started by recording the session (with parent consent) and then obtained the child's verbal assent.

To show children images, the researcher shared their screen with the Qualtrics survey. Participants completed two warm-up questions to confirm the researcher and child could see and hear each other and the child could see the researcher's screen; all participants passed this check. Then, children completed the face-to-food matching and food evaluation tasks. Parents were emailed a certificate and virtual prize pack (e.g., coloring sheets, crafts, or science experiments) for the child; families that did not have a printer were mailed the certificate and prize pack.

Results

To first examine children's overall ratings for each food, we conducted one-sample *t*-tests on the four foods' average ratings, compared to 2 (the midpoint). Each lunchbox was rated positively; American: $M = 3.02$, $SD = 0.61$, $t(99) = 16.57$, $p < .001$, $d = 1.66$; Indian: $M = 2.43$, $SD = 0.76$, $t(99) = 5.65$, $p < .001$, $d = 0.57$; Chinese: $M = 2.45$, $SD = 0.80$, $t(99) = 5.59$, $p < .001$, $d = 0.56$; Mexican: $M = 2.45$, $SD = 0.69$, $t(99) = 6.58$, $p < .001$, $d = 0.66$.

To examine whether children's evaluations differed by food type for each question, we ran a within-subjects linear multiple regression with child age, food type (American, Indian, Chinese, Mexican), how often children take different cultures' food to school, and the neighborhood outgroup composite as predictors of children's ratings for each question (ranging from 0-4, *see Figure 2*). In all analyses, the mainstream American lunchbox was the reference

value. Since we ran 5 multiple regressions, we used a significance threshold of .01 (.05/5) to account for multiple analyses (*see Table 6 for results*, individual regression tables for each evaluation in *Appendix A*).

Taste

Compared to the American lunchbox, children had less positive ratings of the taste of the Chinese (b = -0.62, SE = 0.18, t = -3.52, p < .001), Indian (b = -0.67, SE = 0.18, t = -3.81, p < .001), and Mexican (b = -0.71, SE = 0.18, t = -4.05, p < .001) lunchboxes. Age (p = .266), how often children took different cultures' foods to school (p = .080) and the neighborhood outgroup composite (p = .096) did not predict taste ratings.

Smell

No predictors in this model were significant based on our threshold of p = .01: food type (ps > .018), age (p = .015), how often children took different cultures' foods to school (p = .011) and the neighborhood outgroup composite (p = .571) did not predict smell ratings**.**

Messiness

Compared to the American lunchbox, children rated the Chinese (b = -1.08, SE = 0.17, t = -6.41, p < .001), Indian (b = -1.23, SE = 0.17, t = -7.30, p < .001), and Mexican (b = -1.17, SE = 0.17, t = -6.98, p < .001) lunchboxes to be messier. Children who had higher neighborhood outgroup composite had lower messiness ratings (b = 0.84, SE = 0.17, t = 4.85, p < .001). Age (p = .522) and how often children took different cultures' foods to school (p = .495) did not predict messiness ratings.

Cool kids

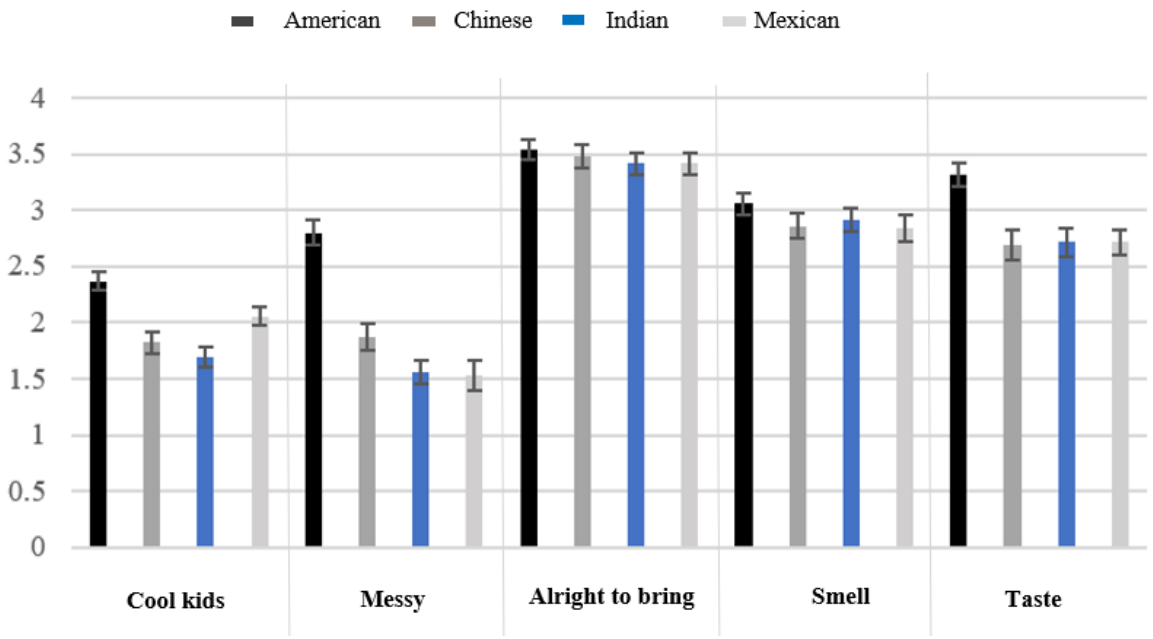
Compared to the American lunchbox, children were less likely to rate cool kids to eat the Chinese (b = -0.60, SE = 0.13, t = -4.44, p < .001), Indian (b = -0.75, SE = 0.13, t = -5.58, p <

.001), and Mexican (b = -0.43, SE = 0.13, t = -3.20, p = .002) lunchboxes. Age (p = .483), how often children took different cultures' foods to school (p = .524) and the neighborhood outgroup composite (p = .374) did not predict cool kids ratings.

Alright

With age, children had higher "alright" ratings (b = 0.14, SE = 0.02, t = 6.06, p < .001). Children with higher neighborhood diversity scores had more positive "alright" ratings (b = 0.42, SE = 0.15, t = 2.74, p = .006). Food type (ps > .094) and how often children took different cultures' foods to school (p = .943) did not predict children's "alright" ratings.

Figure 2. Children's Evaluations of Lunchboxes by Question (Mean and Standard Error)



Note. For messy: A higher score is less messy (more positive)

Table 6. Children's Rating Estimates (SE) by Lunchbox Type

	Taste	Smell	Messiness	Cool Kids	Alright
Intercept	2.77 (0.30)***	2.29 (0.29)***	2.47 (0.29)***	2.54 (0.23)***	2.06 (0.25)***
Age	0.03 (0.03)	0.06 (0.03)	-0.02 (0.03)	-0.02 (0.02)	0.14 (0.02)***
Food type effects (compared to American)					
Chinese lunchbox	-0.62 (0.18)***	-0.38 (0.17)	-1.08 (0.17)***	-0.60 (0.13)***	-0.19 (0.15)
Indian lunchbox	-0.67 (0.18)***	-0.28 (0.17)	-1.23 (0.17)***	-0.75 (0.13)***	-0.25 (0.15)
Mexican lunchbox	-0.71 (0.18)***	-0.40 (0.17)	-1.17 (0.17)***	-0.43 (0.13)**	-0.22 (0.15)
Foods from different cultures	0.10 (0.06)	0.14 (0.05)	-0.04 (0.05)	0.03 (0.04)	-0.00 (0.05)
Outgroup composite	0.30 (0.18)	0.10 (0.17)	0.84 (0.17)***	-0.13 (0.14)	0.42 (0.15)**

Note. Our *apriori* *p*-value for significance was $p = .01$. '***' $p < .001$, '**' $p < .01$

Discussion

Study 1 was an initial quantitative examination of what school-age U.S. children think about eating foods from different cultures at school. Five- to 12-year-old children were shown pictures of foods from different cultures and asked to evaluate each food on their taste, messiness, smell, if it was alright to bring to school, and whether cool kids would eat that food. Although children had positive ratings across foods, they had more negative ratings of the taste and messiness of the non-mainstream American foods (the Indian, Chinese, and Mexican lunchboxes) compared to the mainstream American lunchbox. Moreover, children in our sample were less likely to think cool kids would bring non-mainstream American foods to school.

We also found that contextual influences, such as neighborhood demographic diversity, appears to play a role in children's cultural food acceptance. Children with higher neighborhood outgroup composites had more positive ratings of food messiness and whether foods were "alright" to bring to school. To examine if these higher ratings were driven by the positive evaluations of the American lunchbox, we ran exploratory analyses excluding the American lunchbox (*see Appendix A*). The positive relation between neighborhood outgroup composite and "alright" and messiness ratings held with this exclusion. These findings align with previous findings that school age children have more openness to foreign foods if parents reported they have higher trust and diversity in their neighborhoods (H. G. Hwang, DeJesus et al., 2021).

Children's evaluations on whether it was "alright" to bring a food to school and smell did not differ by food type. We were interested in further exploring whether children's positive ratings would translate to behavioral choices, such as where children choose to sit at lunch. Indeed, food type can influence children's lunchroom choices and drive peer group membership

and the maintenance of ethnic boundaries (Nukaga, 2008). We sought to build on these findings by examining children's behavioral choices in a hypothetical cafeteria in Studies 2 and 3.

Study 2

Study 1 provided insight into school-age children's evaluations of diverse lunchbox foods. We sought to build on these findings in Study 2 to explore the kinds of foods children would take in their own lunchboxes and the extent to which children's own lunch would predict their behavioral choices in a hypothetical cafeteria. Parents also reported on children's picky eating. Previous research indicates that children who are picky eaters have limited dietary diversity and are less willing to try new foods (see Dovey et al., 2008, and M. Patel et al., 2020, for review). We hypothesized that children's own lunchbox contents would be similar to the American lunchbox and that their neighborhood diversity would be related to their table choices. We also expected that children who were picky eaters would be more likely to select the table with familiar American foods.

Participants

Four- to 12-year-old children were recruited at a children's museum in 2022. Children completed worksheets as a low-contact approach to data collection during the COVID-19 pandemic once vaccines were available for children. Given the community approach of this study and precautions around COVID-19 transmission, we received a waiver of consent from the University of North Carolina at Greensboro Institutional Review Board. Adults accompanying the child were asked to report their relationship to the child completing the worksheet (e.g., parent, grandparent, other).

We had a sample of 100 children (74 4- to 8-year-olds, 26 9- to 12-year-olds; 55 female). Adults accompanying the child to the museum identified most children as Not Hispanic/Latino

(72 out of 100), with 53 Caucasian/White *(see Table 5*). In addition to our final analytic sample of 100, we excluded 2 children who were outside the age-range for the study, 5 children for whom parents reported prompting their child's answers, and 3 children who did not complete the primary test question (table selection).

Materials and Procedure

Table Choice (Child Worksheet)

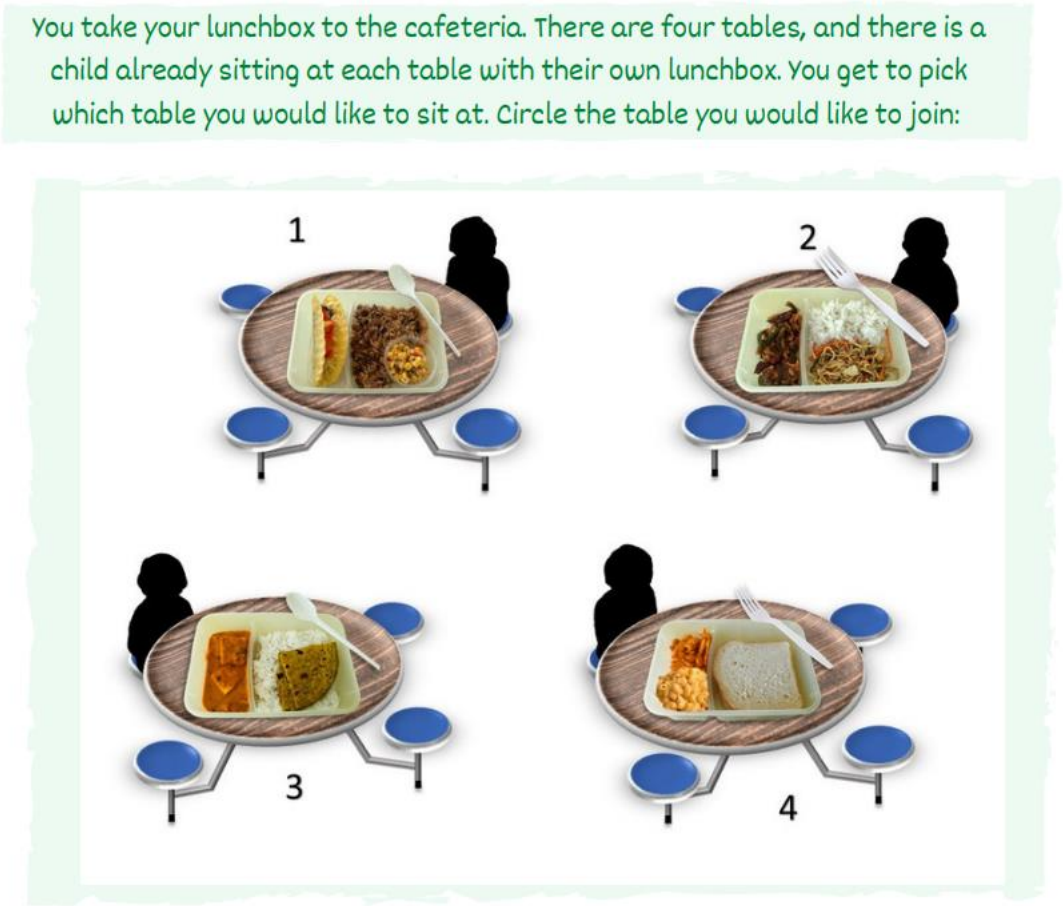
Children completed a paper worksheet. As a warmup and to assess children's typical lunches, children were asked to list at least three foods they would take in their lunchbox. Children were then presented with a hypothetical cafeteria with four tables, each with a silhouette of a child (to represent a child already seated at the table) and one of the four lunchboxes from Study 1 (*see Figure 3*). Children were then asked to pick which table they would like to join as a behavioral measure of their social preference.

In this task, we aimed to control for social influences of the person consuming the food (i.e., focusing just on the foods rather than other social categories). As observed in Study 1's face-to-food task, disentangling the influence of the person's ethnicity with the food stimuli on children's choices was challenging. Additionally, prior research on children's judgments of peers eating culturally different foods in classrooms is primarily qualitative, making it harder to determine if judgments are directed toward ethnic foods and/or the people consuming them. To take a first step at parsing this relation, we sought to examine children's choices when they only saw the different foods. Thus, we placed a peer at each table to assess if participants would join someone eating a specific food without thinking they were to eat alone. At the same time, we minimized personal identifiers by presenting silhouettes of peers to eliminate demographic effects like race and gender or other attributes (such as facial expressions of emotion or

attractiveness). In this way, in the absence of additional contextual cues or information about people, we explored whether children would select the "conventional" choice in a cafeteria setting.

To pilot this method, 5 children were asked to choose which table they would like to sit at, and why they chose a particular table. All responses indicated explanations about the foods displayed, such as "that looks yummy." Four versions of the worksheet were created to vary the position of lunchboxes on the worksheet (e.g., in one version the Mexican lunchbox was at Table 1, as in *Figure 3*; in another version the Chinese lunchbox was at Table 1). Equal numbers of children saw each version.

Figure 3. Hypothetical Cafeteria



Participants were tested at a children's museum. Research assistants set up materials in the lobby of the museum and recruited families who were visiting to participate. Children and accompanying adults were offered the worksheet. One side had two questions for the child (own lunchbox and table choice), and the other side had questions for the adult. As this study was conducted just after COVID-19 vaccines were available for children, to minimize contact with researcher assistants, adults accompanying the child were asked to supervise the child filling out the responses on the worksheet (instead of research assistants filling out the child's answers, though they were available to answer any questions the accompanying adult had). Children were given a small prize for participating.

Adult Questionnaire

Adults who accompanied the child reported on demographics such as child age (in years), gender, race, ethnicity, zipcode, and the type of lunch the child ate at school. In this sample, 31 children took packed lunch to school, 34 had school lunch, and 27 had both packed and school lunch. As we received a waiver of consent, we also collected the relationship of the adult to the child: 72 reported they were parents, 10 were grandparents, and 13 checked other. Adults were asked to indicate how the worksheet was completed: 55 adults read the questions and wrote down the child's answers, 23 helped read for some questions, but the child completed some on their own, and 20 children completed the worksheet independently. Adults could also report if they prompted children's answers, and 5 adults checked this box (data were excluded for those children). Children's neighborhood outgroup was calculated using zipcode data, but we had only race and ethnicity data for this study (not language). We also included a question about child food pickiness, ranging from 1 as "not picky" to 5 as "very picky" (M = 3.13, SD = 1.29). This 5-

point response scale is adapted from the Food Fussiness subscale of the Child Eating Behavior Questionnaire (Wardle et al., 2001).

Own Lunch Coding

Children's open-ended responses to the question of what they would take in their own lunchbox were coded in two ways. First, each item was coded by food type: Sandwich, fruit, vegetable, snack, hot food (e.g., pizza, burger, fries, nuggets, wings), food similar to the non-mainstream American lunchbox (curry, noodles, burritos), sweet, dairy, or drink. For instance, a response of "peanut-butter jelly, apples, grapes" was coded as 2 fruits and 1 sandwich. Second, given that each lunchbox stimulus has 3 foods, children's responses were coded on a 0-3 scale in terms of how many of their own items matched the stimuli. For example, a response of "bread, noodles, and apples" received a 1-ingredient match score (bread) for the American lunchbox, 1 (noodles) for the Chinese lunchbox, and 0 for the Indian and Mexican lunchboxes. Notable variations of foods that were counted as acceptable matches include: Any type of sandwich (e.g., peanut butter and jelly, ham, tuna) for the American lunchbox, any type of taco (e.g., taco with meat or veggies) for the Mexican lunchbox, *chapati*/*naan*/pita bread for the Indian lunchbox, any kind of curry (e.g., chicken or tofu) for the Indian lunchbox, and any kind of stir-fry (e.g., beef, pork, or veggies) for the Chinese lunchbox. For each type of coding, interrater reliability of kappa $\geq .7$ was established by the first author and a research assistant for 20% of the responses and the research assistant coded the rest.

Results

Own Lunchbox Contents

Across the 330 items children reported they would pack for lunch, the top three responses were: Fruit (60 responses), hot food (54 responses), and sandwich (47 responses). In terms of the

match between the child's own lunchbox (0-3) to the four lunchbox stimuli, the American lunchbox had the most matches, with 55 children having at least one match. For the Mexican lunchbox, 7 children reported packing at least 1 matching ingredient, 4 for the Chinese lunchbox, and 3 for the Indian lunchbox (*see Table 7 for means and standard deviations*).

Table 7. Descriptives of Key Variables Across Studies

Variable		Study 1 M (SD)	Study 2 M (SD)	Study 3 M (SD)
Child age		9.00 (2.29)	7.27 (1.96)	9.08 (2.23)
Neighborhood outgroup		0.62 (0.36)	0.40 (0.26)	0.55 (0.35)
Child picky eating score		N/A	3.13 (1.29)	2.65 (0.86)
Matched ingredients (own lunchbox with stimuli)				
	American	N/A	0.58 (0.55)	0.73 (0.59)
	Chinese		0.06 (0.28)	0.09 (0.32)
	Indian		0.04 (0.24)	0.05 (0.26)
	Mexican		0.09 (0.32)	0.12 (0.33)

Note. Range for child age in Studies 1 and 3 is 5- to 12-years, and for Study 2 is 4- to 12-years. Range for neighborhood outgroup is 0-2 for Studies 1 and 3, and 0-1 for Study 2. Range for child picky eating is 1-5. Range for matched ingredients is 0-3.

Table Choice

The majority (52%) of our sample chose the American lunchbox table; a binomial test with chance set at .25 (given 4 choices) revealed that children significantly chose the American lunchbox ($p < .001$). A chi-square analyses (using Yates' correction) revealed no significant association between children's own race/ethnicity and their table choice, $\chi^2(12) = 11.48$, $p = .488$ (*see Table 8*).

Table 8. Frequencies of Children's Table Choice by Own Race and Ethnicity

Table Choice Own race/ethnicity	American food	Chinese food	Indian food	Mexican food	Total
African-American (Not Latinx)	12	3	4	1	20
Asian (Not Latinx)	2	0	4	0	6
White (Not Latinx)	25	5	7	10	47
More than 1 race (Not Latinx)	4	0	2	3	9
Latinx, any race	5	0	2	6	13
No race or ethnicity reported	4	0	0	1	5
	52	8	19	21	100

Since half of our sample chose the American lunchbox table, we created a binary outcome variable for American table choice (coded as 1) versus non-American table (coded 0).

To examine the predictors of choosing the American table, we ran a binary logistic regression using child age, the proportion of racial outgroup members in the child's neighborhood, food pickiness (1-5), and the number of ingredients in their own lunchbox matching the American lunchbox (0-3) as predictors. The number of foods matching the American lunchbox stimuli positively predicted children's choice of the American table, $b = 1.09$, $SE = 0.47$, $z = 2.35$, $p = .019$ (*see Table 9*). No other predictors were significant (ps > .231).

Table 9. Predictors of Choosing the Table with the American Lunchbox

	Estimate	S.E.	z value	*p*-value
(Intercept)	-0.40	1.28	-0.31	.758
Child age	0.05	0.14	0.38	.703
Racial outgroup proportion	0.12	1.00	0.12	.903
Child picky eating score	-0.24	0.20	-1.20	.231
Number of matched American foods	1.09	0.47	2.35	.019*

Note. '*' $p < 0.05$

Discussion

Our findings highlight school-age children's preferences for mainstream American foods, independent of their own racial backgrounds. Contrary to expectations, the match between children's own lunch and the American lunch was the only predictor of children's table selection. This highlights how cultural norms about food choice may influence children's own food preferences as well as their social judgments, especially given that approximately half of our sample were children whose parents did not identify them as White/Caucasian. Similar findings are echoed in qualitative research with children of non-Caucasian backgrounds: They

report wanting to eat foods at school that are considered part of mainstream culture to match what their peers eat (Blanchet et al., 2017; Zulfiqar et al., 2021).

That said, given the worksheet format of the study, we were limited in the questions we could ask participants. Study 3 replicates and expands on this design in a videoconference format. Children's exposure to the foods pictured could influence their food choices and, given our interest in food choices in school settings, the racial diversity of children's schools (in addition to neighborhood diversity) could influence what foods are conventionalized. Study 3 builds on these ideas and incorporates measures to examine children's exposure to these foods and school-level ethnic diversity as predictors of table choices.

Study 3

Study 3 expands on the finding that although children demonstrated positive evaluations of foods across cultures (Study 1), they tended to select the table with a child who ate an American lunchbox (Study 2). Here, we examine additional predictors of children's table selections. Children's prior exposure to foods is positively related to their food acceptance (Birch, 1999), therefore children's familiarity with a food could be related to their cultural food acceptance. Moreover, contextual influences such as school diversity could also enhance the acceptance, conventionality, and familiarity of cultural foods in lunchrooms. Indeed, school ethnic and racial diversity is positively related to minoritized students' sense of belonging (Graham et al., 2022). Study 3 extends our previous findings by examining U.S.-based school-age children's food choices based on their familiarity with foods from different cultures and their school diversity.

Participants

A sample of 100 children (50 5- to 8-year-olds, 50 9- to 12-year-olds, 40 female) participated in this study via videoconference. One parent did not provide a date of birth for their child so we estimated their age to be in the middle of the range (6.5 years) after confirming the child's age in years during assent. Parents identified our sample as predominantly Not Hispanic/Latino (n = 87), with 61 Caucasian/White *(see Table 5*). Additionally, 46 parents had graduate degrees and 32 reported combined annual household income to be more than $120,000. Exclusion criteria were similar to Study 1 (parental interference = 2; unclear audio = 1). We also excluded 4 children who completed the study, but we learned were diagnosed with developmental delays. Procedures for this study were approved by the University of North Carolina at Greensboro Institutional Review Board.

Materials and Procedure

Demographics

Parents completed a Qualtrics survey indicating their child's demographics, including their zipcode of residence and school name. We separated "Asian" into "East Asian" and "South Asian" for a more detailed racial breakdown. Here, 31 children took packed lunch to school, 16 had school lunch, and 36 had both packed and school lunch.

As in Study 1, children's neighborhood outgroup composite was calculated based on zipcode data using their race, ethnicity, and languages spoken. Parents reported child food pickiness using the Food Fussiness subscale of the Child Eating Behavior Questionnaire (Wardle et al., 2001). This is a 6-item subscale assessing children's food pickiness on a 5-point scale, ranging from "never" to "always." Scores were averaged to create a single score (higher scores indicate more pickiness; M = 2.65, SD = 0.86).

If parents listed their child's school name, we looked up the school's diversity index on websites that source information from the National Center for Education Statistics (Public and Private School Review). The diversity index ranges from 0-1 and indicates the probability of two children being of different ethnicities at the school (higher scores indicate more diversity). School diversity information was not available for 30 participants (school name missing for 24 participants; diversity data could not be found for 6 schools), therefore we consider analyses with school diversity as exploratory.

Own Lunchbox

Children were shown a picture of an empty lunchbox and asked what they would pack in it. Answers were coded using the same coding scheme as Study 2: By food type (e.g., sandwich, fruit, hot food) and degree of match to each lunchbox stimulus (range = 0-3).

Familiarity with the Lunchbox Stimuli

Children's familiarity with the foods in each lunchbox was examined in two ways. First, children were asked to list what foods they saw in each lunchbox. Given each lunchbox had 3 foods, answers were scored from 0-3 for correctness. Acceptable variations of answers are highlighted in Study 2. Second, children were asked if they had eaten something like this before (0 = never, 1 = few times, 2 = many times).

Table Choice

Children were shown the same cafeteria scenario as in Study 2 and asked to choose which table they would like to sit at. Table position was counterbalanced as in Study 2.

Food Evaluations

Children completed evaluation questions for each lunchbox. We included the alright question from Study 1 on a 3-point scale ("not alright," "in the middle" and "alright"), as

children's responses in Study 1 were surprisingly positive. In Study 1, children primarily evaluated the foods on multiple dimensions. Here, we asked children about the attributes of someone who would eat those foods, akin to prior research (DeJesus et al., 2019, M. Roberts & Pettigrew, 2013). These attributes included someone who is: Nice or mean, popular or unpopular, and lives nearby or far away. Each was a forced-choice question (Mellor & Moore, 2014), with "both" and "don't know" as options.

Disgust Elicitor Lunchbox

Given prior studies that show negative evaluations of people who eat unconventional foods (DeJesus et al., 2019; M. Roberts & Pettigrew, 2013), we were surprised that children in Study 1 gave positive ratings across lunchboxes. Therefore, we asked children to evaluate a lunchbox that included disgust elicitors for a subset of our sample (n = 66) to test whether children would give positive "alright" ratings for any lunchbox regardless of its contents (i.e., would they even rate a lunchbox with disgust elicitors positively). Children were shown a lunchbox with a contaminated food (moldy strawberries), nonfood (grass), and unconventional food (hot dog with chocolate syrup). These items (and those who eat them) were rated negatively in a prior study (DeJesus et al., 2019). Children were asked to evaluate whether the food would be eaten by someone nice or mean, popular or unpopular, or who lives nearby vs. far away.

Videoconference Procedure

Study 3 was conducted from August 2021 – September 2023. Recruitment and videoconference procedures were the same as Study 1. Parents provided written and media consent (through an online survey); children provided verbal assent at the start of the study. Children were taken through a Qualtrics survey via screen-sharing. Children were first shown a picture of an empty lunchbox and asked what they would pack for lunch. They were then told to

imagine that they would take this lunchbox and go to the cafeteria. Children were shown the cafeteria stimuli from Study 2 and asked which table they would like to join and why. Next, children were shown a lunchbox and asked to identify its ingredients, if they had eaten it before, and the evaluation questions. They were asked the same questions for all 4 lunchboxes (order of food type was randomized across participants). After the four lunchboxes, children were shown the disgust elicitor lunchbox. Children were compensated for their time with a virtual activity book.

Results

Own Lunchbox Contents

Of the 283 responses given for the foods children would pack in their own lunchboxes, the top three responses were: Sandwich (59 responses), fruit (56), and snack (43). With respect to matching with the ingredients of each lunchbox stimuli, 65 children matched with at least one ingredient of the mainstream American (mode = sandwich), 12 with the Mexican, 8 with the Chinese, and 4 with the Indian lunchbox (*see Table 7*).

Familiarity with Stimuli Foods

Children's identification of the ingredients in each lunchbox were: $M_{American}$ = 2.93, *Range* = 2-3; $M_{Mexican}$ = 2.75, *Range* = 0-3; $M_{Chinese}$ = 2.40, *Range* = 0-3; M_{Indian} = 1.61, *Range* = 0-3. In terms of eating the foods previously (never/few/many times), all responses had a 0-2 range, with $M_{American}$ = 1.49 times, $M_{Mexican}$ = 1.22, $M_{Chinese}$ = 1.02, M_{Indian} = 0.95. Children's identification of the ingredients was positively correlated with whether they had eaten the food previously for the American (r = .20, p = .046), Mexican (r = .32, p = .001), Indian (r = .43, p < .001), and Chinese (r = .19, p = .064) foods. CEBQ Food Fussiness scores were negatively correlated with children's prior consumption of the non-mainstream American lunchboxes

(Mexican: r = -.34, p < .001; Indian: r = -.24, p = .015; Chinese: r = -.40, p < .001), with no relation for the American food (p =.992).

Table Choice

Here, 38 children chose the table with the mainstream American lunchbox; a binomial test with chance set at .25 revealed that children significantly chose the American lunchbox (p = .003). A chi-square analyses (using Yates' correction) revealed no significant association between children's own race/ethnicity and their table choice, $\chi^2(15) = 7.41$, p = .945 (see *Table 10*).

Table 10. Frequencies of Children's Table Choice by Own Race and Ethnicity

Table choice Own race/ethnicity	American food	Chinese food	Indian food	Mexican food	Total
African-American (Not Latinx)	5	0	0	2	7
East Asian (Not Latinx)	3	3	0	2	8
South Asian (Not Latinx)	2	1	3	5	11
White (Not Latinx)	20	7	10	13	50
More than 1 race (Not Latinx)	4	1	3	2	10
Latinx, any race	4	4	1	3	12
No race or ethnicity reported	0	0	1	0	1

38	16	20	25	99

When asked why they chose a particular table, 27 responses referenced a generic food attribute ("it looks good"), 26 referenced specific foods ("because it has a sandwich"), 26 referenced similarity or personal preference ("Because it looks like my lunch" or "Because it has *chapati* and I like *chapatis*"), 14 were general/guesses ("I just chose that") and 6 referenced the children sitting at the table ("That table has my best friends").

Since we captured children's ability to identify the ingredients in each stimulus, we examined where children who did not identify any of the ingredients would choose to sit. Across lunchboxes, of the children who could not identify any ingredients (n = 9), 5 selected the American table. Of the 11 children who identified all ingredients in all 4 lunchboxes, only 4 chose the American table (other responses were split between the Mexican and Indian tables).

To test predictors of children's table choice (American vs. not), we used a similar analytic approach as in Study 2. A chi-square analysis revealed no significant differences between children's overall table choices in Studies 2 and 3 (p = .156). We ran a binary logistic regression with child age, neighborhood outgroup composite, child food pickiness, the number of matched ingredients (0-3), and the number of correctly identified ingredients (0-3) as predictors (outcome = chose American table or not). Similar to Study 2, the number of foods matching the American lunchbox stimuli positively predicted children's choice of the American table, b = 1.44, SE = 0.44, z = 3.25, p = .001 (*see Table 11*). No other predictors were significant.

School Diversity (Exploratory Analyses)

Children who lived in neighborhoods with a higher outgroup composite went to schools with higher racial diversity, r = .39, p < .001. We repeated our binary logistic regression, adding

school diversity as a predictor. Children's own lunchbox match remained a significant predictor, $b = 1.39$, $SE = 0.49$, $z = 2.83$, $p = .004$ of their choice to sit at the American table. School diversity ($p = .263$) and child's neighborhood outgroup composite ($p = .990$) did not predict children's table choice.

Table 11. Predicting Children's Choice of the American Lunchbox

	Estimate	S.E.	z-value	*p*-value
Intercept	-2.05	3.20	-0.64	.523
Age	0.01	0.11	0.07	.942
Neighborhood outgroup composite	0.03	0.66	0.05	.959
Food fussiness score	0.27	0.29	0.93	.354
Number of matched American foods	1.44	0.44	3.25	.001**
Number of correctly identified foods	-0.09	1.02	-0.08	.933

Note. '***' $p < 0.001$, '**' $p < 0.01$, '*' $p < 0.05$

Children's Food Evaluations

To determine if children's evaluations of people differed by lunchbox type, we conducted a chi-square analysis for each food evaluation (nice/mean, popular/unpopular/, nearby/faraway, alright/not alright) by entering lunchbox type and the response options in a chi-square calculator (Preacher, 2001). There was no difference in evaluation by lunchbox type for alright, nice/mean, or popularity (*ps* > .471). There was a significant difference for nearby/far away, $\chi^2(9) = 30.52$, $p < .001$ (*see Table 12*). We conducted follow-up binomial tests with chance set at .25 (since there were 4 response options) using the nearby and far away responses for each food type as the probability for success values (e.g., 59 nearby and 25 far away for the American lunchbox). Children significantly chose the American lunchbox to be eaten by someone who lives nearby

(59/100, $p < .001$) and the Chinese (47/100, $p < .001$) and Indian (44/100, $p = .003$) lunchboxes to be eaten by someone far away. For the Mexican lunchbox, children significantly chose the Mexican lunchbox to be eaten by someone nearby (39/100, $p = .014$) as well as far away (34/100, $p = .028$).

Disgust Elicitor Lunchbox. Of the 66 responses, 72% children reported it was not alright to bring those foods to school, 41% reported someone mean would eat it (vs. 26% nice, 11% both, and 21% don't know), 63% selected someone unpopular, and 55% selected someone far away.

Table 12. Child Lunchbox Evaluations

Evaluation	American	Chinese	Indian	Mexican
Nice/Mean				
Nice	59	53	59	53
Mean	7	12	8	13
Both	27	21	25	27
Don't know	6	13	7	6
Popular/Unpopular				
Popular	38	31	29	33
Unpopular	29	29	29	29
Both	23	25	29	27

Don't know	10	15	13	11
Alright to bring				
Alright	76	68	71	65
In the middle	10	13	10	16
Not alright	3	8	6	8
Nearby/Faraway				
Nearby	59	29	27	39
Faraway	25	47	44	34
Both	14	20	21	21
Don't know	2	4	8	6

Note. The only significant difference of evaluation type by lunchbox type was for nearby/faraway: $\chi^2(9) = 30.52$, $p < .001$.

Discussion

Study 3 incorporates children's familiarity with the stimuli foods, explanations for why they chose a particular table, and school diversity. Children rated by their parents as picky eaters were less likely to have eaten the Indian, Mexican, and Chinese foods, in line with associations between picky eating and lower dietary diversity; Dovey et al., 2008; Lafraire Rioux, Giboreau et al., 2016; M. Patel et al., 2020). Akin to Study 2, the American table was chosen most often. The match between children's own lunchbox contents and the American lunchbox was the only predictor of children's table choice. No other individual (food fussiness score, age, food

identification) or contextual (neighborhood and school diversity) variables were significant predictors.

Children's table choice highlights the preference for eating mainstream foods at school. In contrast, their evaluations of people who eat them (nice/mean, popular/unpopular) were positive across foods. In fact, some children spontaneously stated, "anyone could eat a food like that" or "it does not matter if you are popular or unpopular, both can eat this food." These findings suggest that children view personal attributes as unrelated to the foods people eat, which may be considered surprising given previous retrospective research highlighting how immigrant students see themselves and are treated as uncool or unpopular in school cafeterias (M. Roberts & Pettigrew, 2013; Salazar, 2007). This is further evidenced by their responses to the disgust elicitor lunchbox: even when shown nonfoods or foods with contaminants, only 41% said someone mean would eat it (the modal but not majority response). However, majority of participants rated the disgust elicitor lunchbox as not alright to bring to school, and someone faraway would eat it, indicating they were not merely choosing positive responses across the board, but recognized the potential harms or unconventionality of eating such foods.

Children were perceptive that the stimuli foods represented cuisines from diverse cultures, as they rated the American food as more frequently eaten by people nearby and the Chinese and Indian lunchboxes as eaten by people far away. Children chose the nearby and faraway options for the Mexican lunchbox. One potential implication of this finding could be that some children see Mexican foods as fairly integrated (as Tex-Mex foods) in mainstream American cuisine, but others identify it as originating from another country. Since some children picked nearby and others picked faraway, we were also interested in how children chose the "both" response for this evaluation. Upon closer observation of our data, we find that only 32%

of children gave at least one "both" response across the four foods, and there was no correlation between child age and tendency to give a "both" response. Descriptively, the number of children's "both" responses was similar across foods. More research is needed to parse whether children chose "both" as a representation of foods that can be eaten anywhere versus their difficulty in comprehending distance (nearby or faraway) and hence the choice of "both" as an easier response. Taken together, our results highlight the role of familiarity and prior exposure on children's choices.

General Discussion

The present studies find that children make differential evaluations of culturally diverse lunchbox foods and their behavioral choices are guided by notions of conventionality. Children reported Mexican, Chinese, and Indian foods to be less tasty and messier to eat than the mainstream American food (Study 1). Children tended to select tables with American foods in a hypothetical cafeteria, and the only predictor of that tendency was the match between their own preferred lunch and the American lunchbox (Studies 2 and 3). They also rated the mainstream American and Mexican foods as being eaten by people who live nearby (Study 3). Children's exposure to diversity at the neighborhood and school level rarely predicted their responses (other than neighborhood diversity being positively associated with messiness and "alright" ratings in Study 1), nor did their parent-reporting frequency of taking foods from different cultures to school. The results around the mainstream American lunchbox emphasize that our findings are more consistent with notions of familiarity than cultural factors.

Interestingly, children in both Studies 1 and 3 rated all foods as being alright to bring to school (and in Study 3 assigned positive attributes to people who eat all foods). If a majority White sample of children think that culturally diverse foods are alright to bring to school, then

why do prior studies highlight children being teased for the contents of their lunchbox or children's rejection of unconventional foods (Ludvigsen & Scott, 2009; Seko et al., 2021)? One potential reason for these positive ratings could be the general shift in the exposure to and learning about diverse foods at school, given the increased ethnic diversity in U.S. schools over the past decade (National Center of Education Statistics, 2023). Indeed, some parents mentioned after the study that their children had cultural food days at school where they learned about foods from different countries. Children's positive ratings and table choices could also reflect social desirability biases (to report the "right" answer); for instance, one 9-year-old asked, "did I answer everything politically correct?" at the end of the study. Children could have provided more socially acceptable responses to the Asian Indian researcher conducting the sessions, as prior research with adults highlights potential researcher demographics effects, especially in studies of intergroup cognition (Does et al., 2018). Children also demonstrative positivity biases, in which they tend to evaluate others positively (Boseovski, 2010). Future research in this area could include measures to control for social desirability.

We also examined children's views of "coolness" and "popularity" since such social hierarchy has been highlighted by children in previous research on their judgments about what their peers eat (Ludvigsen & Scott, 2009; M. Roberts & Pettigrew, 2013; Salazar, 2007). In Study 1, children rated cool kids as less likely to eat the Indian, Mexican, and Chinese lunchboxes compared to the American lunchbox, reinforcing the social status of those who eat American foods (in contrast to their positive "alright" ratings across foods). However, in Study 3, we did not find any differences by lunchbox type when children were asked whether someone popular or unpopular would eat each food. Given that our samples in Studies 1 and 3 were similar in methodology (testing by videoconference), age, and racial/ethnic breakdown, concepts

of coolness and popularity may not be interchangeable. Future research should build on these constructs as they relate to children's judgments about eating foods from different cultures.

We found limited age effects, other than positive associations with "alright" to bring to school in Study 1. With age, children were more likely to state that it was alright for someone to bring the stimuli foods to school, in line with developmental findings that children's explicit negative outgroup biases reduce with age (Doyle & Aboud, 1995). However, we did not find an age effect in children's table choices or other food evaluations. Previous research has found that status plays a role in children's desire to affiliate: Iranian school-age children had more favorable ratings of affiliation, trust, and loyalty toward American children as they perceived them to be of higher status compared to Iranian children of another school and Arab children, a finding which held across child ages (Yazdi et al., 2020). With respect to implicit racial attitudes, research suggests ingroup favoritism is a stable, early-developing mechanism that does not vary with age but instead with children's racial categorization ability (Dunham et al., 2013). However, this preference is typically observed in children of the majority group, but not children from socially disadvantaged groups (Dunham et al., 2013). Extending these findings to the present studies, U.S.-based school children, irrespective of their own ethnicity or age, may be attuned to the prototypical American cuisine considered as the "ingroup" food acceptable to eat in social settings. However, our samples included children from different racial backgrounds that may vary in status and perceived foreignness in the U.S. (Zou & Cheryan, 2017), a topic we highlight in the Limitations.

In summary, our findings point to some nuance in children's reasoning about the four foods. In Study 1, children appear to make an American versus not American distinction: as seen in Figure 2, the evaluations of the American food were higher than the other three foods, with

little differentiation between the Mexican, Chinese, and Indian foods. However, in Studies 2 and 3, the mainstream American food was the modal response, Mexican was second, and selections of the Chinese and Indian foods were fairly similar (and low). This could suggest that while the mainstream American leads in familiarity and conventionality, children are making some distinctions across the other three foods. Some children viewed the Mexican food as foreign, while others rated it as more familiar. However, the Indian and Chinese lunchboxes were rated as more unfamiliar in terms of the lower frequency of correctly identifying the foods and stating these would be eaten by people faraway. A follow-up study could include tasks like a rank-order to investigate this reasoning. If children conceptualize foods as American versus Not American, their ranking of the American table would lead while the other three would be random, but there could be consistent rankings of the four choices if children conceptualize them as distinct food categories.

Limitations and Future Directions

Across studies, about 50% of our sample was White Non-Latinx children. This is both a strength and a limitation. Given that ethnic majority children are conceived as perpetrators of cultural shaming experiences in school lunchrooms (Karrebæk, 2012; Ludvigsen & Scott, 2009; Salazar, 2007; Seko et al., 2021; Thorne, 2005), we have systematically assessed a sample of majority White children in this research. Their positive ratings toward any food being alright to eat at school is reassuring yet surprising given past findings. While it was insightful to have a majority White sample of children as it relates to our research questions, our studies did not have an equal representation of children from different racial backgrounds. This limits our conclusions in a few ways. As seen in *Tables 8 and 10,* children's own race and ethnicity were not related to their table choices. It is less clear if this effect is driven by the fact that there were unequal

numbers of children from different racial backgrounds or if children from the majority exhibited ingroup preference, while children of other races exhibited preferences for the American lunchbox given its perceived conventionality (Dunham et al., 2013; Yazdi et al., 2020). Parents reported packing foods from different cultures in Study 1 infrequently, and in children's own lunchboxes in Studies 2 and 3, "cultural foods" came up rarely. This could either be because children typically take mainstream American foods to school regardless of their own backgrounds, or because the sample was not representative enough of children from different cultural groups to capture diverse responses. Additional research with equal numbers of children from different racial and ethnic backgrounds would provide more power for group comparisons on children's understanding of status as it relates to food choices. Specifically, having more representation of children from different racial and ethnic backgrounds (e.g., 100 White, 100 Black, 100 South Asian, 100 East Asian, and 100 Latinx children) would allow us to test additional predictions regarding general preferences for mainstream American foods vs. ingroup preferences (in terms of the stimuli included in this study for East Asian, South Asian, and Latinx children) or openness to non-mainstream culture (which could apply across children from minoritized backgrounds). Group comparisons could also lend insight into the perceived status of immigrant children who eat their culture's foods in classroom settings, given that in American society, Black, Asian, and Latinx groups vary in the degree of perceived foreignness and social status (Zou & Cheryan, 2017).

Secondly, we created our stimuli using foods that were mentioned by participants in prior qualitative research (Ludvigsen & Scott, 2009; Salazar, 2007). We expected the stimuli to retain a degree of unfamiliarity, as it is such unfamiliarity that drives cultural shaming experiences. For example, peers ask ethnic minority children, "What is that?" or say, "Yuck, it looks bad"

(Blanchet et al., 2017). To this end, we sought to retain unfamiliarity by not providing labels of the foods across the three studies, especially in Study 1 where children also completed a face-to-food task (we did not want to introduce any biases in their choices of who would eat a particular food by labeling the ethnicity of the foods). In Study 3, we measured familiarity by asking children to identify the ingredients and did not expect every child to identify all ingredients. That said, children were most frequently incorrect about the Indian lunchbox, with the modal response for the *paneer* being ravioli. This could either indicate their unfamiliarity with the cuisine or their experience of Indian food in the U.S. may look different from the stimuli. Contrastingly, children's positive ratings of the Mexican lunchbox could be influenced by the familiarity of hard-shell tacos in Americanized cuisine. Future work could examine children's ratings of cultural foods in their more familiar versus authentic representations. Prior research has shown how labeling foreign and unconventional foods can increase children's acceptance of those foods (H. G. Hwang et al., 2019). In the present research, we investigated children's behavioral choices and food evaluations without influencing their baseline familiarity with the foods. Subsequent research should examine if labeling ethnic foods would promote choosing tables with those lunchboxes. Moreover, we have only one example of each food type across studies, which limits the generalizability of children's responses to the stimuli presented. Additionally, "fruit" was a common response for children's own lunchboxes and one child mentioned they were allergic to gluten when shown the American lunchbox. We did not consider healthfulness or food allergies when designing stimuli; future work could build on our findings about what children commonly pack in their own lunchboxes in the development of new stimuli.

We note that we chose to assess neighborhood demographics by calculating the proportion of outgroup members, employed in extant research, as an indicator of children's

opportunity to interact with individuals racially and linguistically different from them (H. G. Hwang, Debnath et al., 2021, H. G. Hwang, DeJesus et al., 2021). However, an Asian child in a predominantly White neighborhood could receive a high score though the neighborhood would not be considered racially diverse. Another way to calculate neighborhood diversity is entropy, or the proportion of individuals from different racial and ethnic backgrounds in a particular zipcode (H. G. Hwang, DeJesus et al., 2021). Prior work found that neighborhood outgroup was a stronger predictor of children's acceptance of foreign foods than entropy scores (H. G. Hwang, DeJesus et al., 2021), thus we retained the outgroup calculation in our analyses. Future research can examine other ways of capturing neighborhood cultural diversity as predictors of children's acceptance of ethnic lunchbox foods.

Finally, this study was inspired by work on bullying, teasing, and isolation of ethnic minority children for bringing their heritage foods to school. At the same time, children use foods to mark friendships and group membership (Nukaga, 2008), and unfamiliar foods can serve as positive learning opportunities. For example, in a TikTok viral video (2022), a Korean-American mother shares how her child's classmate's parent called her to appreciate the Korean food that was shared during lunch at school, and that the classmate enjoyed it so much that he wanted to go to the Korean market. The Korean mother was touched by this cultural appreciation and the fact that her child is a conduit for exposing non-Korean classmates to Korean foods, unlike her own experiences with food shaming at school. Future research should also examine social consequences such as cultural appreciation that can occur in school settings.

To our knowledge, this is the first study to systematically assess children's thinking about foods from different cultures in the context of them being eaten at school. Our findings highlight the role of familiarity and conventionality in driving children's food choices. Additional research

is needed to examine the consequences of such familiarity with more diverse samples of school-age children in their lunchroom environments.

CHAPTER IV: "KOREAN FOOD IS WHO I AM": FOOD AND ETHNIC IDENTITY IN ASIAN AMERICAN EMERGING ADULTS

Abstract

Cultural foodways can play an important role in immigrant individuals' well-being and expression of their cultural identities. Previous literature on dietary acculturation has primarily focused on immigrant caregivers as gatekeepers of cultural food practices. There is limited research on the socioemotional nature of dietary acculturation in U.S.-based adult children of immigrants. This study examines the food-related experiences of Asian American emerging adults and the extent to which they conceive of food as central to their identities during this developmentally salient period of ethnic-racial identity formation. We conducted semi-structured interviews with 20 18- to 23-year-old second-generation Asian Americans. Participants shared their current food behaviors and eating patterns, and retrospectively reported on early food experiences. Thematic analyses revealed that cultural food practices followed at home with family, the multicultural food experiences shared with friends at school and in college, and ethnicity-related promotive experiences had shaped their current relations to foods from their heritage culture. While participants more commonly connected with heritage Asian foods compared to mainstream American foods, they varied in the centrality of food in expressing their Asian identities. This study adds to the growing body of literature on the interrelations between cultural foodways, emotions, and ethnic identity in Asian American emerging adults in the United States.

Introduction

> I was in fourth grade. I ate a [Korean] garlic-onion dish that morning. I brushed my teeth and thought, "I'm going to be okay." Usually I brush my teeth twice, but that morning I was running late so I brushed only once. The person sitting next to me in school was like, "What's that smell? It's disgusting!" And he started pointing fingers at people. I don't think anyone realized it was me because I didn't talk the whole day. And so, I remember coming home and getting mad at my mom, "Why did you feed me that this morning?" I still remember it was a very traumatic moment. So, I've just kind of been careful about eating Korean foods in public ever since I was younger (Korean-American, female)

As this anecdote from one of our participants indicates, food is a "multivalent symbol" for Asian Americans as it serves both as a marker of "cultural distinctiveness" as well as an "emotional anchor" to home (Mannur, 2007). In the U.S., Asians are the second-fastest growing immigrant population (Pew Research Center, 2020). Diet and nutrition research on Asian immigrant families and their children have predominantly focused on the associations between dietary intake patterns and physical health indices, such as obesity and its comorbidities because they have a higher prevalence in immigrant groups, including in Asian Americans (Ali et al., 2023; Li et al., 2023; U.S. Department of Health and Human Sciences, 2021). One contributor to changes in diet content is dietary acculturation, which refers to immigrants' adaptation to the food practices and diets of their host country while retaining their cultural food practices (Satia, 2010). This process of dietary acculturation entails a confluence of demographic, socioeconomic, environmental, psychosocial, and cultural factors that can lead to bicultural (adoption of heritage and host cultures' eating patterns) or polarized (either maintenance of heritage or adoption of host cultures' eating patterns) food behaviors (Satia, 2010). However, our current understanding

of diet and nutrition outcomes is primarily based on research that excludes or underrepresents immigrant populations and there is a call for the inclusion of eating patterns, food environments, and family eating habits in migrant families to better conceptualize their dietary patterns and practices (Ali et al., 2023).

This focus on physical health and obesity prevention outcomes in Asian immigrant families undermines the psychosocial factors that also play a role in adapting dietary behaviors. A recent report released by the Pew Research Center finds that among Asian Americans, second-generation adults (i.e., U.S.-born children of immigrant parents from Asian countries) were more likely than their third- or higher-generation counterparts to have hidden aspects of their ethnicity to fit into mainstream American society (R. Chen et al., 2023). Adults aged 18- to 29-years were twice as likely than adults older than 30-years to report doing so, which includes hiding cultural food practices in social settings for fear of being ridiculed (R. Chen et al., 2023). Further, a review article has illuminated the pathways between dietary acculturation and immigrant adults' psychological distress, well-being, and mental health outcomes, in addition to physical health indices (Elshahat et al., 2023). In this way, it is likely that for second-generation Asian Americans, the experiences of altering their food behaviors as children to shield themselves from potential ridicule could influence how they later perceive the roles of both Asian and mainstream American foods in shaping their identities as emerging adults, or the period between 18- to 25-years. There is limited research on how Asian American emerging adults conceive of their food-related experiences, both during their upbringing and currently as adults. This is especially important during a developmental period when their ethnic identities are being explored, questioned, and even solidified (Umaña-Taylor et al., 2014).

The current study adds to existing research by examining dietary behaviors, food preferences, and cultural food practices in second-generation Asian American emerging adults. Specifically, using a qualitative design, we explore the extent to which cultural foods play a role in emerging adults' conceptualizations of their ethnic identity and the emotions that are associated with such food experiences.

Bidirectional Influence on Immigrant Food Behaviors

Within Asian immigrant families, the influence of food practices and behaviors is bidirectional: parents pass on traditional food routines to their children, while children teach their parents about different cuisines and newer ways of preparation. Two overarching themes guide these food behaviors: one is driven by health motivations, and the other by socioemotional motivations.

Health Motivations of Immigrant Eating Behavior

Previous work suggests that Asian immigrant children, youth, and adults in the U.S. have diets that do not meet the prescribed nutrient intake levels as recommended by dietary guidelines, with some studies revealing that second-and third-generation participants have a higher intake of processed meats and lower fruit and vegetable intake than first-generation immigrants (Ali, Yi, et al., 2022; Diep et al., 2015; Lv & Cason, 2004; Serafica, 2014). The health implications of such findings have guided research in this area. Quantitative studies primarily assess diet content in Asian immigrant children and adults (of mixed generation status across studies) through food frequency and dietary recall measures and relate diet content to demographics, anthropometrics, and acculturation levels. Here, questionnaires contain examples of foods from both traditional and heritage cultures and are reported as food groups or nutrient intake during analyses (Ali, Yi, et al., 2022; Diep et al., 2015; J. Lee et al., 2021; Lv & Cason,

2004; Mulasi-Pokhriyal & Smith, 2013; Noor et al., 2020). In contrast, qualitative work with Asian families describes the motivations and challenges that guide these dietary choices. For instance, in thinking about the healthfulness of foods, Asian caregivers posit that their traditional foods are the most balanced, filling, and nutritive, as reported in interviews with Vietnamese-American (Babington & B. Patel, 2008), Hmong-American (Vue et al., 2011), Asian-Indian (Momin et al., 2014), and Japanese (Ando, 2020; Seko et al., 2021) immigrant mothers. They report that their cultural meals are rich in ingredients like fresh fruits, vegetables, and protein compared to highly processed mainstream American fast foods and frozen meals, which motivates them to regularly serve traditional meals to their children.

Notably, this dichotomous concept of 'American food = unhealthy' and 'Traditional food = healthy' has been challenged by older children of immigrants: they influence their parents' dietary habits through a preventive health lens. For example, a qualitative study with second-generation South Asian American 18- to 29-year-olds revealed that they perceive themselves to be the catalysts of promoting healthier eating habits and dietary diversity in their families (Auer et al., 2023). They report how their traditional cuisine includes cholesterol-rich food such that these young adults educate their first-generation parents on how to include healthier substitutes in their preparation of traditional foods. They also encourage variety in their parents' diets by buying different kinds of ingredients or foods from restaurants that serve cuisines outside of their heritage foods (Auer et al., 2023). Such studies highlight the importance of contending stereotypical associations of healthfulness with traditional and mainstream cultural diets; both types of diets can have healthy and unhealthy components. Given the prevalence of these rich reports on the health motivations of Asian American diets and food behaviors, the primary aim

of the current study is to expand beyond this physical health focus and examine how emerging adults conceive the socioemotional aspects of eating.

Socioemotional Motivations of Immigrant Eating Behavior

Food is a medium through which Asian immigrant families connect to their cultural heritage. For example, Asian immigrant mothers view themselves as the conduit through which cultural food practices are shared with their families after migration (D'Sylva & Beagan, 2011; Momin et al., 2014; Vallianatos & Raine, 2008; Vue et al., 2011). They not only ensure these foods constitute at least one meal a day but also follow cultural food practices such as eating together communally and not wasting food (Lv & Brown, 2010; Momin et al., 2014). Such reports highlight the emotional role of food that drives immigrant caregiver behavior: mothers hold on to their culinary nostalgia (Srinivas, 2006), channel their creativity through preparing traditional foods (D'Sylva & Beagan, 2011), evoke empowerment in being able to serve traditional foods (D'Sylva & Beagan, 2011), and create a community (Momin et al., 2014; Zulfiqar et al., 2021). That said, they also have to juggle limited access to authentic ingredients (Ando, 2020; Vallianatos & Raine, 2008), the frustration of handling children who are picky eaters (Lv & Brown, 2010; Momin et al., 2014), and the guilt of succumbing to mainstream American frozen-meals and fast-foods after long work days (Vue et al., 2011).

Notwithstanding this connection to cultural roots, heritage foods can also be targets of discriminatory experiences in social settings. For instance, Asian first- and second-generation school-age children often reject cultural foods and show an increased preference for Western foods they see their peers eating at school (Lv & Brown, 2010; Momin et al., 2014; Zulfiqar et al., 2021). In addition to general tendencies to prefer foods eaten by peers (Binder et al., 2019; DeJesus et al., 2018), one potential reason for such rejection behaviors could be the food-

shaming experiences children report when they take foods from their home culture to eat at school, as evidenced by multiple research studies. Japanese-Canadian 6- to 12-year-olds have reported being teased for their traditional *bento* boxes which were different from the prototypical cold lunches in a Canadian school setting (Seko et al., 2021). Additionally, 65% of Japanese American mothers reported their children (5- to 18-years, first- and second-generation) were ashamed to eat heritage foods in front of their peers (Ando, 2020). This pattern is also echoed by Asian American undergraduates, who when asked to think back to their school experiences, were significantly more likely than their White American peers to report having an embarrassing food-related experience and were more likely to complain to their parents about the non-American meals they took to school (Guendelman et al., 2011). These types of experiences result in Asian immigrant children taking more mainstream foods in their lunchboxes to be in tandem with their peers, eating school-provided lunches, or creating "fusion foods" that blend recipes from both, the mainstream and traditional cultures (Momin et al., 2014; Seko et al., 2021; Vallianatos & Raine, 2008; Zulfiqar et al., 2021). Thus, children have their own emotional experiences to cope with, from trying to fit in and cultivating a sense of belonging, to understanding their own identities at the confluence of two (or more) cultures (Diep et al., 2017; Nukaga, 2008).

Taken together, food plays a multifold role in Asian immigrant families, and evokes a range of emotions, from pride and comfort to embarrassment and othering. While previous research has illuminated negative food-related experiences, less is known about the positive experiences Asian immigrants could face around cultural food acceptance with peers and colleagues. The present study aims to explore the prevalence of both negative and positive food-related experiences in Asian American emerging adults who are born and raised in the U.S. Additionally, more research is needed to explore whether, and to what extent, emerging adults

hold onto the knowledge and traditions of their heritage foods, especially considering reports from first-generation caregivers who have emphatically stated their intention to pass on these traditions. Importantly, we examine whether the presence of these experiences and exposure to cultural food practices growing up plays a role in how they conceive of their Asian ethnic identities as emerging adults.

Ethnic-Racial Identity and Food Experiences

Ethnic-racial identity (ERI) refers to the beliefs and attitudes individuals have about their own ethnic and racial group membership, which is achieved as individuals explore and internalize their ethnicity (Huguley et al., 2019; Umaña-Taylor et al., 2014). ERI develops in states: achievement (commitments after exploration), moratorium (exploration), foreclosure (commitments without exploration), and diffusion (no commitments or exploration) (Marcia, 2002; Phinney, 2006; Umaña-Taylor et al., 2014). Developmentally, emerging adulthood is a salient period in ERI formation, as the diversity of peer, social, and academic experiences in college introduces levels of complexity in individuals' intersecting identities (Arnett, 2000; Phinney, 2006; Umaña-Taylor et al., 2014). Families' cultural socialization, or the process of sharing and passing on cultural practices and traditions (e.g., festivals, foods, language) predicts ERI development. Cultural socialization is positively associated with immigrant youth's ERI and psychological well-being (Huguley et al., 2019; Umaña-Taylor & Hill, 2020).

In the study of such cultural socialization, food is often grouped along with other cultural practices. Since eating and food-related experiences are daily, ubiquitous practices, we explore whether Asian American emerging adults conceptualize food behaviors as a central aspect of their identities. Previous work has found relations between acculturation, ethnic identity, and food choices in Asian Americans (Ali, Yi, et al., 2022; Serafica, 2014). For instance, in an

experimental study, Asian American students altered their food choices to be more prototypically American when their American identity was threatened (Guendelman et al., 2011). Additionally, in a qualitative study with second-generation ethnic minority college students (including Asian Americans), authors conceptualized "cultural food security" as participants' availability of and access to cultural foods in their college environment (Wright et al., 2021). Interviews revealed that this sample of students associated cultural foods with emotions such as happiness or comfort, and the restricted access to authentic cultural foods in college and missing home foods/eating with family negatively affected their isolation and mental health (Wright et al., 2021). Moreover, interviews with Asian high schoolers reveal that participants were divided in their perceptions of food and identity: some participants described cultural food as the "main connection" with their cultural identity, while others stated that it is important but not the "sole defining factor" in expressing their identity (Han & Macomber, 2022). Parallel work with Latinx immigrant adults also reveals associations between ethnic identity and food preferences. A mixed-method study with Mexican American young adult women who identified as predominantly bicultural in their ethnic identity, shared how Mexican food was central to expressing their identities (Ramírez et al., 2018). At the same time, they categorically reported that Mexican foods were incompatible with a healthy diet, or that they would have to give up Mexican food if they wanted to eat healthily (Ramírez et al., 2018). The present study aims to replicate and build on these studies by examining the interrelation between cultural foodways and ethnic identity during a period when ethnic identity exploration is ripe (Phinney, 2006).

The Current Study

Taken together, prior research highlights that cultural foodways are an important socialization medium and are part of the regular routines of most Asian immigrant families of

mixed-generation status. The sharing of food practices is bidirectional between parents and children and is motivated by different drivers as children grow older, including trying to fit in with mainstream society as well as health concerns (Ali, Gupta, et al., 2022; Auer et al., 2023; Momin et al., 2014; Zulfiqar et al., 2021). These food experiences are socioemotional in nature, eliciting feelings of cultural pride, as well as embarrassment when eaten in multicultural contexts (D'Sylva & Beagan, 2011; Guendelman et al., 2011; Seko et al., 2021). For immigrant adults, some work illuminates how food also plays a central role in how they think of their ethnic identities (Ramírez et al., 2018; Vue et al., 2011; Wright et al., 2021). However, much of this work in Asian families is driven by the voices of immigrant caregivers with a few studies on Asian children and adolescents. Less is known about how second-generation Asian American emerging adults who have grown up at the confluence of two cultures navigate their early and current food experiences (Ali et al., 2021).

This study asks the following questions in a sample of second-generation Asian American emerging adults: What kinds of foods do they eat in their regular schedules? Have they experienced any salient food-related experiences growing up in the U.S. school system? What emotions are associated with cultural food practices? Does food play a role in how they conceive their ethnic identities?

Methods

Participants

Data for this study were collected from June-December 2023. Participants were recruited via social media and word-of-mouth. Our inclusion criteria were: monoracial, second-generation, 18- to 23-year-old Asian Americans. Biracial and multiracial ethnic minority individuals experience race-related experiences differently from their monoracial counterparts (Bracey et al.,

2004; Remedios & Chasteen, 2013), therefore, we focus on Asian American monoethnic participants (i.e., both of the participants parents identify as the same Asian ethnicity as each other). Previous research has included participants of mixed generations (Han & Macomber, 2022) and dietary behaviors vary by generational status (Ali, Yi, et al., 2022). To capture the "distinctive bicultural experience" of Asian-ness and American-ness that second-generation immigrants experience (Park, 2008), our sample includes participants who were born and currently reside in the U.S., while their parents were born outside of the U.S.

A systematic review of qualitative papers with in-depth interviews suggests that 9-17 interviews are adequate for saturation (Hennink & Kaiser, 2022). We built on Wright et al. (2021) which had 16 second-generation ethnic minority college students, and Han and Macomber (2022) which had 10 Asian immigrant high schoolers. Our final sample included 20 second-generation 18- to 23-year-old Asian Americans, M_{age} = 20.50 years, and 15 participants (75%) identified as female. 15 participants (75%) were undergraduate students, 2 participants (10%) were graduate students, and 3 participants (15%) were college graduates. 18 participants (90%) were bilingual and 2 participants (10%) were trilingual. 10 (50%) of our participants' mothers had a college degree, and 11 (55%) of our participants' fathers had a graduate degree. 7 participants (35%) currently resided in North Carolina and 5 participants (25%) currently resided in California (*see Table 13 for additional demographic information*). Through the interviews, we learned that all participants from North Carolina and California (60%) went to college in-state, 2 participants went to college in a different state than where their family resided, and for the remaining 6 participants (30%), where they live now compared to where they grew up did not come up spontaneously in interviews.

In terms of picky eating behavior, 7 participants (35%) identified that they have never been picky eaters. Four were picky toward certain vegetables and textures like asparagus or zucchini and two said they were picky towards sauce and spice in their food and hence had a lower intake of their heritage Asian foods. Four participants mentioned they disliked some foods as a child but now were willing to eat those foods.

Materials and Procedure

Participants first completed a Qualtrics screener survey to verify that they matched the eligibility criteria. If eligible, they were emailed a scheduling link to select a time for their 60-minute Zoom interview. Interviews were conducted by the first or second author. After the appointment was scheduled, participants were emailed a consent form and surveys to collect demographic information and acculturation scores.

At the start of the interview, participants provided verbal consent to audio and video record the session. Participants reported on their food experiences for the first 30 minutes, which is pertinent to the current study. Participants also discussed conversations around race and discrimination for the next 30 minutes, the results of which will be reported elsewhere. Participants were compensated with a $25 Amazon gift card for their time. All procedures for this study were approved by [Institution masked] Institutional Review Board.

Demographic Survey

Participants reported on their age, academic status, living situation, household income, and their parents' ethnicity and education levels.

Acculturation Measures

Participants reported on their own acculturation level using the Asian American Multidimensional Acculturation Scale (Gim Chung et al., 2004). The questionnaire contains

items relating to participants' identification with the cultural identity, language, cultural knowledge, and food of their own heritage ethnicity and that of mainstream White American groups. Each question was scored on a scale of 1 (not very much) to 6 (very much), with one reverse-coded item. Higher scores indicate a higher orientation toward that cultural orientation. Questions about engagement with own heritage culture were averaged to give an enculturation score, $\alpha = .90$, $M = 4.18$. Questions about engagement with mainstream White American culture were averaged to give an acculturation score, $\alpha = .85$, $M = 4.38$, highlighting our sample had a similar orientation to both cultures.

Table 13. Participant Demographics

Characteristic	*n*	%
Age		
18 – 20 years	11	55
21 – 23 years	9	45
Ethnicity		
Indian	8	40
Korean	5	25
Filipino	2	10
Vietnamese	2	10
Chinese	1	5
Taiwanese	1	5
Cambodian	1	5
Household Annual Income		

Under $20,000	1	5
$20,000- $49,999	4	20
$50,000- $89,999	3	15
$90,000- $129,999	1	5
$130,000 - $149,999	2	10
$150,000- $199,999	3	15
Greater than $200,000	5	25
Current State of Residence		
North Carolina	7	35
California	5	25
Indiana	2	10
New Jersey	2	10
Georgia	1	5
Massachusetts	1	5
Michigan	1	5
South Carolina	1	5

Note. Participants' enculturation score was M = 4.18 and acculturation score was M = 4.38.

Interview Protocol

The interview contained four main questions with several sub-questions (*see Appendix B for interview guide*). Following best practices in conducting an interview, participants were first asked grand-tour questions, or general questions to open up the interview before delving into

experience and feeling questions (Glesne, 2015). Participants were first asked to share what their typical lunch and dinner comprises, and the contexts in which they eat (alone or with friends or family). Participants then retrospectively described their lunch experiences during high school and recalled any salient experiences in middle or elementary school. They were then asked to describe cultural food practices and behaviors that they follow with family, and any practices that gave them a source of pride and embarrassment. Finally, participants were asked about the extent to which foods from their heritage and mainstream culture play a role in their identity as Asian Americans. As "interviewers are listeners incarnate" (Glesne, 2015, p.112), we did not take notes during the interview. Instead, we focused on listening, repeating back to the participant, and probing as much as possible. Interviews were recorded so that participants' answers could be transcribed and reviewed later for themes.

The interview protocol was piloted with two volunteers who met the target sample criterion and was modified for ease of understanding and flow. We added questions about eating behaviors during the COVID-19 pandemic and whether the participants were picky eaters to the interview protocol as these topics arose in the pilot interviews. However, food behaviors during the COVID-19 pandemic did not emerge as a prominent theme in our current sample, potentially because the pilot interviews were conducted in the Fall of 2022 when the effects of the pandemic might have been more salient than when these interviews were conducted in 2023.

Data Analysis

Data from the interviews were analyzed using thematic content analyses (Braun & Clarke, 2006). A team of 4 undergraduate students from diverse racial/ethnic backgrounds cleaned the transcripts. Transcripts were generated by Otter.ai, an AI-generated transcription software, and edited for accuracy with the interview audio by a team member. Then, another

team member proofread the transcript with the interview audio to verify that the interviews were accurately transcribed, and the transcriptions did not contain any identifying information. This way, each transcript was reviewed twice. Transcripts were uploaded to Atlas.ti for coding.

Thematic analysis was conducted using a hybrid of inductive (data-driven) and deductive (theory-driven) coding approaches (Fereday & Muir-Cochrane, 2006). The codebook was developed by reading 20% of the sample transcriptions. To ensure adequate representation of the ethnicities in our data, one transcript from each ethnic group with more than one participant (Korean, Indian, Chinese, and Filipino) was chosen to guide the development of the coding scheme *(see Appendix B for codebook).* Statements could be coded more than once to capture nuance in the data (indicated as "double codes" in the coding scheme). For instance, a statement such as "I prefer simple mainstream American foods for lunch as opposed to my siblings who prefer Korean foods" would be coded as "Lunch: mainstream American" and "Preferences vary by family members."

The first and second authors established intercoder reliability of .91 (Krippendorff's Alpha) and individually coded the rest of the transcripts. The first author then grouped codes, ran queries, and explored co-occurrence tables on Atlas.ti to visualize data patterns. Next, the first and second authors discussed emerging themes, and the first author wrote code summaries for each of the themes. For example, the first author reviewed the codes "type of lunch," "negative experience", "positive experience" and "limited food experience". A co-occurrence table demonstrated that "emotion consequence" was double-coded most frequently with "negative experience." Thus, the theme of "early food experiences" was conceptualized. During this process, the authors practiced reflexivity (Lazard & McAvoy, 2020) by discussing their positionality as Indian researchers with each other and with the team of research assistants.

Thematic coding produces across-participant patterns in the data. Previous research highlights how within-participant exploration of the data can augment the interpretation of these across-participant patterns (Ayres et al., 2003). To this end, we conducted a supplemental analysis by creating individual summaries of each participant's transcript (*see Appendix B for summaries*) to examine any demographic trends in food experiences and report additional findings that emerged from these summaries.

Results

Data highlight four themes that are important to understanding food, culture, and identity in our Asian American sample: early food experiences, cultural food practices, current dietary patterns, and ethnic identity. We present each theme with relevant quotes next.

Early Food Experiences

This theme illustrates participants' retrospective recollection of foods they ate during elementary, middle, and high school, and any valenced interactions around eating heritage foods in school.

Type of Lunch

In our sample, most participants took packed lunches to elementary and middle school. In high school, fewer students brought packed lunches — 8 (40%) reported bringing lunch, 7 (35%) ate at the school cafeteria, 2 did both, and the rest did not eat at school. Three participants relied on school lunches from elementary to high school. School cafeteria food consisted of mainstream American options such as pizzas, burgers, pasta, and spaghetti.

Almost all participants who had taken packed lunches mentioned that their mothers packed their meals. Meal content was evenly split between those who took predominantly heritage Asian foods such as "Gujarati finger foods" and those who took a mix of mainstream

and heritage cuisines. For example, one participant stated, “It was never like the same thing because my mom was very experimental. So sometimes it would be rice with bulgogi, a Korean beef. Sometimes it would be fried rice, sometimes it would be sandwiches” (Korean-American, female). A few participants' mothers exclusively packed mainstream American foods. Additionally, participants who prepared their own lunches typically included mainstream American options.

When asked to reflect on any social situations around food that participants may have experienced in school settings, especially those who had taken packed lunches, they shared experiences that were negative, positive, or limited.

Negative Experiences

Eleven participants (55%) reported negative experiences when eating their heritage Asian foods in social settings, such as at school, church, or during extracurricular activities. Almost all these experiences occurred during elementary and middle school. The most prominent reason for alienating experiences was the pungency of the heritage food. Non-Asian peers had also tried foods and either spat them out, commented on how bad they tasted, or given “weird looks.” For example,

> When I was in fourth grade, my mom sent lemon rice to school which is yellow. That isn’t normally the color of rice, and someone said, “oh, it looks like pee!” And then I did not eat that. I think that was my turning point, my most vivid memory. I told mom “I can’t do this anymore (Indian-American, female)

Emotional and Behavioral Consequence. Most participants expressed the emotional impact of these negative experiences, including feelings of “embarrassment,” “self-consciousness,” or “pressure.” Three participants requested their parents pack mainstream

American foods instead of heritage Asian foods after such an experience. For a few participants, like the one about lemon rice, these encounters made them realize that they (and their foods) were different from their ethnic majority peers. Two reported throwing away or not eating the food altogether. However, not all participants underwent an emotional or behavioral change. Some participants "acknowledged" the situation at home with their parents by discussing their peer's behaviors but continued to bring their heritage foods to school.

Positive Experiences

Two participants positively remembered cultural food days at elementary school. One participant noted how her mother distributed cream puffs from a Vietnamese bakery to her classmates on her birthday, "I'm glad that people really like this dessert that I also really like and grew up with" (Vietnamese-American, female).

Three participants reported positive food experiences in high school as they could share heritage Asian foods with other peers who appreciated them. Moreover, having same-ethnic friends was protective,

> I have a really clear memory of bringing shrimp chips to school. The people I was around were predominantly White. Some people were like, "Why would you eat shrimp chips? It's such a weird taste." But then I would also have a lot of friends who have had shrimp chips before. And they would say, "No they're so good." And would defend me. (Cambodian-American, female)

Limited Experience Around Food

Some participants did not have especially positive or negative food experiences at school (or had different experiences in different school contexts) but were still able to reflect on the foods they brought to school. Overall, 8 participants (40%) had no embarrassing or judgmental

food-related experience in high school. Six of these participants had other Asian peers, so they took both American and heritage foods without feeling uncomfortable. The other two participants stated that they had changed their packed lunches to mainstream American meals as it felt safer, “Everyone is okay with sandwiches. No one is going to say, “Oh, that smells bad ”” (Korean-American, female). One participant reported, “I became very comfortable with my culture, and I had become very comfortable with who my friends were” (Indian-American, female) such that taking Indian foods did not affect her as it had in her early school years, a topic we return to in the Ethnic Identity theme.

Among participants who were teased in their elementary or middle school, five (45%) stated they did not encounter such teasing during high school. Nine (45%) participants had been the only few Asians in their early school settings, which might have contributed to the negative reactions they faced. Indeed, some participants mentioned their high schools had greater ethnic diversity and they had more Asian friends. As one participant shared, “I didn’t really change the food that I brought. It was just the people that I was surrounding myself with that changed” (Korean-American, female).

In summary, most of the participants who took heritage Asian foods to school as packed lunches reported being teased by non-Asian peers during elementary and middle school. These experiences led to feelings of shame and embarrassment but were also turning points for some as they understood food conventionality in a school setting. Such experiences were reduced by high school, especially if participants had more ethnic diversity in their school. A few participants were even able to enjoy sharing their cultural foods with other peers.

Cultural Food Practices

This theme highlights food practices that stem from participants' cultural heritage. It includes general food practices, food preparation methods, religious dietary practices, foods associated with special occasions and festivals, and health-based dietary considerations.

General Food Practices

Participants shared general food practices and routines they follow with their families. About half mentioned they would eat at least one heritage Asian meal together as a family every day (usually dinner), especially when their grandparents were present. Some participants stressed the importance of not wasting food, "I remember when I was a kid, my parents had a rule of finishing the food on your plate. I think there's been discussion on why that's harmful. So, I think my parents have reduced the amount they believe that now" (Indian-American, female). Moreover, few participants reported that their heritage foods were prepared using a blend of spices, without necessarily adhering to specific measurements.

Additional findings are grouped by Asian ethnicity to highlight similarities within cultures: Indian-Americans, East Asian-Americans (Korean, Taiwanese, and Chinese), and Southeast Asian-Americans (Filipino, Vietnamese, and Cambodian):

Indian-Americans. Almost all participants stated they eat Indian food with their hands. A few made the distinction that they do so only when eating at home, while three reported they do not like eating with their hands. Some participants shared that chai with snacks such as biscuits and *chevdo* (puffed rice, lentil, and nut snack) are part of their daily routines. In terms of food preparation methods, some participants discussed how their mothers use rice-cookers and a mortar-pestle for spices. Participants also mentioned religious practices around mealtime such as praying before eating and offering foods to God during a festival before consuming them. They

adhered to different rules around the abstinence of meat: 2 participants did not eat beef for religious reasons, and 2 were completely vegetarian. One participant highlighted how these practices are ingrained, "I'm aware that I don't eat beef because of how respected and sacred cows are in terms of food preparation. You offer food with your right hand. So that's something that has been consistently drilled into my head" (Indian-American, male). Contrastingly, one participant acknowledged he is a heavy beef eater which is "ironic" as a Hindu.

East Asian-Americans. Most participants shared that food is served in a hierarchical order during mealtimes, with elders being served first, and everyone waiting until all are served before beginning to eat, "Before we eat, you say like, "jal meokkessumnida" which means "I will enjoy this meal." And then after you eat, you say "jal meogeosseumnida" which is "I really enjoyed this meal." It's to pay respect to the meal and the person who cooked it" (Korean-American, female). Food was considered a "labor of love" and a primary way to show care. A few participants mentioned how traditional steam pots, chopsticks, and recipe books passed down from generations were used to prepare heritage meals.

Southeast Asian-Americans. Two participants mentioned observing vegetarianism around religious days, "Some Buddhist holidays when we're close to the date of our ancestor's death anniversary, we respect them by not eating any meat or eating something called chay food" (Vietnamese-American female). Another Vietnamese-American female participant corroborated the practice of being vegetarian as a belief to usher good luck, such as when her mother went vegetarian for a month before her MCAT exam.

Festivals and Special Occasions

Participants described heritage Asian foods that are prepared around religious or cultural festivals and special occasions. They recalled that such foods were usually prepared communally

by mothers and grandmothers. Indian-American participants discussed festival foods that were pertinent to their families' native states in India. For example, Gujarati participants shared having *til laddoos* (sesame sweet) for *Makar Sankrati*, Tamilians mentioned *mysor pak and vadai* (clarified butter sweet and fritters) for Krishna Jayanthi, and a Telugu participant talked about *puran poli* (sweet flatbread) for Ugadi. All Korean-American participants mentioned how they ate *tteokbokki* (rice cake soup) for Korean New Year and *miyeok guk* (seaweed soup) for birthdays, "for good luck." A Filipino-American female remembered having *ube cake* (purple yam) and *lumpia* (spring rolls) for birthdays, while the Cambodian-American participant shared how distinct flavors of shaved ice with basil seeds and grass jelly bought at a New Years' fair were nostalgic for her, "that's my childhood and we still buy it." Four participants mentioned not having these foods for a long time, as they either stay away from home or their families have never really followed such festivals.

Healthfulness of Foods

Some participants described that they pay attention to the healthfulness of meals. This included food preparation and consumption practices, as well as views about the healthfulness of traditional Asian meals. Four participants mentioned their general orientation to eating healthy, such as reducing salt and sugar levels in their cooking, as well as including a variety of protein and nutrients in their diets, which was not limited to a particular cuisine.

We see a split in the perceptions of the healthfulness of Asian cuisines based on participants' heritage Asian ethnicity. Two East Asian participants felt their traditional foods were rich in nutrients because of the variety of vegetables and protein consumed, "you know how people say you should eat like the rainbow when you eat meals? That's always the case for Korean cuisine, I noticed, and there's always a very well-balanced protein, carb, wheat

assortment" (Korean-American female). On the other hand, 3 Indian-American participants expressed that traditional Indian meals are unhealthy, "do I think the South Indian diet is exactly a great diet and would I recommend it to anybody, absolutely not. It's like 95% carbs, minimal protein, and a lot of fats...I mean, the diabetes rate kind of speaks for itself" (Indian-American, male). So much so that if "[family] ever tries to eat healthier, it does mean eating less Indian food" (Indian-American, female). Another Indian-American participant felt that "Indian food gets a bad rep[utation]," but stated how she incorporates ingredients like extra virgin olive oil to make the preparation of Indian foods healthier.

Taken together, most participants shared how cultural food practices are part of their meal preparation and mealtime routines with their families. Both East and Southeast Asian participants highlighted the communal and family-style nature of meals, where everyone has their rice or noodles, but the rest of the dishes are shared. Foods prepared around festivals and special occasions were especially fondly remembered. Some participants did not have access to such practices regularly as they lived away from home or had a more general preference toward mainstream American foods. Others mentioned how they are trying to incorporate heritage spices and ingredients in their own cooking and prepare meals for their friends as a way to show their care through food.

Current Dietary Patterns

This theme explored participants' current dietary patterns. Participants shared the typical meals they eat for lunch and dinner. Foods were coded to include those from their heritage Asian culture, mainstream American culture, and multicultural cuisines (including other Asian foods, i.e. Korean food for a Chinese American participant, and non-Asian cuisines, e.g., Mediterranean, Mexican). In our sample, 6 participants (30%) had access to their college's

dining hall food, 6 (30%) were living and eating at home with family, and 8 (40%) were living in apartments away from family. Participants in the dining hall had the most access to diversity in food choices for both lunch and dinner, including mainstream American, Asian, and multicultural cuisines. That said, participants' typical meals varied by context.

Mainstream American

All participants mentioned currently eating mainstream American foods for lunch. Convenience was a big motivator, especially for participants living away from home and preparing food for themselves during work/school days, "Something that I can eat quickly, some sort of wrap or sandwich or […] pasta I made the night before and its leftovers" (Indian-American, female). Mainstream American food was common for dinner as well, "Dinner is usually steak or [...] pork again. And I really don't eat many vegetables […] I'd say it's American cuisine" (Indian-American, male). Overall, 4 participants reported eating predominantly mainstream American foods for lunch and dinner, even when they were at home.

Heritage Asian

Of the 6 participants currently living at home, 3 mentioned eating heritage Asian foods daily; for one, heritage foods were infrequent. Nine of 14 participants living away from home reported they ate heritage Asian meals when they went home, "When I go home, usually my mom cooks for me or my dad does. And at that point is usually rice, dal [lentils], and sabzi [curry]. I pretty rarely eat Western food whenever I'm at home" (Indian-American, male). Heritage meals were those most often prepared by family members, "For dinner, my mom usually cooks when I'm at home so she would make traditional Chinese food just using Chinese vegetables…And then we eat a lot of rice and noodles" (Chinese-American, female). This also highlights the perceived role of mothers in preparing heritage meals: a majority of the

participants (60%) acknowledged their mothers as sources for heritage dishes (3 mentioned grandmothers), such that mothers' absence equated to fewer heritage meals, "Within my family, we usually don't have our heritage dishes that often just because my mom's not around to cook. She works long hours, she is a nurse" (Filipino-American female).

Participants who did not currently live at home varied in the frequency of consuming heritage Asian meals. One participant with dining hall access reported seeking out heritage foods through Vietnamese takeout. Another was well-versed in Korean cooking, "I cook a big portion of soup at the beginning of the week, like Doenjang-jjigae, which is a Korean bean paste-based soup with pork, onions, jalapenos" (Korean-American female). Two Indian-American participants reported cooking and eating Indian food less frequently since it was "time-consuming" and required too many ingredients.

Multiculturality

All participants eating at dining halls shared how they gravitate to the Asian stations, "I always get my hopes up whenever I hear like Asian food being offered. Like kung pao tofu, it's Americanized version of Asian food" (Korean-American, female). Two Indian-American participants who lived in apartments away from home reported cooking East Asian meals. Four of the participants currently living at home stated they would typically have other Asian cuisines (not their heritage culture) for dinner, mainly through takeout.

Participants had a chance to try non-Asian food such as Italian or Mexican offered at the dining hall. Those who did not have dining hall access reported getting Mediterranean, Mexican, or Greek food via takeout. One participant living at home described how they had Indian food for lunch, but "Dinner is like anything really. That's where we get a little creative in my family. Like, explore, try different cuisines" (Indian-American, female). This multiculturality also

emerged in meals with friends, in which the modal cuisine was Asian cuisine such as Vietnamese, Korean, or Japanese foods. Some participants mentioned other non-Asian restaurants such as Mexican and Mediterranean joints, while 5 participants (25%) mentioned they stick to American cuisine with friends.

Change in dietary diversity. The exploration of different cuisines was attributed to the change in access and food preferences. 13 participants (65%) reported a change in dietary diversity from high school to the present day. For almost all participants, this change was positive: their increased diversity included foods from different cultures that they had access to in college, especially for participants with more diverse friend groups, "I think it's gotten more diverse just because of the people I'm around. Like high school, I stuck to basically school lunch and my Asian friends. But now I'm more open to other ethnicities and cultures" (Chinese-American, female). Some had outgrown foods they were picky about as a child such as seafood or sushi.

Parent preferences were touted as reasons for low dietary diversity in childhood. Five participants (25%) shared that their parents preferred heritage Asian cuisines such that they would not explore or be satisfied with other foods. This would include coming home after a meal at an American chain restaurant to eat Asian leftovers or seek out Asian food on vacation. For some of these participants, the independence of moving to college provided a way to try new cuisines, "the only thing that [my parents] would eat is Indian food or Mexican food, but nothing else… But now, I'm always willing to try new food" (Indian-American, female). That said, parent preference also influenced the intake of mainstream American foods. Some participants shared how Western and mainstream American foods have always been a part of their family diets, such that they have not undergone a big shift in their cuisine choices in college.

Thus, participants' current dietary patterns seemed context-dependent. Access to heritage Asian foods was limited for those living away from home, but some participants combatted that by seeking out Asian foods near campus. Mainstream American foods were common lunch options because of their convenience. Additionally, participants typically had multicultural diets, especially with the opportunities in college to explore different foods.

Ethnic Identity

In this theme, participants discussed the extent to which they saw foods as playing a role in their identities as Asian Americans. They also described experiences and reasons that have contributed to how foods influence their ERI.

Quantifying the Role of Food

Here, participants subjectively quantified how foods from their heritage Asian and mainstream culture influenced their identities. Nine participants (45%) described heritage Asian foods as a "big" or "major part" of expressing their Asian identity. For these participants, mainstream American food was "just food", something they ate growing up in the U.S. and that might have helped them fit into social settings but did not influence their identities, "Korean food is my identity. I don't see myself ever losing that part of me…For me, American foods are like quick meals…I don't really connect with American food" (Korean-American, female).

On the other hand, three participants identified more with mainstream American foods than heritage foods, "Food plays a role in my South Asian identity…I'm glad to eat it when I go home…I'd say [American food] plays a much bigger role given that I eat a lot more American food" (Indian-American, male). Four participants discussed how heritage Asian foods and mainstream foods played equal roles in their identities, "Food is the main way that I've connected to [Indian] culture… I think [American food] also plays a pretty significant role. I

grew up with those, just as much as I grew up with Indian food" (Indian-American, female). Next, participants highlighted certain experiences and emotions around heritage Asian foods that have influenced such quantification.

Food and ERI

Early experiences: Six participants (30%) described food-encounters in elementary and middle school that have stayed with them (some of which overlap with the negative experiences discussed previously). These are experiences that made participants realize the food behaviors they follow with family might be different from those of their peers. This includes noticing how peers reject their cultural foods and realizing not everyone likes the same foods, or, "Eating with your hands is a very cultural thing. And honestly, I didn't realize that this wasn't the norm until I started going to school and realized "oh, that's not what other people do"" (Indian-American, female).

A-ha moments. This refers to certain exploratory experiences that participants had in late adolescence or college that triggered an exploration of their relation to heritage foods. For example, an a-ha moment drew a participant closer to his cultural foods,

> Back in high school, I had no Asian food or touched my culture. In my first year of college, I got to try out some adobo [marinated meat in sauce] with my other friends. It was pretty good. I'm kind of digging them [Filipino food] more than I did before. (Filipino-American, male)

Four participants described finding a new appreciation for their heritage foods because of the external validation in mainstream culture,

> I'm embracing more of who I am just because Korean food is becoming so big. And hearing that it's being so accepted by so many different types of people makes me prouder of who I am in my identity. (Korean-American, female)

Not embarrassing anymore. Participants highlighted certain cultural foods (e.g., chicken feet or balut), practices (e.g., eating with hands), and odors (e.g., pungency of fish sauce) that could be gross or embarrassing for people of other ethnicities. That said, 5 participants (25%) reported they were not embarrassed anymore about what other people think or feel about their cultural foods,

> I would say my perception of it has changed. When I was in middle school or high school, I'd be kind of ashamed of my Indian food. But [now], if we are preparing anything, I might take a picture of it and post it on social media…I do definitely enjoy it and take pride in it. (Indian-American, female)

Some reasons that have contributed to this change in perception from earlier in childhood include having a group of same-ethnic friends to share these foods with, "personal development" and maturity, and the growing popularity of Asian foods. Five participants (25%) reported not being embarrassed about their cultural foods right from school years, "I've personally just never bothered to care because the food is so good" (Chinese-American, female). Only one Korean participant reported how she is still embarrassed about eating Korean food in public settings such as work or school.

Grounding. Eight participants (40%) shared how heritage Asian foods were "nostalgic", "familiar", and like "home." Participants drew pride from their foods because of the diversity in recipes and spices used, the communal aspect of eating and sharing, and the fact that their families continued these traditions despite being away from their countries of origin. Some

participants even mentioned how heritage foods were grounding and gave them something to revert to, “When I went to Europe this past month, coming back, I was like I missed Asian food so much. So there’s comfort and home-ish feeling” (Taiwanese-American, female). Such appreciation for heritage foods stemmed from the lack of access to such foods. Nine participants (45%) reported “craving” their mothers’ foods and some stated how they requested their mother to make those foods when they visited home. One participant realized the “time and dedication” it took to make heritage food only after she started cooking for herself.

Exploratory after incorporated. Three participants, who were comfortable in their ethnicities and drew pride from their cultural foods, reflected on how they were trying to further understand certain cultural practices and food meanings. For instance, vegetarianism is a touted practice for the Brahmin caste (the highest priestly caste) in Hindu society, but it has been argued that vegetarianism is an ideology used to sustain the superiority of Brahmins at the expense of other castes (Hasnain & Srivastava, 2023). One participant reflected on this, “I like being vegetarian. I've been more aware of casteism and my family is Brahmin. I don't like the caste violence surrounding that… I've been grappling with that recently” (Indian-American, female). Another participant shared how she enjoys eating her cultural foods and spends time looking up YouTube videos about the history and traditional ways of preparing those foods.

Overall, a majority of the participants in our sample were proud of, comfortable with, and felt a connection to heritage Asian foods. These foods evoke feelings of comfort, familiarity, and nostalgia. Some of our participants experienced a renewed appreciation for these foods after staying away from home or noticing the growing popularity of these foods in mainstream culture. That said, a few of our participants did not have strong connections with heritage foods,

due to personal taste preferences, family socialization practices, or health purposes. They did not mind eating it occasionally but identified more with mainstream American foods.

Participants differed in how central they perceived food to be in their identities as Asian Americans. Some participants highlighted its daily significance, "We do other things that are Indian related but I feel like food is something that we do every single day and so it helps me stay connected to India that way" (Indian-American, female). However, notwithstanding the role of food in connecting participants with their culture and families, 7 (35%) emphasized that they rely on other cultural maintenance mediums more than food to express their Asian identity. Religion was a common theme, followed by speaking native languages and engaging in cultural media, "To be entirely honest, I would not say that food has that big of a role in my identity. I think there are other facets in life… I would say the closest thing is family, we pretty much only speak Korean at home" (Korean-American, male).

Supplemental Data Analyses

In examining the individual summaries of our participant experiences, we paid special attention to demographic trends that may have been overlooked when summarizing across participants. While most patterns were accounted for by the thematic analyses, two additional demographic patterns emerged in the within-case summaries. Concerning the multiculturality of cuisines, Indian-American participants mentioned Mexican as a popular cuisine choice, and East and Southeast Asian participants preferred other "Asian" cuisines (e.g., the Taiwanese-American participant would eat Korean, Japanese, and Vietnamese foods). In terms of gender, 80% of the male participants stated that food is not the main way they connect with their heritage culture, or they have not necessarily thought of the relation of food with identity. Moreover, three females cited body image concerns in the description of their food choices. Finally, some participants

also expressed how financial independence (getting a job) and being able to drive have expanded their dietary choices, as they are now able to get food from different restaurants.

Discussion

This study explored cultural food experiences in second-generation Asian American emerging adults. We examined cultural food practices shared with family, food-related experiences in U.S. school settings, changes in dietary patterns from school to college, current dietary patterns, and the role of food as a marker of ethnic identity. The goal of this study was to explore the socioemotional experiences of dietary acculturation in second-generation emerging adults. We find that for more than half our sample, eating cultural foods in public as a child had made them feel "ashamed", "different" from their peers, "hurt" when a peer spat out their food, and needing to "fit in." In high school, about 40% of our participants had either become "comfortable" with their ethnicity, had "supportive" friendships, or "did not care" about what other people thought of their foods. In college, they "craved" their mother's homemade food, felt cultural foods were "grounding", made them "happy" to share with different-ethnic friends, and took "pride" in the communal nature and variety of flavors in their cultural foods. This gamut of emotions echoes those mentioned by previous literature on immigrant caregivers and children of immigrants as highlighted in the Introduction.

Importantly, much of the research on immigrant food experiences takes a risk-oriented lens, by characterizing dietary acculturation as a sense of cultural loss, coupled with physical health risks (McCullough & Marks, 2014; Momin et al., 2014; Wright et al., 2021). In as much as these are real lived experiences with consequences, our study also captures cultural appreciation and empowering experiences around food that Asian American emerging adults have had around food. Indeed, the majority of our sample fondly recalled cultural food practices

such as customs around the dining table and foods associated with festivals. While the frequency of some customs had decreased because participants were living away from home, most participants took pride and enjoyment from these practices when they were able to participate in them. One participant also mentioned how they would like to pass on this culinary knowledge when they become a parent, though learning to cook heritage meals was "not a priority" currently. Moreover, three-fourths of our sample had positive emotions to describe their current relation with cultural foods, including pride, comfort, nostalgia, and happiness. These feelings led them to seek out cultural foods through takeout or at heritage restaurants while some learned to cook their heritage foods.

Interestingly, some participants described the pride and joy in sharing their cultural foods and practices (such as Korean sayings before and after a meal) with different-ethnicity friends. We also see how the acceptance of ethnic culture in mainstream society has validated ethnic minority culture. For instance, Korean food represents "glocalization," or the homogenization of ethnic food outside of its home culture (J. Hwang et al., 2018). Some of our participants (mainly Korean-American) discussed how seeing Korean food and music "blow up" on social media and in mainstream culture has been validating, giving them an avenue to embrace their heritage. In previous research, the empowerment and fulfillment of cultural foods came from sharing such foods with family members or friends at ethnic gatherings (D'Sylva & Beagan, 2011; Fuster et al., 2019; Momin et al., 2014; Trofholz et al., 2020; Vue et al., 2011). Our study highlights how food is being used to transcend ethnic boundaries and give current college students a medium through which they can experience cultural appreciation moments. Thus, positive adaptation is an equally important factor that contributes to immigrant youth's development, acculturation,

coping, and belonging (Suárez-Orozco et al., 2018), and this paper highlights three mechanisms in the experience of cultural foodways that have promoted such adaptation.

First, given that participants reflected on school experiences, their transition to college, and their current food behaviors, we have some evidence for developmental transitions in food experiences. Most of the negative experiences surrounding heritage foods were in elementary school, in line with previous research with children of immigrants (Blanchet et al., 2017; Han & Macomber, 2022; Seko et al., 2021) and school-age children's understanding of food conventionality (DeJesus et al., 2019). Those negative experiences and internal feelings of shame associated with cultural foods had reduced with age. At the same time, not all participants had experienced a negative food experience in early school settings. Some participants had positive experiences, while others did not have any food-related encounters with different-ethnic peers. Herein, there is recent evidence to suggest that school-age children in the U.S. do not rate cultural foods as negatively as evidenced in previous qualitative work, which could be attributed to the changing ethnic diversity in U.S. school classrooms or reduction in children's explicit prejudices around cultural foods (Venkatesh & DeJesus, 2024). Moreover, none of our participants reported negative experiences around cultural food beyond middle school. Personal growth was cited as one reason for this change: participants distinguished between their beliefs as a school child, and their views on food choices as emerging adults. For instance, some stated how people "should not be judged based on their food choices," how they are no longer embarrassed about their heritage Asian foods because they are not as concerned about "fitting in" as before, or how they grew out of being picky toward certain foods. These statements reflect the development of metacognitive abilities such as the societal perspective of others and self-

understanding during this period of emerging adulthood (Lapsley & Woodbury, 2016). Thinking about food choices appeared to be one way of expressing these cognitions.

Second, these emotions and growth are intricately tied to the development of their ethnic-racial identity. By adulthood, almost all participants had a positive association with their heritage foods, though they varied in the extent to which they connected with such foods. Despite the sample scoring toward the higher end of the acculturation scale for orientation towards both heritage and mainstream American culture, modally, our participants stated being more connected to cultural foods than mainstream American foods. Only 20% of our sample expressed how foods from both cultures have helped them maintain a connection to their families as well as bridge gaps in social settings, a marker of their second-generation status (Park, 2008). In thinking about experiences that might have led to such associations, some participants had specific aha or defining moments around food that helped them explore and subsequently internalize their ethnicity (Phinney, 2006). For others, the comfort in their ethnicity seemed to develop parallelly with the personal growth described earlier. Here, identity commitment is not stable once reached, as it can undergo reformulation through different states (Kroger, 2014; Marcia, 2002). Indeed, a few of our participants who were incorporated in their ethnic Asian identity continued to reflect on the history and implications of their cultural food practices. That said, 35% of our sample used avenues apart from food to connect with their culture, which is similar to percentages of participants in prior work who identify food as not being central to their identities (Han & Macomber, 2022; Ramírez et al., 2018).

Third, parents, peers, and friends were formative socialization sources in the food preferences of emerging adult children of immigrants. Relational ethnic identity, or the variations in expressing ethnicity based on who one is with, shows that young adults express and feel the

highest belonging in their ethnicity with their parents, followed by interactions with same-ethnicity friends (Kiang & Fuligni, 2009). Moreover, parental cultural identification and same-ethnicity friendships strengthen Asian American college students' ethnic identity and subsequent engagement in culture-specific food consumption behavior (Xu et al., 2004). In our sample, parents, especially mothers, served as a cultural socialization source for within-culture food practices. In families with working mothers, either a grandmother prepared such meals or the family ate heritage food less often. Only for two participants did fathers prepare cultural foods. Herein, previous literature highlights how children of immigrants can direct their parents' ethnic socialization too (P. Patel et al., 2023), and pertinent to cultural food practices, they try to ensure their parents eat healthier and more diverse meals (Auer et al., 2023). While we did not explicitly ask participants how they influence their family's diets, we see evidence of directed efforts from some participants who had requested their parents to pack mainstream American meals to eat in social settings when they were children, some others had tried to expose their parents to different cuisines, and two Indian-American participants who had shown their parents how to cook Indian meals with healthier ingredients. While parents played a prominent role in shaping second-generation Asian American adults' cultural food practices in the home setting, these adult children share how they too influence the kinds of foods prepared at home (Auer et al., 2023).

Peers and friends were socialization sources in settings outside the home, and the ethnic diversity of these social networks was significant in shaping food behaviors. Here, we distinguish between peers and friends: peers are individuals of the same age and developmental level as the child, while friends are those with whom one has a reciprocal relation (Salvy et al., 2012). In elementary school settings, for participants who were not in the ethnic majority in their classrooms, peers were instrumental in setting the conventionality of foods. In that same setting,

friends played a protective role as seen in the Cambodian-American participant's experience of being teased by a non-Asian peer and having her friends support the tastiness of Asian snack foods. Similarly, those who went to schools with a "high proportion of Asians" did not experience any negative experiences since both heritage and mainstream foods were the established convention. Instead, having a pan-Asian representation aided in participant's positive experiences of being able to eat and share their foods with others. In college, same-ethnic friendships provided a medium for participants to connect as bicultural individuals with similar lived experiences and engage in cultural maintenance strategies such as going to Asian restaurants or cooking Asian foods. For a few participants who had grown up as a numerical minority, making other second-generation Asian friends gave them a space to reflect on cultural pride. Additionally, a couple of participants who had different-ethnicity friends were able to explore foods from other cultures with them. This way, friendships emerged as a salient contributor in the shaping of within and outside culture food preferences.

Our data also highlights how immigrants engage in dietary code-switching, or changing what they eat based on where they are eating (Dondero et al., 2018). All participants ate mainstream American foods for lunch when they were on campus or at work, stemming from the view that mainstream American foods are more convenient to prepare and eat. When at home with family, regular heritage Asian meals were usually prepared by mothers. Interestingly, all participants ate multicultural cuisines in some form. This idea of multiculturalism in diets illustrates that foods are not only eaten by members of the food's origin culture (e.g. Korean-Americans eating at a Korean restaurant) but also by ethnic majority members (e.g. White-Americans eating at a Korean restaurant) and by members of other ethnic groups (e.g. Chinese-Americans eating at a Korean restaurant) (Narayan, 1995). Indeed, dietary acculturation research

that uses surveys to analyze immigrant participants' dietary patterns typically divides foods into binary "American" and "Asian" or "Asian" and "non-Asian" categories (Diep et al., 2017; Franzen-Castle & Smith, 2014; Noor et al., 2020). However, in a survey with AANHPI women, the authors found that a third "multicultural" factor emerged in addition to the Asian and Western classification, containing items like dried dates or edamame which are prevalent across cuisines (e.g., Mediterranean, East/Southeast Asian) (Tan et al., 2023). For our sample, the most frequent way to access multicultural cuisines was at restaurants with friends. Some participants ate different cuisines at dining halls; others explored these cuisines with their families, though this occurred less often in our sample given parents' preferences for heritage Asian meals. One pattern that emerged in the supplemental analyses is that for Indian-American participants, Mexican cuisine was a popular choice with their families. Indians gravitate to Mexican foods because they can be made vegetarian (an important religious practice) more easily than traditional American fast-foods or East/Southeast Asian cuisines that are meat, fish, and seafood-heavy (Kaur, 2023). Moreover, aspects such as beans, rice, and spices are similar between the cuisines (Yadav, 2020). Multiculturalism and openness to increasing dietary diversity beyond a heritage Asian/American dichotomy highlight the changing food landscape in current American society (Mizrahi, 2020).

We also see the salience of college as an experience in shaping food experiences, and by extension, the ethnic identity of our participants (Arnett, 2000, 2007; Phinney, 2006). In Han and Macomber (2022), participants reflected on experiences related to the high school environment. In contrast, by including a sample with participants who currently are in college or have graduated, we saw how participants had a chance to create a community of same-ethnic friends to share cultural foods with, try out different multicultural cuisines, experience less frequent

access to homemade foods, learn how to cook, and be intentional in thinking about their ethnic identities. In Wright et al. (2021), college participants experienced cultural food insecurity and felt their identity was degrading through the lack of access to authentic cultural foods. None of our participants reported such a sense of loss or degradation. Instead, all participants who reported missing their home foods stated how such experiences had made them appreciate or be more grateful for their cultural foods. College also appeared to be promotive for ERI. For instance, one Filipino-American participant had rejected his mother's heritage foods growing up and primarily ate mainstream American foods until college when Asian friends introduced him to Filipino foods and he realized he could *learn* to like his cultural foods. Another participant's negative experiences with her cultural foods in school led her to set clear boundaries between foods eaten at home and those in public. However, making same-ethnicity friends in college had given her a space to connect with others who had had similar experiences and thus take pride in the cultural foods that she deeply enjoys. In this way, the interconnections between college friendships, changes in ethnic diversity, and personal maturity during college helped participants either find a cultural connection, reclaim that connection, or renew their connection with their cultural foods.

Limitations and Future Directions

We recruited participants through word-of-mouth and ended up with a higher proportion of Indian-Americans and Korean-Americans in our sample. Our sample is thus limited in its representation of different Asian ethnicities, especially Southeast Asian and other South Asian subgroups. We have refrained from drawing strong conclusions by Asian ethnicity, which a sample of an equal number of participants from different Asian ethnicities would afford. Moreover, we have a higher number of females, which is similar to sample representation in

prior studies on cultural foodways (Han & Macomber, 2022; Wright et al., 2021). Some work suggests that immigrant mothers and women take pride in the gendered activity of cooking, preparing, and managing cultural food for their families (D'Sylva & Beagan, 2011; Martin Romero & Francis, 2020; Sukovic et al., 2011; Vue et al., 2011) and our sample also illustrates the connection between cultural food and mothers/grandmothers. However, given that 60% of males felt they connect more with mainstream American food than heritage Asian foods, and most males in our sample discussed how food is not the primary way they connect with their cultural identity, more work is needed to unpack how individuals who identify as males might connect to their cultural identities, if food is not the primary way of doing so.

We also asked participants to indirectly reflect on their development by asking them to report on their childhood and school experiences (Glesne, 2015). However, only one participant explicitly stated how their embarrassing experiences in childhood have made them more cautious of eating cultural foods in public as adults. Our interview questions were not framed to directly capture such a temporal dimension (i.e. whether participants current food choices are shaped by early food experiences). Herein, another study with Latino adults (aged 18- to 62-years) has mapped the evolution of ERI to food experiences, positing that immigrants move from initially enjoying their heritage foods, to rejecting these foods once they start acculturating and exploring their identity, and finally integrating foods from both cultures once they achieve their ethnic identity (Weller & Turkon, 2015). While our interviews were not framed to capture the progression through these stages for all participants (they emerged spontaneously through discussion with some participants), results under the theme of "early experiences" highlight the salience of early incidents in elementary and middle school. Future research could include

questions aimed at the directional influence of early experiences and current food choices, and the extent to which they might exist.

As seen in the Discussion, the ethnic background of peers and friends has helped shape participant food experiences. Through the interviews, four participants mentioned they went to high schools with a greater proportion of Asians as compared to their elementary schools, while six had been in schools that were majority Asian right from elementary school. We have participants currently residing in California and New Jersey, which are among the top 5 states with the highest proportion of Asian Americans in the country (U.S. Department of Health and Human Sciences, 2019). That said, we did not gather information about where participants lived at different points in time or a location more specific than the state for their current location; it is conceivable that the ethnic diversity of cities within a state can differ. Collecting such information could provide contextual detail about the ethnic diversity composition (not only in terms of people from different races, but also within-ethnicity proportions). In this vein, mixed-method studies that marry such demographic and neighborhood data with participant contextual experiences will provide greater insight into the process of dietary acculturation in Asian American emerging adults (S. D. Lee et al., 2021).

Our sample demographics highlight that we had participants from different socioeconomic (SES) backgrounds, though they skewed toward higher income brackets. Moreover, our study as well as previous qualitative studies on immigrant participants and food experiences includes participants who are high school or college students (Han & Macomber, 2022; Wright et al., 2021). While examining participant experience with SES was not a goal of this present study, the literature suggests that SES predicts dietary patterns in immigrant families (Alegria et al., 2022; Martin et al., 2015; N. Zhou & Cheah, 2015). Besides, Asian students'

achievement and ethnic identities are influenced by the school contexts and social capital they have access to which is dependent on their SES, especially given the "success frame" pertinent to Asian American families (J. Lee & Zhou, 2014; Lew, 2007). It is conceivable that such school and college contexts could influence their food-related experiences as well, given how salient the college experience emerged to be for our participants. It also should be noted that we specifically included monoracial Asian American participants in our sample. In Han and Macomber (2022), monoracial participants reported feeling uncomfortable bringing their cultural foods to school while mixed-race participants did not. This highlights how being monoracial might come with additional identity challenges (Phinney, 2006). In this way, additional research could examine participant experiences from different SES backgrounds, those who did not go to college, as well as biracial or multiracial Asian Americans for a more detailed understanding of the role of demographics in shaping food experiences.

Finally, there were two emerging patterns in our sample that warrant future research. Some participants mentioned how they use social media to look up recipes for their heritage foods or watch reaction videos of non-Asians trying cultural Asian meals. Consumer research has found how social media can influence food choices: adolescents reported that watching recipes on TikTok led them to buy new ingredients from grocery stores (especially foods from different cuisines), to try recreating those recipes themselves, to incorporate healthy ingredients in their meals, and to learn about "trendy" diet regimes (Wang et al., 2022). A newer arena of research is to explore how immigrant emerging adults engage with social media to maintain food culture, through remote enculturation, given that mobile communication offers a way for caregivers and emerging adults to engage in implicit and real-time racial-ethnic socialization support strategies (Ferguson et al., 2016; Jensen et al., 2023). An example of implicit support is

hair care text conversations between Black mother-youth dyads, as they do not explicitly talk about Black identity but provide important support for an identity-related practice (Jensen et al., 2023). Additionally, three of our female participants mentioned body image concerns that they are working through to cultivate a healthier relationship with food. The relations of body image in Asian American women have been documented in prior literature (Goel et al., 2021; Javier & Belgrave, 2019; Sahi Iyer & Haslam, 2003). While the implications of such concerns are beyond the scope of this paper, future research can explore the relationship between body image concerns with cultural and mainstream American foods in second-generation Asian Americans.

Conclusion

The present study examined the links between cultural foodways, emotions, and ethnic identity through qualitative inquiry in a sample of second-generation Asian American emerging adults. Participants varied in the positive, negative, and limited food-related experiences they had around cultural foods, and negative experiences that were reported primarily occurred in elementary years. A majority of our participants took pride in participating in cultural food practices and engaged in cultural maintenance strategies to seek out their foods in college. Our study provides further insight into the experiences of personal growth and grappling with ethnic identity that have shaped participants' relation to foods from both heritage and mainstream American culture. We find evidence of how parents and peers have socialized such preferences. Particularly, friends in late high school and college can take on a more important role in shaping participant food experiences in ways parents might not be able to (e.g., introducing them to different cultural cuisines, or enabling them to take cultural pride in their own food). Most participants in our sample did not express as strong a sense of loss in acculturating to mainstream American culture but had found ways to practice food habits from both cultures without losing

the essence of their cultural food habits. Herein, multiculturality, or the access and openness to eating foods from different cuisines emerged as a prominent theme in participants' food habits. Finally, while a majority of participants strongly identified with cultural foods over mainstream foods, participants varied in how central they thought of food as playing a role in their Asian identities. This paper contributes to the growing body of knowledge on cultural food experiences in the current generation of Asian American college students, and such work can form the basis of mixed-method and longitudinal studies to further contextualize the nuances of food as an everyday experience in immigrant families.

CHAPTER V: INTEGRATED DISCUSSION

This dissertation explored how culture influences food acceptance and rejection behaviors in early-to-middle childhood and emerging adulthood through three papers. Following Vélez-Agosto and colleagues' (2017) acknowledgment of the prevalence of culture in everyday microenvironments, the dissertation examined how food culture in the home environment, in proximal environments, and one's own cultural background can shape food preferences. Paper 1 assessed picky eating in the home environment by measuring the overlap between parent and child reports of the child's picky eating in a sample of 3- to 10-year-olds. We found that parent-reported child pickiness predicted children's reports of their own pickiness, and children's reports improved with child age. Moreover, 3- to 4-year-old children exhibited the largest discrepancy between their own reports and their parents' reports of their picky eating (children reported themselves as being less picky than their parents did). Paper 2 examined how the food culture in proximal environments would predict children's evaluations of foods from different cultures in the context of them being eaten at school. In three studies with school-age children, we found evidence for conventionality and familiarity: children most often chose to sit at the table with the mainstream American lunchbox and rated it positively on certain dimensions compared to the other lunchboxes. Children also demonstrated some intergroup cognition by differentially evaluating the four foods in their perceived foreignness. Overall, we found few associations between neighborhood diversity and children's food evaluations.

Finally, the semi-structured interviews in Paper 3 revealed an intersection of all three types of cultures in shaping food preferences in a sample of Asian American emerging adults. The confluence of cultural food practices followed at home with family, the food experiences shared with friends at school and college, and ethnicity-related promotive experiences in college

shaped how food was conceptualized in relation to ethnic identity for majority of the participants. Taken together, the three papers provide quantitative and qualitative evidence for the role of culture in influencing food acceptance and rejection behaviors.

The main strength of the three papers is that they highlight perspectives on culture and food behaviors from informants whose voices are underrepresented in existing literature. Paper 1 asked children about their understanding of picky eating, wherein the predominant method is parent-report of their child's picky eating. Paper 2 included samples of children from various racial and ethnic backgrounds, while previous qualitative research has primarily focused on the perspectives of ethnic minority children in school classrooms. Paper 3 incorporated the voices of second-generation emerging adults, but research on the socioemotional nature of dietary acculturation is driven by the perspectives of immigrant caregivers and youth.

The following discussion will summarize findings specific to the three types of cultural influences that were examined and provide insight into developmental evidence of food categorization, peer influences, intergroup learning, and ethnic-racial identity formation. It will end with a discussion of limitations and future directions for this body of work.

Food Culture in the Home Environment

As highlighted in the Introduction, the parent-child dyad is important to setting food culture within the home environment. Two factors of family meal culture that were examined in this dissertation are picky eating and cultural food practices. Firstly, following developmental eating literature that has extensively studied child picky eating as an early-emerging behavior, we too assessed child picky eating in Paper 1. Here, we examined the convergence of parent-child perspectives of child pickiness. Parents' ratings of their child's pickiness positively predicted their child's own ratings of their pickiness, an effect that improved with the child's age.

Interestingly, the adult children of immigrants in Paper 3 offered an alternate perspective on picky eating: 25% of our participants discussed how their parent's pickiness dictated what foods participants were exposed to at home. For instance, their parents were not open to trying foods from other cuisines and would only eat heritage Asian foods or would eat a separate meal from their children. This finding aligns with a study of Chinese-American parents, wherein half the fathers described themselves as being less flexible in consuming other cuisines foods for dinner apart from a traditional Chinese meal (Lv & Brown, 2010). Such reports also put into perspective the findings from interviews with immigrant caregivers who dislike how their children gravitate to mainstream foods (especially fast foods) at the cost of their heritage foods (Ando, 2020; Momin et al., 2014; Zulfiqar et al., 2021). From our findings in Paper 3, it is conceivable that while parents report children's preferences for mainstream foods as frustrating, children perceive the parents' lack of openness to different cuisines as a constraint on their dietary diversity. Moreover, in samples of preschool children and college participants, parent pickiness and child pickiness were positively related (Elkins & Zickgraf, 2018; Finistrella et al., 2012). In this way, our findings illustrate that parents too can shape the types of food consumed in the family based on their own preferences.

The parent-child discrepancy in child pickiness ratings in our preschool age-group in Paper 1 and the descriptions of parent pickiness in Paper 3 reinstates the importance of gathering reports on home food cultures from multiple informants. One implication of assessing if children understand the construct of picky eating and their own picky eating behaviors is to better align parent-child goals around eating. A qualitative study with 7- to 10-year-olds illustrated how children are aware of their parents' frustration or anger when it comes to their picky eating and might consume foods to please their parents or prevent punishment, rather than to regulate their

own sensory and satiety cues (Wolstenholme et al., 2022). This study, along with the quantitative assessment in Paper 1, contributes to the growing body of literature that is reconceptualizing picky eating as a relational experience in a parent-child dyad, rather than a child trait that is "bad" or negative which only parents have to handle (K. Walton et al., 2017). While children's picky eating might be primarily a phenomenon parents of younger children to navigate, gathering children's understanding of the construct, especially in early-to-middle childhood, can aid in the development of effective interventions. In a recent review of picky eating interventions with 3- to 5-year-olds, all interventions reviewed contained only caregivers' reports and none measured parents' own picky eating (Kamarudin et al., 2023). Our findings lend support to the need for including components such as parent-child alignment of expectations around mealtimes in the development of interventions for picky eating.

Secondly, a direct way in which food socialization occurs in immigrant families is through the regular consumption of heritage foods (Ochs & Shohet, 2006; Parasecoli, 2014; Trofholz et al., 2018). Paper 3 examined such practices in Asian American emerging adults and found that the majority of participants viewed cultural foods as a link to their home cultures and families, especially to maternal figures. Most of them not only consumed heritage foods regularly when they were at home with their parents but also participated in customs and traditions around food, such as placing chopsticks in a particular way. This way, the family food environment was instrumental in passing cultural food practices to them. These perspectives from (adult) children who have been raised in the U.S. also validates the vested interest immigrant caregivers have shared in gatekeeping such cultural practices (Ando, 2020; Momin et al., 2014; Zulfiqar et al., 2021). Thus, the dissertation has shown that within a home

environment, both parents' and children's food preferences, as well as their familial cultural background, can influence the feeding environment.

Food Culture in Proximal Environments

Papers 2 and 3 examined the conventionality of diverse foods in school classroom settings. Reflections from Asian American emerging adults in Paper 3 illustrated how negative cultural food experiences, if they occurred, were centered around elementary school, the age-group of children tested in Paper 2. At first blush, the results of Paper 2 seemed aligned with the experiences outlined by participants in Paper 3. School-age children had differential evaluations of cultural foods, rating the Mexican, Indian, and Chinese lunchboxes to be less tasty, messier, and less likely that cool kids would eat those foods compared to the mainstream American lunchbox. Moreover, most often children chose to sit where the mainstream American lunchbox was being eaten, compared to other foods. About 55% of our participants in Paper 3 remember being questioned or teased for their heritage foods and acknowledged the conventionality of a sandwich as a lunchbox option.

That said, there were some differences between what children reported in Paper 2 and the lived experiences of participants in Paper 3. Pungency was the most salient reason for the isolating incidents the children of immigrants faced in Paper 3 but there was no effect of smell ratings of the foods in Study 1 of Paper 2. It is conceivable that smell might be a harder food evaluation for the children in Paper 2 to imagine and report on (in a hypothetical context, without the foods actually being present), especially if the food is unfamiliar. Children in Paper 2 rated all foods as alright to bring to school and did not differ in their attributes about people who eat those foods, which is also different from the experiences participants in Paper 3 mentioned. Here, it is important to note the societal historical context that could have contributed to such

changes in perceptions of cultural foods. In Paper 3, the oldest child would have been in elementary school in 2006. Whereas in Paper 2, the oldest child (12-year-olds in Study 1) would have started elementary school in 2014. National statistics indicate that from 2006 to 2017, the percentage of U.S. children who have an immigrant parent increased from 22% to 25% (Acevedo, 2019). The increases in Asian, Hispanic, and multiracial students in public schools from 2010 to 2021 (National Center for Education Statistics, 2023) have prompted the creation of resources so educators can cater to immigrant cultures in classroom settings (Goodwin, 2017; Usable Knowledge, 2023). This way, it is possible that a broader demographic change in the U.S. school system has encouraged cultural acceptance and reduced cultural food exoticness in classroom settings.

We tried to capture this concept of school diversity in Study 3 of Paper 2. While school diversity did not predict children's food choices, it was positively correlated with children's neighborhood diversity (i.e., children who resided in neighborhoods with a higher proportion of outgroup members attended schools with a higher racial and ethnic diversity). Additionally, children who had a higher proportion of linguistic and racial outgroup members in their neighborhoods were more likely to have positive ratings of the foods' "alright" and messiness evaluations, an effect which held when excluding the mainstream American lunchbox. However, neighborhood outgroup did not affect children's table choices in Paper 2, which could indicate that in a social setting such as a cafeteria, the construct of food conventionality might take precedence. Paper 3 offers a nuance to this finding. While the lunchroom context in Paper 2 was assumed to be primarily established by peers, participants in Paper 3 made distinctions between peers and friends and discussed how their racial and ethnic backgrounds played a role in shaping such conventionality. Some participants in Paper 3 reflected how having a higher proportion of

Asian peers in school, or going to a "pretty Asian school," normalized eating foods from mainstream and heritage Asian cultures. Furthermore, Asian peers who became friends played a protective role such that they contributed to both, positive food experiences and limited negative food experiences, where participants were comfortable eating whatever they chose to eat. This could imply that peers who remain as peers (and do not develop a deeper reciprocal relationship as friends) contribute to food conventionality, but peers who become friends can determine the kinds of food-related encounters children experience. It can be noted here that except for one participant who stated she had Vietnamese-American individuals in her school, participants tended to describe the ethnic makeup of their school using a broader "Asian" label. In a study with first-and second-generation Asian preadolescents, same-race friendships were protective of ethnic identity, while inter-racial friendships were associated with feeling safer in school (X. Chen & Graham, 2017). Interestingly, inter-ethnic friendships that were viewed as sharing the same ethnicity (i.e., a Chinese participant attributing a Vietnamese friend as sharing the same ethnicity) were also promotive of ethnic identity (X. Chen & Graham, 2017). Future research should examine the interrelationships between same-race, inter-race, and inter-ethnic peers and friends in establishing such food conventionality.

Same-ethnicity representation in participants' locations also emerged as a proximal factor in Paper 3 that influenced access to foods from their heritage culture. A few participants had grown up being the only Asians in their neighborhood and had to travel far to visit ethnic markets with their families. In contrast, those who had grown up in neighborhoods with a higher proportion of Asians felt they had easy access to cultural foods, and had never felt embarrassed about their foods. Such enclaves of immigrant populations do help build ethnic capital, or the intersection between social, human, and financial capital, in these immigrant-rich communities

(Lin & Zhou, 2005). However, there are other ways to look at neighborhood diversity apart from how it was calculated in Paper 2, and we did not collect neighborhood diversity data in Paper 3, a point which will be returned to in the Limitations section.

Own Cultural Background and Food Preferences

Papers 2 and 3 also examined how participants' own race and ethnicity would influence their food experiences. In Paper 2, this was assessed by mapping parent-report demographics to participant choices, and in Paper 3, this was assessed through participants' reflections on their relation between food experiences and conceptions of their ethnic identities. In Paper 2, we did not find an effect of participants' own race and ethnicity on their food choices. This could imply a preference for conventionality: indeed, some participants in Paper 3 reported that they wanted to take "regular" or "normal" food like their peers. However, we were limited in the number of children from different racial and ethnic groups in Paper 2 to run group-wise comparisons for such preferences.

Participants in Paper 3 who reported negative food experiences in elementary school also emphasized how those were defining moments in realizing they were perceptually different from their peers in their food consumption. This aligns with developmental expectations that observable attributes such as food and language are initially understood as markers of group membership (Quintana, 1998). As participants moved to high school, some reported exploring and becoming comfortable in their ethnic identities, aided by personal growth and same-ethnic friends. For others, college provided such experiences. Most frequently, participants expressed a stronger connection with heritage foods than mainstream American foods and drew pride from the tastes, variety, and significance of these foods in connecting them to their heritage backgrounds. Such cognitions represent an internalization of their ethnicities which occurs along

with socio-cognitive development (Phinney, 2006). In this way, while elementary school appears to be a place for ethnic minority children to resort to conventional food practices, same-ethnic peers, friends, and personal maturity contribute to ERI-promotive experiences.

Developmental Trajectories

The section will describe takeaways about the developmental competencies relevant to this body of work, namely food categorization, peer relations, intergroup learning, and ethnic-racial identity.

Picky Eating and Food Categorization

There are two developmental findings concerning picky eating. First is the relationship between picky eating and participant age. In Paper 1, 3- to 4-year-olds had the largest discrepancy in picky eating reports with their parents, and rated themselves as lower in picky eating than their parents did, with no other age-group differences detected, indicating children have a grasp on the concept of picky eating by 5-years (Jani et al., 2022; Wolstenholme et al., 2022). A qualitative study with preschoolers engaging in pretend play with a research assistant found that some children became upset when the researcher did not eat the food they had prepared. The children used pressuring or reward statements, such as insisting on the researcher finishing what they had served or that the researcher would not receive a snack if they did not finish (Matheson et al., 2002). Though reports from caregivers or teachers were not captured in this study, such conversations indicate preschoolers are perceptive to the feeding practices they hear around their own picky eating behaviors, even if they might not have characterized themselves as picky using our adapted measure. In Paper 3, 20% of our participants described how they now eat certain foods they were picky towards as children (like seafood), such that they "grew out of it." Even 7- to 10-year-old children reflect on how they like certain fruits and

vegetables now compared to when they were 5-years-old (Wolstenholme et al., 2022). This malleability of food preferences has been attributed to factors such as exposure, modeling, rewards, and enjoyment through food combinations (Horne et al., 1995; Scaglioni et al., 2011).

Secondly, picky eating is negatively associated with food categorization: children who are picky might have a harder time classifying foods into different thematic and script categories (Pickard et al., 2023). While we did not test for categorization in Paper 1, a recent study using our adapted CEBQ scale for children found that children who rated themselves as picky eaters were less likely to be willing to try vegetables (assessed via a photo task, Mourmans et al., 2023). This provides additional evidence that our measure is related to children's food preferences. Additionally, the questionnaire in Paper 1 measured picky eating towards foods in general. This is a common method in eating behavior research wherein food pickiness scales capture overall resistance to foods which are then associated with the intake of food groups like fruits and vegetables (Chilman et al., 2021; Mura Paroche et al., 2017). Such analysis techniques help in classifying the micro and macronutrient profiles of picky eaters (Samuel et al., 2018; Taylor et al., 2016). However, generic nutrient or food group analyses gloss over food groups that might be more prevalent in certain cultural foods than others. For instance, in a sample of Australian-Indian children aged 7- to 12-years and their mothers, the authors measured parent reports of child picky eating and child preference for different foods. Specific to this sample, participants revealed a dislike towards Brussels sprouts but were not picky towards cabbage and cauliflower (Jani et al., 2022). While all three are cruciferous vegetables, cauliflower and cabbage are commonly cooked in Indian spices (Brussels sprouts are not) such that familiarity could influence their preference. Papers 2 and 3 lend some insight into how participants' pickiness might vary by food type and their categorization of such foods.

In Paper 2, parent-reported child food pickiness was negatively correlated with the child's reports of having eaten Indian, Chinese, and Mexican foods with no relation between pickiness and mainstream American food, highlighting how pickiness translates to foods that may be more unfamiliar and foreign. Moreover, there is some evidence to suggest that children in our sample were not thinking of the foods as "American" versus "Not American": children in Study 3 perceived the American foods as eaten by people nearby, while Indian and Chinese foods as eaten by people faraway. Some children also thought the Mexican food would be eaten by people faraway and others by people nearby. In one study with 8- to 13-year-old children in the U.S., 12-year-old children more often classified foods like beef tacos and cheese enchiladas into a "Mexican" taxonomic category than 8- to 9-year-old children (Beltran et al., 2008). However, in this study, items like "kung pao chicken" or "chicken chow Mein" did not load onto a separate "Chinese" cluster, but were distributed between "mixed meats" and "noodles/pasta." This seems counter to our findings of Chinese food's perceived foreignness and could imply that taxonomic categories of ethnic foods can depend on geography and historical context — indeed, in a synthesis of Yelp! reviews of Italian, American, Mexican, and Chinese restaurants in the U.S., words like "authenticity" or references to the food's ethnicity were more frequent for Mexican restaurants compared to Italian or American restaurants, but less than those for Chinese restaurants (Boch et al., 2021). While this might indicate a greater overall integration of Mexican foods in mainstream American culture compared to Chinese foods, the effect was context-dependent such that these references were less common for Mexican restaurants in Phoenix than in Urbana-Champaign, suggesting how a larger Mexican population could have contributed to the greater integration of their foods in local cuisines (Boch et al., 2021). As such, more research

with broader food stimuli sets is needed to better understand children's developing cognitions around ethnic foods.

In Paper 3, emerging adults reflected similar taxonomic reasoning of foods from different cuisines. While we did not ask them about how they would classify the foods they consume, during the interviews, some participants spontaneously classified pizzas, burgers, and barbeque as "mainstream American foods" while others classified them as "convenience" or "quick foods." Heritage Asian foods were their own category, and participants distinguished this with "other Asian" foods they would eat with friends and at restaurants (such as a Korean-American eating Chinese or Vietnamese food). Such classification is echoed in research with immigrant caregivers (Trofholz et al., 2020; Vue et al., 2011). Herein, foods had script associations; for some, heritage Asian foods were eaten at home with family, and non-Asian foods like Mexican or Mediterranean were eaten with friends. This way, foods were classified in a non-hierarchical and not mutually exclusive manner (Blake et al., 2007; Ross & Murphy, 1999). It is to be noted that while the discussion of Paper 3 highlights multiculturality in food choices, participants did not use this term in classifying cuisines. Thus, Papers 2 and 3 shed some insight into nuanced associations between picky eating and food categorization as it relates to foods from different cuisines for participants in multicultural societies.

Peer Influence

Papers 2 and 3 also highlight the role of peers in determining food choices and this section reflects on whether peer preferences exclusively take precedence over adults/parents. In infancy, children expect that positive affiliation implies shared food preferences (Liberman et al., 2016). In experimental studies when adults are explicitly contrasted with child models, preschoolers prefer a peer's food choice over that of an adult (such as a teacher) (Frazier et al.,

2012; Hendy & Raudenbush, 2000). This pattern is echoed by 5- to 6-year-old children, as they eat more of a food described as popular with children than adults (DeJesus, Shutts, et al., 2018). Moreover, qualitative research describes how for immigrant children aged 8- to 11-years, ethnic majority peers served as reference points for food behaviors, while their mothers' reference point was their home country (Zulfiqar et al., 2021). That said, there is evidence to suggest that peers and adults might have their own realms of influence in determining food choices right from early childhood.

One area in which parents can take precedence over peers/friends is nutrition and healthy eating. For example, preschool children preferred to trust a mother or teacher above another child to learn about evaluative categories of food (such as its healthfulness) (Nguyen, 2012) and chose to trust adult informants for nutrition questions about food but child informants for questions about toys (VanderBorght & Jaswal, 2009). In a study with adolescent-parent dyads, it was parents', not friends', influence that predicted adolescent fruit and vegetable consumption, where what parents did (ate lots of fruits and vegetables) was more predictive of such behaviors than what they said (parents think the adolescent should eat more fruits and vegetables) (Pedersen et al., 2015). That said, adolescents simultaneously engage in cognitive self-regulation strategies to aid their food choices. They do so by balancing perceived autonomy and parental influence, peers' preferences, and their own preferences, as well as decisions regarding the healthfulness or familiarity of the foods (Contento et al., 2006). In Paper 3, we find evidence of such different types of influence. Participants conceptualized peers as establishing food popularity, teaching them about multicultural foods, and modeling how to take pride in heritage foods, but parents were seen as the predominant source of information for cultural food practices. Notably, some participants reported teaching their parents how to eat healthier, akin to prior work with this age-

group (Auer et al., 2023; Ramírez et al., 2018). This suggests that learning about the healthfulness of foods may not be restrained to a parent-to-child transmission in emerging adulthood and it will be worth exploring if such child-to-parent transmission around healthy eating occurs in earlier periods of development as well. Taken together, peers and adults exert their own realm of influence on the development of eating behaviors, and future research should examine such influences based on the food construct under study.

Developmental Intergroup Learning

Related to peer influence is children's developmental learning about intergroup cognition, stemming from prior work highlighting how children expect ingroup members to eat more conventional foods and isolate peers who do not follow conventional food norms (DeJesus et al., 2019; Seko et al., 2021). However, our findings from Paper 2 indicate that separating children's thinking around who might eat certain foods from their own familiarity with those foods is challenging. In Paper 2, despite measuring a variety of individual and cultural factors, there was no explicit group prejudice in children's food choices, evaluations, or even in their reasonings of why they chose to sit at a particular table. The only age effect found was that older children were more likely to deem cultural foods as alright to bring to school than younger children in Study 1. Instead, we found that the match between children's own preferred lunch was the only predictor of their choice of the American lunchbox table. While children's ingroup-favoritism is robust from 3- to 6-years, regardless of information received about preferences about the ingroup and outgroup (Sudo, 2021), it is during middle-childhood that children's explicit prejudice reduces but implicit biases remain invariant (Aboud, 2007; Dunham et al., 2013). Associating such findings with Paper 2, it could be that children's explicit prejudices did not come forth, but their table choices (of the mainstream American table) reflect an implicit

preference for what is familiar or conventional. Additionally, as illustrated in the discussion of Paper 2, the findings could be due to social desirability or positivity biases (Boseovski, 2010), where participants might have reflected openness and positivity in their ratings to portray themselves favorably. Controlling for social desirability could be one measure to include in such work (Miller et al., 2014). Another task-related confound that could be manipulated is having experimenters of different racial backgrounds conduct such studies to examine potential experimenter-participant interactions, given all participants in Studies 1 and 3 were assessed by an Indian researcher.

Children also did not evaluate the attributes of individuals who would eat such foods differently by food type, except on the nearby-faraway dimension. This could support intergroup cognition, as in DeJesus et al. (2019) where children attributed unconventional foods to outgroup members or individuals who were from another country. Such reasoning also contrasts with the lived experiences of Asian children of immigrants in Paper 3. Especially, one Indian-American participant shared how she was told by a majority group peer in elementary school, "You smell like curry." A statement like this reflects an interaction between stereotypic thinking about food and the people who eat those foods. There may be other attributes apart from nice/mean or popular/unpopular tested in Paper 2 that could elicit such evaluations. In this way, additional research is needed to parse this relation, a topic reverted to in the Future Directions.

Ethnic-Racial Identity (ERI)

The experiences of Asian American emerging adults in Paper 3 illustrated the significance of this developmental period in shaping their ERI, and how food was a way to express these cognitions for a majority of the participants. Contextually, the ethnic diversity of college experiences both in terms of friends as well as access to different kinds of foods emerged

as contributing factors in (re)shaping ERI at this stage. Individually, personal growth and cognitive maturity (King & Kitchener, 2016) also aided in developing a positive relationship with foods from their cultural heritage. Some participants expressed being able to mentalize how they no longer strived to “fit in”, but they could enjoy and eat the foods that gave them “happiness” and “pride.”

Relatedly, a parallel phenomenon that also influenced cultural pride is the shift in food conventionality in mainstream American culture. Paper 2 provided confirmatory evidence that by age 5, children have a conception of what is familiar to eat in school settings, given there was no age effect on children’s choices of the table with the American lunchbox. However, as highlighted earlier, the changes in classroom demographics and children’s overall positive ratings of the lunchbox stimuli could also reflect broader norms around changing food conventionality conceptions. Indeed, an extension of this idea of conventionality emerged in Paper 3 when 20% of participants referred to how the growing popularity of Korean and Indian cultures in mainstream America has made their own culture’s food more normalized and led them to feel heightened ethnic pride. Remote acculturation, when members of a group learn about another group’s culture from afar, especially when done by the majority group, can lead to cultural enrichment (Ferguson et al., 2020; Lefringhausen et al., 2021). Herein, the change from "Ew, what are you eating?" to "You have Indian food, I want that!" is an area ripe for future research, especially exploring the pathways through which mainstream acceptance of ethnic minority culture can enhance the ethnic-racial identity process for immigrant individuals.

Limitations and Future Directions

Socioeconomic Status

A demographic variable that was not explicitly analyzed in this dissertation is socioeconomic status (SES), usually indexed by family income and/or parent education. Income is positively related to a family's time, financial capability, and ability to engage in healthy, diverse, and traditional eating behaviors (Dubowitz et al., 2007; Ojo et al., 2023; Ruel, 2003; N. Zhou & Cheah, 2015). We did not have adequate representation of low SES in Papers 1 and 2. Paper 1 included a community sample of children of which 64% of the parents reported having a bachelor's degree or higher. This skew could imply that our parent-child dyads could have had more of an opportunity to taste and reject multiple foods, and thus exhibit an understanding of what it means to be a picky eater. Research shows that in contrast to high-income families, low-income parents are more conservative in their food purchases as they prefer to buy foods their children like to avoid food waste (Daniel, 2016). It is possible that children from lower SES backgrounds may not have as strong an understanding of what it means to be a picky eater (compared to our study sample) as they predominantly eat foods they already like. More research is needed to unpack this relation. In Paper 2, we recruited online samples of participants for Studies 1 and 3. Participants' parents were similar in that about half had graduate degrees and a combined income of more than $90,000. This sample demographic is representative of those families who have access to stable internet and are more likely to know of and participate in virtual research (Lourenco & Tasimi, 2020). Such representation of families from a higher SES could have enabled the children in our sample to have greater exposure to ethnically diverse foods via cultural restaurants, or the family's ability to source and prepare diverse foods at home,

and thus see them as appropriate to eat at school. Indeed, higher income is associated with higher dietary diversity, both in the quantity and quality of foods offered in the family (Ruel, 2003).

In Paper 3, about half the mothers of our emerging adults had college degrees, and half the fathers had graduate degrees. Our income distribution also skewed higher, which is representative of an Asian American sample (J. Walton & Truong, 2023). One way in which higher SES in Asian immigrant families could influence dietary acculturation is through where they choose to live. There is support for the resurgent community hypothesis, or the idea that in addition to using immigrant enclave neighborhoods as a facilitator for occupational mobility when Asian immigrants first move to the U.S., Asian families with higher SES prefer to move back to neighborhoods with a higher proportion of Asians than live in integrated neighborhoods (E. Walton, 2015). Such co-ethnic residing is beneficial for multiple outcomes, including diet and health. Thus, for those participants who shared that they lived in predominantly Asian communities, it would be interesting to examine if their families had done so after achieving a certain level of economic stability. On the other hand, 25% of our participants reported a family income of less than $50,000 a year. Immigrant caregivers describe structural barriers such as the access to and higher costs of traditional and healthy foods than unhealthy convenience foods (Ojo et al., 2023). In this way, family SES is a demographic variable that could impact the diets, and subsequently, the eating behaviors of the participants in our studies.

A related construct to socioeconomic status that we also did not measure is food insecurity. Food insecurity refers to the lack of access to adequate and nutritious food due to financial and other recourse constraints (Gundersen & Ziliak, 2015). While food insecurity is related to families' lower income levels and ability to procure food, being characterized as food insecure is also based on families' responses to a questionnaire that includes items relating to the

worry about procuring food, the number of days the family had to skip meals, and so on (Gundersen & Ziliak, 2015). In this way, while family income and food insecurity are related, they are not interchangeable. For example, in a sample of low-income mothers who reported on their children's food pickiness, food-insecure mothers were less likely to have frequent access to fruits to offer their child, while food-secure mothers were able to offer alternative meals to their picky children (H. A. Harris et al., 2019). Furthermore, children from low-income backgrounds qualify for free or reduced lunch meals; national data suggests that having this school lunch reduces household food insecurity and also increases children's diet quality compared to low-income children who do not eat school meals (Food Research & Action Center). In this way, school lunches could aid low-income children in having more nutritious albeit Americanized meals. Indeed, 25% of participants in Paper 2 reported eating school lunch, though we did not test for differences by family income or for associations between eating school lunch and children's choice of the American lunchbox. We also did not examine the proportion of children at participants' schools who are eligible for free or reduced lunch, as that could also alter the input children receive about what foods children from different racial or ethnic backgrounds eat. The few participants in Paper 3 who reported having eaten school lunch through elementary to high school did not have specific food-related retrospective experiences to share, though it is unclear if their school lunch choice was optional or if it was because they qualified for it based on family income. Thus, food insecurity, and by extension, eating school-provided lunches, is another variable that could have influenced our participants' food behaviors.

Measuring Neighborhood Diversity

In Papers 2 and 3, neighborhood diversity was a proximal environmental construct that impacted perceptions of and access to cultural foods. In Paper 2, we conceptualized

neighborhood diversity as representative of the racial and linguistic outgroup of the child as used in previous work (H. G. Hwang, Debnath et al., 2021). However, there could be other ways to operationalize diversity. For example, entropy refers to the proportion of individuals from different ethnic-racial backgrounds in a zip code. This captures the overall ethnic diversity and not only the proportion of people different from an individual's racial and ethnic background as was measured in Paper 2 (H. G. Hwang, DeJesus et al., 2021). It could shed light on how ethnic variety predicts dietary diversity in a neighborhood. Alternatively, some emerging adults in Paper 3 described having a higher proportion of Asians as protective of their community food security (Joassart-Marcelli et al., 2017). A potential way we could assess this using the variables in Paper 2 is to examine if the proportion of same-ethnic individuals in the child's neighborhood would positively impact their culture-specific food choices to answer a question such as: does a child who has a higher proportion of Asians in their zip code of residence have more positive ratings of Indian foods compared to other cultural foods? If so, would the effect be stronger for Indian children? This way, using census data to explore the relations between neighborhood diversity and cultural food acceptance is an area for future research.

Assessing Food Categorization

While I discussed food categorization as a socio-cognitive skill negatively related to children's picky eating (Pickard et al., 2023; Rioux et al., 2016), a limitation in this body of work is that food categorization was not explicitly measured in Papers 1 and 2. There are two ways this research can be furthered, 1) by assessing children's categorization of culturally diverse foods using traditional food categorization methodologies (Lafraire, Rioux, Roque et al., 2016; Pickard et al., 2021) and 2) by marrying reports of their own pickiness using the adapted child food pickiness subscale in Paper 1 with such categorization abilities. Extant research has shown

children stimuli of unconventional and foreign foods (DeJesus et al., 2019, H. G. Hwang, DeJesus et al., 2021). However, experiments with larger stimuli sets of foods from different cultures are needed to examine how U.S.-based school-age children from different racial and ethnic backgrounds reason about cultural foods, independent of them being eaten at school.

While ethnic foods have become popularized and globalized, researchers caution that such "cultural food colonialism" does not imply that a culture's native foods are adequately understood or represented in mainstream culture (Heldke, 2001; Liu, 2009; Pilcher, 2008). Herein, stimuli representing Americanized versions of cultural foods (as in Paper 2), as well as more authentic cultural foods, can be used to assess if children taxonomically categorize them as foods from distinct cultures. Additionally, script associations can be measured to see if children would associate certain foods as more appropriate for lunch than dinner and if that would vary by the child's ethnicity. In one study, Chinese children were more open to traditional and non-traditional foods being eaten for breakfast (such as bread and fried fish), compared to U.S.-based children who had more rigid notions of typical foods being appropriate for breakfast (such as cereal) (Bian & Markman, 2020). Herein, children's own picky eating can also be measured and associated with their taxonomic and script categories. Given that children's food pickiness was negatively related to children's consumption of the non-mainstream American foods in Paper 2, it could be hypothesized that children in such a proposed study would have more distinct taxonomic categories for popularized versions of cultural foods, but less clear distinctiveness for authentic foods, moderated by ratings of their own pickiness.

Future Directions

The following paragraphs outline methodological and conceptual directions for future research concerning the constructs of interest to this dissertation. With respect to studying picky

eating, the primary way it has been documented in childhood is via quantitative parent-reported measures (Chilman et al., 2021; Dovey et al., 2008). The field could benefit from additional qualitative studies documenting the perspectives of both parents and children in navigating this mealtime behavior. In a systematic review of qualitative studies on parents handling children who are picky eaters, almost all of the 10 studies included in the review have been published only in the past decade (Wolstenholme et al., 2020), and research using qualitative methods in this domain has been expanding over the past couple years (Chilman et al., 2023; Cunliffe et al., 2022; Johnson et al., 2024). However, all these studies focus on parent perspectives of their child's picky eating. As demonstrated earlier, qualitative studies have shown that in preschool, children exhibited picky eating regulation statements during pretend play but by school age, displayed a more nuanced understanding of how their picky behaviors affect their parents (Matheson et al., 2002; Wolstenholme et al., 2022). More research with samples of children from different SES and ethnic backgrounds can add to the age-related understanding of children's picky eating to better align family mealtime goals.

Another way qualitative studies on food pickiness can augment extant literature is they can assist in the development of scales to measure picky eating in immigrant samples. Specifically in immigrant families, there appears to be more to the heightened preference for mainstream American foods over heritage foods immigrant caregivers have shared about their children's changed dietary habits (Lv & Brown, 2010; Momin et al., 2014; Vue et al., 2011). As described by some participants in Paper 3, their parents' dietary preferences could have restrained dietary diversity in the home, and participants (now as adults) have found ways to appreciate their cultural foods while also engaging in multicultural food consumption. In addition to pickiness towards common items like vegetables (DeJesus, Kinzler, et al., 2018;

Nederkoorn et al., 2015), participants in Paper 3 also reported pickiness toward certain cultural foods. A few participants reported specific characteristics they were picky towards, such as spiciness for Indian cuisine and sauciness for Filipino cuisine. This distinction points to the need for examining specific food characteristics as prevalent in different cultures that can influence picky eating. Additionally, picky eating research typically does not capture reasons why children might accept or reject foods beyond sensory experiences such as the food's taste, appearance, smell, or texture (Sick et al., 2019). However, we have evidence that individuals might be picky toward certain cuisines for social reasons such as acceptance in mainstream culture and to fit in. Moreover, in dietary acculturation literature, there is currently a dearth of validated and standardized food frequency questionnaires with culturally relevant foods for different ethnic groups (Ali, Lin et al., 2022; S. D. Lee et al., 2021). Thus, qualitative methods could form the basis of exploratory research that coalesces properties of cultural foods which could then be converted to food frequency/diet questionnaires and mapped with picky eating behaviors. As this dissertation has illuminated, qualitative work from children's own perspectives and parents' reflections on their own picky eating can help expand our understanding of picky eating broadly as a construct as well as how it plays out in specific immigrant groups.

Examining children's stereotypes and intergroup reasoning as they relate to food preferences is an additional area for experimental developmental research. Food stereotypes have typically assessed gender-based food biases and healthy-unhealthy biases in children (DeJesus et al., 2020; Graziani et al., 2021; Ludvigsen & Scott, 2009). There is some work around race-based stereotypes in food marketing such as African-American characters being more likely to be shown with burgers and soft drinks than White characters (Gilmore & Jordan, 2012). Notwithstanding, additional research on children's perceptions of who would be likely to eat

certain cultural foods could indicate underlying group cognitions of lunchroom behaviors. The face-to-food task reported in the supplemental materials for Paper 2 had attempted to get at some of this reasoning, but it could be redesigned to follow more typical race-cognition tasks. For instance, such tasks show children pairs of faces of different races and ethnicities and assess how they would match a stereotypical attribute to those faces (Pauker et al., 2016). In our task, children were shown 5 faces with 1 cultural food at a time and were not explicitly told they could repeat faces in their choices, potentially driving a process-of-elimination effect. Herein, theory-of-mind is a construct that could also be related to such reasoning. Theory-of-mind refers to the ability to understand one's own and other's desires, beliefs, and emotions, and appreciate that someone else's beliefs might differ from one's own (Carlson et al., 2013). Since some of the school-age children in Paper 2 anecdotally stated how "anyone can eat such foods," including theory-of-mind measures will help parse if children hold prescriptive norms around foods, or if children are flexible in thinking about heterogeneity in food preferences.

Dietary acculturation researchers have argued the need for more mixed-method work in mapping the relations between diet quality, anthropometrics, and socioemotional food experiences in immigrants (Auer et al., 2023; S. D. Lee et al., 2021; Ramírez et al., 2018). One age-group not covered in this dissertation but is a period in which immigrant individuals start to reflect on their ethnicity is adolescence (Umaña-Taylor et al., 2014). This is supported by findings from Paper 3 and previous research with this age group. For instance, among the reasons given for why none of our participants had negative food-related experiences in high school, a couple mentioned that they had "grown up" or become "comfortable" in their ethnic identities by then. Additionally, qualitative studies with adolescent immigrants exhibit how they have started getting involved in the kitchen, learning to prepare basic heritage meals, and

expressing links between food, culture, and gender roles (Bowen & Devine, 2011; Correa et al., 2017; Martin Romero & Francis, 2020). It would be interesting to conduct mixed-method studies on high school children of immigrants as they start to reflect on food-related experiences and what their ethnicity might mean to them. Such research could combine and quantify themes from in-depth interviews with demographic data, school diversity records, and dietary recalls. This approach could provide a deeper understanding of dietary acculturation experiences in high school, potentially informing culturally responsive intervention designs in educational settings such as schools and colleges (Han & Macomber, 2022; Wright et al., 2021).

Finally, in thinking about food-behavior interventions, educational apps can promote nutritive and healthy eating in children and adolescents (J. M. Brown et al., 2022; Farrow et al., 2019; Ferguson et al., 2021). Such platforms could also offer a space to enhance cultural learning about foods. Potential learning apps that showcase cultural foods, along with their healthy and unhealthy dimensions, could help children challenge the dichotomy of "traditional food = healthy" and "American food = unhealthy" that adult second-generation immigrants are working to dismantle (Auer et al., 2023; Ramírez et al., 2018). In this way, mixed-method research with an applied focus could be another promising opportunity space for this work.

Conclusion

Taken together, this dissertation has explored cultural influences on food acceptance and rejection across early-to-middle childhood and emerging adulthood. Through three papers, it has employed a blend of quantitative and qualitative methods to evaluate constructs related to food pickiness, conventionality, and the interplay between food and ethnicity. The findings underscore the intersectional nature of participants' microenvironments and broader cultural food norms in shaping food as an everyday experience.

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APPENDIX A: CHAPTER 3 SUPPLEMENTAL MATERIAL

Pilot Study

Since we created our own food stimuli, we ran a pilot study with adults to test whether they were representative of each of the cuisines and could be matched to faces of different races and ethnicities.

Participants

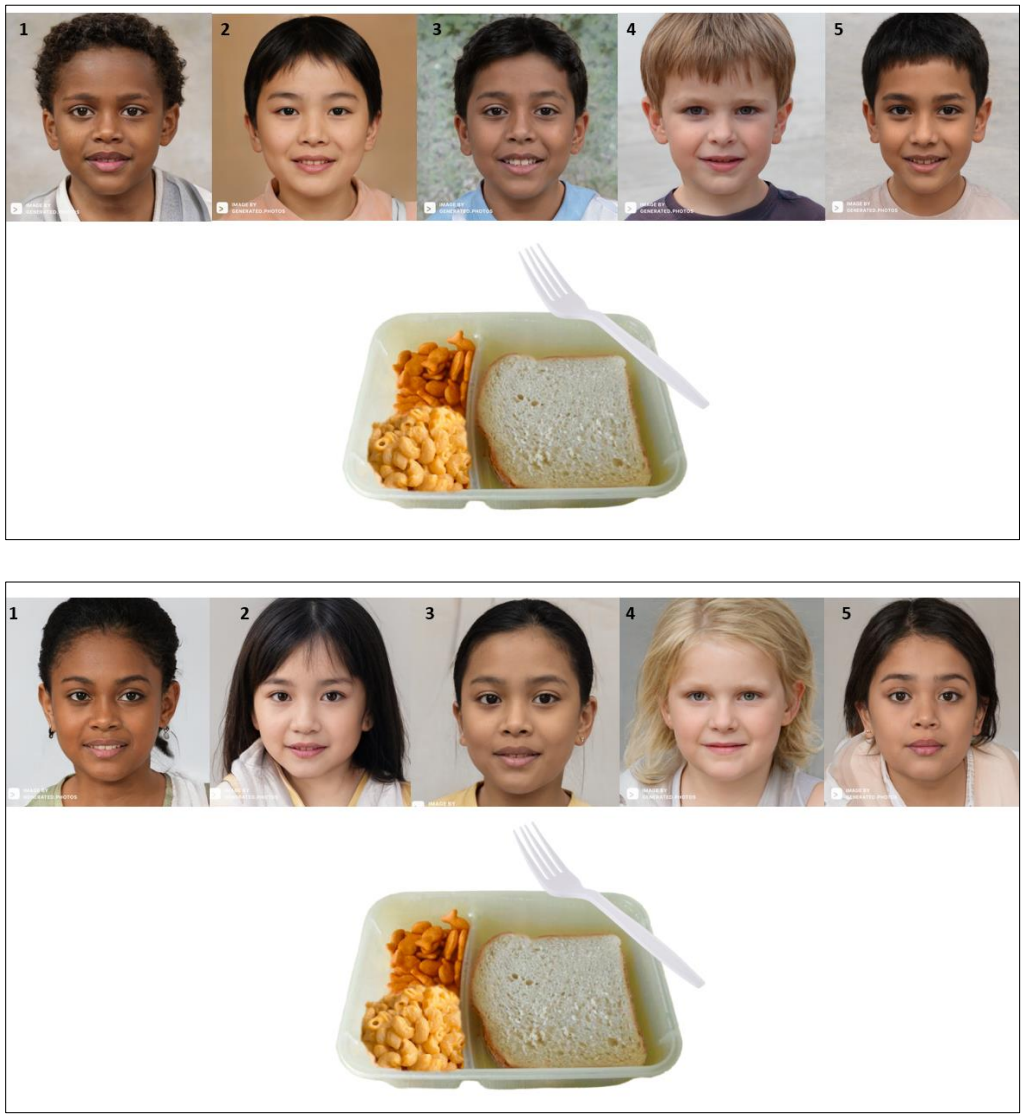
We had 100 (M_{age} = 35.51 years, SD_{age} = 10.93 years, 53 female) participants from the United States on Amazon Mechanical Turk (using the TurkPrime service, now known as CloudResearch) fill out the survey. In terms of race/ethnicity, 88 participants identified as not Hispanic or Latino; 81 identified as Caucasian or White, 10 as African-American or Black and 2 as Asian. We had 3 mixed-race participants and 3 did not specify their ethnicity. Out of the 100 participants, 31 were parents. Subjects were compensated $0.50 for their participation. The average response time was 121.7 seconds (about 2 minutes).

Materials

Participants completed a face-to-food matching task to assess the representativeness of the lunchbox stimuli by examining whether they expect people from different cultures to eat specific foods. The faces for this study were chosen from the Child Affective Facial Expression (CAFE) set, a validated stimuli set of child faces with different emotional expressions from a variety of racial and ethnic backgrounds (LoBue & Thrasher, 2015; LoBue et al., 2018). The ten faces (five per gender) were happy faces from the following races and ethnicities: African-American, White, South Asian, East Asian and Latinx. The South Asian boy face was taken from an independent set of face stimuli since there were no South Asian male faces in the CAFE set (*see Figure A4*).

Participants were shown four trials (the order of the trials was randomized across participants). For each trial, participants were shown an array of five faces of children from different races and ethnicities with a lunchbox, and then asked to choose the child most likely to bring that food to school. Participants also had the choice of "all" or "don't know" for each lunchbox.

Figure A4: Sample Stimuli for the Face-To-Food Matching Task



Note. These are not the face stimuli participants saw as photos from the CAFE set cannot be published. The faces pictured have been AI generated for demonstration purposes,

https://generated.photos/faces. The "happy" faces from the following IDs were taken from the CAFE set for this study: 6284, 6301, 6325, 6346, 6354, 6365, 6372, 6398, 6424

Procedure

After consenting to take part in our study, participants were asked to complete the face-to-food matching question for all four ethnic foods. The gender of the child faces was randomly assigned, so 50 participants saw boy faces and the other 50 saw girl faces. Participants were then asked an open-ended question to tell us anything more about that food if they would like. Then, if the participants indicated that they were parents, they were asked to complete the parent questionnaire used in Study 1 in the main text. Finally, all participants reported their demographics including sex, race, age and ethnicity. Note that the American food shown here was white bread sandwich, tangerines and goldfish crackers—the macaroni and cheese shown in Study 1 was added after the pilot, as it was brought to our attention that this food was the only one that did not have a utensil.

Results

The data for the face-to-food matching question revealed that our *a priori* expectations of the child most likely to bring the food to school was matched for each food type (i.e., had the higher number of responses), lending support for the representativeness of the contents of the lunchbox. We used Preacher's (2001) chi-square calculator. Our tests revealed that across girls, $\chi^2(18, n= 50) = 116.52$, $p < .001$), boys, $\chi^2(18, n = 50) = 246.86$, $p < .001$) and collapsed together, $\chi^2(18, n = 100) = 337.40$, $p < .001$, we observed a significant association between face type and food type, and the most frequent responses matched our hypothesis. For example, 64 participants (out of 100) matched the East Asian face to the picture of the Chinese lunchbox

(*Table A14)*. The lunchbox containing the sandwich had the highest "all" rating. Only 6 participants put "all" for each food.

For the parent questionnaire, responses ranged from 0-10 on the factors parents keep in mind when deciding what their child eats for lunch. Similarly, for the questions on culture and how often the child packs their own lunch, responses ranged through all 5 response options. This indicates that our questions tap a range of possibilities. To note, we added the question of how often the child takes diverse foods to school after running the pilot. Finally, in the open-ended question, participants indicated that "These foods seem typical for certain cultures," "I think more kids would bring ethnic foods if there wasn't a stigma attached" and "I think that young children will most likely choose their most comfortable food. But also [it] depends on home and parents-- if they introduce a variety of cultural foods."

Table A14. Pilot Data for the Face-Matching Task Collapsed Across Genders.

Faces	African-American	East Asian	South Asian	White-American	Latinx	All	Don't know
Food type							
American	**4**	2	11	**43**	13	25	1
Chinese	3	**64**	6	2	17	8	0
Mexican	2	3	18	10	**54**	13	0
Indian	7	6	**53**	13	13	6	2

Note. Bolded values indicate stereotype-consistent responses.

Study 1

Additional task: Face-to-Food Matching

In Study 1, participants completed a face-to-food task to explore whether children have expectations that people from different cultures typically eat different foods and, if so, at what age this understanding comes online. The details of this task have been described in the Pilot Study. In terms of question order, this question was shown first for each lunchbox type, before children answered the evaluation questions (taste/smell/messiness/cool kids/alright to bring).

To test our hypothesis on whether children make stereotypic associations between foods and faces, we ran a chi-square analysis to examine the association between face type and food type, $\chi^2(18) = 207.34$, $p < .001$. For most foods, children most frequently chose the expected face (*see Table A15):* the White or African American face was chosen by 68 children for the American lunchbox, the East Asian face was chosen by 56 children for the Chinese lunchbox, and the South Asian face was chosen by 48 children for the Indian lunchbox. The Mexican lunchbox was the exception to this pattern, as the South Asian face was chosen by 31 children and the Latinx face was chosen by 25 children. Of the 68 children who selected the White or African American face for the American lunchbox, 56 children (82%) selected the White face and 12 children (18%) selected the African American face.

Children's modal responses on this task was to make 2 out of the 4 stereotypic matches; they did not perform better than chance overall, $t(99) = -.39$, $p = .696$. To examine potential factors associated with children's likelihood of making a stereotypic match on each trial (including the food being considered and child- or neighborhood-level differences), we conducted a within-subject binary logistic regression analysis with food type, child age, how often they take foods from different cultures to school and the neighborhood outgroup composite

as predictors of whether or not children made a stereotypic match for each trial. We found an age-effect: The older the child, the more likely they were to make a stereotypic match on each trial, $b = 0.18$, $SE = 0.05$, $z = 3.66$, $p < .001$. We also observed effects of specific foods. Children were less likely to make stereotypic matches for the Mexican lunchbox, $b = -1.89$, $SE = 0.33$, $z = -5.64$, $p < .001$ and Indian lunchbox, $b = -0.89$, $SE = 0.31$, $z = -2.85$, $p = .004$ compared to the American lunchbox (the reference category). How often children brought diverse foods to school, $p = .33$, and the outgroup composite, $p = .297$, did not predict their trial matches (*see Table A16*).

Although we did not tell children they were not allowed to repeat faces across the 4 trials (and indeed 19 children selected the same face for more than one trial), it is possible that children considered a face to be excluded from consideration if they had already selected it. To examine this possibility, we ran a binomial test on children's first trial; 47 children made a stereotypic match on their first trial (with chance being 20%), $p < .001$. We also performed a binary logistic regression on children's first trial selections with the same predictors as the prior analysis of all trials. Children were less likely to make a stereotypic match if the Mexican lunchbox was their first trial (compared to if the American lunchbox was their first trial), $b = -2.61$, $SE = 0.90$, $z = -2.90$, $p = .004$ (*Table A17*). Child age ($p = .087$), how often children brought diverse foods to school ($p = .623$), and the outgroup composite ($p = .132$) did not predict their first trial matches. Taken together, the children in our sample were less likely to make stereotypic matches for the Indian and Mexican lunchboxes. This pattern could be a result of children's thinking about the faces, the foods, or both. Children may not have differentiated between the Latinx and South Asian faces due to their phenotypic similarities in terms of hair color and skin tone. Alternatively, children distributed the Mexican lunchbox between White-American and African-

American faces (in addition to the Latinx face), which may reflect the popularity of Mexican foods in the U.S and their availability in school cafeterias such that children may think anyone could eat the Mexican foods. Additionally, we had 4 lunchboxes and 5 child faces and the African American face was rarely chosen. In this way, more research needs to be conducted to understand children's thinking about foods, their understanding of ethnically diverse faces, and the associations between the two.

Table A15. Frequencies of Children's Responses on The Face-To-Food Matching Task

Faces		African American	East Asian	South Asian	White American	Latinx	All	Don't know
Food type	American	**12**	6	12	**56**	11	1	1
	Chinese	8	**56**	14	4	13	2	2
	Mexican	16	12	31	13	**25**	1	2
	Indian	10	10	**48**	9	21	1	1
	Total	46	84	105	82	70	5	6

Not. Bolded values indicate stereotype-consistent responses.

Table A16. Children's Stereotype-Consistent Match Per Trial

	Estimate	S.E.	*z*-value	*p*-value
(Intercept)	-1.253	0.538	-2.328	.020*
Food type (compared to American)				
Indian lunchbox	-0.886	0.311	-2.852	.004**
Chinese lunchbox	-0.523	0.310	-1.685	.092
Mexican lunchbox	-1.892	0.335	-5.644	<.001***
Age	0.184	0.050	3.657	<.001***
Foods from different cultures	0.097	0.100	0.968	.333
Outgroup composite	0.341	0.327	1.043	.297

Note. '***' $p < 0.001$, '**' $p < 0.01$, '*' $p < 0.05$

Table A17.Children's Stereotype-Consistent Match for the First Trial

	Estimate	S.E.	*z*-value	*p*-value
Intercept	-2.280	1.090	-2.091	.037*
Food type (compared to American)				
Chinese lunchbox	0.045	0.580	0.078	.938
Indian lunchbox	-0.113	0.628	-0.180	.857
Mexican lunchbox	-2.611	0.901	-2.899	.004**
Age	0.185	0.108	1.710	.087
Foods from different cultures	0.103	0.209	0.492	.623
Outgroup composite	1.078	0.715	1.508	.132

Note. '***' $p < 0.001$, '**' $p < 0.01$, '*' $p < 0.05$

Parent Food Questionnaire

Please answer the following questions regarding the food your child eats at school (on average):

1.What kind of lunch or snack does your child take to school?

- Packed lunch
- School lunch
- Both packed and school lunch
- Child does not eat at school

2. How much do you keep these factors in mind when deciding what your child eats for lunch? (0: Not at all, 10: a lot)

- Child's food preferences (likes/dislikes)
- Convenience (lunchables, previous day's dinner)
- Health content (healthy/unhealthy)
- Cost effectiveness

3. How often does your child pack their own lunchbox? Very often, Often, Sometimes, Not very often, or Rarely.

4. How often does your child take food from your culture to school? Very often, Often, Sometimes, Not very often, or Rarely.

5. How important is it for your child to eat food from your culture? Very important, Important, Neutral, Not important, or Not at all important.

6. How often do you pack food from different cultures in your child's lunchbox? Very often, Often, Sometimes, Not very often, or Rarely.

Table A18. Parents' Mean Ratings on the Parent Questionnaire (Scores Range from 0 to 4)

	Mean	SD
How often does your child pack his/her own lunchbox?	1.23	1.42
How often does your child take food from your culture to school?	2.10	1.38
How often does your child take food from different cultures to school?	1.28	1.14
How important is it for your child to eat food from your culture?	2.22	1.28

Table A19. Parents' Mean Ratings on the Factors They Keep in Mind While Packing Their Child's Lunchboxes (Scores Range from 0-10)

	Mean	SD
Child's food preferences	8	1.75
Health content	7.79	2.03
Convenience	5.61	2.87
Cost effectiveness	5.55	2.92

Detailed Regression Outputs

To examine whether children's evaluations differed by question in Study 1, we ran a within-subjects linear multiple regression with child age, food type (mainstream American, Indian, Chinese, Mexican), how often children take diverse food to school, and the neighborhood outgroup composite as predictors of children's ratings for each question (ranging from 0-4). In all analyses, the mainstream American lunchbox was used as the reference value. The following tables display the detailed outputs for each analysis; our *apriori p*-value was $p = .01$.

Table A20. Children's Ratings of Taste by Food Type (Regression Model)

	Estimate	S.E.	*t*-value	*p*-value
Intercept	2.77	0.30	9.23	< .001***
Age	0.03	0.03	1.11	.266
Food type effects (compared to American)				
Chinese lunchbox	-0.62	0.18	-3.52	< .001***
Indian lunchbox	-0.67	0.18	-3.81	< .001***
Mexican lunchbox	-0.71	0.18	-4.05	< .001***
Foods from different cultures	0.10	0.06	1.76	.080
Outgroup composite	0.30	0.18	1.67	.096

Note. '***' $p < 0.001$, '**' $p < 0.01$

Table A21. Children's Ratings of Smell by Food Type (Regression Model)

	Estimate	S.E.	*t*-value	*p*-value
Intercept	2.29	0.29	7.96	<.001***
Age	0.06	0.03	2.44	.015
Food type effects (compared to American)				

Chinese lunchbox	-0.38	0.17	-2.25	.025
Indian lunchbox	-0.28	0.17	-1.64	.102
Mexican lunchbox	-0.40	0.17	-2.38	.018
Foods from different cultures	0.14	0.05	2.56	.011
Outgroup composite	0.10	0.17	0.57	.571

Note. '***' $p < 0.001$, '**' $p < 0.01$

Table A22. Children's Ratings of Messiness by Food Type (Regression Model)

	Estimate	S.E.	*t*-value	*p*-value
Intercept	2.47	0.29	8.61	<.001***
Age	-0.02	0.03	-0.64	.522
Food type effects (compared to American)				
Chinese lunchbox	-1.08	0.17	-6.41	<.001***
Indian lunchbox	-1.23	0.17	-7.30	<.001***
Mexican lunchbox	-1.17	0.17	-6.98	<.001***
Foods from different cultures	-0.04	0.05	-0.68	.495
Outgroup composite	0.84	0.17	4.85	<.001***

Note. '***' $p < 0.001$, '**' $p < 0.01$

Table A23. Children's Ratings of Cool Kids by Food Type (Regression Model)

	Estimate	S.E.	*t*-value	*p*-value
Intercept	2.54	0.23	10.89	<.001***
Age	-0.02	0.02	-0.70	.483
Food type effects (compared to American)				
Chinese lunchbox	-0.60	0.13	-4.44	<.001***

Indian lunchbox	-0.75	0.13	-5.58	<.001***
Mexican lunchbox	-0.43	0.13	-3.20	.002**
Foods from different cultures	0.03	0.04	0.64	.524
Outgroup composite	-0.13	0.14	-0.89	.374

Note. '***' $p < 0.001$, '**' $p < 0.01$

Table A24. Children's Ratings of Alright by Food Type (Regression Model)

	Estimate	S.E.	*t*-value	*p*-value
Intercept	2.06	0.25	8.17	<.001***
Age	0.14	0.02	6.06	<.001***
Food type effects (compared to American)				
Chinese lunchbox	-0.19	0.15	-1.27	.204
Indian lunchbox	-0.25	0.15	-1.68	.094
Mexican lunchbox	-0.22	0.15	-1.46	.145
Foods from different cultures	-0.00	0.05	-0.07	.943
Outgroup composite	0.42	0.15	2.74	.006**

Note. '***' $p < 0.001$, '**' $p < 0.01$

Exploratory Analysis with Neighborhood Diversity

To further examine the associations between children's neighborhood diversity and their "alright" and messiness ratings, we created a subset with overall ratings for Mexican, Chinese and Indian foods, excluding the mainstream American lunchbox (to examine whether the association between messy and "alright" ratings and neighborhood diversity would hold when looking only at the non-mainstream American foods). This was to check if the positive ratings on the mainstream American lunchbox were driving the results.

A within-subject linear regression with child age, how often children took diverse foods to school and the outgroup composite as predictors of children's "alright" ratings revealed that older children, $b = 0.17$, $SE = 0.03$, $t = 6.24$, $p < .001$ and children who had more diverse neighborhoods, $b = 0.56$, $SE = 0.18$, $t = 3.07$, $p = .002$ were more likely to think the non-mainstream American foods were alright to bring to school (*see Table A25*).

Similarly, a within-subject linear regression with child age, how often children took diverse foods to school and the outgroup composite as predictors of children's food messiness ratings revealed that children who had more diverse neighborhoods, $b = 0.88$, $SE = 0.20$, $t = 4.37$, $p < .001$ were more likely to think the non-mainstream American foods were less messy (*see Table A26*).

Table A25. Children's Ratings of "Alright to Bring" Excluding the American Lunchbox (Regression Model)

	Estimate	S.E.	*t*-value	*p*-value
Intercept	1.50	0.28	5.35	<.001***
Age	0.17	0.03	6.24	<.001***
Foods from different cultures	-0.02	0.06	-0.43	.667
Outgroup composite	0.56	0.18	3.07	.002**

Note. '***' $p < 0.001$, '**' $p < 0.01$, '*' $p < 0.05$

Table A26. Children's Ratings of Messiness Excluding the American Lunchbox (Regression Model)

	Estimate	S.E.	*t*-value	*p*-value
Intercept	1.67	0.31	5.36	<.001***
Age	-0.06	0.03	-1.99	.047

Foods from different cultures	-0.02	0.06	-0.39	.070
Outgroup composite	0.88	0.20	4.37	<.001***

Note. '***' $p < 0.001$, '**' $p < 0.01$, '*' $p < 0.05$

Open-Ended Response for Each Lunchbox

Some children provided answers when asked if there was anything else they would like to say about the food at the end of each lunchbox (102 responses, 26% of trials, from 48 children, 48%). Their answers were divided into 4 categories: food attribute or an adjective describing the food ("it is a nice food" or "this looks greasy"), reference to lunch at school ("a lot of people bring this to school" or "won't be a problem if someone brings this for lunch"), food label or a reference to the food content or type of cuisine ("the sandwich looks like it has peanut butter and jelly" or "this is Indian food"), and personal preference ("I really like mac and cheese" or "I wouldn't eat that"). Categories were not mutually exclusive, therefore a statement like "This is tasty and I really like noodles" was coded as a food attribute *and* personal preference (therefore we have more codes than responses). A team of two coders established inter-rater reliability for 20% of the responses and had inter-class Kappas of at least 0.79 for each category. Across all foods, we had 40 references to a food attribute (37%), 8 mentions of lunch at school (7%), 33 food labels (30%) and 28 statements of personal preference (26%). There was no association between lunchbox type and response category, $\chi^2(9) = 13.20$, $p = .154$.

Table A27. Children's Open-Ended Responses for Each Lunchbox

	Food Attribute	Lunch at school	Food label	Personal Preference	Total
American lunchbox	13	3	8	14	38
Chinese lunchbox	7	1	10	4	22

Indian lunchbox	15	1	7	8	31
Mexican lunchbox	5	3	8	2	18
Total	40	8	33	28	109

Table A28. Parent Demographics (Studies 1 and 3)

Parent Education	**Study 1**	**Study 3**
High school or GED	1	1
Associate degree	1	7
Some college	3	3
Bachelor's degree	30	31
Some graduate work	10	10
Graduate or professional degree	53	46
Other/prefer not to answer	2	1
Combined annual income		
Less than $15,000	0	1
$15,000 - $25,000	0	2
$25,000 - $40,000	4	10
$40,000 - $60,000	7	8

$60,000 - $90,000	9	17
$90,000 - $120,000	11	17
More than $120,000	31	32
Prefer not to answer	38	12

Note. Both studies included 100 participants, so frequencies are also percentages.

Table B29. Interview Questions

Typical Meal Patterns

1. To get us started, could you describe what your typical lunch is right now?
    a. What are some typical cuisines you eat?
    b. It is prepared at home or bought from outside?
    c. Do you eat alone or with colleagues/family/friends?
    d. Does it change over the weekend?
2. Could you describe what your typical dinner is right now?
    a. What are some typical cuisines you eat?
    b. It is prepared at home or bought from outside?
    c. Do you eat alone or with colleagues/family/friends?
    d. Does it change over the weekend?
3. What types of cuisines do you typically eat with your friends?

Previous Food Experiences

4. Let's think back to when you were in high school. Could you describe what a typical lunch looked like in school?
    a. Did you take packed or school lunches? What were the contents of those?
5. Were there any social situations at school in which you had to or wanted to change your food choices?
    a. Could you describe the context of the experience? Who were you with? Who said what to whom?
    b. Are there any similar instances in middle school or elementary school that you remember?
6. COVID-19 had an impact on several facets of our lives, were your high school experiences impacted by the COVID-19 pandemic?
    a. If not high school, then college? How did your food experience get affected by stay-at-home orders?
    b. Were they similar to the meal patterns you described earlier, or different?
7. When compared to high school, how do you think your food experiences are different now?
8. Would you consider yourself a picky eater?

Cultural Food Practices

9. Let's talk a bit about food-related practices from your heritage culture. Can you share some food behaviors or practices that you or your family follow?

a. Any specific routines, food preparation habits, daily practices, restrictions, festival/special occasion practices?
b. Does thinking about healthiness of foods play a role in your or your family's food practices?

10. Are there any food behaviors or practices that you or your family follow that make you feel proud of your heritage?
    a. What is about X that makes you feel proud?
    b. Have you engaged in a conversation about such practices with your parents or family?
        i. Who initiates these conversations, and any specific contexts in which they come up?
11. Are there any food behaviors or practices that you or your family follow that would embarrass you if seen by people from other ethnicities?
    a. What is about X that makes you feel embarrassed? Or would gross someone out?
    b. Have you engaged in a conversation about such practices with your parents or family?
        i. Who initiates these conversations, and any specific contexts in which they come up?

Food and Identity

12. Does food influence how you think about yourself with respect to your identity as an [insert ethnicity] American? If so, how?
    a. How much of a role do foods from your heritage culture play in how you identify as a [insert ethnicity] American?
    b. How much of a role do foods from mainstream American culture play in your identity as a [insert ethnicity] American?
    c. Has your relationship with foods from your heritage culture changed from high school to now?
    d. Is there anything you do to maintain heritage food practices? If so, what?
    e. Are there other kinds of practices, behaviors, or things that you do that are more central to your identity as an [insert ethnicity] Asian American than food?

Exploratory Analyses

Indian-American participants

ID: 801

Indian-American, female, 20 years, undergrad. Currently lives with family over summer, otherwise in college dorm over the semester.

When she is on campus, she usually makes convenient meals like sandwiches or wraps for herself and makes Indian food when she has more time to prepare a meal. She has explored East Asian cuisines with friends on campus. When at home with family, she primarily eats South Indian food for lunch, homecooked by her mother. For dinner, her mother experiments with other cuisines (like Mexican).

She was one of the few Indian students in elementary school and recalls many instances of being teased for the contents of her lunchbox. She would go home with her lunch not eaten and shared that she did not know how to explain what her food was (such as an *idli,* or rice cake) in English. She says, "I didn't want to be questioned about what I was eating. I just wanted to eat in peace" and requested her mother to give her mainstream foods. By high school, she reports getting more "comfortable in her identity" as she also gained a good group of friends. She was no longer ashamed of her heritage food. She continued to take packed lunches, which would alternate between Indian and mainstream foods, and by then, "I just wasn't worried about it anymore."

She describes cultural practices such as eating together as a family, eating with her hands, and preparing certain foods for different religious festivals. She takes pride in how her mother uses the spices, recipe book, and pressure cooker from India, "they have lived here more than they lived in India…and it's really interesting to see how it's [food practices] passed down."

Heritage foods are a big part of her culture, and she has come to appreciate its value after living away from home and "craving" her mother's food. She believes she would be more "detached" from her Indianness if she did not have these foods. Mainstream American foods have also "helped me grow as an Indian American girl." Despite this connection to heritage foods, for her, classical Indian dance is a more salient way she connects to her culture.

ID: 21

Indian-American, female, 23 years, graduate school. Currently living at home with parents for the summer, otherwise lives in own apartment near campus.

With her family, she has grown up eating primarily Indian food, with Mexican food a couple of times a week. Indian dry snacks and chai are important parts of the daily routine at home. She fondly remembers Show and Tell days in elementary school where she shared Indian foods with her classmates. She went to a small high school with quite a few Indians and felt comfortable eating "Gujarati finger foods" as a packed lunch. She draws pride from the diversity of Indian foods, the different snacks prepared for festivals, and "I really like how we are still eating Indian food, and the frequency of it too. I'm pretty proud that culture has stuck through in our household."

That said, as a student in nutrition, she reports thinking more about the healthfulness of foods and has found ways to substitute healthier ingredients (like anti-inflammatory oils) when her family prepares Indian foods. On her own, she predominantly cooks and buys non-Indian foods. Since her parents are "pretty picky" towards eating only a few cuisines, she uses her independence in college to be "adventurous" in the different cuisines she tries out. For her, Indian food is a way to connect with family, and "food really helps bring that Indian cultural

aspect to me." She has become "more appreciative" of Indian food as she does not eat it as often anymore, and feels mainstream American foods do not influence her identity in the same way.

ID: 140

Indian-American, female, 22 years. Recently graduated and moved back home with family.

She has recently become more health conscious in her meal choices, and her lunches and dinners include vegetables with protein. Her mother is the source of Indian food, such that when her mother travels for work, she eats Indian food infrequently. When her mother is around, they eat Indian foods mainly for breakfast and dinner, with chai and Gujarati snacks a part of everyday routines. For her, being healthy means eating "less Indian food" or preparing it in more health-conscious ways. She also does not like eating Indian food with her hands.

Growing up, she was "ashamed" of Indian foods. This did not stem from any particular negative or embarrassing experiences in school (she rarely took packed lunches, and if so, it would mainly be mainstream American foods) but more from the fact that she did not have any Indian friends in elementary or middle school. She remembers wanting to take more calorie-rich sandwiches with meat that her athlete friends brought to school. She reflects on how Indian food now makes her "happy" and her "perspective has changed." There are two factors she attributes to her new appreciation for Indian food as an adult: Indian-American friends and missing home food. She made her first Indian friend in high school, and, "my friend group now is definitely all Indian girls." Having grown up with "no one that looked like me," and now interacting with other Indian Americans, "who took so much pride in their culture. That really helped me to get there too." Additionally, "I turned my mom's food down so many times while living at home… And then when I was in college, I wanted my mom's homemade food, and that wasn't available to me."

Concerning cultural food practices, her family does not eat beef and abstains from meat during religious festivals. She associates Indian food as a family "bonding" experience and finds "joy" in helping prepare it, "definitely something [eating Indian food] that we don't do often. And so whenever we do, it's pretty special in that way." Mexican and Italian cuisines are also pretty significant in her family's eating habits. For her, religion is a bigger way to connect with culture.

ID: 365

Indian-American, female, 22 years, graduate student. Lives alone off-campus.

At home with her family, Indian food would be the predominant cuisine for lunch, prepared by her mother. Being one of the few South Asian students in her elementary school, she felt "side-eyed" about her food, "I definitely remember feeling embarrassed about the food that my mom packed for me and wanting a regular peanut butter and jelly sandwich instead… one of my classmates told me that I smell like curry one day, and I really did not know how to take that comment at all." Such experiences led her to change her packed lunch contents to mainstream American foods. She also expressed body image concerns of being "self-conscious" of "how full my stomach felt and wondering what I looked like from an outsider's perspective."

She reflects that she is not as embarrassed about Indian food in public anymore, because of its popularity in mainstream American cuisine, "I feel like 99% of the time now people are like, "Oh my gosh, you have Indian food? I want some"" She follows and takes pride in Indian practices like being a vegetarian and eating with her hands, though she is now contemplating her position as a Brahmin and the historical implications associated with Brahminism, vegetarianism, and inter-caste violence.

Living alone, she prepares "quick" American meals like soup, pasta, or salad and sometimes orders from an Indian restaurant. For her, heritage food represents a connection to her mother, something she is "grateful" for. While she does not know how to cook Indian meals herself and is not a "priority right now," she hopes to learn that culinary knowledge to pass on when she becomes a mother in the future. In this way, American food is "just food," but heritage meals connect her to her South Indian identity.

ID: 75

Indian-American, female, 18 years, undergrad student. Lives with roommates in a college dorm.

During the summer, she is currently living in an apartment and has access to a kitchen. She prepares quick meals like pasta, wraps, and sandwiches, or eats microwavable Indian food packets. She makes Indian dishes about once a week, as they require more preparation and ingredients. During the semester, she eats mainly mainstream American foods from the dining hall. She is not a picky eater, has turned vegetarian from high school to college, and enjoys eating different cuisines.

She has grown up eating more Western foods than Indian foods at home. Her family purchases lots of fruits and vegetables, and salad is a common occurrence at home. Her grandmother is the source of Indian cooking: when she visits, then the family eats more Indian foods, and she also makes special foods for different Indian festivals. The participant learned cooking from her grandmother during the COVID-19 pandemic when they spent time at home together. She recalls taking packed lunches (mainly sandwiches) in middle school and eating school lunches during high school, "My town has a very large Indian immigrant population. So I was around people that same ethnicity for most of school" such that there was no "judgment" for eating Indian foods in school settings.

She believes food is the main way she has connected with Indian culture and has enjoyed cooking food for her friends, “I really like be able to share my heritage with people who aren't from that culture. I feel proud to share.” Indian food is “nostalgic” and represents a connection to her grandmother’s cooking, which she deems as authentic Indian cuisine, “I don't think commercially bought Indian food is a good representation of home cooking.” She has fewer Indian peers at college (a predominantly White institution) compared to the Indian community she grew up in, so she has been seeking out Indian food more. At the same time, she is equally connected to mainstream American foods. She believes that the predominance of an Indian peer group growing up and her family’s frequent consumption of Western food led to a good balance in her relationship with both types of cuisines, “I’ve never been ashamed or embarrassed of my cultural food preferences.”

ID: 217

Indian-American, male, 20 years, undergrad student. Lives with roommates in an apartment off-campus.

He currently cooks in an apartment with his roommate. A majority of his meals are mainstream American foods (steaks, burgers, pizzas). He consumes high-protein meals as he is focusing on working out and maintaining a calorie surplus. Chinese and Mexican are other common cuisines he eats. He does not cook or seek out Indian foods in college.

That said, he is always “glad” to eat Indian food with his family. When he is with his parents, he rarely eats Western food. They predominantly cook South Indian food which involves eating with his hands. His mother uses a rice cooker with various spices, and he remembers his grandmother and mother preparing various snacks and a whole “array of delicious foods” during festivals.

He ate school lunches in middle and high school. He used to take packed lunches in elementary school—his mother initially packed Indian foods but "it felt kind of out of place" and thus switched to American packed lunches. He did not experience any specific incident of "malintent" or being "outcast," but it was more, "I cared about fitting in and wanted to eat what other people were eating." He used to be embarrassed about Indian foods then, but reflects that by high school, with "personal development," he started to feel pretty "even" about both heritage and mainstream foods. He has come to draw pride from Indian foods, "I think American food is a lot more bland, if we're speaking objectively here…I'm proud of the fact that we put so much effort into making our food taste delicious and that we flavor our food so much."

Mainstream American foods play a "bigger role" in his identity, given the frequency and preference of consuming them. He feels Hinduism is a more central way he connects with his culture.

ID: 219

Indian-American, male, 20 years, undergrad student. Lives with roommates (ID 217) in an apartment off-campus.

He currently cooks for himself and because he is gymming and trying to gain weight, he eats bacon, steak, eggs, ribs, and fried bread to maintain a calorie surplus. This diet is similar to what he had at home, "the nice thing is my mom also cooks mostly what I cook now… it's the food I grew up eating for the most part." Their family's diet "pretty much revolves around meat" which is "ironic" as they are Hindus. He grew up in different states in the U.S. and also spent a few years of elementary school in East Asia. These experiences have influenced his family's diets. Both his parents enjoy chili, Korean barbeque and soup, southern food, and meat, which comprise their dinners regularly. Their intake of Indian food is rare, "we only really eat Indian

food when we're interacting with family." This way, he did not grow up eating Indian food often and does not enjoy it. He also does not enjoy the spice levels prevalent in Indian cuisine and feels it is unhealthy and a diabetic risk. There are a couple of dishes (green bean curry and rice) he eats with his father, but that's the extent of his liking of Indian food. Coming to college, he realized that as a family, they eat "way less Indian food than most homes."

In this way, he does not feel embarrassed about Indian food or practices, nor does he draw pride from it. He does enjoy cooking and sharing food with friends, and mainstream American food plays a big role in his identity. That said, he has recently started learning more about Hinduism and, "that's recently made me very proud of my heritage."

ID: 919

Indian-American, male, 21 years, undergrad student. Lives in a college dormitory.

He has grown up eating predominantly Indian food with family, homecooked by his mother. He took packed Indian lunches to school and remembers that in middle school, he would get "funny looks" or comments on the weird smell/look of his food, "I wouldn't say I felt pressured by that. But is something I noticed and made me feel awkward...but I don't think I ever changed my habits based on that." His family prioritizes eating "fresh food" rather than leftovers, and does not eat beef for religious reasons, a practice that "makes me feel closer to my identity with my family." He is comfortable attending Indian gatherings and engaging in the food practices at these events.

At college, he eats from the dining hall, American fast food, and Indian restaurants. The reduced frequency of Indian food and the lack of access to his mother's cooking have made him relish, and "appreciate [Indian food] more than I did before." He feels more closely attached to

Indian food given the frequency of eating it growing up than mainstream American food which he finds “appealing” but not central to his identity.

East Asian-American

ID: 933

Chinese-American, female, 21 years, undergrad student. Lives at home with family, and commutes to college.

As a college student, she prepares Americanized lunches for when she is on campus, and noodles when she is at home. She has ventured to eating different kinds of cuisines such as soul food and Latin American food with her partner and friends, especially over the weekends. Her mother and father usually prepare heritage Chinese dishes for dinner. Her family would eat meals together every day, especially when her grandfather was present, a practice that has reduced with time/as she has grown up. Cultural food practices include a deference toward elders at the table, and not wasting any food, with beliefs such as, “If you leave a grain of rice, you get pimples.” She spent a few of her elementary school years in China and rejoined the U.S. school system in fifth grade. She took packed lunches initially and switched to school lunches in middle and high school. She sat with other Asian children such that she did not have negative experiences surrounding heritage foods.

Heritage foods “is like a majority of my identity.” She acknowledges there might be certain practices such as eating chicken feet that could be embarrassing for people from other ethnicities, but, “my love for food is so strong that I don't feel embarrassed.” Some of it comes from being around people who are not embarrassed, and she also draws cultural pride from the variety and taste of these dishes, “Every time I eat something nice from my heritage, I'm like, “Oh, yeah, this slaps. I love China.”” For her, “20 to 30% of my identity is American food

[though] I honestly don't know what American food is other than burgers and hotdogs." In this way, food is the main medium through which she connects and holds on to her culture, and she actively seeks out new heritage dishes to prepare or searches the history of dishes so that she is not "limited" in her heritage food choices.

ID: 566

Taiwanese-American, female, 22 years. Recently graduated and lives at home with family.

She currently eats lunch provided by her workplace (a mix of mainstream American and takeout meals). Dinner with family is predominantly Asian takeout (Chinese, Japanese, Taiwanese) during weeknights and homemade Chinese or Taiwanese food during weekends. If her parents are looking for healthier options, then they buy salads or Mediterranean food. During elementary, she recalled a few instances where she had taken dinner leftovers (such as dumplings) for lunch and her peers commented on the pungency of the food. She switched to cafeteria food sometimes, but otherwise continued to pack Asian food, as "mom said "too bad!""

Her mother is the main source of heritage food, and prepares the meals at home, using family recipe books. Some special meals include mooncakes during Chinese New Year and a traditional hot pot on Thanksgiving. Heritage food is "a big part of culture" and she enjoys the communal aspect of eating Asian foods. She appreciates her heritage foods more now as an adult, mainly because she ate them very often during high school, then experienced a reduced frequency during college where she often had an "American spin on Asian food" offered on campus. Traveling abroad and coming back to these foods was "comforting and "home-ish." She maintains these practices with her friends too, by cooking Asian foods with them or going out to Asian restaurants. Mainstream American foods also "play some role" in her identity because she

did grow up eating burgers and such with friends or at school, even if it was not a common feature of meals with parents.

ID: 281

Korean-American, female, 21 years, undergrad student. Lives at home with family, and commutes to college.

She grew up in a neighborhood with a high proportion of Koreans, from elementary school through high school, such that "Almost everyone I was in class with was Korean too…so I never faced any pressure to feel like I can't bring Korean food or anything like that." Her lunches at school were a mix of packed Korean food, American foods (sandwich or mac and cheese), or takeout. That said, she attended dance lessons outside of school which comprised of "predominantly White" peers. There, she recalls being "self-conscious" of her Korean food like sushi balls, and that "they were judging me for what I had." She requested her mother to give her "regular" food instead and stated how from middle school to high school, everyone seemed to have "matured" such that she felt less of this pressure.

Korean food homecooked by her mother is a regular part of her diet when eating with her family. Her family "honors the Korean tradition" on certain days such as eating seaweed soup on birthdays and paying respect to ancestors with a heritage spread. Such has also started to "embrace" and take pride in her Korean American food because, "I feel social media has blown up, Korean food especially… people are raving about it from all over the world…I feel like that makes me more proud of my identity." At the same time, she states how she has gravitated toward a more multicultural diet, especially with the independence of driving (being able to get takeout from different restaurants) and trying various cuisines offered at the dining hall for

meals. This way, she feels "Americanized" in her eating habits such that both foods play an equal role in her identity.

ID: 139

Korean-American, female, 18 years, undergrad student. Lives with roommates in a college dorm.

She currently eats at the dining halls on campus, with a variety of mainstream American, Asian, and non-Asian cuisines. She says she gets her "hopes up" when Asian food is being offered on campus, but that tends to be Americanized versions of Asian food. Having recently moved to college, she has not yet explored restaurants around the area.

At home with family, she would eat Korean food almost every day, often rice with banchan and side dishes. Food would be eaten communally, with a deference to elders at the table. Korean food is healthy and balanced, and she shared how special foods like jeon or Korean pancakes would be made for holidays and birthdays. Her mother packed lunch through school for her, and the contents would alternate between Korean foods and mainstream American foods. She went to a primarily Asian middle and high school so she "would share food a lot" with friends which was a positive experience. She remembers once in elementary school when a White peer had spit out her seaweed but she considers this a "small incident in passing" since the rest of her friend group was Asian and did not tolerate it.

She draws pride from eating and sharing Korean food with non-Korean friends, "little pieces of my culture with them and telling them these parts of eating a meal that are specific to Korea that you don't really see in American culture or any other culture for that matter." She craves and misses Korean home food now that she is in college. She finds it "grounding, familiar and comforting." For her, mainstream American foods (like In-N-Out) are also well "integrated"

into her regular diet. Apart from food, she connects with Korean culture through skincare products and language.

ID: 632

Korean-American, female, 21 years, undergrad student. Lives with siblings in an apartment off-campus.

She grew up in a city that did not have many Asians. She had school lunch throughout her school years but experienced negative incidents around heritage foods in elementary and middle school that have "traumatized" her. Her White peers in the church had commented on how kimchi smelled bad, and shrimp crackers did not taste good which was "hurtful." She realized then that not everyone shares the same food experiences and was not comfortable eating foods from her culture around her peers. Now as an adult, she mainly eats simple and quick sandwiches or salads for lunch. She eats homemade Korean food for dinner or on the weekends, either prepared by her or her sister. They have also moved to a city that has a rich population of other Asians and Korean markets—this easy access to Korean food and ingredients has made her more "appreciative" of her culture's food.

She described many Korean food traditions they follow as a family, such as eating certain foods like Naengmyeon (a cold noodle dish) during summer or special foods at New Year's. She also shared how her parents prefer to eat only Korean and certain other East Asian cuisines, but are hesitant to try mainstream American foods. Or, if they do have a meal at such a restaurant, they would go home and eat Korean leftovers. In this way, she has not had much culinary diversity with her family. Since Korean food is in a "better light" now through social media, she takes pride in the fact that others recognize or are willing to try her culture's food. She is

comfortable eating both Korean and mainstream American foods. For her, church is a more salient way of connecting with her Korean identity.

ID: 526

Korean-American, female, 23 years. Recently graduated and living with siblings in an apartment

She has a clear distinction between foods to be eaten outside with non-Koreans and foods eaten at home. When she goes to work, she takes sandwiches and salads. Whereas, if she is at home, she prepares Doenjang-jjigae, a Korean soup, in bulk and eats it throughout the week. She explicitly ties this habit to negative experiences surrounding heritage food growing up. She remembers instances from elementary and middle school where peers would "pinch their noses and say, "Oh, that smells disgusting. Like, what is that?"" She realized at a young age that her foods may not be pleasant for others and was "careful" of that ever since. This led her to pack sandwiches every day in high school, as it was the "safest option" since it would not draw attention to her. As a working adult, she continues to be "cautious" and takes Western foods to social settings such as work.

She grew up in an area that did not have many Asians and was the only Asian in class at times, but through college, has made many Korean friends. Connecting with them "on that level where we're not entirely Korean or entirely American-- somewhere in between" has been fulfilling. She eats and shares Korean food with these friends and also tries non-Asian cuisines like Mexican or Italian. She has also noticed how people around her have changed, wherein Korean food is "not weird anymore" but people want to try it which makes her happy.

Despite early negative experiences around her heritage food, she draws great pride from it as an adult, and this appreciation stems from learning to prepare these foods herself. Cooking these foods, she can "confidently say that Korean food takes a lot more work, extra steps,

dedication…whereas American food is literally just throw everything together in the oven." She recognizes how food is a medium to show love and care in her culture, and feels "Korean food is my identity." Her deep connection with and eagerness to prepare these meals have led her parents to say she is a "true Korean at heart" and she feels she will "never lose this part of me." American food serves the role of "quick meals," but Korean food plays a significant role in her expression of her Korean identity.

ID: 642

Korean-American, male, 20 years, undergrad student. Currently living at home with parents for the summer, otherwise lives in a college dormitory during the semester.

With his family, he describes they eat "Korean food all day." They have homecooked Korean food mainly for lunch together, and dinner involves Korean leftovers as well as some mainstream American meals. He feels Korean food is a "labor of love," created with flavor and spices without specific measurements. He described the hierarchy followed at the dining table, and special foods like rice cake soup prepared for New Year. He acknowledges certain Korean food preferences like silkworm larvae might be gross for people outside the culture. He had school lunch in high school, and shares some experiences in elementary school where classmates said "eww" at the look or odor of his packed Korean meals. He remembers the embarrassment of those moments and how he stopped eating or threw those foods away. Reflecting on these incidents as an adult, he states, "I don't think anyone should ever be judged by what they eat."

While he eats predominantly Korean food with his parents, he has sought out dietary diversity through takeout and at the dining hall on campus. He has become more open to multicultural cuisines since high school. He recently started dieting and has limited his meals to

protein and veggies, but hopes to learn how to cook and incorporate Korean spices in his cooking.

Korean food evokes feelings of nostalgia and a renewed appreciation since he does not have easy access to his mother's meals on campus and is happy to recommend Korean dishes to his friends. That said, these foods do not necessarily elicit pride as an emotion. He states, "I wouldn't say food defines me. I have an association with it. But I wouldn't say it's an entire component of my identity." In this way, "food is just food" and he finds that the sincere connection with his extended family and speaking Korean at home are more central to connecting with Korean culture.

Southeast Asian-American

ID: 215

Filipino-American, male, 19 years, undergrad student. Lives at home with family and commutes to college.

He has a strong affinity with American foods and eats predominantly American foods through takeout or what his dad makes. He grew up with his mother preparing Filipino foods for herself, while he and his siblings ate the American meals his father prepared. His school setting was majority White, and he recalls a few instances where he was teased for snacks like shrimp crackers, and "I did have like thoughts of maybe it is bad if I bring this, but I eventually got over it, "No, it's not I'm hungry."" His family does not follow any particular heritage food practices or routines. He is not necessarily embarrassed by these foods, but just does not have a personal preference for his mother's preparation of such foods, "I think my mom's cooking does appeal to her own race more than me." Particularly, he does not enjoy saucy foods (a feature of lumpia and

adobo). This way, through middle and high school, he "stayed with having no Asian food or touching my culture."

However, in freshman year of college, he went to a Filipino restaurant with his friends, which he enjoyed to his surprise and made him realize, "It's not that I didn't like adobo. It's just I don't like the way my mom cooks it specifically. So I actually can learn to like Filipino food." Now, he treats himself to an Asian meal on occasion. In this way, he has made the distinction between his mother's culture and food, and ways in which he can try connecting to heritage foods with his friends. For him, American foods are a big and frequent part of his diet, and he does not eat any Filipino food and feels "Wow, I'm very proud I'm Filipino." That said, he has not thought of the salience of food in the construction of his identity.

ID: 780

Filipino-American, female, 20 years, undergrad student. Lives at home with family and commutes to college.

Her family's diet has remained "pretty staple" throughout her school years and currently as a commuter student. Her lunches and dinners primarily comprise "Americanized takeout," frozen or pre-prepared meals such as sardines, pizza, or Vienna sausage. As a family, they do not eat heritage foods often which she attributes to her mother working long hours as a nurse. That said, her family seeks out Filipino food by outsourcing the cooking to her mother's friend who prepares traditional meals, especially ube cakes, cassava cake, and lumpia for birthdays and Christmas. Growing up, she remembers attending Filipino gatherings and potlucks organized through church. Now, her family also visits Filipino markets or areas where there are more Filipino restaurants. In this way, while eating heritage food is not a daily occurrence, when she

eats such food, it feels “kind of comforting, kind of safe to be around” and makes her “excited” and “happy.”

She often took sandwiches to high school and stated, “I've never really had anyone criticize the food that I've been bringing to school, even if it's from my heritage culture.” She has had a diverse group of friends (a mix of White, Asian, and Hispanic peers) who have been supportive of trying each other’s cultural foods. One moment from childhood she recalls was when a White friend did not like the taste of her pork bun, which stood out to her it was a taste she thought was flavorful. She has tried more diverse cuisines in college because of the financial independence she now has. She considers Filipino food, “a big part of my identity and what I connect to in my culture.” Mainstream American food does not play the same role in her identity.

ID: 678

Vietnamese-American, female, 20 years, undergrad student. Lives at home with parents and commutes to college.

Heritage foods, like seafood with rice, are a daily occurrence in her family; they especially eat dinner together. Sometimes, she packs these leftovers for lunch, other times she eats mainstream American food at the dining hall. When she is out with friends, she eats multicultural cuisines (poke, Thai, Indian, or burgers). Her family follows food practices around religious periods, such as eating chay or vegetarian food when they honor their ancestors.

She loves the “layers of flavors and combinations” when it comes to Vietnamese foods. She ate school lunches throughout so did not have particularly negative experiences with food in school. However, she recognizes that the flavors of durian, coconut, and jackfruit, or the smell of fish sauce might be gross or “stinky” for non-Vietnamese people, but for her, “I find it smells really good…if I smell that in the house, I just get hungry.” She takes pride when others talk

about Vietnamese cuisine, “A lot of people know what Phở and Bánh Mì are. I kind of just get excited when I hear people mention that because it's a part of my culture.”

She also highlights some body image concerns she has had to grapple with, because “I think it's very easy for people in most Asian countries to speak on weight and they prioritize health a lot.” She shared how her family back in Vietnam was “welcoming and nice” when she had lost weight, but made certain comments after Freshman 15, which made her “insecure” and “self-conscious.” She shared how she has tried to work on having a more “healthy relationship with food.”

ID: 898

Vietnamese-American, female, 20 years, undergrad. Lives in a college dorm suite.

She has grown up eating at least one Vietnamese meal a day with her family, usually prepared by her grandmother as her mother works long hours as a nurse. She went to a less-diverse elementary school where she remembered peers being “mean” toward her foods, such that she “wanted to bring what all the other kids were bringing for lunch.” She eventually switched to school lunches and then went to schools with a high proportion of Vietnamese students in middle and high school. There, she did not have negative experiences around her food. She also recalls cultural appreciation days at school where she would take Vietnamese food to share with her peers.

She really appreciates the communal “bowl-to-bowl” aspect of her heritage food practices, “my mom reaching for food and putting it onto my bowl is very personal.” Her mother is into diet culture which influences how their vegetables are stewed and steamed. She also describes festival food practices like being vegetarian when they honor their ancestors, or for good luck (such as before her MCAT exam).

Now at the dining hall, she eats a mix of cuisines and seeks out poke or Vietnamese food through takeout. She primarily eats at Asian restaurants with her friends. She acknowledges that coming to college, she has felt "homesick" for her food, given how she moved from an area with a rich Vietnamese community to a setting where there are not that many Vietnamese people. She also acknowledges that when she was younger, she was influenced by her peers, "but as I get older, I feel that I gravitate a lot more towards Asian foods." Seeing her other Asian friends take pride in their culture has helped her see that in her cultural foods as well. At the same time, she does enjoy Western or mainstream American foods.

ID: 669

Cambodian-American, female, 19 years, undergrad. Lives in a college dorm suite.

During high school, she would take a mix of heritage food leftovers as well as mainstream foods for lunch. In high school, there was a situation when a peer did not appreciate her shrimp chip, but her Asian friends stood up for her saying it had a good taste. At that moment, "I think I recognized that there were people who didn't have the same taste as me." Growing up, on weekdays, she would eat mainstream American meals at her aunt's place. Only on the weekends would she eat homemade Cambodian food with her parents such as Nom Banh Cho and they would eat family style. That shifted in high school when she started eating all her meals at home. It was then she learned about the different foods in her culture. She admits she is not sure how to differentiate religious from cultural practices, but shared how her family celebrates Cambodian New Year with a visit to the Buddhist temple and a fair where certain treats represent flavors of "her childhood."

She currently eats on campus at the dining halls and tends to gravitate toward the Asian (albeit Americanized) cuisines offered. She reflects how in high school, she just knew she was

"Asian" but did not have space to talk about what that meant. By joining the Cambodian club on campus in college and being surrounded by other Cambodians, she has come to process "what it is to have an identity." Her most "prideful realization" has been, "I'm always proud of my cuisine when I exist in those communities..there is history to it. It's the food of my people." She draws great pride and happiness from her food and acknowledges there are some foods like prahok, or fermented fish paste, which might be gross for others but she loves them. In this way, she is continuing to explore and find her space in her Cambodian identity through food, and relegates mainstream American foods to "just food."

Table B30. Codebook

Theme	Title	Description	Examples
Typical meal patterns	Lunch: Mainstream American	Eats mainstream American food for lunch	Eggs, sandwich, chicken nuggets, pizza, pasta, bacon, BBQ, ribs, etc.
	Lunch: Heritage Asian	Eats heritage Asian food for lunch (e.g., a Korean American participant eats Korean foods)	Lumpia, kimchi, Korean soup, paneer, sabzi, Malaysian noodles, sushi, etc.
	Lunch: Other cuisines	Eats food from other cuisines for lunch, including Mexican, Mediterranean, etc. Includes foods from other Asian cuisines (e.g., Korean participant eats Indian food)	Tacos, burritos, soul foods, lumpia, kimchi, Korean soup, pad Thai, paneer, sabzi, Malaysian noodles, sushi, etc.
	Dinner: Mainstream American	Eats mainstream American food for dinner	Eggs, sandwich, chicken nuggets, pizza, pasta, bacon, BBQ, ribs, etc.
	Dinner: Heritage Asian	Eats heritage Asian food for dinner (e.g., a Korean American participant eats Korean foods)	Lumpia, kimchi, Korean soup, paneer, sabzi, Malaysian noodles, sushi, etc.
	Dinner: Other cuisines	Eats food from other cuisines for dinner, including Mexican, Mediterranean, etc. Includes foods from other Asian cuisines (e.g., Korean participant eats Indian food)	Tacos, burritos, soul foods, lumpia, kimchi, Korean soup, pad Thai, paneer, sabzi, Malaysian noodles, sushi, etc.
	Different over weekend	If participant eats something different on weekends than weekday. Could entail eating more at home, more takeout, more Asian foods, or more non-Asian foods *Double code with lunch/dinner codes*	"So over the weekend, we've been like eating like really big foods or like going out to eat a lot" "During the weekends, I like change it to more like Korean food or different foods"
Cooking patterns	Family members cook	Mention parents, siblings, or grandparents who prepare the food. *Double code with lunch/dinner codes*	"My mom mostly does a lot of the cooking but we help her with dinner"

	Own cooking	Participant cooks own food. *Double code with lunch/dinner codes*	"Probably about once a week. I'll make something like a lot of something and then it will last me the entire week."
	Convenience	Mentions convenience of preparation, either something easy to put together, or is time consuming to make. *Double code with lunch/dinner codes*	"Things that are like quick...something that I can eat quickly, like some sort of like, wrap or sandwich or anything simple" "I'll cook some Indian food like panner or something, but it does tend to be a little bit more time consuming"
	Preferences vary by family members	If participant eats one type of foods, while others in the family eat something else, or prefer something else. *Double code with lunch/dinner codes*	"We typically don't eat what my mom cooks but she likes to make a lot of Filipino food like pancit and lumpia. So she usually eats that and we just kind of stick with cooking our own food" "I usually just prefer American foods like simple American food like sandwiches because I really like bread as opposed to my siblings, they prefer more Korean food"
Early food experiences	Type of lunch	Participant mentions type of lunch eaten at school (school lunch or packed). Include description of lunches in high school, and if mentioned, middle/elementary school	"Since I was in school, it was like sloppy spaghetti. I didn't pack lunch" "Lunch would be pretty much anything, whatever my mom packed…roti, rice, sandwiches, whatever was feasible"
	Positive experience	Positive experience of bringing/eating certain cultural foods and having cultural appreciative moments. Includes experiences in high school, middle and elementary school, cultural gatherings or	"So they would, sometimes they will bring their own food too, so it was nice"

		religious places. Include context and reason of experience	
	Negative experience	Negative experience of bringing/eating certain cultural foods, and having cultural shaming moments. Includes experiences in high school, middle and elementary school, cultural gatherings or religious places. Include context and reason of experience	"But again, at that point, like, in elementary school, there were some people like, 'Oh, what are you eating? That's different and then obviously, I'd like come home with my lunch not eaten"
	Limited experience	No specific experience of bringing/eating certain cultural foods. Includes experiences in high school, middle and elementary school, cultural gatherings or religious places. Include context and reason of experience	"No, I didn't really have any specific experience in school"
	Emotional consequence	Capture the emotional expense of such experiences (positive, negative or neutral). *Double code with experience codes (positive/negative/neutral)*	"Can you please not send me this anymore? But, and for a while, she [mom] was like, 'okay, yeah', cause I wasn't eating anything" "I would just get like, sick of explaining what I was eating" "Back then I used to not like Korean food. Because I think I was really traumatized."
Knowledge	General food practices	Includes regular practices around eating	"I think within my household, usually when my grandpa was still here, we would eat together, like no talking, no cell phones" "We always had to make sure we could not leave anything unfinished'

	Festival/special occasion	Foods made for festivals/ new year or even birthdays, if there are any specific practice around when and how foods were are eaten	“We make those foods at our house to celebrate so during Makar Sankranthi in January we have the laddoos and snacks”
	Superstitions	Any specific food practices that are performed during an event, or considered as good luck	“My mom, during, like, exams or like, "Oh, hey, Ma, I have a test tomorrow." She will make, steamed rice and then steamed eggs. I don't know, it's a tradition in our household now. It's like, "Oh, yeah! It's like egg and rice - Good luck!" “We will eat it up because apparently if you eat rice cake soup on the first of the new year, then you can live long”
	Religion based practices	Vegetarianism, eating halal, or any other food practice that is based on the family's religious beliefs	“Whenever there's some any sort of like festival or holiday, whatever food is prepared, we don't eat it until it's been put in front of God”
	Healthfulness	Practices surrounding the healthfulness of meals (both, if followed and not)	“We try to eat more vegetables, just because a lot of Cantonese dishes have steamed veggies.” “We don't really look at like, “What would happen if we ate too much of this?” or “Yeah, what happened if we ate too little of this?” We just kind of eat it until we get full”
	Food preparation methods	Certain preparation styles, equipment or utensils used to prepare food	“And mom has the tools that she uses to prepare, like we have a pressure cooker to make our rice”
	Gendered roles	Any gender-related food roles around cooking, eating or passing on food practices	“Even though mom is working, and my dad is too, she will still wake up early, make her food and then make sure we all eat”
	Indifference to cultural knowledge	Don't really follow any specific food practices or behaviors related to Asian culture	“Me and my family, we don't really have like, any practices in terms of like food..we just kind of see something we like”

Emotions	Pride	Heritage foods evoke a sense of pride. Include context/reason. *Double code with "emotional consequence"*	Such as sense of community, passing down of generational knowledge, variety in cuisine “I think it’s the different types of dishes that makes me really proud of my heritage. Like, "Yo, look at all these foods!” “My parents have lived here for 25 years. And it's impressive to see how these cultural practices still exist. And it's really interesting to see how it's passed down”
	Embarrassment	Heritage foods evoke embarrassment. Include context/reason. *Double code with "emotional consequence"*	“And obviously, like, if I ate that in public, I feel people would judge me a little bit” “I guess, chicken feet gross a lot of people out. Even spicy food”
	Other emotions	Any other emotions mentioned around food that aren’t pride or embarrassment (comfort, happiness, etc.). *Double code with "emotional consequence"*	“Korean food feels like home”
	Emotion indifference	No specific emotion tied to foods	“I can't really think of anything that like, where I eat the food and think, “Wow, I'm very proud I'm Filipino”
Food and ERI	Quantify cultural foods' role	Participants say things like "big part" "major role" or "not at all"	“I think food is like a majority of my identity”
	Quantify mainstream foods' role	Participants say things like "big part" "major role" or "not at all"	“I think somewhat so, maybe like 20 to 30% of my identity is American food” “I think it plays a big part in my identity, because it's just kind of the thing I do. I don't really eat much Asian food.”

	Incorporated	Comfortable in own heritage identity, and how cultural foods play into it (can be in adolescence or currently as adults)	"I've become comfortable enough with my culture and whatever food practice we have "
	Exploratory	The code captures change. Participants are exploring and questioning food-related experiences and coming to new realizations. Can include experiences such as eating with same-ethnic peers, or homesickness in college that could lead to increased appreciation of cultural foods/dietary diversity/comfort with eating certain foods (can be in adolescence or currently as adults)	"But I think sometimes now, like during the school year, when I'm on campus, I would start to crave like my mom's cooking" "I got to eat Filipino foods with my friends and realize, "Oh I actually do like it"
	Indifference to ERI	They have not thought about food as relating to identity (can be in adolescence or currently as adults)	"I can't say like, I had any, like deep conversations with like myself about that. It's mostly just like, "Wow, this food's pretty good" And that's about it."
	More than food	Another ERS medium (language/media/religion) that is more significant than food. Code if participant explicitly states this is more central to their identity than food.	"Food isn't a primary thing that helped me identify with my culture"
Eating during COVID	COVID: No change from regular	Eating patterns during COVID did not change from what was described earlier. Participants ate the similar kinds of cuisines	"Lunches just became more, more similar to what we ate during the weekends. Like when we were all at home"
	COVID: positive change	Participants stated that their eating habits changed for the better when they had to do school or college from home during the pandemic	Includes eating better, learning how to cook from family members, etc

	COVID: negative change	Participants stated that their eating habits changed for the worse when they had to do school or college from home during the pandemic (such as lack of routine, increased snacking)	"During the day, honestly, like for online learning my diet was just kind of all over the place. I would wake up and make an Oreo milkshake in the morning. And then during lunch, we might not even eat anything because no one was home. So I'll probably just get a bag of chips if I could. And-and then the evening, I think I would be asleep. So I wouldn't even eat dinner like half the time"
Picky eating	Not a picky eater	Participants say they are not picky eaters	"I eat pretty much everything, except for meat. I don't have a problem with any vegetable or anything"
	Picky to some foods	Picky toward some foods	"I was definitely like a picky eater towards seafood" "I had a thing if the food looked gross, I wouldn't eat it…like adobo"
	Change in dietary diversity	Increase/decrease in dietary diversity from school to college. *Double code with ERI if relevant*	"I think it's gotten more diverse just because of the people I'm around. Like high school, I stuck to school lunch and like, my Asian friends, so Korean food. But now I'm more open to like other ethnicities and cultures. So a lot of soul food, Latin American food, also like, other Asian foods." "I think it's gotten like significantly less picky, but I still think I have ways to go before I'm considered not picky eater."