ORIGINAL ARTICLE

Open Access

Comfort food for Generation Z: a case study in Taiwan



Fang-Yi Lin^{1*}

Abstract

The Generation Z cohort, born between 1995 and 2010, represents a substantial portion of the global population, experiencing their formative years in an era characterized by pervasive globalization. Comfort foods serve as tangible expressions of both individual and national dietary cultures. This study reveals that the comfort foods of Generation Z also reflect the locality and globalization of dietary habits. Exploring the comfort foods of Generation Z in Taiwan, this research categorizes them into four classifications: main meals, desserts and snacks, beverages, and fruits and vegetables. Among Taiwan's Generation Z, approximately one-third of their comfort food choices hold specific cultural significance, reflecting the dietary transformations and historical trajectory of Taiwan over the past century. The study also identifies key experiences and recollections associated with Generation Z's comfort foods, including enhanced mood, ritualistic engagement, and emotional solace; while leisure, hunger, and cravings are contextual factors influencing the consumption of comfort foods.

Keywords Comfort food, Generation Z, Taiwan, Dietary transformation, Food culture

Introduction

Food serves as a cultural manifestation and is intertwined with various rituals that reflect the identity of the eater. Local foods embody the traditions, uniqueness, and diversity of a particular culture [1]. However, globalization has led to the Westernization of diets in different countries [2]. Cross-cultural dining, such as the fusion of Eastern and Western cuisines, is common and reflects cultural diversity [3]. Research indicates that dietary habits are often assessed through group cultural identity, playing a role in the construction and maintenance of culture [3]. Factors such as family background, education, exposure to foreign products, travel, media influence, and immigration contribute to the blending or innovation of local cuisine [4].

*Correspondence:

Fang-Yi Lin

flin@mail.shu.edu.tw

¹ Department of Tourism, Shih Hsin University, Taipei, Taiwan

The concept of comfort food falls within the discourse of national cuisine, conveying that regional dishes are influenced by their relationship with other culinary systems. Therefore, food can be utilized to identify (groupspecific, national, and global cuisines) and express specific needs [5]. The term "Generation Z" refers to individuals born approximately between 1995 and 2010. Their behaviors aim to authentically convey themselves, connect with others, and understand diverse styles and lifestyles [6]. As the Generation Z ages, they exert significant consumer influence in various countries [7]. This study focuses on the Z Generation in Taiwan, exploring the cultural characteristics of comfort food consumption within this demographic. Through the exploration of comfort foods in Taiwan, we aim to gain insights into the manifestation of culinary globalization and local culinary significance in the selection of comfort foods.

Food choice and comfort food

Food is more than just sustenance for individuals; it serves to fulfill physiological and survival needs. The process of food selection is a complex one, and the ultimate



© The Author(s) 2024. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

choice may not solely be based on personal taste preferences. Dietary behaviors can shape an individual's identity, core values, and beliefs [8]. By focusing more on oneself and being mindful of one's thoughts and behaviors during food selection, individuals can help prevent excessive food intake, leading to healthier choices [9, 10]. Food itself may hold significance for individuals, derived from past dietary experiences. Memories associated with food may be linked to sensory perceptions (smell, taste), dining experiences (preparation, celebration), and cultural practices. Following food selection, memories and experiences may extend to provide psychological comfort, relief, and pleasure for individuals [8].

The term "comfort food" emerged in 1966, initially associated with individuals turning to such foods under severe stress [11]. Comfort foods elicit emotional effects on individuals [12], providing comfort, solace, and pleasure upon consumption [11, 13]. Choices of comfort foods may vary with changing times [12]. Consumption of comfort foods can enhance positive emotions and alleviate negative ones; moreover, different socio-cultural characteristics result in varied patterns of comfort food consumption [14].

The traits and dietary preferences of Generation Z

Generation Z has become the largest cohort globally as of 2022, comprising approximately 32% of the population, accounting for around 2.5 billion individuals [6, 15]. Growing up in the digital era, Generation Z is considered digital pioneers; however, they also exhibit strong attachment to tradition and values [15]. Research indicates that behavioral traits of Generation Z include nostalgia linked to past pleasant sensory experiences and hedonic consumption [16].

As Generation Z matures, their influence on the food and beverage industry is steadily increasing; they exhibit an openness to diverse cultures and actively seek out culinary experiences from various regions [17]. Factors influencing Generation Z's food preferences include stress, healthy beliefs, food cravings, body/image security, among others. The favorability of food among Generation Z positively impacts their willingness to purchase [18]. Understanding the dietary characteristics of Generation Z is advantageous for the continued development of the hospitality and food industries; it also provides insights into the significance of the connection between this generation and their food choices.

The diversity of Taiwanese cuisine

According to official Taiwanese sources, the evolution of Taiwanese cuisine has been deeply influenced by indigenous culture, occupation or colonization (Dutch, Japanese), immigration, and post-war migration (from China) [19]. Among these influences, the 200-year Chinese immigration wave (1661–1895) introduced cooking and dietary practices from southern China, enriching Taiwan's banquet dishes and snacks, particularly seafood, night market fare, and tea snacks [20]. During the 50 years of Japanese colonization (1895–1945), Japanese culinary techniques were introduced, leading to the widespread adoption of dishes such as sashimi, sushi, and tempura in Taiwan [19].

From 1945 to 1975, following the post-war period, a large influx of mainland soldiers introduced mainlandstyle cuisine, prompting a transformation or innovation of snacks from various regions of China in Taiwan, such as xiaolongbao (steamed soup dumplings) and beef noodles [20]. Between 1950 and 1965, the USA provided various forms of assistance to stabilize Taiwan's economy, including material aid (supplying soybeans, wheat, flour, etc.). During this 15-year period, wheat, Western-style bread, cakes, cookies, and other wheat-based products were promoted, leading to a significant incorporation of wheat-based foods into Taiwan's daily diet [21].

Following the withdrawal of the US military from Taiwan in 1979, and preceding the entry of Western-style chain restaurants into Taiwan in the 1980s, the culture of Western-style breakfast gradually gained popularity in Taiwan, offering items such as hamburgers, egg pancakes, and teppanyaki noodles [22]. During the 1980s and 1990s, Western fast-food chains (McDonald's, KFC, Pizza Hut, etc.) were introduced [23, 24], and local handshaken drink brands emerged, developing the iconic tapioca milk tea [25]. Local snack shops innovated fried items such as fried chicken cutlets using chicken breast during this period [26]. Since 1990, Taiwan's culinary scene has been characterized by the promotion of agricultural specialties from various regions for tourism purposes. Furthermore, the inclusion of snacks in state banquets since 2000 has further emphasized Taiwan's snack culture as an expression of local cultural identity [5].

In Taiwan, culinary culture is divided into upper-class cuisine and commoner-class cuisine. Upper-class cuisine showcases complexity in preparation and symbolic significance, whereas commoner-class cuisine originates from the everyday and festive foods of ordinary households [5]. Taiwanese cuisine encompasses six main types: (1) Winehouse cuisine, originating from the Japanese colonial period, consisting mainly of customized and home-style hearty soups and strongly flavored appetizers; (2) Commoner-class and street snacks, based on homecooked meals such as rice porridge/congee and Taiwanese sausage; (3) Taiwanese banquet cuisine, dishes served at commoner banquets, often characterized by heavy use of oil and salt; (4) Taiwanese seafood, arising from the Taiwanese preference for seafood and the demand for seafood at banquets, with the high price of fresh seafood reflecting social status and purchasing power; (5) Fusion cuisine, emerging post-war as diverse immigrant cultures gradually integrated with local customs, resulting in Taiwanese-style adapted dishes; (6) Ethnic specialty cuisine, reflecting the unique dietary practices of different ethnic groups based on their cultural traditions and lifestyles, such as indigenous cuisine and Hakka cuisine [5]. Table 1 summarizes the dietary characteristics of Taiwan across different historical periods.

Methods

Research on comfort food is predominantly found in Western studies. Even in Taiwan, there is currently no translated term for "comfort food" in academic discourse, nor are there academic studies or surveys on the topic. Consequently, it is challenging to ascertain what constitutes comfort food in Taiwan. Existing research on comfort food addresses various aspects, including its definition, origins of preference, sensory comforts derived from it, and the timing and reasons for its consumption, employing a "What, Where, How, When, Why" approach [11]. This study focuses on Generation Z as the target demographic. Growing up in an era characterized by rapid information exchange and global trade, Generation Z has begun to demonstrate significant consumption power and influence worldwide. To what extent is their dietary pattern influenced by globalization, and how much of it reflects local culinary traditions? This study investigates the dietary choices of Generation Z regarding comfort food, employing a perspective that addresses what, why, and when. The research questions include: (1) What are the comfort foods of Generation Z in Taiwan (items, categories, local foods)? (2) Why do they consume comfort foods, considering their experiences and memories? (3) In what situational contexts and occasions do Taiwanese Z generation individuals choose to consume comfort foods?

This study employed a questionnaire for data collection, encompassing background variables (gender, age) and open-ended questions related to comfort food (3 questions: "What type of food is considered 'comfort food' to you? What experiences or memories do you associate with consuming this food? Under what circumstances or situations do you feel inclined to consume this food?"). As the term "comfort food" is not widely recognized in Taiwan, the questionnaire provided textual explanations based on past definitions of comfort food [13]. Participants were recruited from universities in northern Taiwan who belonged to the Generation Z age group. Prior to inviting participants to complete the questionnaire, researchers informed them of the study's purpose and emphasized their voluntary participation, ensuring the protection of their privacy. After obtaining participants' consent to participate, researchers personally provided verbal explanations of the concept and significance of comfort food to each participant, ensuring their comprehension of the research topic and questionnaire format. The questionnaire was administered online, allowing participants to input their responses directly.

After confirming the completeness of questionnaire responses, qualitative data from open-ended questions were subjected to the process of induction to extract concepts, followed by presenting the results based on the frequency of concept occurrence. Subsequently, based on concepts with high frequency, characteristic classification names and categorizations were assigned. Accordingly, the first research question regarding Generation Z's comfort foods was categorized (including main and sub-categories). Furthermore, a detailed examination was conducted to differentiate whether each comfort food in Taiwan held specific significance; this differentiation was based on six categories of Taiwanese cuisine (winehouse cuisine, commoner-class cuisine and street snacks, Taiwanese banquet cuisine, Taiwanese seafood cuisine, fusion cuisine, ethnic specialty cuisine) and two levels of dietary hierarchy (upper-class cuisine and commonerclass cuisine) [5] as primary references. For the second research question (past experiences and memories) and the third question (occasions of consumption), the same

Time period	Historical period	Dietary characteristics
1661-1895	Chinese immigration wave	Banquets, seafood, night markets, and tea snacks
1895-1945	Japanese colonization	Japanese-style culinary practices, winehouse cuisine
1945-1975	Localization of mainland Chinese cuisine after the war	Transformation or innovation of snacks from various regions of China
1950–1965	US aid period	Promotion of Western-style noodles
1980-1990	Western-style breakfast, chain restaurants	Taiwanese-style breakfast, Western fast food, bubble tea, fried chicken cutlets
1990-2000	Promotion of agricultural specialties from various regions	Gourmet foods from different regions of Taiwan
After 2000	Emphasis on snack culture	Taiwanese snacks

Table 1 Taiwanese dietary characteristics across different periods

method of induction was applied to extract concepts. The conceptual outcomes were then cross-tabulated with the results of the first research question (types of comfort foods), and Pearson's χ^2 test was performed to understand the differences between the concepts of the two variables.

Results and Discussion

This study distributed 469 questionnaires, and after removing invalid responses (including duplicate entries, incomplete data, and responses from individuals born outside the 1995–2010 timeframe), a total of 416 valid questionnaires were collected. Among these, the majority were from female participants (63.57%). The median age of the subjects in the study was 19 years old.

Comfort foods for Generation Z

Based on the frequency of food occurrences among the 416 responses, it was deduced that the comfort foods of Generation Z can be categorized into four major types: Meals (41.11%), Desserts and Snacks (31.97%), Beverages (24.76%), and Fruits and Vegetables (2.16%). Within the "Meal" category, responses were further classified

into seven subcategories, including Fried Foods, Noodles, and Rice, based on their respective proportions. The "Desserts and Snacks" category comprised five subcategories, such as Desserts, Chocolate, and Cake. The majority of responses in the "Beverages" category were from soft drinks. Upon closer examination of the subcategories within each major category to identify foods with particular significance in Taiwan, soft drinks accounted for the highest proportion (71.00%) within the Beverages category, followed by Fried Foods (52.27%), Soups (43.48%), and Rice dishes (40.91%) within the Meals category (Table 2).

Comfort foods in the meals category

In the "Meal Category" of comfort foods, more than 30% are foods with special significance in Taiwan, and the variety is abundant. Within the subcategories of comfort foods in the meal category, fried foods, noodles, rice dishes, and soups exhibit diverse Taiwanese food characteristics. For instance, in the subcategory of fried foods, there are Taiwanese snack-style items such as fried chicken cutlet, Taiwanese chicken nuggets, and fried sweet potato balls commonly found in night markets

Table 2 Overview of comfort foods among the Z Generation in Taiwan

	Subcategories			Foods with S Taiwan	pecial Significance in
Category	Names	n	%	Counts	Constituting % of that subcategory
A meals	A1 fried foods	44	10.58	23	52.27
	A2 noodles	31	7.45	11	35.48
	A3 rice dishes	22	5.29	9	40.91
	A4 soups	23	5.53	10	43.48
	A5 hot pot dishes	18	4.33	0	0.00
	A6 meat dishes	16	3.85	2	12.50
	A7 seafood dishes	11	2.64	1	9.09
	A8 other	6	1.44	0	0.00
	Subtotal	171	41.11	56	32.75
B desserts and snacks	B1 desserts	35	8.41	3	8.57
	B2 chocolate	32	7.69	0	0.00
	B3 cake	31	7.45	0	0.00
	B4 frozen delicacies	22	5.29	2	9.09
	B5 snacks	13	3.13	1	7.69
	Subtotal	133	31.97	6	4.51
C Beverages	C1 soft drinks	100	24.04	71	71.00
	C2 alcoholic beverages	3	0.72	0	0.00
	Subtotal	103	103	71	68.93
D vegetables and fruits	D1 vegetables	6	1.44	0	0.00
	D2 fruits	3	0.72	0	0.00
	Subtotal	9	2.16	0	0.00
Total		416	100	133	31.97

or small food stalls. Other items like French fries, fried chicken, and fried hot dogs are influenced by Western cuisine and fast food, while fried pork chop (Tonkatsu) is influenced by Japanese meal practices (Table 3).

In the subcategory of noodle dishes, it showcases innovations introduced by military personnel from other provinces, giving rise to beef noodles. There are also Taiwanese breakfast items like Chinese omelet and hot plate noodles, which have been shaped and extended under the influence of Western cuisine. Additionally, there are noodle dishes rooted in Taiwanese dietary customs, such as Misua noodles in sesame oil chicken soup [27], and celebratory dishes like Misua noodles with pork knuckle, associated with seeking good fortune [28]. Innovations influenced by Minnan cuisine brought by Chinese immigrants in the 1970s include noodle in squid thick soup [29]. Furthermore, Italian pasta, pizza, burgers, and bread bear the influence of Western culinary traditions. Ramen may have been influenced by Japan [30], while the convenience and diverse styles and flavors of instant noodles also make them a comfort food choice for the Generation Z (Table 4).

Within the subcategory of rice dishes, there is a dish known as the "national rice dish" in Taiwan, namely, braised pork on rice. The preparation and presentation of this dish vary across different regions of Taiwan. Due to a lack of explicit historical documentation, it is speculated that minced pork rice might have emerged after the introduction of short-grain rice from Japan, as its texture is suitable for absorbing braising sauce. This development likely started after 1945, following the end of World War II [31, 32]. Turkey rice, on the other hand, emerged in the late 1940s as a popularized version of traditional dishes served during the Lunar New Year, making it a localized Taiwanese cuisine [33]. Rice noodles(Mi gan), introduced in the 1950s, is an extension of dishes brought by military personnel relocating to Taiwan after the war [34]. The subcategory of rice dishes is also influenced by the culinary traditions of other Asian countries, shaping the comfort food choices of the Generation Z. Examples include Japanese sushi and curry rice, as well as Korean kimchi fried rice (Table 5).

In the subcategory of soups, various types of chicken soup are included in the comfort food choices of Generation Z, along with others such as corn chowder, clam soup, beef soup, deep fried pork rib and radish soup, and pumpkin soup. Noteworthy Taiwanese-related dishes within the soup subcategory include chicken soup with bitter melon and pineapple and Chinese mesona chicken soup, both exemplifying the distinctive characteristics of Hakka culture in Taiwan [35]. Representative dishes of Taiwanese banquet cuisine, such as deep fried pork rib

Table 3	Comfort foods in	the meals category	subcategories of	fried foods

Subcategories	Food ranked by the frequency of responses				
A1 Fried foods	French fries, fried chicken cutlet ^{TW} , Taiwanese chicken nuggets ^{TW} , fried chicken, deep-fried stinky tofu ^{TW} , fried pork chop (Tonkatsu), deep-fried hot dog, fried sweet potato balls ^{TW} , fried sweet potato fries ^{TW}				
Foods with spec	ial significance in Taiwan				
Dish					
	Fried chicken cutlet	Taiwanese chicken nuggets	Stinky tofu		
Meaning	Commoner-class cuisine street food	Commoner-class cuisine street food	Commoner-class cuisine street food		
Dish					
	Fried sweet potato ball		Fried sweet potato fries		
Meaning	Commoner-class cuisine street food		Commoner-class cuisine street Food		

Note 1: Food marked with TW indicates items with special significance in Taiwan

Table 4 Comfort foods in the meals category_ subcategories of noodles

Subcategories Food ranked by the frequency of responses

Italian pasta, Beef noodles^{TW}, Taiwanese Breakfast (Chinese omelet, Hot plate noodles)^{TW}, Ramen, pizza, burgers, instant noodles, noodle in squid thick soup^{TW}, Misua noodles in sesame oil chicken soup^{TW}, Misua noodles with pork knuckle^{TW}, burger, bread A2 Noodles

Foods with Special Significance in Taiwan



Dish







Beef noodles Taiwanese Breakfast Chinese omelet Hot plate noodles Meaning Cuisine of Military Dependents' Village Culture Influenced by Western diet and fast food Influenced by Western diet and fast food

Good for the health



Noodle in squid thick soup

Meaning The impact of Mainland Chinese veterans and immigrants after the war

Note 1: Food marked with TW indicates items with special significance in Taiwan

Note 2: The presentation of food in the photograph exemplifies the most common serving style of these dishes in Taiwan



Misua noodles in sesame oil chicken soup Misua noodles with pork knuckle Celebration and prayers for good luck

Table 5 Comfort foods in the meals category_ subcategories of rice dishes

Subcategory Food ranked by the frequency of responses

Sushi, Turkey rice^{TW}, fried rice, Braised pork on rice^{TW}, curry rice, Rice noodles(Mi gan)^{TW}, Korean kimchi fried rice A3 Rice dishes Foods with Special Significance in Taiwan

Dish



Turkey rice Banquet cuisine transformed into everyday cooking Meaning for the common people



Braised pork on rice

Banquet cuisine transformed into everyday cooking for the common people



Rice noodles (Mi gan) The impact of Mainland Chinese veterans and immigrants after the war

Note 1: Food marked with TW indicates items with special significance in Taiwan

and radish soup and squid and top shell soup with garlic greens, are also present [36, 37]. Beef soup gained prominence as a distinctly Taiwanese soup in the mid-1990s due to the government's promotion of the "Beef Festival" [37]. Additionally, within the Z generation's comfort food soups, within the comfort food soups of Generation Z, there are Korean representative dishes like ginseng chicken soup and fish cake soup (Table 6).

In the subcategory of hot pot, the comfort food choices of Generation Z encompass a variety of flavors such as spicy and milky, alongside the distinctly Korean Budae Jjigae (Korean Army Stew). Hot pot dining gained popularity in Taiwan around the 1960s when hot pot restaurants began to emerge, and it became a trend in the 1980s [38]. The hot pot market in Taiwan is estimated to be around 30 billion NT dollars, with the number of establishments comprising approximately half of all chain restaurants in Taiwan [39]. This indicates the significant demand and preference for hot pot among the Taiwanese population (Table 7).

In the subcategory of meat, it includes beef, pork, and chicken. The comfort foods of Generation Z in the meat category exhibit different cooking methods: panfrying (steak), grilling (barbecue), boiling (sliced boiled chicken), stewing (braised pork), and marinating before

 Table 7
 Comfort foods in the meals category_ subcategories of hot pot dishes

Subcategory	Food ranked by the frequency of responses
A5 Hot pot dishes	Hot pot, spicy hot pot, milk hot pot, Korean Army Stew

cooking (salty pork). Among these meat dishes, whitecut chicken is considered a representative Taiwanese dish [40], widely used in banquet cuisine, banquet dishes, and Hakka dishes in Taiwan [41–43]. Taiwanese-style braised pork originates from traditional banquet cuisine, where large pieces of pork are stewed until tender, traditionally enjoyed during the Lunar New Year [44]. Salted pork, on the other hand, is a preservation method employed by indigenous and Hakka people. It involves marinating leftover pork from hunting or festive occasions with a large amount of salt [19, 45] (Table 8).

In the seafood subcategory, raw seafood dishes like sashimi appear to be potential choices for comfort foods among Generation Z. Among them, mullet roe is a dish commonly served during festivals and banquets in Taiwan [41, 43] (Table 9).

The "other" subcategory within the meal type comprises dishes that could not be classified into specific

Table 6 Comfort foods in the meals category_ subcategories of soups

 Subcategory
 Food ranked by the frequency of responses

 A4 Soups
 Shiitake mushroom chicken soup, ginseng chicken soup, corn chowder, clam soup, chicken soup with bitter melon and pineapple^{TW}, Chinese mesona chicken soup^{TW}, clam chicken soup, deep fried pork rib and radish soup^{TW}, squid and top shell soup with garlic greens^{TW}, beef soup^{TW}, four substances soup (a traditional Chinese herbal soup), pumpkin soup, minestrone soup, fish cake soup

Foods with Special Significance in Taiwan Dish



Meaning Dish

ng Taiwan Hakka culture







Chinese mesona chicken soup Taiwan Hakka culture



Deep fried pork rib and radish soup Winehouse cuisine



Beef soup Government promotion of local cuisine

Squid and top shell soup with garlic greens

Meaning Winehouse cuisine

Note 1: Food marked with TW indicates items with special significance in Taiwan

Subcategory	Food ranked by the frequency of respor	nses	
A6 Meat dishes	Steak, barbecue, sliced boiled chicken ^{TW} , b	raised pork ^{TW} , salty pork ^{TW}	
Foods with Special Significance in Taiwan			
Dish			
	Sliced boiled chicken	Braised pork	Salty pork
Meaning	Winehouse cuisine, Taiwan Hakka culture, Taiwanese banquet cuisine	Taiwanese banquet cuisine	Taiwan Hakka culture, Tai- wan aboriginal culture

Table 8 Comfort foods in the meals category_subcategories of meat dishes

Note 1: Food marked with TW indicates items with special significance in Taiwan

Note 2: The presentation of food in the photograph exemplifies the most common serving style of these dishes in Taiwan

 Table 9
 Comfort foods in the meals category_ subcategories of seafood dishes

Subcategory	Food ranked by the frequency of responses
A7 Seafood dishes	Raw seafood (sashimi, sea urchin, and salmon roe), crab, mullet roe ^{TW}
Foods with Special Signifi	cance in Taiwan
Dish	

	NAME OF A DECISION OF A DECISIONO OF A
	Mullet roe
Meaning	Winehouse cuisine, Taiwanese banquet cuisine

Note 1: Food marked with TW indicates items with special significance in Taiwan Note 2: The presentation of food in the photograph exemplifies the most common serving style of these dishes in Taiwan

subcategories. It includes specific dishes, cooking methods, and distinct culinary types. Within this subcategory, observations reveal foods and cuisines from other Asian regions (e.g., takoyaki, Korean cuisine), dairy-based baked dishes, and the spicy taste of hot and numbing flavors, reflecting the preferences of Generation Z toward diverse food options (Table 10).

Comfort foods in the desserts and snacks category

Within the category of comfort foods falling under desserts and snacks, there are five subcategories. Different taste preferences are evident in chocolates and cakes. Desserts, frozen delicacies, and snacks offer a diverse range of item types, with some items in these three subcategories being associated with Taiwan. Taro balls in the dessert subcategory, made from a mixture of taro, sweet potato starch, and water, have been a common Taiwanese dessert since around the 1940s [37]. During the Japanese colonial period in Taiwan, shaved ice factories were established throughout the island, marking the beginning of the era of consuming frozen treats [32]. Ice pop, a subcategory of frozen delicacies, may have also originated during the Japanese colonial period [46]. The term "hún-î" (Taiwanese pronunciation of 粉圓 (fěn yuán), which corresponds to the English term "tapioca".) in shaved ice with tapioca can be traced back to the Taiwan-Japanese Dictionary from the Japanese colonial period [32]. Given Taiwan's abundance of fruits, preserving them with sugar became a common practice [47]. The earliest Taiwanese sugar-preserved fruit factory was

Table 10 Comfort foods in the meals category_ other Subcategories

Subcategory	Food ranked by the frequency of responses	
A8 Other	Takoyaki, baked, skewered, spicy duck blood, tomato scrambled eggs, Korean cuisine	

established in 1882, with preserved plum seedless being a representative product [48]. Preserved plum seedless can also be found in cherry tomato snacks at Taiwanese night markets (Table 11).

Comfort foods in the beverages category

Within the comfort foods classified under beverages, responses within the soft drink subcategory revealed that 70% of them correspond to items with particular significance in Taiwan: tapioca milk tea and hand-shaken tea. In the 1980s, Taiwan pioneered the invention of cold-brewed foam milk tea (hand-shaken tea), a process involving placing freshly brewed tea into a cocktail shaker with ice, resulting in fine foam and a reduction in the tea's temperature through agitation. The introduction of hand-shaken tea led to the creation of bubble milk tea, incorporating milk and tapioca pearls [32]. Taiwan's success in the 1980s paved the way for the global expansion of tapioca milk tea from the 1990s onward, exerting a notable influence on global culinary trends [49]. In the

early years when Taiwan lacked frozen delicacies, herbal tea was prevalent. Herbal tea, known for its diverse herbal combinations, varies among different establishments; it is often found in herbal tea streets [50, 51] (Table 12).

Comfort foods in the vegetables and fruits category

Generation Z also considers vegetables and fruits as their comfort foods. In the vegetable subcategory, apart from various cooking methods (cold and dressed with sauce, blanched, stir-fried), there are also unique vegetable flavors and textures (bitterness of bitter gourd, creamy texture of taro). In the fruit subcategory, both routine fruits (apple) and seasonal fruits (strawberries, watermelon) are included (Table 13).

Experiences and memories of comfort foods among Generation Z

In summarizing the experiences of Generation Z with comfort foods, the top three experiences based on the frequency of responses are as follows: (1) improved mood

Table 11 Comfort foods in the desserts and snacks category

Subcategory	Food ranked by the frequency of responses		
B1 Desserts	Pancake, pudding, tiramisu, gummy candies, lollipops, egg tarts, cream puffs, tangyuan (sweet dumplings), taro ball ^{TW}		
B2 Chocolate	Chocolate, chocolate ganache, dark chocolate, white chocolate		
B3 Cake	Cake, cheesecake, chocolate cake, strawberry cake, matcha cake, layer cake		
B4 Frozen delicacies	Ice cream, soft-serve ice cream, popsicle, ice cream bar, Taiwanese ice pop (Zhi Zaibing) ^{TW} , Shaved ice with tapioca ^{TW}		
B5 Snacks	Potato chips, seaweed, cookies, milk candies, cherry tomato with preserved plum seedless $^{ extsf{TW}}$, Fish balls, Savory popcorn		
Foods with Special Sig	gnificance in Taiwan		
Dish			
	Taro ball	Taiwanese ice pop (Zhi Zaibing)	
Meaning	Commoner-class cuisine street Food	Commoner-class cuisine street Food, Intro- duction of ice treats during the Japanese colonial period	
Dìsh			
	Shaved ice with tapioca	Cherry tomato with preserved plum seedless	
Meaning	Commoner-class cuisine street Food, Introduction of ice treats during the Japa- nese colonial period	Commoner-class cuisine street Food	

Note 1: Food marked with TW indicates items with special significance in Taiwan

Table 12 Comfort foods in the beverages category

Subcategory		Food ranked by the frequency of responses	
C1 Soft drinks		Tapioca milk tea and $^{\rm TW}$, hand-shaken tea $^{\rm TW}$, coffee, milk tea, chocolate drinks, herb tea $^{\rm TW}$	
C2 Alcoholic beverages		alcoholic beverages, fruit-based alcoholic beverages	
Foods with special significa	nce in Taiwan		
Dish			
	Tapioca milk tea	Hand-shaken drink Herb tea	
Meaning	Commoner-class cuisine street F	Food Commoner-class cuisine street Good for the healt Food	

Note 1: Food marked with TW indicates items with special significance in Taiwan

Note 2: The presentation of food in the photograph exemplifies the most common serving style of these dishes in Taiwan

after consumption, (2) sense of ritual, and (3) comforting effect on mood. Concerning the sense of ritual, common responses include the necessity of eating out, celebrating special occasions, consuming specific foods on birthdays, post-exercise indulgence, monthly rituals, eating after examinations or task completion, and enjoying a meal upon returning home.

Further examination reveals that beverages (soft drinks), desserts and snacks (desserts, chocolates, cakes), and meals (fried foods) are associated with an improved mood after consuming comfort foods. Additionally, beverages (soft drinks), meals (fried foods, soups, hot pot), and desserts and snacks (desserts, cakes) are linked to a sense of ritual. Foods associated with comforting moods include beverages (soft drinks), desserts and snacks (chocolates, cakes, ice cream). After subjecting the 17 subcategories of the four major types of comfort foods to Chi-square tests against 16 experienced memories of consuming comfort foods, statistical significance was observed (Pearson $\chi^2 = 303.69$, *p < 0.05) (Table 14).

Eating contexts of comfort foods for Generation Z

Regarding the contexts in which Generation Z consumes comfort foods, responses indicate that they mostly

Table 13	Comfort foods in	the vegetables and fruit	s category

Subcategory	Food ranked by the frequency of responses
D1 Vegetables	Salad, boiled vegetable, stir-fried vegetables, bitter gourd, taro
D2 Fruits	Strawberries, watermelon, apple

choose to eat comfort foods during leisure time, when feeling hungry or thirsty, or when having a craving for specific foods. Further examination reveals that comfort foods chosen during leisure time include beverages (soft drinks) and meals (fried items). When feeling hungry or thirsty, preferences shift toward beverages (soft drinks) and meals (noodles, soups, rice dishes, hot pot). In moments of craving or the desire to snack, choices lean toward beverages (soft drinks), meals (fried items), and snacks/desserts (desserts). After subjecting the responses related to the four major types of comfort foods and their associated items (a total of 16 subcategories) to a Chi-square test, statistical significance was observed (Pearson $\chi^2 = 370.40$, ***p < 0.001) (Table 15).

Conclusion

In the selection of comfort foods, about one-third of Taiwan's Generation Z choices are related to local Taiwanese cuisine. These food choices reflecting Taiwan's culinary heritage over the past 100 years include: (1) the production and sale of preserved fruits in Taiwan a century ago, (2) the introduction of iced treats during the Japanese colonial period, (3) the innovation of military-originated rice noodles (Mi gan) and beef noodles after World War II, (4) the extension of braised pork rice and turkey rice due to post-war shortages, (5) the influence of early banquet and restaurant dishes like sliced boiled chicken and mullet roe, (6) the emergence of Taiwanese-style breakfast influenced by Western dining, (7) the thriving street food culture featuring fried foods and tapioca milk tea, and (8) distinctive cultural dishes like Hakka cuisine. Additionally, Western

		Total counts	The higher counts within the Food Subcategory
1	Improved mood	126	C1, B2, B1, B3, A1
2	Sense of ritual	56	C1, A1, B1, B3, A4, A5
3	Comforted mood	37	C1, B3, B4, B2
4	Dining out or gathering with friends	31	C1, A1, B1, A2, A5
5	Personal memories	24	A2, C1
5	Dining with Family	23	A1, A3
7	Perceived health benefits	17	C1, A4, A7
3	Rare availability	9	C1
9	Relaxation and rest	9	C1
10	Enhanced productivity	7	C1
11	Homesickness	7	A2, A3, A6
12	Feeling of fullness	7	C1
13	Convenience	6	A1
14	Delicious food	6	
15	Boost in morale	6	B3
16	Perceived value, high food quality for the price	6	A3

 Table 14
 Experiences and memories of comfort food consumption among the Generation Z

Note 1: The number of responses available for analysis is 377

Note 2: The coding names of subcategories for comfort foods refer to Table 2

Table 15 Eating contexts of comfort foods among theGeneration Z

		Total counts	The higher counts within the Food Subcategory
1	Leisure	74	C1, A1
2	Hungry or thirsty	29	C1, A2, A4, A3, A5
3	Craving	26	C1, A1, B1
4	Gathering with friends	15	A3, A5
5	Fatigue	11	C1
6	Cold weather	10	A4
7	Idle or bored	10	B1
8	At home	10	A3, A4, A6
9	Busy and stressed	9	C1
10	Relaxation and stress relief	8	C1
11	During classes or work	6	C1
12	Hot weather	6	B4
13	Homesickness	6	A3
14	Menstrual period	6	C1
15	Reward	5	C1

Note 1: The number of responses available for analysis is 231

Note 2: The coding names of subcategories for comfort foods refer to Table 2

and neighboring Asian dishes have become choices for comfort foods among Taiwan's Generation Z. These findings illustrate that comfort foods also reflect local culinary culture and the mobility of food across regions.

The comfort foods of Taiwan's Generation Z are categorized into four types. In the category of meals, a rich variety of subcategories and corresponding comfort food items (Taiwanese-related foods and foods from other countries) are presented. In the category of desserts and snacks, the influence of Western cuisine is evident in the majority of comfort food types. In the category of beverages, overwhelmingly popular choices include Taiwan's representative foods: tapioca milk tea and hand-shaken drink. A small portion of Generation Z also chooses vegetables and fruits as comfort foods. The results show that Taiwan's tapioca milk tea has had a significant impact on the dietary habits of Generation Z. Moreover, the period of growth for Taiwan's Generation Z (born between 1995 and 2010) coincided with the vibrant development of street snacks (such as fried chicken cutlet, Taiwanese chicken nuggets) and chain restaurants (hand-shaken drink, Western fast food) in Taiwan [5].

In the consumption experiences of comfort foods for Taiwan's Generation Z, the majority are related to emotions (bringing positive emotions and comfort) and a sense of ritual. Previous studies have identified three main regulatory functions of rituals: emotional, performance goals, and social connections [52]. Therefore, the results of this study not only echo previous research mentioning the positive and negative psychological pleasure and stability brought by comfort foods to individuals [13], but also reveal that the consumption of comfort foods is one of the rituals of Generation Z. In the context of comfort food consumption, individuals tend to choose meal and beverage types during leisure time and physiological needs (hunger). This finding contradicts the notion that negative situations (fatigue, stress) are not the predominant occasions for the consumption of comfort foods among most of Generation Z.

Acknowledgements

This study would like to thank the study participants for providing their valuable time and professional opinions.

Author contributions

Fang-Yi Lin contributed to conceptualization, methodology, software, validation, formal analysis, investigation, writing—reviewing and editing.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Availability of data and materials

The data and materials related to this study are available upon request.

Declarations

Ethics approval and consent to participate

The study was conducted in the line with institutional ethical guideline based on guidelines for Academic Ethics Management and Self-discipline at author's institution.

Consent for publication

Not applicable.

Competing interests

The author report there are no competing interests to declare.

Received: 3 October 2023 Accepted: 18 March 2024 Published online: 21 May 2024

References

- Kurmanova S. Wedding food of Germans living in Siberia: symbols and signs. Archaeol Ethnol Anthropol Eurasia. 2014;42(2):126–30. https://doi. org/10.1016/j.aeae.2015.01.012.
- Chung H, Yang H, Shin D, Chung K. Aesthetics of Korean foods: the symbol of Korean culture. J Ethn Foods. 2016;3(3):178–88. https://doi.org/10. 1016/j.jef.2016.09.001.
- Reddy G, van Dam R. Food, culture, and identity in multicultural societies: insights from Singapore. Appetite. 2020;149:104633. https://doi.org/10. 1016/j.appet.2020.104633.
- Wilk R. "Real Belizean Food": building local identity in the transnational Caribbean. Am Anthropol. 1999;101(2):244–55. https://doi.org/10.1525/ aa.1999.101.2.244.
- Chen Y. Embodying nation in food consumption: changing boundaries of "Taiwanese Cuisine" (1895–2008). Taipei, Taiwan: Linking Publishing Company; 2020. (in Chinese)
- Francis T, Hoefel F. 'True Gen': Generation Z and its implications for companies [Internet]. McKinsey & Company; 2018 Nov 12 [Accessed 2023 Dec 12]. Available from: https://www.mckinsey.com/industries/consu mer-packaged-goods/our-insights/true-gen-generation-z-and-its-impli cations-for-companies
- Fromm J. Five undeniable truths about marketing to Gen-Z [Internet]. Jersey City: Forbes; 2021 Jan 7 [Accessed 2023 Dec 15]. Available from: https://www.forbes.com/sites/jefffromm/2021/01/07/on-youtube-tiktokand-ben--jerrys-five-undeniable-truths-about-marketing-to-gen-z

- Collins L, Andrew I, Freimuth E, Zhang S. Comfort food. One Earth. 2019;1(3):267–8. https://doi.org/10.1016/j.oneear.2019.11.005.
- Fritz M, Armenta C, Walsh L, Lyubomirsky S. Gratitude facilitates healthy eating behavior in adolescents and young adults. J Exp Soc Psychol. 2019;2019(81):4–14. https://doi.org/10.1016/j.jesp.2018.08.011.
- Wilson D, Loxton N, Joynt T, O'Donovan A. There is no such thing as a mindful binge: how mindfulness disrupts the pathway between anxiety and impulsivity on maladaptive eating behaviours. Pers Individ Differ. 2020;168:110393. https://doi.org/10.1016/j.paid.2020.110393.
- Spence C. Comfort food: a review. Int J Gastron Food Sci. 2017;9:105–9. https://doi.org/10.1016/j.ijgfs.2017.07.001.
- Pinto V, Milião G, Balbinoa D, Lucia S, Vidigal M, Cabral L, da Rocha S, de Carvalho A, Perrone Í. Contemporary foods—Can they become new comfort foods or simply mimic them? Int J Gastron. 2020;2020(22): 100271. https://doi.org/10.1016/j.ijgfs.2020.100271.
- Stein K. Contemporary comfort foods: bring back old favorites. J Am Diet. 2008;108(3):412–4. https://doi.org/10.1016/j.jada.2008.01.032.
- Rode E, Rozin P, Durlach P. Experienced and remembered pleasure for meals: duration neglect but minimal peak, and (recency) or primacy effects. Appetite. 2007;49(1):18–29. https://doi.org/10.1016/j.appet.2006. 09.006.
- Spitznagel, E. Generation Z is bigger than millennials-and they're out to change the world [Internet]. New York City; New York Post: 2020 Jan 25 [Accessed 2023 Dec 12]. Available from: https:// nypost.com/2020/01/25/generation-z-is-bigger-than-mille nnials-and-theyre-out-to-change-the-world/
- Amatulli C, Peluso A, Sestino A, Guido G, Belk R. The influence of a lockdown on consumption: an exploratory study on generation Z's consumers. J Retail Consum Serv. 2023;73:103358. https://doi.org/10.1016/j.jretc onser.2023.103358.
- Mehta S. Generation Z in the UK: unveiling their food preferences [Internet]. Sunnyvale: Linkedin; 2023 [Accessed 2023 Dec 15]. Available from: https://www.linkedin.com/pulse/generation-z-uk-unveiling-food-preferences-sudhir-mehta
- Zuo Y, Zhang K, Xu S, Law R, Qiu Q, Zhang M. What kind of food can win Gen Z's favor? A mixed methods study from China. Food Qual Prefer. 2022;2022(98):104522. https://doi.org/10.1016/j.foodqual.2021.104522.
- Tourism Administration, Ministry of Transportation and Communications (MOTC), Republic of China. Taiwanese culinary culture: historical changes [Internet]. Taipei: Tourism Administration; 2023 [Accessed 2023 Dec 12]. Available from: https://www.taiwan.net.tw/m1.aspx?sNo=0020547 (in Chinese)
- 20. Chang Y. A brief history of Taiwanese Cuisine. Q Found Chin Diet Cult. 2004;10(3):4–9. https://doi.org/10.6644/QFCDCB.2004.10.03.01.
- National Museum of Taiwan History. U.S. aid and the origins of Taiwanese wheat culture [Internet]. The Taiwan Gazette; 2021 [Accessed 2023 Dec 15]. Available from: https://www.taiwangazette.org/news/2021/11/21/ us-aid-and-the-origins-of-taiwanese-wheat-culture (in Chinese)
- Chen I. International Breakfast Day 2023_Evolution of Taiwanese Breakfast: From Porridge to Hamburgers, Did You Know It's Connected to "War"? [Internet]. Hong Kong: Tatler Asia; 2023 [Accessed 2023 Dec 15]. Available from: https://www.tatlerasia.com/dining/others/taiwanesebreakfast-history (in Chinese)
- Yu C. Current operation status and future development of the franchise industry in Taiwan. Taiwan Econ Res Mon. 2017;40(1):130–6. https://doi. org/10.29656/TERM.201701.0019.
- Story Circle. Taiwanese breakfast shops: a unique culinary pride of the world [Internet]. Story Circle; 2020 [Accessed 2023 Dec 19]. Available from: https://storycircle571.com/2020/01/22/%E5%8F%B0%E5%8F%B0%E7% E6%97%A9%E9%A4%90%E5%BA%97%EF%BC%9A%E5%8F%B0%E7% 81%A3%E4%BA%BA%E6%9C%80%E5%80%BC%E5%BE%97%E9%A9% 95%E5%82%B2%E4%B8%96%E7%95%8C%E7%9A%84%E7%89%B9% E5%888%A5/ (in Chinese)
- 25. Lee C. Beef Noodles, Xiao Long Bao, bubble milk tea: the cultural characteristics of Taiwanese Han Chinese Society's food culture and the context of forming international cuisine. J Chin Cult Stud. 2016;4(1):79–90.
- FoodNext. "No her, No chicken fillet!" Aunt Zheng snack shop (the origin of chicken fillet) [Internet]. FoodNext; 2016 [Accessed 2023 Dec 15]. Available from: https://www.foodnext.net/issue/paper/4470352184 (in Chinese)

- Lin Y. Fill the winter emptiness, have a bowl of Sesame Oil Chicken [Internet]. Taipei; CommonWealth Magazine: 2021 [Accessed 2023 Dec 19]. Available from: https://opinion.cw.com.tw/blog/profile/194/article/ 10431(in Chinese)
- Ministry of Education, Republic of China. Dictionary of Frequently-Used Taiwan Minnan_ti-kha-mī-suànn [Internet]. Ministry of Education, Republic of China; 2023 [Accessed 2023 Dec 19]. Available from: https://sutian. moe.edu.tw/zh-hant/su/11460/ (in Chinese)
- 29. Han L. Taiwanese snacks-the enduring and flavorful heritage of Taiwanese congee [Internet]. Taipei Representative Office in the Republic of Singapore; 2016 [Accessed 2023 Dec 19]. Available from: https://www.roc-taiwan.org/sg/post/10676.html (in Chinese)
- 30. Kushner B. Slurp! A social and culinary history of ramen-Japan's favorite noodle soup. Taipei: Asian Culture Publishing Co., LTD; 2017. (in Chinese)
- Tsao M. Everyman's delight: the past and present of braised pork rice [Internet]. Taipei: Liberty Times; 2016 Mar 18 [Accessed 2023 Dec 19]. Available from: https://talk.ltn.com.tw/article/breakingnews/1635910 (in Chinese)
- 32. Weng J, Tsao M. A bite of Taiwanese history: bread from Dutch missionaries, canned salmon from the Qing Dynasty, and beef consumption during Japanese rule - exploring the culinary history of Taiwan. Taipei, Taiwan: Home Media Group LTD. Cite Branch (Cayman Island); 2021. (in Chinese)
- Zhan M. Cultural records of Jhuluo. Chiayi City, Taiwan: Cultural Affairs Bureau, Chiayi City Government; 2016. (in Chinese)
- Ministry of Culture Taiwan (R.O.C.). 2021 Longgang Rice Noodle Festival [Internet]. ROC; 2021 [Accessed 2023 Dec 19]. Available from: https:// cloud.culture.tw/frontsite/inquiry/actFestivelAction.do?method=doDet ailActFestivel&actId=408 (in Chinese)
- 35. Song Q, Liu C, Wang Z. The Essence of Hakka Cuisine. Taipei, Taiwan: Health and Epicureanism; 2021. (**in Chinese**)
- Master insight. The Rise and Fall, and Revival of Taiwanese Winehouse Cuisine – A Series of Reports on Taiwanese Winehouse Cuisine [Internet]. Hong Kong: Master Insight Media Co., Ltd; 2023 [Accessed 2023 Dec 22]. Available from: https://www.master-insight.com/%E5%8F%B0%E7%81% A3%E9%85%92%E5%AE%86%E8%8F%9C%E7%9A%84%E6%B2%92% E8%90%BD%E8%88%87%E5%BE%A9%E8%88%82%94%80%E2% 94%80%E5%8F%B0%E7%81%A3%E9%85%92%E5%AE%B6%E8%8F% 9C%E7%B3%BB%E5%88%97%E5%A0%B1%69%81%93/ (in Chinese)
- Shen C. Savoring snacks, understanding Taiwanese flavors: 101 Taiwanese snacks, letting you discover the stories behind local traditional tastes. Taipei, Taiwan: Morning Star; 2023. (in Chinese)
- Lin Y. Gathering around the hot pot [Internet]. Taipei; VERSE: 2021 [Accessed 2023 Dec 19]. Available from: https://www.verse.com.tw/artic le/hotpot-yufu (in Chinese)
- Business Today. He spent 10 years expanding a street-side stone hot pot restaurant in Keelung to over a hundred branches nationwide [Internet]. Taipei: Business Today: 2022 [Accessed 2023 Dec 22]. Available from: https://www.businesstoday.com.tw/article/category/183016/post/20220 2240023/ (in Chinese)
- Michelin Guide. The delicious secrets of three Michelin-recommended restaurants' sliced boiled chicken [Internet]. Clermont-Ferrand: Michelin Guide; 2021 [Accessed 2023 Dec 22]. Available from: https://guide.miche lin.com/tw/zh_TW/article/dining-in/restaurant-secrets-boiled-chickenmichelin-restaurants-taiwan (in Chinese)
- Chuang J, Liu M, Lee C, Wang R, Lan S, Wen S. Those years of banquet dining. Agric Harvest. 2020;46(12):8–11. https://doi.org/10.6707/agri.202012_ 46(12).0003. (in Chinese)
- Teng C. The transformation of the Hakka dietary culture in Hsinchu. J Hosp Home Econ. 2009;6(4):353–77. https://doi.org/10.6572/JHHE.6(4).4. (in Chinese)
- 43. Storm Media. How sophisticated is traditional Taiwanese cuisine? Exploring the culture of "Winehouse Cuisine" born during the Japanese colonial period, every dish is a source of pride for Taiwan [Internet]. Taipei: Storm Media; 2017 [Accessed 2023 Dec 22]. Available from: https://www.storm.mg/lifestyle/294005?page=1 (in Chinese)
- 44. Su L. Braised pork over rice: from banquet fare to street food [Internet]. Taipei: Taiwan Panorama; 2022 [Accessed 2023 Dec 22]. Available from: https://www.taiwan-panorama.com/en/Articles/Details?Guid=ad5f5f54-3755-4a6a-99b7-1d27f3a69b00&langld=3&Catld=10&postname=Brais

ed%20Pork%20over%20Rice-From%20Banquet%20Fare%20to%20Str eet%20Food%20 (in Chinese)

- Museum of Hakka Tourism and Cuisine in New Taipei City. Hakka-style Salty Pork [Internet]. New Taipei: Museum of Hakka Tourism and Cuisine in New Taipei City: 2023 [Accessed 2023 Dec 22]. Available from: https:// www.hakka-cuisine.ntpc.gov.tw/files/15-1006-3439,c392-1.php (in Chinese)
- 46. Lin Y. Ice Pops: Traversing the Past and Present of Northern and Southern Taiwan [Internet]. Taipei; CommonWealth Magazine: 2022 [Accessed 2023 Dec 22]. Available from: https://opinion.cw.com.tw/blog/profile/194/artic le/11986 (in Chinese)
- Han L. Taiwanese snack-preserved fruits: the savory, sour, and sweet flavor [Internet]. Taipei Representative Office in the Republic of Singapore; 2011 [Accessed 2023 Dec 22]. Available from: https://www.roc-taiwan.org/sg/ post/10694.html (in Chinese)
- Taiwan Sugar Corporation. Traditional New Year celebration: centennial legacy of preserved fruits - Lin Yong Tai Hsing [internet]. Tainan: TSC; 2023 [Accessed 2023 Dec 22]. Available from: https://www.taisugar.com.tw/ monthly/CPN.aspx?ms=1490&p=13389042&s=13389043 (in Chinese)
- Commonwealth Publishing Group. A cup of bubble tea shakes up Taiwan's new economic miracle: connecting five major industries with a 300 Billion business opportunity [Internet]. Taipei: Commonwealth Publishing Group; 2018 [Accessed 2023 Dec 23]. Available from: https://event.gvm. com.tw/201811_bubble-tea/ (in Chinese)
- Ministry of Agriculture, Executive Yuan, the Republic of China. Flora of Taiwan selaginellaceae. Origin and health benefits of herb tea [Internet]. Taipei: Ministry of Agriculture; 2017 [Accessed 2023 Dec 23]. Available from: https://kmweb.moa.gov.tw/theme_data.php?theme=news&sub_ theme=variety&id=54850 (in Chinese)
- Taipei Times. Taiwan's thriving herb streets [Internet]. Taipei: Taipei Times; 2016 [Accessed 2023 Dec 23]. Available from: https://www.taipeitimes. com/News/lang/archives/2016/07/04/2003650277 (in Chinese)
- Hobson N, Schroeder J, Risen J, Xygalatas D, Inzlicht M. The psychology of rituals: an integrative review and process-based framework. Pers Soc Psychol Rev. 2017;22(3):260–84. https://doi.org/10.1177/1088868317 734944.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.