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Indonesian FOOD Barometer

Food, Cultures, and Health

SEAMEO · SEAMEO RECFON · IRASEC · TTUC · CAMS Centre for Asian Modernization Studies · Taylor's University · Faculty of Social Sciences and Leisure Management · ISTHIA Université Toulouse Jean Jaurès · CERTOP · LIA International Associated Laboratory · cnrs

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FOREWORD

Human culture may be defined compositely as the sum of a group's learned and shared behaviors. This phenomenon of consistent transmittal, the sharing of experience through time, is apparently unique to our species and is also a basic type of positively reinforcing social behavior. From it arouse the possibility for individuals and cultures to adapt to the natural environment and to begin the process of change and development some scholars have termed "cultural evolution".

Human diets and food use have always been important subjects not only to nutritionists and other medical/health related professionals but also to anthropologists, sociologists, and other social scientists. Human nutritional behavior has generally been studied from 3 main points of view, i.e. physiological, psychological, and socio-cultural. Major questions remain as to how people select diets that are conducive to their nutrition and health wellbeing, particularly in the changing environments and the dietary prospects for the future. Pelto and Jerome in 1987 describes nutrition as "the biocultural issues par excellence" because it combines the study of culture and biology. The consequences of food intake are biological, that is, individual biological functioning is directly and continuously affected by food intake over the course of a lifetime. But the nature of food intake – what people eat, how, when, where, and how much – is heavily influenced by social, economic, political, and cultural processes. In other words, how nutrition can affect human behavior and culture and conversely, how culture and human behavior can affect nutrition.

I am delighted and proud of the interdisciplinary dialogues made between our nutritionists here at SEAMEO RECFON with the sociology experts of Taylor's Toulouse University Centre lead by Prof Jean-Pierre Poulain since 2017 on understanding the complexity of multicultural food and eating practices in Indonesia. Such a collaboration is expected to bridge the gap between food habits of the population and the national nutritional recommendations. As a regional Centre in food and nutrition, SEAMEO RECFON advocates more interdisciplinary works aiming at proposing relevant food and nutrition policy actions in the Southeast Asian region for the ultimate well-being of its population.

I hope readers would enjoy reading this publication and eventually this publication will stimulate further interdisciplinary discussion.

Prof. Muchtaruddin Mansyur, MD, PhD
Director, SEAMEO RECFON

REMARKS

The way in which humankind experiences the fulfillment of its dietary needs cannot be reduced to purely biological, technical, or even utilitarian considerations. That concept of fulfillment occupies a prominent position within the culture of each social group. Eating is a "social act" – indeed, a "social event" – an equally central aspect of both family and public life. The meal lies at the heart of the socialization process in the two senses of the word: it is a site of apprenticeship where the life rules governing a group are learned, and a place of sociality of sharing and conviviality. It would appear that obesity and other troubles related to dietary behavior represent the price to be paid by societies that tend to overlook this.

Man needs nutrients: carbohydrates, lipids, proteins, mineral salts, vitamins, water, and so on, elements which he finds in the natural products forming part of his environment. However, he can only ingest and absorb these in the form of food, more particularly, in the form of cooked dishes – in other words, natural products that have been developed within a culture, and are transformed and consumed in accordance with highly socialized conventional practices. Eating is, therefore, both a natural and a cultural act, through which these two focal points, so often presented in Western thought as opposite extremes, interlock and merge, and the social practices that it maintains likewise contribute to its organization.

Understanding the complex interweaving of food and eating practices constituting dietary habits – eventually the lifestyle – of the society at large in the present modern world is challenging yet crucial as modernization and globalization drive the pace of the socio-economic, nutrition, and epidemiological transitions. Within this situation, the treatment of food and diet are viewed under the umbrella of preventive measures for the development of the non-communicable diseases.

At Taylor's Toulouse University Centre, in the frame of the Chair of 'Food Studies: Food, Cultures and Health', we develop national barometers, as well as transnational survey utilizing our academic strengths. We are delving into matters of national interest through research to produce qualitative and quantitative data that will enable decision makers to have a deeper understanding of the complex public health problems and their potential solutions. In this regards, working together with regional partners to exchange and complement our expertise is one of our influential strategies to enhance our role especially in the Southeast Asia region. Therefore, we consider our collaboration with SEAMEO RECFON strategic as its role in the region to be the centre of excellence in food and nutrition. We highly value our connection to push through more interdisciplinary discussion in the region, thus more appropriate food and nutrition policy dialogues can be initiated.

The Indonesian Food Barometer reports major revelations of dietary behaviors among Indonesians that beautifully combines the tools and interpretations used in both disciplines of nutrition and sociology. As explained above, food and the eating of food are complex acts that can only be understood by collaborating relevant disciplines and expertise. We believe the findings reported will benefit many concerned parties and that those major revelations would be periodically assessed to understand the trend of improvement in the future.

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ACKNOWLEDGMENTS

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Background

Food Barometer a tool to study "food transition"

Food barometers are tools developed since the mid-1980s, at the University of Toulouse (France) Jean Jaurès under the direction of Jean Pierre Poulain to study the socio-economic, demographic, and cultural determinants of food consumption. They also try to identify the possible influences of food consumption on health issues, particularly non-communicable diseases (NCDs), where diet is involved.

Literally, a barometer is an instrument for measuring atmospheric pressure. In the figurative sense, in the social sciences, the term is used to speak of a measurement tool capable of appreciating the variations of a phenomenon. For food, the data observed can be practices, representations, risk perceptions, concerns, knowledge, beliefs, and many others. A food barometer is, therefore, a recurring survey device that observes and analyzes the evolution of relationships to food of a population. Food Barometer is a survey that aims to analyze the transformation of food habits and food patterns. The starting point of these works have been induced by the observation of the difficulty of reconstructing food days within the framework of the classic 24-hour dietary recall. The ambition was to reduce the gap between what the interviewees say and what they really do in their practices. This problem is common to a set of disciplines: human nutrition, consumer sciences, food sociology, etc. The originality of the method developed consists in distinguishing not only "declarations" and "practices", but also "social norms" and "practices". So, food barometers complement traditional nutritional surveys and aim to participate in the development of prevention programs (Poulain et al., 2015; Fournier and Poulain, 2018; Poulain, 2021). It, thus, allows a new way of entry into the change of food habits by confronting different levels of the food phenomenon, namely the analysis of the discrepancies between norms and practices.

Figure 1.1 The team at Taylors University discussing the early stage of the research

The Asian Food Barometer (AFB) is based on the methodologies developed by Jean Pierre Poulain and his team adapted to Asian context, in partnership with Asian scholars, to study the socio-economic, demographic, and cultural determinants of food practices and to analyze the health and sociocultural consequences of "nutrition transition" and "food transition" (Poulain et al., 2015). AFB comprises national barometers, like Malaysian Food Barometer (MFB) and this Indonesian Food Barometer (IFB), as well as transnational surveys like "Eating out in Asia". This research follows the "open science" philosophy giving free access to the database for other researchers, educators, policymakers, associations, and industries. Data can be consulted and through data report articles gathered in special issues of the journal Frontiers in Nutrition entitled "Databases and Nutrition" and directed by Alessandra Durazzo and Massimo Lucarini (Poulain et al., 2022; Mognard et al., 2023).

From the early beginning of the so-called "theories of transition", the food got a central place in these theoretical frameworks, including demographic and epidemiologic transitions, as well as food and nutrition transitions. Before the nutrition transition was formulated, a reflection was under way among food historians and sociologists, about what they referred to as the 'food transition' (Poulain, 2021).
This notion arose from a controversy questioning

Figure 1.2 Training of enumerators in Jakarta and Makassar

the 'globalizing' reading of demographic and epidemiologic transition models by Livi Bacci in 1987. If we narrow down the focus on the "nutrition transition", Barry Popkin in 1993 seems to be the first to have used the expression of "nutrition transition" but he has proposed several definitions over the time. From the many publications he has authored, solely or in collaboration, two theoretical forms can be identified. The first focuses on the influence of economic conditions on the amount of energy ingested and on the structure of the ration in nutrients. The second is in line with epidemiological transition by describing, for each stage, the transformation of certain nutritional parameters of the populations.

The first formulation of nutrition transition approaches the question of changes at a macro international scale and describes transformations of food availabilities per capita under some modernization factors like economic development and urbanization (Popkin, 1993, 1998; Drewnowski and Popkin, 1997). Several modifications are brought to light. The first is the increase of the energy intake associated to the rise of the gross national products (GNP). The explanation comes both from the fact that the quantity of food available (and therefore probably consumed) increases, but also from the inversion of the proportion of carbohydrates and lipids in favor of the latter.

Due to the higher energy content of fats, this change increases the energy density of the ration. The proportion of proteins remains more or less stable. Another series of food changes happen within the nutrient categories. The carbohydrates of cereal or root origin decrease when fast sugars increase. Vegetable fats are partly replaced by fats of animal origin. Finally, protein intake also undergoes a structural transformation with the replacement of plant proteins by proteins of animal origin.

This first version is quite far from the demographic transition model (Notestein, 1948). The meaning of transition here is not the passage from a state to another one, but a kind of continuous change of the food availability under the influence of economic factors. This first model is therefore a linear causality between social-economic variables and nutritional variables. It is part of an evolutionary and progressive vision.

The second version was formulated explicitly in line with the epidemiological transition model in 1993, but it was not until the 2000s that Popkin and some colleagues deployed it and attempted to base it on empirical nutritional data (Popkin, 1993, 2006; Caballero and Popkin, 2002). It consists of five successive stages and introduces nutritional variables. The scheme undergoes several qualitative evolutions in the diet, stage by stage. Five dietary patterns are described corresponding to the stages of the epidemiological transition.

1. **"The time of harvest"**: during which the diet consists essentially of carbohydrates and fibers, generally low in fat, which is unsaturated, originating from wild meat.

Figure 1.3 Various seminars conducted with Indonesian collaborators about nutrition and food transitions

2. **The time of famines":** with a decline in varieties of food, especially meat, populations are subject to nutritional stress. The increasing population density causes famines, and social stratification appears during this period.
3. **"The receding of famines"**: through the increased consumption of fruits, vegetables, and animal protein the consumption of starchy foods decreases.
4. **"The appearance of degenerative diseases"**: occurs with a diet high in fat (especially from animal products), sugar and processed products; but low in fiber. Along with a sedentary lifestyle, a characteristic of societies with high standards of living, these in combination result in the prevalence of obesity.
5. **"The change in dietary behavior"**: the development of a new food model, which is associated with the desire to protect against degenerative diseases and prolong life. During this phase, the consumption of fats and processed products decrease while carbohydrates, fruits and vegetables increase.

This model has undergone several reformulations and has correspondingly become more complex over time. The perspective is always evolutionary but in comparison with the first version of the concept of nutrition transition, there is an introduction of a certain dose of "optimism" in the final phases, even this one is largely disconnected from the empirical data.

Figure 1.4 The team at study site in Denpasar with the local coordinator

The limitations of this work are twofold: the reliability of availability data at the state level and the blind spot of infra-national inequalities. With such data, it is difficult to account for informal exchanges and self-consumption, which can be important in developing countries where the share of the active population in agriculture is high. For example, self-produced proteins largely escape these calculations, as is the case for poultry, eggs, milk, fishing, and hunting products, etc. Secondly, using mean per capita erases internal social differences linked to hierarchy, age, or gender. Introducing data based on consumption and not only availability is a big progress because it allows to analyze sociological differences in the social hierarchy.

In short, nutrition transition has been defined as the phenomenon of shifting diet patterns to diets high in sugar, saturated fats, refined foods and low in fiber and decreased physical activity level. The reflection of these shifts in diet and physical activity pattern would eventually emerge as nutritional outcomes such as changes in average stature, body composition and morbidity (Popkin, 2001).

Shifting in diet and physical activity in modern society is for a big part a product of economical, sociological, and cultural changes. These cultural changes were frequently missed to be examined by the study of nutrition transition. Thus, the food barometer study was done to fill the gap and to give evidence about the relationship between the social determinants and cultural determinants of nutrition transition. It is a tool to study this more global vision that we call "food transition" (Poulain, 2021). Its use is well adapted to study this transition in the rapidly developing and urbanizing countries of South and Southeast Asia. Largely based on social sciences, the food barometer provides valuable additional insight to classical nutritional or economic surveys. The food barometer study uses a mixed-methods approach. Quantitative surveys were supplemented with qualitative interviews and focus groups on the nature of dietary choice (Poulain et al., 2014).

The data of the Indonesian and Malaysian Food Barometer have given the empirical bases for a survey of protein transition in partnership with Adam Drewnowski team of the University

of Washington (Khusun et al., 2022a, 2022b; Drewnowski et al., 2020; Drewnowski and Poulain, 2019). Furthermore, the datasets are also useful for a work in progress on understanding the concept and the complex practices of breakfast, including some research theses on social eating, other eating behaviors, and dietary patterns among Indonesian adults by some master students of Nutrition Study Program of Faculty of Medicine Universitas Indonesia.

Figure 1.5 Meeting the local food historian and anthropologist

Indonesia's food situation: past and present

Despite the rapid urbanization and modernization faced by the country because of the capitalization process, regional enlargement/reclassification, and migration from rural and urban (Wilonoyudho et al., 2017), Indonesian food culture is also tailored into its long history. The culinary customs are transformed through several phases, i.e., 1) original phase, 2) multicultural phase, and 3) contemporary phase.

During the original phase in the Indonesian kingdom's era (400 AC to 1156-1580 AC), foods were obtained from local natural resources and prepared with simple local cooking technique. The dishes were mostly steamed and wrapped in banana leaves, mainly used rice and cassava as ingredients (Wijaya, 2019).

The second phase is related to Indonesia's strategic location in the Southeast Asian region, which has made it exposed to many influences shaping the food and culinary cultures. Indonesian foods and culinary are also partly the result of hundreds of years of Dutch colonization and the world's trading including Europe, China, South, and Central Asia such as India and Arabia (Rahman, 2016). Considering the long colonial period by the Dutch, its culture was also influencing Indonesian food civilization. Rice table or *rijsttafel* in Dutch, became a daily food culture in Indonesia and been popular as symbol of colonial eating (Wijaya, 2019). The food arrangement usually consists of rice, the main staple food of Indonesia, that is served with portions of animal protein, vegetable protein, vegetable dishes, and other condiments such as sambals and pickles at the same time (Rahman, 2011; Pujilestari and Kurniawati, 2013). Additionally, influences from traders' countries were also taking part in shaping Indonesian food culture. The Indian influences are mostly found in Sumatran cuisines (Wijaya, 2019). Chillies, which are known as one of the essential ingredients of Indonesian foods, were brought and introduced by the European (Wijaya,2019; Pujilestari and Kurniawati, 2013). Chinese influences are found in several Indonesian dishes, such as noodles that are customized with the local preferences and ingredients.

Figure 1.6 The team discussion at SEAMEO RECFON, Jakarta

Figure 1.7 The team discussion at Taylors University, Malaysia

Moreover, religions also affect the food culture development and can be seen in the form of different meats choices across the country. Chicken and beef are the most common meats consumed beside fish and seafood, as Moslems are identified as the majority in Indonesia (Wijaya, 2019). Pork is only widely consumed in areas where non-Moslem are predominant (Pujilestari and Kurniawati, 2019). Beside the influence from other countries, Indonesian rich food diversity is also a result of local culture blend. For example, the Indonesian mixed vegetable salad traditionally known by Indonesians as a Sundanese food has assimilated with other cultures in other parts of Indonesia and now come in different types and names. It is believed that transmigrants from Java had introduced *gado-gado* type foods that further developed into local cuisines in other parts of Indonesia.

The last phase is the contemporary culinary phase. In this phase, Indonesian food culture has shifted into more modern pattern (Wijaya, 2019). Andreas Maryoto, a senior Indonesian journalist specializing on food and agriculture, added that authentic Indonesian cuisines have been rarely seen on the table of urban Indonesians but still present to some extent in desa (i.e., *desa* may well be translated as village in the rural areas) using locally sourced ingredients (Maryoto, 2009). In addition, transnational food and beverage corporations (TFBCs) is continuing to produce and market global products with added sugar, salt, and fat aiming to increase shelf life and transportability for long-distance and large-scale distribution. In order to match the local market, the products also adapt to local consumer preferences (Baker and Friel, 2014). Thus, processed food that is 'hyper-palatable', commonly high in energy and unsaturated fat, but low in other nutrients become more available.

The finding in a more recent study among Indonesian children and adolescents was consistent; the consumption of processed food (including sugar-sweetened beverages, soft drink and energy drink, fatty fried foods, refined carbohydrate, and preserved meat) was greater in urban than in rural areas (Nurwanti et al., 2019). However, Colozza and Avendano (2019) argued that the dietary changes may not be caused solely by living in urban area, and suggested that the pace of changes in dietary pattern was substantially similar between rural and urban areas. Nonetheless, living in a megacity like Jakarta, the capital city of Indonesia, clearly demonstrated a less traditional diet, particularly on the shares of ready-to-eat foods, due to a faster change in the food system. Among urban Indonesians, the purchase of foods from hawkers is considered a useful solution that meets both practicality and affordability (Februhartanty and Worsley, 2017; Arciniegas, 2021).

Nevertheless, the majority of families in urban slum area never ate out of the home, but they tended to purchase take-out food (Birahmatika et al., 2021). The 2014 Indonesian Total Diet Study estimated that 11.8% of the population consumed sugar above the maximum recommendation (>50

grams) per day. Common food sources were table sugar, wheat products, milk products, sweetened drinks (including packed fruit juice), condiments, candies, and chocolate products (Atmarita et al., 2016). Not only sugar, the majority of Indonesians also consumed sodium exceeding the recommendation. Common food sources include salt and condiments. While the recommendation for salt was <5 grams per day, the average consumption among Indonesian was 6.7 gram per day (Atmarita et al., 2016). Despite the claim of <30% population consumed salty food, food with flavor enhancer was the most consumed by at least 75% of population constantly from 2007 until the latest report in 2018 (Riskesdas 2007, 2013, 2018). In terms of protein, the ongoing nutrition transition in lower- and middle-income countries (LMIC) like Indonesia may have a positive impact on protein nutrition. Plant-based diets in lower-income countries are often associated with inadequate protein nutrition and adverse health outcomes. The SCRiPT (Socio Cultural Research in Protein Transition) study in Indonesia found animal and plant protein food sources differed across socio-demographic groups (Khusun et al., 2022a) and greater diversity of animal protein food sources, observed among groups of higher socio-economic status, was linked to better amino acid adequacy and protein nutrition (Khusun et al., 2022b).

Modernization and urbanization in Indonesia caused an emerging size of the middle class with changing lifestyles and eating habits from traditional to more modern or westernized. This shifting of dietary and lifestyle habits, also called as food and nutrition transition, are marked by increased consumption of unhealthy food and increased prevalence of overweight through the years (Lipoeto et al., 2014; Februhartanty, 2011; Kosaka et al., 2018). As Indonesia faces a triple burden of malnutrition with increased prevalence of overnutrition, existing undernutrition and micronutrient deficiencies, it is important to understand nutritional and socio-cultural determinants at the early stage of the nutrition transition.

The Indonesian Food Barometer (IFB) aims to explore the relationship between the social determinants and cultural determinants of nutrition transition by investigating the eating practices and cultural representation of food and eating in a multicultural context. By analyzing the influences of modernization on social hierarchies and ethnic cultures, and ultimately on the food eating patterns and styles, the IFB will revisit the theories of convergence as well as try to consider the role of ethnic food cultures in society like Indonesia which is undergoing rapid modernization and social change.

Figure 1.8 The team discussion at the 2019 Asian Congress of Nutrition in Denpasar

Study Objectives

The purpose of Indonesian Food Barometer (IFB) was to provide evidence on the relationship of social, cultural, and nutritional determinants of nutrition transition for making contextually relevant recommendations of nutritional and health status of the population.

More specifically, the study aimed to:

1. Describe the sociodemographic characteristics of the sample of Indonesian respondents,
2. Describe the food habits, norms, practices in terms of contents (food and nutrition), spatiality (eating out or in the home), temporality, sociality, socio-cultural representations, and beliefs,
3. Assess the relationship of food habits, (food and nutrition), spatiality (eating out or in the home), temporality, sociality, socio-cultural representations, and beliefs, with the sociodemographic characteristics,
4. Assess the macronutrient intakes and the sources of protein as indicators of nutrition transition, and
5. Analyze the links between the nutritional status as a health outcome with the socio-cultural demographic characteristics.

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Figure 1.9 Kick-off meeting with SEAMEO RECFON's Board of Directors

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RESEARCH METHODS

Design

This research was conducted following the methodology of Malaysian Food Barometer (MFB). The research design used a mixed-methods approach, using qualitative methods and quantitative survey.

The mixed-methods approach was applied at different stages.

1. During the development of the tools, qualitative data collection using in-depth interviews and focus group discussions were conducted to develop the food/meal structure cards (i.e., Food Catalog) to be used during the quantitative survey data collection.
2. The overall data collection was conducted using both quantitative and qualitative methods with parallel design.
3. Data analysis was done separately and, therefore, data presentation as shown in this report, was displayed separately but in sequence.

Qualitative Approach

The qualitative approach of the "Food Barometer" had two main functions. The first one was to explore the organization of the food cultures of the studied country through certain dimensions of the concept of "food social space" (Poulain, 2017) which more precisely include the order of the edible foods (what is considered edible or not in each culture and for different categories of people, in terms of age, gender, social status, etc.) and meal structures, as well as the different types of dishes they combine and finally the temporal, spatial and conviviality modalities of meal consumption. The second was to prepare the formulation of the questions to be included in the quantitative survey specifically on visuals (i.e., catalog of meals structures) for the questions related to meal norms and the social representations associated with food. Finally, the qualitative approach eases the generation of context-based hypotheses for the analysis as well as interpretations.

This study objective at this stage was to explore the cultural, sociological, and economic determinants of food transition, including protein transition, among six ethnic grouping in Indonesia, following up the six provinces covered in the quantitative survey. These ethnic groups included Javanese (East Java), Sundanese (West Java), Buginese, Makassar (South Sulawesi), Minang (West Sumatera), Balinese (Bali), and Betawis (Jakarta) which were considered as the biggest ethnic groups in Indonesia. However, due to logistic constraints, only three provinces were included in the qualitative study. The specific cities included were Jakarta, Denpasar (Bali), and Makassar (South Sulawesi). An orientation on the rural situations was also conducted in Klungkung (Bali) and Maros (South Sulawesi).

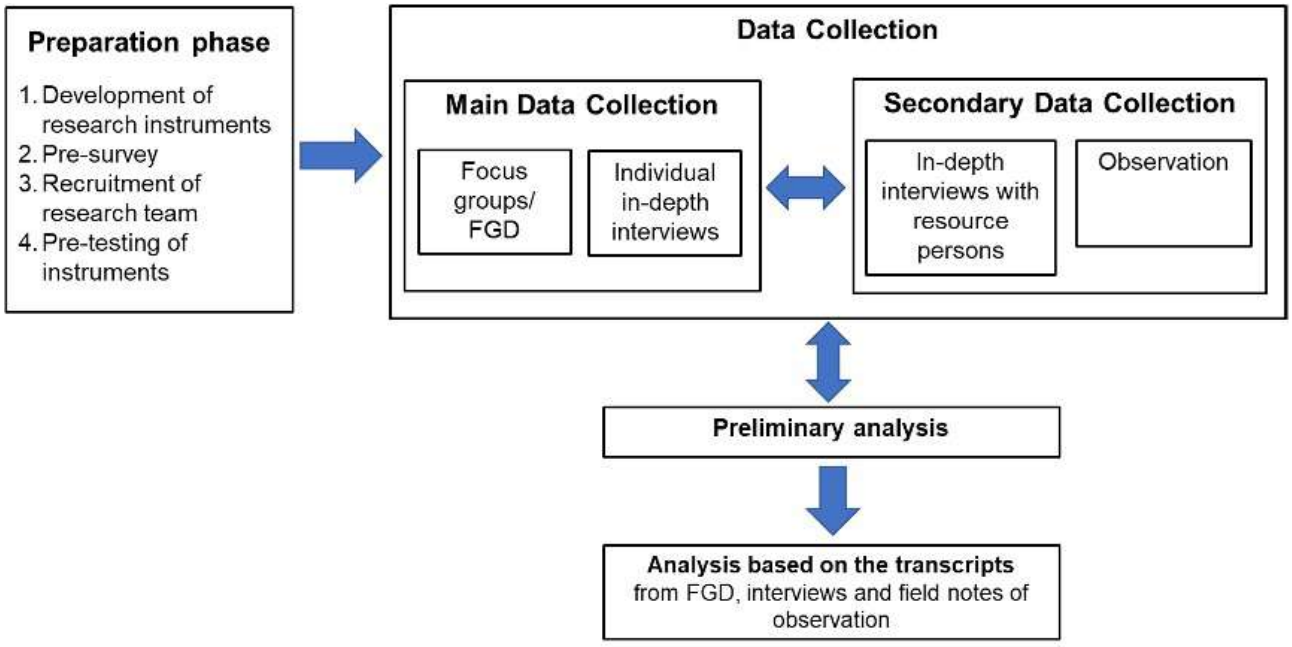


Figure 2.1. The flow of the qualitative study

Two main methods were used i.e., focus groups and individual in-depth interviews. A variety of characteristics such as age, gender, religion, educational level, marital status, occupational backgrounds, and living arrangements were considered when recruiting the respondents.

In addition, observations to local traditional markets and common eating places were also carried out. Furthermore, to gain further insights about the trend and history of food consumption in Indonesia as well as some local eating norms, in-depth interviews with some resource persons were also done. Both procedures were conducted as triangulation of the data obtained from the respondents.

All data collection processes were conducted by the research team with the help of a research assistant. In Denpasar and Makassar, a local research assistant was hired to also assist with the language issue when some terms were discussed using a local dialect. The whole qualitative data collection was done from December 2017 to March 2018.

Focus groups

In total, there were five focus groups conducted, three in Jakarta, one each in Denpasar and Makassar which recruited a total of 39 participants. Each focus group consisted of eight to nine participants allowing some varied characteristics as presented in the Qualitative Findings section.

The focus groups were done preceding the individual in-depth interviews to allow the understanding of general insights of the customs, norms, and beliefs related to food and eating practices prevailing in the community prior to the exploration of more in-depth individual experiences. Jakarta was the first setting to start with the qualitative study. More focus groups were done in Jakarta as compared to Bali and Makassar. In Jakarta, a group of participants working in an office to represent a middle-high SES class, and 2 other groups recruited at different community groups representing middle-low SES class were done. Focus groups in Denpasar and Makassar were done based on convenience. A group of participants from similar SES level was requested to join through our local contact each in Bali (among administration staff at the University of Udayana in Denpasar) and Makassar (among people living in Baji village in Makassar). Each focus group lasted for about 2 hours.

Individual in-depth interviews

A total of 28 respondents were interviewed face-to-face, i.e., 16 from Jakarta, 6 from Denpasar, and 6 from Makassar.

The interviews were aimed to explore more individual insights on the cultural, sociological, and economic determinants of the food transition including protein transition. Among topics covered in the interviews were:

- Spread of food events during the day
- Meal structures and importance of certain food groups (i.e., food hierarchy)
- Invitations and consumption of foods away from home
- Home cooking practices
- Food modernity and its avatars
- Attitudes towards food safety, healthy eating, animal welfare, genetically modified foods
- Tradition and culture related to foods

The interview duration ranged between 2.5 to 3 hours. The venue for the interview was decided based on the agreement with the respondents. Only a few interviews were done at the respondents' homes, the rest were done in some eating places like cafés or restaurants located closer to their house, workplace, or campus.

Three resource persons (i.e., an anthropologist from Makassar, an Indonesian food historian, and a village elder from Maros village) were selected based on convenience during the data collection in the study sites. An interview was scheduled with a public figure with experiences on Balinese food cultures but was canceled due to conflicting schedule. In-depth interviews with these resource persons discussed some topics related to eating norms, some transitions related to eating practices then vs. now, national food identity, influences of Indonesian food cultures, and other relevant insights. The interviews were conducted at various venues depending on the request from the resource persons, i.e., own home, workplace, and restaurant. Each interview lasted for about 1.5 hours.

Observations

Observation was done in between the focus groups and interviews. The objectives were to observe food availability at the market, dish/menu sold at the eating places such as restaurants, café, etc., food modernity, and consumption of foods away from home.

In Jakarta, we observed eating places and markets. Based on the information gathered from the focus groups and individual interviews, we observed seven eating places i.e., one family restaurant, two fast-food restaurants, one food court, one street food vendor, one Padang restaurant, and one café. A fish market in *Muara Angke* (northern part of Jakarta) was observed to clarify the respondent's information about fish quality in Jakarta.

Eating places and markets were also observed during data collection in Bali to give a better view on food availability. We visited a night market in Denpasar called *Pasar Kereneng* known as a "food paradise". When we observed at about 7:00 PM, we saw many kinds of satay sold by various vendors. The chicken and lamb satay were commonly sold by either Javanese or Madurese vendors, whilst the pork satay was sold mostly by Balinese vendors. When we were there, we were informed by our local research assistant that those customers having their pork satay seemed to be tourists from other parts of Indonesia rather than the pure Balinese residents. It was understandable as this night market is considered as one of the tourist attractions in Denpasar. Traditional markets in Bali especially in Klungkung (village area) opened from 4:00 until 8:00 AM especially for raw material sellers (protein source foods and vegetables). Due to time constraints, we were on site for only about a few hours. Since we did our observation during monthly ceremonies, therefore most of the shops were closed even though the market usually opened from 8:00 AM to 5:00 PM. In Makassar, an observation of a market was also done, so was the eating place. Cafe and coffee shops (*warung kopi*) were the main eating places we observed as referred by most of our respondents as their common eating places outside home. Both cafes and coffee shops sold coffee but in different ambiance and prices.

Quantitative Approach

The quantitative approach was aimed to obtain the information of socio-cultural as well as food and nutrition aspects in this study. The data was collected using a questionnaire administered during a face-to-face interview.

Sample size and power of analysis

Sample size was calculated by estimating the distribution of protein intake from different sources as proximity to diet quality. To estimate the proportion of adults consuming plant protein (legumes) and animal protein (meat/chicken, fish/seafood, and egg), the sample size was based on the following formula (Lemeshow et al., 1990):

Where

n = sample size
P = anticipated population proportion (0.5)
d = absolute precision required (0.05)
DEFF = design effect of the study (3)

$$n = \frac{1.96^2 P(1-P)}{d^2} \text{ x } (DEFF)$$

The formula provided the sample size needed with the desired level of relative precision or margin of error of d (usually 5%) at 95% confidence level, with correction for a design effect when the sampling procedure is not simple random sampling. Based on this calculation, the study needed a minimum of 1153 subjects. The final analytical sample was 1727. After excluding implausible energy intake (energy intake <500 kcal/day and >4000 kcal/day) and weighting by population density, urban-rural location, age, and sex, a total of 1665 samples was used for the analysis. As the number of samples already exceeded the minimum sample size, the power of the study was adequate.

Population-based sampling and participant selection

The IFB goal was to arrive at a representative sample of the Indonesian population. Since a systematic population-weighted sampling of all Indonesian provinces was not feasible, we opted for systematic random sampling of provinces, urban areas, villages, hamlets, and individuals.

First, the sampling scheme focused on the most populous provinces. Close to 80% of the Indonesian population resided in only 14 provinces, mostly located on the Island of Java. To include rural populations and balance the sample by race/ethnicities, further considerations were introduced into random sampling. First, Jakarta province was chosen because it is the most metropolitan area and the capital of Indonesia. West Java and East Java provinces had the highest population in Java Island. West Sumatra and Bali were chosen to provide ethnic diversity and very distinctive food cultures. East Indonesia was represented by South Sulawesi province. Thus, included in this study were 6 geographically distributed provinces (Java, Sumatra, Bali, Sulawesi) that cover 48% of the Indonesian population.

Secondly, two districts (i.e., one urban and one rural) were randomly selected within each province. The most urbanized area was also likely to be the provincial capital city. Rural districts were selected at random. Since the City of Jakarta does not have rural areas, one small municipality was randomly selected instead. Thus, the study sites involved a total of 11 cities.

To allow for a maximum power of comparison across provinces, the number of subjects from each province was approximately equal through oversampling. The data were weighted based on the number of populations in each province, urban/rural composition, as well as on gender and age demographics for each province.

Subjects' selection was done using multi-stage random sampling, using cluster method, proportionate-to-population size (PPS). A cluster was referred to a village, i.e., the lower administrative level of the district, consisting of around 400-550 households. The flow of the sampling procedure is shown in Figure 2.2.

The survey team visited selected households. Interviewers completed a household roster listing of all household members aged 18-45y and screened them for eligibility. An eligible respondent from within the household was then selected at random.

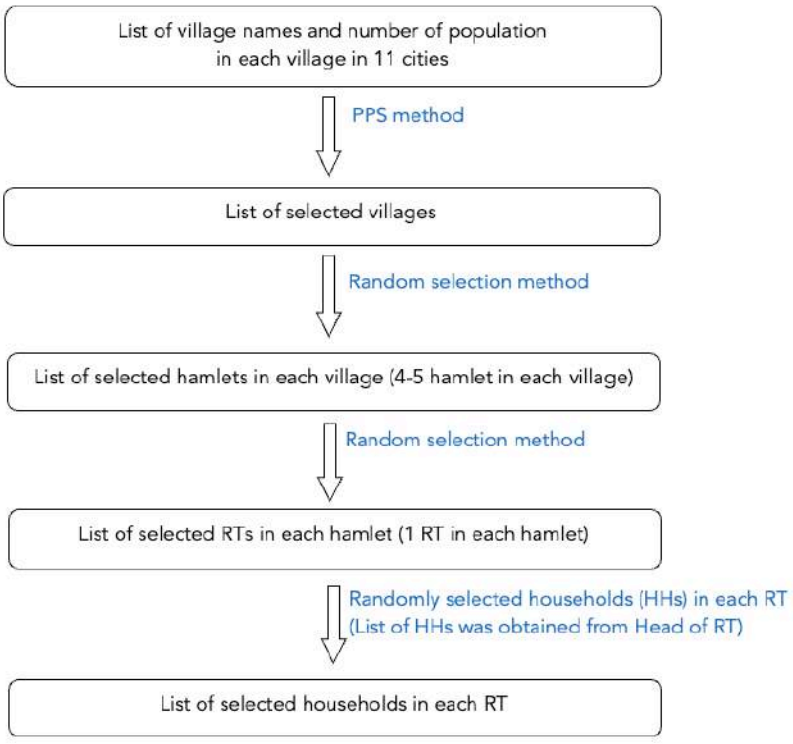


Figure 2.2. Flow of the sampling procedure at the community

Notes: RT (stands for *Rukun Tetangga*) is the smallest neighboring unit in Indonesia. A village consists of several hamlets, and thus, several RTs constitute a hamlet.

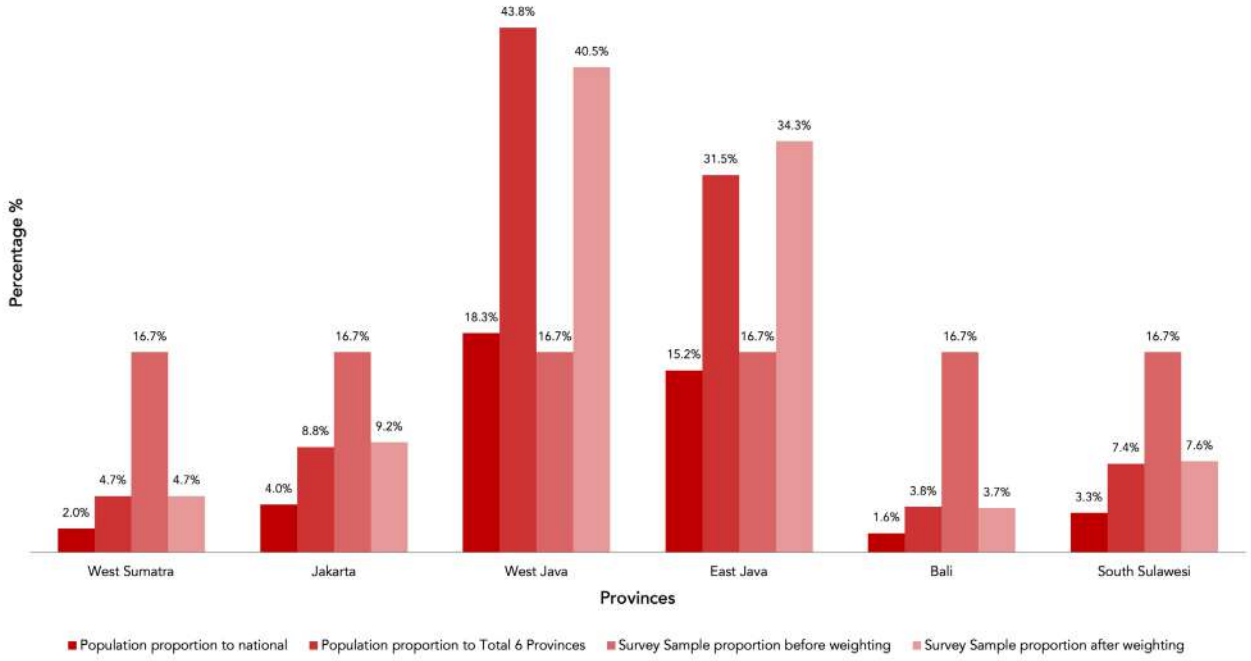


Figure 2.3. Provinces by the total population for the survey sample (n=1727)

For analysis purposes, the IFB samples were weighted by population density, by urban-rural location, by age and sex. Figure 2.3 shows that the weighted sample reflected the characteristics of the Indonesian population in the 6 provinces. The following figures show age and sex distributions of the IFB samples to the national data. The survey sample had more young urban males (18-24y), more urban females (30-39y), and more rural females (ages 20-39y) than the national averages. Applying weights by population density, urban-rural location, age, and sex showed that the sample reflected national data (Figure 2.4 and 2.5).

Even though the IFB samples appeared representative, there were limitations. Weighting by population density meant that the participants came from provinces with the largest population. Because most people lived in Western Indonesia, thus the majority of the provinces selected were from the western part. Only one eastern Indonesian province was included (i.e., South Sulawesi) and none of the provinces at the eastern part of the Wallace line was surveyed. Thus, in terms of the food consumption pattern, the survey may not represent the provinces at the eastern part of the Wallace line. Nonetheless, in terms of representativeness of the general Indonesian population, in which most of them lived in the western part, the survey could be generalized for the Indonesian population.

Research instruments and data collection procedures

The quantitative survey was done between February and July 2018 using face-to-face interviews with a structured questionnaire by trained interviewers/enumerators. The questionnaire was adapted from Malaysian Food Barometer and translated into Bahasa Indonesia. A subject sampling table was also added to assist the respondent selection within the household. The questionnaire consisted of several parts such as informed consent, respondent characteristics, wealth index, food norms and practices, cooking practices, social representation of food, nutrition and health aspects, dietary intake assessment, and anthropometric data. The questionnaire comprised of 66 items and more than 1400 variables, including Body Mass Index (BMI), 46 closed and multiple-choice questions, consisting of standard questions used in sociology to describe the socio-demographics of a population (Appendix 1).

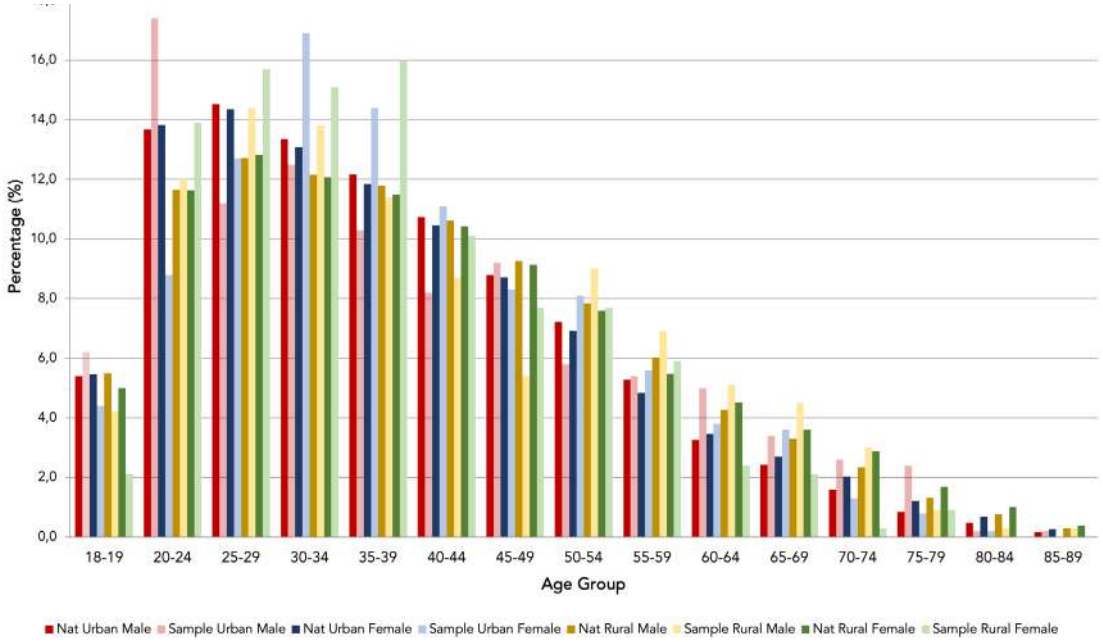


Figure 2.4. Age and sex distribution before sample weighting

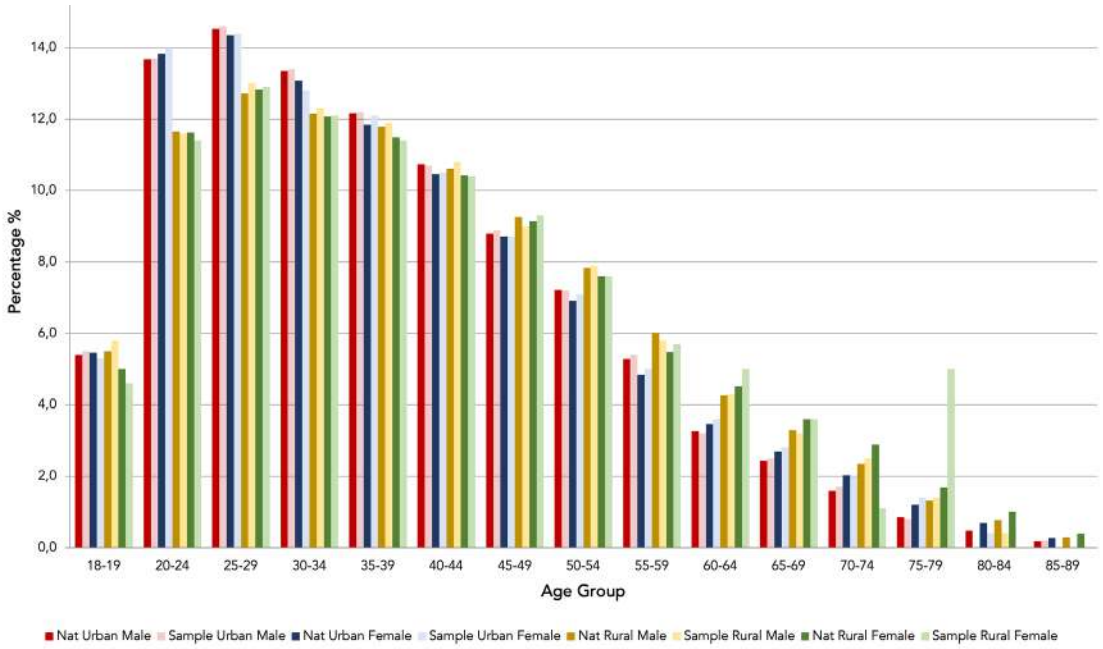


Figure 2.5. Age and sex distribution after sample weighting

The classical 24-hour recall faces the problem for not being able to differentiate what people tell they have done, and what they have really done. For example, when we ask individuals to describe the meals they ate the day before, and if they have not eaten "as usual" or if they ate differently from the normal pattern, that is what they think they should have done according to prevailing social norms, then they feel uncomfortable and are placed in a dilemma. What should they answer? What they did actually eat yesterday, or what do they usually eat or believe that they should have eaten? The methodological problem is that all individuals do not solve this dilemma in the same way. Some of them, respecting the instructions of the interviewer, faithfully describe the food intake of the day before. The other ones, to reduce the cognitive dissonance they feel, are tempted to change their statement from the actual to the usual. All seek to translate what they think is the reality of their food practices. Where reducing the cognitive dissonance, the data collected is more related to their "social norms" – which are a mix of social and nutritional recommendations – rather

than their actual practices. Thus, the data obtained in a classical method have a weak empirical value because they represent neither a complete picture of the real behavior of individuals, nor of social representations (norms and values) relating to food in the social group being studied.

Rebuild the daily food intake: between qualitative and quantitative approaches

In an attempt to resolve this ambiguity, some studies (Poulain 1985; 2002b) have developed a data collection method that facilitates distinction between practices and norms, using a questionnaire administered during a face-to-face interview. This is done by first inviting respondents to describe what they consider to be a "proper meal", a "proper breakfast", a "proper lunch", etc. And this is presented to them as taking place in an ideal setting, when nothing has disturbed the material organization of the preparation and consumption of these meals. This method is an extension of the work of Mary Douglas on "deciphering a meal" (1972). In the second step, when the interviewee is "liberated" from the normative pressures by his/her statement, another series of questions is asked in order to help the individual to rebuild his/her actual food day. The interviewer explains that the focus shifts on "what really happened", "what has really been eaten" and that, working at the level of the total population, it is not a problem if the food intake by the interviewee differs from their norms (what has been said in the first part of the questionnaire, when the respondent told what he/she thinks should be done, or what he/she usually does). The first type of data corresponds to social norms, that is to say, provides an aggregate of guidelines for food consumption that are rooted in cultural, social and family traditions. They result from the specific socialization of an individual. But these norms are also impacted by the prevailing discourse of public health, or by the pressure of dominant models of desirable body shape. While also being declaratives, the second type of data are closer to the actual practices of individuals. With such a method, the data collected increases in precision, and it becomes possible to distinguish norms and practices and their relationships with each other, particularly for the exploration of various forms of change.

The improvement in data collection methods is an important issue in this research. The ability to distinguish between norms and practices allows a deeper understanding of the transformation of eating habits. In France, four national surveys using the same methodology showed convergent results. Respondents displayed an ideational attachment to "normal" meals as a 3-course structure (i.e., first course/appetizer, main course, and dessert) which are rather traditional, but in practices, they simplify their meal structures. With this kind of method, deafferenting norms from practices is a solution to improve the empirical reliability and validity of the data. But this method has a cost because it greatly increases the length of the questionnaire and almost always requires face-to-face data collection.

To rebuild the picture of food intake with more accuracy, the data collection method for the Indonesian Food Barometer adopted a middle position between a qualitative and a quantitative approach. The questionnaire is in fact a guide to help the interviewee to remember the composition of his/her food intake, the structure of meals, the timing of food consumption, the conditions of food acquisition, and the socio-technical contexts of its consumption. The form and sequence of the questions have been developed to reflect the Indonesian context, including the frequency of meals and snacks purchased out of the home and the variety of places of consumption.

The multiple pass method was used during the data collection of the food intake. Every food intake, either main meals or other kinds of intake, was described using the same questioning process (one sheet per food intake). The interviewer assisted the interviewees to identify the food intakes of the previous day, following the time flow of the day, from waking time until sleeping time. Moreover, the interviewee named him/herself the food intakes and described it in his/her own words. After all the foods were listed, respondents estimated the consumed quantity using a food photograph book (validated in the previous use in nation-wide surveys in Indonesia). Vitamin/supplement consumption was also recorded for further analysis on dietary and nutritional status.

Tools development

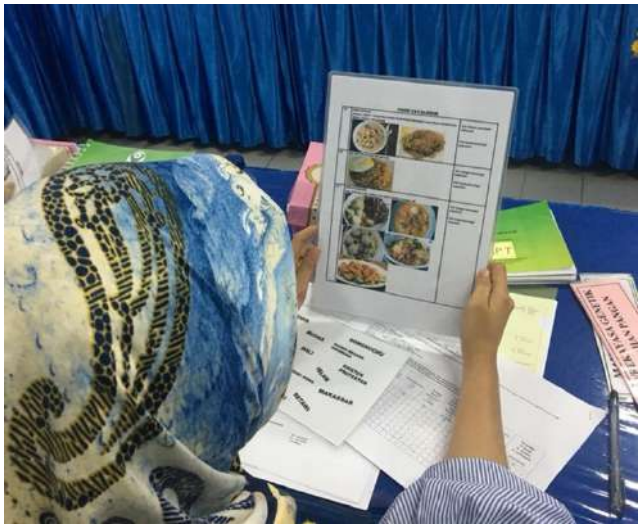
During the face-to-face interviews, there were several tools being used such as the structured questionnaire, cards, food catalog, and food photograph book. This section explains the development process of those tools.

Questionnaire development

The structured questionnaire consisted of several parts as described below:

0. Screening form, Informed consent
A. Respondent's characteristics
B. Food intake:
    - vitamin/supplement consumption
    - protein screener
    - extended 24-hour food recall
C. Eating practices and norms
D. Cooking practice
E. Social representations of food
F. Health aspects related to food
G. Socio-demographic and ethnic indicators
H. Wealth index
I. Anthropometric measurement result

Most of the questions were translated into Bahasa based on the Malaysian Food Barometer study, except for part 0, B (vitamin/supplement consumption and protein screener), and H. Screening form which consisted of subject sampling table was added to help respondent selection within the household. Vitamin/ supplement consumption was recorded for future analysis on dietary and nutritional status, and protein screener is not part of the IFB report. Wealth index, following the national survey questionnaire, was used to assess economic status.



In this questionnaire, the dietary questions (part B) were assessed before the other indicators in order to maintain the quality of the data. Cards were used for several questions (parts E and F) to facilitate respondents in choosing which one was the most suitable value regarding eating, food, and its health aspect. The full questionnaire is attached in Appendix 1.

Before finalizing the questionnaire, several trials were done, involving 37 respondents from different ethnic groups, age, socio-economic status, and sex. This step moreover followed by discussions between Indonesian and Malaysian teams to concur that the questions were well understood, valid to assess the study indicators, and the terms were commonly used. Prior of data collection in each province, the last trial was done to ensure the questions could be well delivered by the interviewers/enumerators.

Food catalog development

Food catalog was used to assist asking questions related to food practices and norms (part C). The food catalog was developed based on listing of menu from a sub-sample (n=350) of population from a previous study in 5 cities with similar study sites as the current IFB survey (Khusun et al., 2015). Afterwards, the menu was categorized based on the food content and eating style. The categories are listed in the next page.

Code	Example of the menu
A1	breakfast meal type: chicken porridge, fried rice
A2	instant noodle
A3	energy dense foods, composite menu, available most in street vendors: chicken satay, meatball, *siomay* (a kind of steamed dumplings), *mie ayam* (chicken noodle dish), *lontong sayur* (steamed rice cake in mixed vegetables cooked with creamy coconut milk)
A4	soup: *soto, coto,* (traditional soup dish with some animal proteins like beef, chicken, and the innards/giblets), *sup sayur* (vegetable soup)
B	complete meal, contains of protein, vegetable, and rice: *pecel ayam* (rice dish with fried chicken, sliced cucumber, and *sambal*), *nasi rames* (rice with choices of side dishes like animal or plant protein sources, vegetable dish, and usually topped with some gravy and *sambal*), *nasi uduk* (rice steamed with coconut milk and some aromatic herbs served with sautéed vermicelli, fried tempeh dish, egg dish, and *sambal*)
C	simple breakfast type = cereal, bread with coffee/tea/milk
D1	*Liwetan* (Sundanese style)
D2	Eating together, shared menu
D3	Padang style
D4	Chinese style
E	Fast food
F1	Traditional food
F2	Manufactured food
F3	Fruit With or without dessert (applied for all categories)

Variable identification

Table 2.1. List of variables used in the quantitative survey

Variable	Measurement		
	Method	Tools	Indicator
Living area	Interview; close-ended question	Sociodemographic questionnaire	1) Urban (for *kelurahan*)[1]; 2) Rural (for *desa*)[1]
Gender	Interview; close-ended question	Sociodemographic questionnaire	1) Male; 2) Female
Age	Interview; open-ended question	Sociodemographic questionnaire	Categorized into[1] 1) 18-25 years old; 2) 26-35 years old; 3) 6-45 years old; 4) 46 years old and above
Ethnicity	Interview; close-ended question	Sociodemographic questionnaire	Recategorized into[1] 1) Minangkabau and other Sumatera or Melayu ethnics; 2) Betawis; 3) Sundanese; 4) Javanese; 5) Balinese; 6) All Sulawesi ethnics; 7) Madurese; 8) Others
Religion	Interview; close-ended question	Sociodemographic questionnaire	Recategorized into[1] 1) Moslem; 2) Other than Moslem
Marital status	Interview; close-ended question	Sociodemographic questionnaire	Recategorized into[1]1) Single/widowed/divorced or separated; 2) Married/living in as married
Number of children	Interview; open-ended question	Sociodemographic questionnaire	Categorized into[1] 1) No children; 2) 1-2 children; 3) 3-4 children; 4) 5 or more children
Number of family members	Interview; open-ended question	Sociodemographic questionnaire	Categorized into[1] 1) 1 person; 2) 2 persons; 3) 3-5 persons; 4) 6 persons and above
Level of education	Interview; close-ended question	Sociodemographic questionnaire	Recategorized into[1] 1) Primary or lower; 2) Lower secondary school; 3) Upper secondary school; 4) College/university
Occupation	Interview; close-ended question	Sociodemographic questionnaire	Recategorized into[1] 1) Professional; 2) White-collar: 3) Blue-collar; 4) Student/not-working; 5) Housewife
Metropolization	Derived variable from sociodemographic data[1]		1) Least metropolitan (West Sumatra & South Sulawesi); 2) Less metropolitan (West & East Java); 3) Metropolitan (Jakarta and Bali)
Modernization	Derived variable from sociodemographic data[1]		1) Low; 2) Low-middle; 3) High-middle; 4) High
Wealth index	Derived variable from sociodemographic data[1]		1) Lowest tertile; 2) Medium tertile: 3) Highest tertile
Ethno-socioeconomic position	Derived variable from sociodemographic data[1]		24 ethno-socioeconomic positions
Eating location	Interview; close-ended question	Modified 24-h food recall	1) Meals eaten at home (eating-in; 2) Meals eaten outside home (eating-out)
Food preparation	Interview; close-ended question	Modified 24-h food recall	1) Cook ; 2) Purchase
Eating companion	Interview; close-ended question	Modified 24-h food recall	1) Alone[2]; 2) With companion[2]
Activity while eating	Interview; close-ended question	Modified 24-h food recall	1) Eating only[2]; 2) With activity[2]
Mealtime	Interview; open-ended question	Modified 24-h food recall	Respondent mealtime through the day

[1] Detail explanation can be seen in the Appendix 2
[2] Categorization details are included in the Quantitative Findings section

Table 2.1. List of variables used in the quantitative survey (continued)

Variable	Measurement		
	Method	Tools	Indicator
Meal organization	Interview; close-ended question	1) Food practice and norms questionnaire; 2) Food card	1) Usual meal for all mealtimes; 2) Proper meal for all mealtimes
Norms of food intake			
a. Number of meals per day	Interview; open-ended question	Food practice and norms questionnaire	Number of meals per day that were perceived as proper by the respondents
b. Number of snacks per day			Number of snacks per day that were perceived as proper by the respondents
c. Meal structure	Interview; close-ended question	1) Food practice and norms questionnaire; 2) Food card	1) Individual meal; 2) Collective meal
Practice of food intake			
a. Number of meals per day	Interview; open-ended question	Food practice and norms questionnaire	Number of meals per day consumed by the respondents
b. Number of snacks per day			Number of snacks per day consumed by the respondents
c. Meal structure	Interview; close-ended question	1) Food practice and norms questionnaire; 2) Food card	1) Cooked by themselves; 2) Cooked by others; 3) No cooking activity
Cooking practices	Interview; close-ended question	Cooking practice questionnaire	1) Cooked by themselves; 2) Cooked by others; 3)No cooking activity
Meaning of Food	Interview; close-ended question	Social representation of food questionnaire	1) A need; 2) Shared with someone; 3) A pleasure; 4) Prevent health problems
Eating well	Interview; close-ended question	Social representation of food questionnaire	1) Health; 2) Pleasure; 3) Togetherness; 4) Fill the stomach; 5) Tradition; 6) Strength
Indonesian emblematic dishes	Interview; open-ended question	Social representation of food questionnaire	Respondents' perception of two Indonesian typical food/menu[2]
Food beneficial for health	Interview; close-ended question	Nutrition and health aspect of food questionnaire	Two answers classified into some food groups[2]
Food to be reduced for good health	Interview; Closed-ended question	Nutrition and health aspect of food questionnaire	Two answers classified into some food groups[2]
Risk perception toward food	Interview; Closed-ended question	Nutrition and health aspect of food questionnaire	1) Pesticides ; 2) GMO; 3) Pollutant; 4) Coloring and preservative; 5) Germs and bacteria; 6) Food epidemic; 7) Unbalanced diet; 8) Expired food; 9) Allergens
Nutritional status	Direct measurement of body weight and height	1. SECA weighing scale 2. Shorr board height measurer	Respondents' BMI categorized as nutritional status (WHO,2000) • underweight: <18.5 kg/m2 • normal: 18.5 - 22.9 kg/m2 • overweight: 23.0 - 24.9 kg/m2 • obese: ≥ 25 kg/m2

[1] Detail explanation can be seen in the Appendix 2
[2] Categorization details are included in the Quantitative Findings section

Data Analysis

A mixed-methods approach: Bridging nutrition & social sciences

The expression "mixed-methods" covers two distinct meanings:

- The first is used in social sciences to refer to the use of qualitative and quantitative methods in the same research,
- The second refers, in the frame of interdisciplinary research, to the use of complementary methods coming from each field or to the development of bridged methods.

The IFB research has developed an original design grounded into these two different definitions of mixed methods. Fo r the IFB, the team has developed some adjustment to bridge sociological and cultural perspectives with the nutritional perspective. It takes the form of a more in-depth collection of data on food and quantities as well as the conversion of food intakes into nutrients. It aims to do a profiling of the proteins by origin (cereal, pulses, dairy, eggs, fish, different types of meat, etc.). It also involves a redefinition of certain variables to make it usable both by social scientists and nutritionists. The connection between the food barometer and the additional nutritional data is shown in Figure 2.6.

Qualitative data analysis

Qualitative data analysis involved several stages. Stage 1 was carried out in the field in between data collection through a debriefing session between the researcher and the assistant producing a comparative matrix for the preliminary analysis. Stage 2 involved data analysis after all data were collected and transcribed in verbatim. The process involved the use of Dedoose version 7.6.6 for attaching codes based on the meaning units that emerged from the data and further for delineating the categories. This process was followed up using Microsoft Excel to understand further patterns resulting from comparing the variation of the respondents' characteristics.

Data presentation involved mainly findings from the interviews and focus groups. Data from the observations were used to triangulate some key findings resulting from the previously mentioned methods. Relevant quotations were used to support some specific findings.

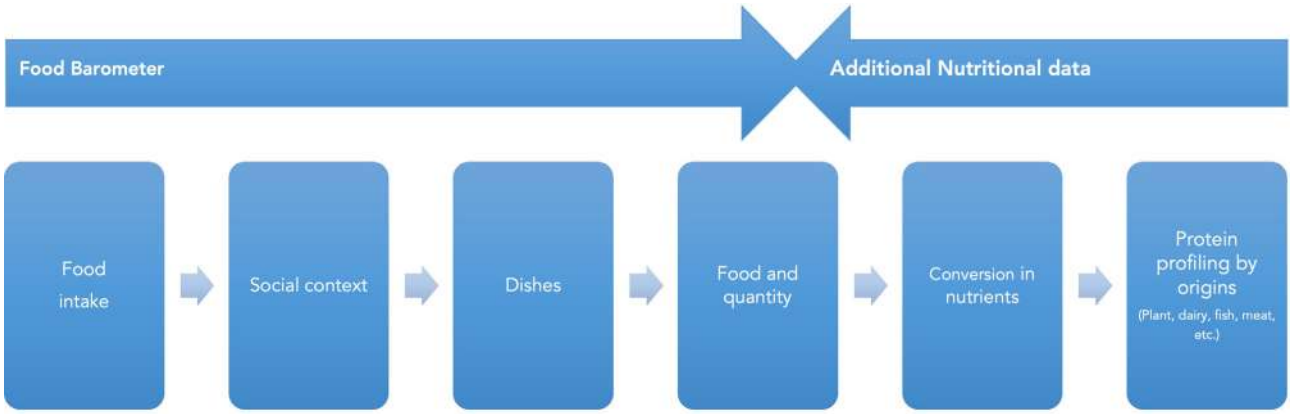


Figure 2.6. The connection between social aspects and nutritional data in the Food Barometer

Quantitative data analysis

The data was entered, cleaned, edited, and coded using the Statistical Package for Social Science (SPSS) version 20 before being analyzed. Univariate analysis was performed to describe respondents' distribution based on socio-demographic characteristics, wealth index, food norms and practices, cooking practices, social representation of food, nutrition and health aspect, dietary intake, and anthropometry data. To know the relationship between the variables, bivariate analysis was performed based on the data category and normality test.

For dietary intake, data were inputted into NutriSurvey for Windows Software 2007 software for nutrient intake calculation before being entered into the SPSS. Prior to the data entry, there were several steps to prepare the database. To ensure the integrity of the database in the software, the latest Indonesian Food Composition Table (FCT 2017) was inputted into the software. The Indonesian FCT consists of 1128 foods (including cooked foods/menu), categorized into 13 food groups with 21 nutrients (including water and energy).

Pilot Study and Training of Enumerators

Before finalizing the questionnaire, several trials were done, involving 37 respondents from different ethnicity, age, socio-economic status, and sex. This step was further followed up with discussion between the Indonesia-Malaysia team to concur that the questions were well understood, valid to assess the indicators, and the terms were commonly used. Prior to data collection in each province, the last trial was done to ensure that the questions were well delivered by the enumerators.

All the enumerators employed for administering the questionnaire held at least a degree in nutrition or social sciences. A session of "training for trainers" was done in English and six other sessions were organized in Indonesian in each region. The main purpose of this was to present the structure of the questionnaire and to validate the data collection method. It was a very important step to match the different points of view and methods regarding the cultural influence. Role-plays were organized allowing each enumerator to be alternatively at the place of the interviewers and of the interviewees.

Table 2.2. The 2017 Indonesian Food Composition Table

No	Food groups	No	Nutrients
1.	Grains and cereals	1.	Water (g)
2.	Tubers and roots	2.	Energy (kcal)
3.	Legumes, nuts, and seeds	3.	Protein (g)
4.	Vegetables	4.	Fat (g)
5.	Fruits	5.	Carbohydrate (g)
6.	Meat and poultry	6.	Fiber (g)
7.	Fish and seafood	7.	Ash (g)
8.	Eggs	8.	Calcium (mg)
9.	Milk and dairy products	9.	Phosphor (mg)
10.	Fats and oils	10.	Iron (mg)
11.	Sugar, sweets, and confectionaries	11.	Sodium (mg)
12.	Spices and condiments	12.	Potassium (mg)
13.	Beverages	13.	Copper (mg)
		14.	Zinc (mg)
		15.	Retinol (Vitamin A) (mcg)
		16.	B-carotene (mcg)
		17.	Total carotene (mcg)
		18.	Thiamin (Vitamin B1) (mg)
		19.	Riboflavin (Vitamin B2) (mg)
		20.	Niacin (mg)
		21.	Vitamin C (mg)

Ethics Review and Informed Consent

Questionnaire and methodology were presented to the Human Ethical Committee of the Faculty of Medicine, Universitas Indonesia to obtain an ethical clearance (reference number 927/UN2. F1/ETIK/2017). A written informed consent was obtained from each of the study subject.

QUANTITATIVE FINDINGS

Sociodemographic Characteristics

Living area

Among the six provinces, most respondents of this study lived in the West Java region (41.0%) and East Java (32.0%). In terms of urbanization, more than half of the respondents lived in the urban area (67.5%), while 32.5% of the respondents lived in rural areas. Most of the respondents lived in West and East Java (73.0%) which was categorized as secondary metropolitan area after Jakarta-Bali (13.8%). The rest lived in West Sumatra and South Sulawesi (13.2%) as the non-metropolitan area. Regarding modernization, respondents almost equally belonged to each of the four levels.

Table 3.1. Respondents' living area (n=1665)

	n	%
Province		
West Java	683	41
East Java	533	32
Jakarta	158	9.5
South Sulawesi	127	7.6
West Sumatra	92	4.3
Urbanization		
Urban	1124	67.5
Rural	541	32.5
Metropolization		
Jakarta - Bali	230	12.8
West & East Java	1216	73
West Sumatra & South Sulawesi	219	13.2
Modernization		
Low	380	22.8
Low middle	433	26
High middle	462	27.7
High	390	23.4

Gender

The proportion of male and female respondents was almost equal, with male respondents having slightly higher numbers (51.5%) than females (48.5%).

Table 3.2. Respondents' gender distribution (n=1665)

	n	%
Gender		
Male	858	51.5
Female	807	48.5

Age

Most of the respondents were in the ≥46 age group (29.9%), followed with 26 – 35 age group (28.6%), 18 – 25 age group (21.2%), and 36 – 45 age groups (20.3%). Among 498 respondents aged ≥46, around 175 (35% of the group or 10.5% of all respondents) were considered as elderly (above 60 years).

Table 3.3. Respondents' age (n=1665)

	n	%
Age Group		
18-25	354	21.2
26-35	476	28.6
36-45	337	20.3
≥46	498	29.9

Ethnicity

The respondents were dominantly Sundanese (39.7%), followed by Javanese (27.8%). The rest were Madurese, Minangkabau or other Sumatra ethnicities, Sulawesi ethnicities, Balinese, Betawis, and other ethnicities with each group having less than 10% of the total respondents.

Table 3.4. Respondents' ethnicity (n=1665)

	n	%
Ethnicity		
Sundanese	661	39.7
Javanese	463	27.8
Madurese	143	8.6
Minangkabau & Other Sumatra/ Melayu Ethnics	118	7.1
All Sulawesi Ethnics	100	6
Balinese	89	5.4
Betawis	73	4.4
Others[1]	18	1.1

[1]Others included ethnic groups such as Chinese, Flores/ Timorese, Kalimantan, Ambonese, and Papua

Religion

Almost all respondents were Muslim (92.4%), the rest were Christians, Catholic, Hindu, Buddhist, and Konghuchu with each group having less than 5% of the total respondents. For analysis purposes, the religion was regrouped into Moslems (92.4%) and other than Moslems (7.6%).

Table 3.5. Respondents' religion (n=1665)

	n	%
Religion		
Islam	1539	92.4
Hindu	82	4.9
Christians	27	1.6
Catholic	10	0.6
Buddha	6	0.3
Konghucu	2	0.1

Marital status

Most of the respondents had a spouse, whether married or living together (68.5%). The rest were either single, widowed, divorced, or separated.

Table 3.6. Marital status (n=1665)

	n	%
Marital Status		
Married/Living together	1142	68.5
Single/Widowed/Divorced	523	31.5

Educational level

Upper secondary school was found to be the dominant education level (43.7%). Meanwhile, slightly over 10% of the respondents were college/ university graduates which marked the least among the respondents in the present study.

Table 3.7. Education level (n=1665)

	n	%
Education level		
Primary or Lower	447	26.9
Lower Secondary school	302	18.1
Upper secondary school	727	43.7
College / University	189	11.3

Number of children

Almost half of the respondents had 1-2 children (46.6%). Nearly a quarter of the respondents had no children, while slightly over 20% had 3-4 children, and those having 5 or more children were the least among all (7.9%).

Table 3.8. Number of children (n=1665)

	n	%
Number of children		
No children	402	24.2
1 - 2 Children	775	46.6
3 - 4 Children	356	21.4
5 or more children	132	7.9

Number of family members staying together

More than half of the respondents were living with 3-5 family members (58.2%), followed by those who lived with 6 family members and above (27.8%). The rest lived with 1 member (i.e., lived alone) or 2 family members.

Table 3.9. Number of family members staying together (n=1665)

	n	%
Number of family members staying together		
1 person	85	5.1
2 persons	148	8.9
3 - 5 persons	969	58.2
6 persons and above	462	27.8

Wealth index

The wealth index shows the socioeconomic level based on the ownership of household assets (details in Table 3.11). After being grouped into tertiles, the distribution of low, medium, and high wealth indexes was similar between levels. Around one-third of the respondents equally belonged to all groups.

Table 3.10. Wealth index (n=1665)

	n	%
Wealth index		
T1 (Low)	554	33.3
T2 (Medium)	559	33.5
T3 (High)	553	33.2

Occupation

Most of the respondents were working as white-collar workers (33.7%). The rest were housewives (27.8%), blue-collar workers (22.2%), and students/not working (13.9%). Professional workers were the smallest percentage among all (2.5%).

Table 3.12. Respondents' occupation (n=1665)

	n	%
Occupation		
White-collar	560	33.7
Housewife	463	27.8
Blue-collar	369	22.2
Student/not working	232	13.9
Professional	41	2.5

White-collar category included services and sales workers, and skilled technicians; **Blue-collar** category included manual laborers (i.e., carpenters, construction workers, laborers, run-errand boys, domestic helpers) and people in the agricultural sector (i.e., fishermen, farmers); **Professional** workers included professional staff, regional officials, legislators, and managers.

Table 3.11. Asset ownership (n=1665)

	n	%
Water Source		
Bottled water	809	48.6
Closed well	326	19.6
Tap water	293	17.6
Water spring/River/Lake	141	8.5
Open well	74	4.5
Water truck	19	1.1
Place for defecation		
Private latrine with septic tank	1308	78.6
Private latrine without septic tank	185	11.1
Public latrine	125	7.5
River/Pit/Bushes/Forest	30	1.8
Traditional latrine "*Cubluk/WC cemplung*"	17	1
Fuel for Cooking		
LPG/LNG/Electricity	1435	86.2
Wood	162	9.7
Biogas	24	1.4
Kerosene/Coal	20	1.2
Not cooking	24	1.5
Floor Material		
Ceramics	1375	82.6
Cement	218	13.1
Wood	58	3.5
Soil	14	0.9
Roof Material		
Roof tile	1273	76.5
Tin roof	233	14
Asbestos	102	6.2
Bamboo/Wood	30	1.8
Concrete	17	1
Hay	7	0.4
Wall Material		
Permanent	1444	86.7
Wood	109	6.6
Semi-permanent	110	6.6
Assets		
Electricity	1653	99.3
Television	1605	96.4
Mobile phone	1520	91.3
Motorcycle	1473	88.5
Refrigerator	1279	76.8
Bicycle	920	55.2
Radio	594	35.7
Car	256	15.4
Landline telephone	160	9.6
Boat	13	0.8
Ships	6	0.3
Garden	485	29.1
Chicken	451	27.1
Sheep	125	7.5
Cow	6	0.3
Pig	20	1.2
Buffalo	4	0.2
Horse	4	0.3

Avowed social and cultural identities

To assist self-definition of social and cultural identities, the enumerator invited the respondents to make 3 choices among a series of possibilities. A card was showed to them in which the different propositions were organized in 3 categories: 1) religion, 2) ethnicity, 3) citizenship as listed below:

Figure 3.1. Cards used for social and cultural identities

For religions:

1. Islam
2. Kristen protestan
3. Katholik
4. Hindu
5. Buddha
6. Konghuchu (Confucianism)

For ethnicities:

1. Bali
2. Betawi
3. Bugis
4. Jawa
5. Makassar
6. Minangkabau
7. Sunda

For citizenships

1. *Warga Negara Indonesia* (WNI)
2. *Warga negara asing* (WNA) i.e., foreigner

For analysis purpose, the religion was re-grouped into two variables (Moslem and non-Moslem) since Moslem respondents were dominant in the study. In the first and second choices, most respondents identified themselves by religion (37.9% and 46.57%, respectively), dominantly Islam which represented around 90% of the study sample. Ethnicity and citizenship were equally chosen by around one-third of the respondents in the first choice. In the second choice, ethnicity (31.9%) was identified more than citizenship (21.5%) by the participants. Sundanese and Javanese were the most chosen ethnicities, along with Indonesian citizenship. In the third choice, religion became

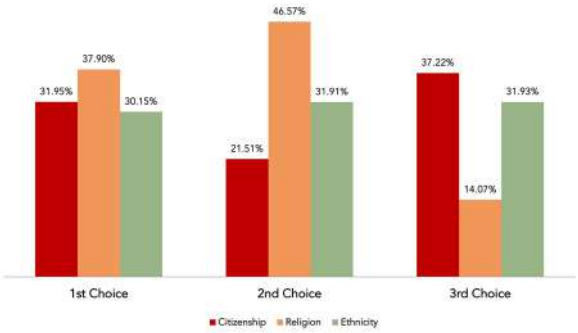


Figure 3.2. Avowed social and cultural identities of the respondents by rank of priority (n=1665)

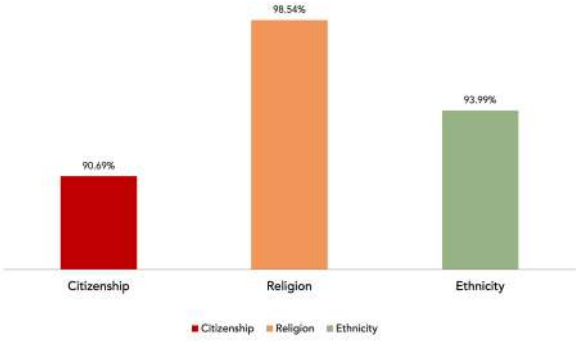


Figure 3.3. Avowed social and cultural identities of the respondents by citizenship, religion, and ethnicity (n=1665)

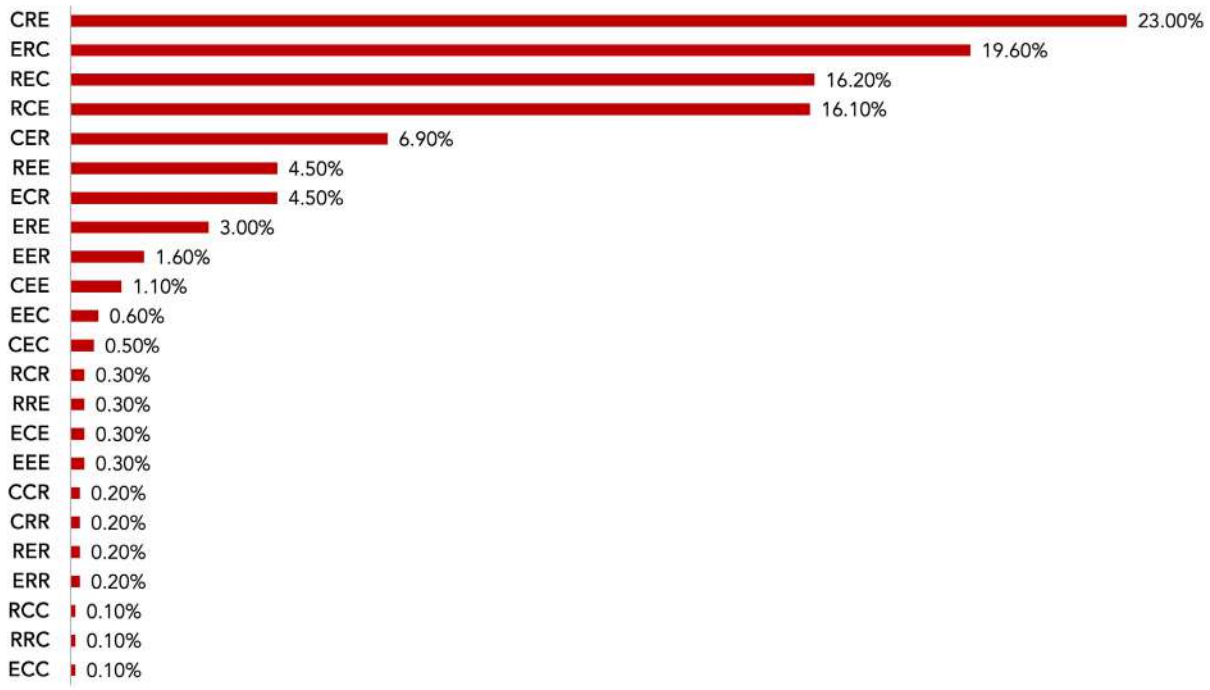


Figure 3.4. Typology of avowed social and cultural identities of the respondents by combination between citizenship, religion, and ethnicity (n=1665)

the least choice (14.07%), while citizenship (37.2%) was most identified by the respondents followed by ethnicity (31.9%) (Figure 3.2). When all ranks of choices are combined (Figure 3.3), religion still dominated (98.5%) how the respondents auto-designated themselves. When further categorization was applied, 9 typologies emerged from the combined rank of choices between citizenship (C), religion (R), and ethnicity (E). Four profound typologies were CRE (23%), ERC (19.6%), REC (16.2%), and RCE (16.1%) suggesting that nearly one-fourth of the respondents acclaimed citizenship to designate their identity, and nearly one-third of the respondents designated themselves by their religion. The rest of the typologies counted for below 7% of the surveyed respondents (Figure 3.4).

Food Days

The concept of a food day was developed by Poulain (2002a) to characterize the number of intakes, their types, times and social contexts. From a social science perspective, the meals and other types of intakes (Mäkelä et al., 1999) can be differentiated according to their degree of institutionalization defined on the basis of the five criteria proposed by Herpin (1988) - concentration, time setting, synchronization, localization, and ritualization. It is then possible to differentiate according to the socio-cultural contexts several types of food intake groups on a continuum ranging from the most strongly institutionalized - the main meals (breakfast - *sarapan*, lunch - *makan siang*, and dinner - *makan malam*) to the most slightly institutionalized, called in-between meals or extra-prandial intakes (morning snack – *selingan pagi*, afternoon snack – *selingan sore*, evening snack – *selingan malam*, tea time – *ngeteh*, coffee time – *ngopi, suhoor/* pre-dawn intake which can be light or heavy – *sahur, ifthar*/fast-breaking evening intake – *buka puasa*).

The structures of food days vary from one society to another as well as within the same society according to social groups or contexts (Holm et al., 2016; Lesnard & De Saint Pol, 2009; Poulain, 2006). The number of food intakes (or events), their timing as well as the intake structure are socially and culturally regulated at different

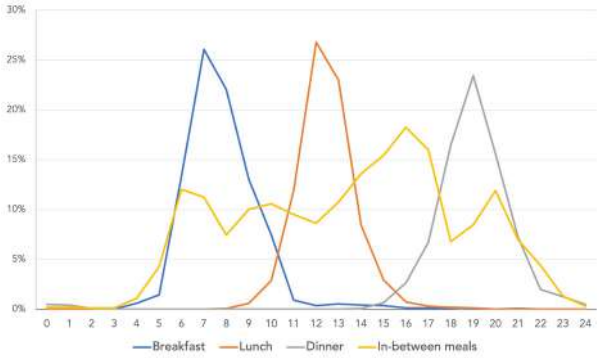


Figure 3.5. Distribution of respondents' daily mealtime (n=1665)

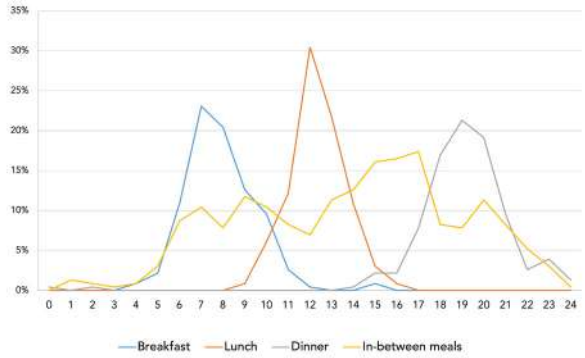


Figure 3.6. Distribution of respondents' daily mealtime for Jakarta & Bali areas

levels of society by socio-technical systems whose transformations vary according to their differentiated "permeability" to the system of values relating to "nutritionalisation" (Poulain et al., 2023; Poulain & Laporte, 2021).

Mealtime

Figure 3.5 shows the distribution of the respondent's mealtime. There were three peaks of the mealtimes for breakfast, lunch, and dinner as it followed three main meal rules. For breakfast, lunch, and dinner, most of the respondents ate at 7.00, 12.00, and 19.00 h respectively. The distribution of in-between mealtimes was scattered, showing that Indonesians tended to have snacks the whole day, but most of the respondents had it at around 16.00 h in the afternoon.

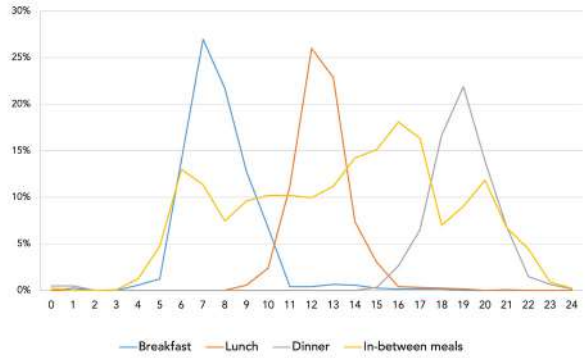


Figure 3.7. Distribution of respondents' daily mealtime for East & West Java areas

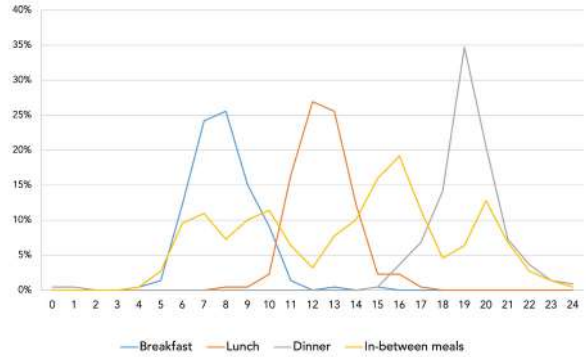


Figure 3.8. Distribution of respondents' daily mealtime for West Sumatra & South Sulawesi areas

Mealtime and metropolization

In Jakarta and Bali as the primary metropolitan area, people tended to have a more specific time for lunch, which was concentrated around 12.00-13.00 h. Meanwhile, a broader time range was observed for breakfast and dinner (Figure 3.6). Different patterns were found in the East & West Java area, which was categorized as a secondary metropolitan area, also in the West Sumatra & South Sulawesi area as the non-metropolitan area. In East & West Java, although the peak for each mealtime was all specific, breakfast and lunch had narrower time frames which peaked at 07.00 h and 12.00-13.00 h, respectively. Whereas dinner had a slightly wider time frame with a peak at 19.00 h (Figure 3.7). In West Sumatra & South Sulawesi, a more specific and narrow time frame was observed for dinner which peaked at 19.00 h (Figure 3.8). The lunch time is more synchronized in Jakarta & Bali whereas wider time frames were adopted for breakfast and dinner, as compared to

East & West Java regions. In primary metropolitan areas, the formal organization of work and working hours could possibly result in a synchronization of temporalities.

Mealtime and living area

This study covered respondents who lived in rural as well as urban areas. In terms of mealtime, a remarkable difference was observed. In the rural area, people tended to have a specific peak of all main mealtimes, especially for breakfast. Rural residents were mostly taking breakfast at 07.00 h in the morning, while lunch was taken mostly at around 12.00 h. Dinner had a broader time peak, which began at 18.00 h and culminated at around 19.00-20.00 h before decreasing. This observation asserts the importance of breakfast in the organization of the food days where it would be taken prior leaving the house to the fields in rural areas.

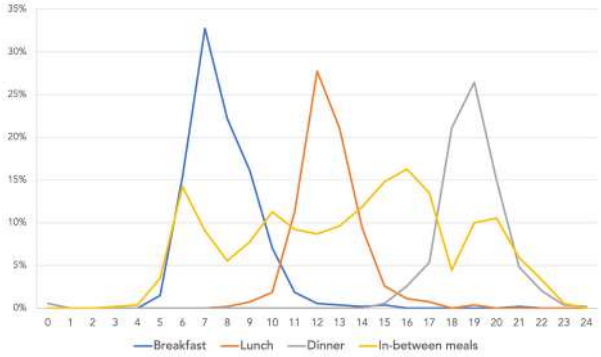


Figure 3.9. Distribution of respondents' daily mealtime for rural area

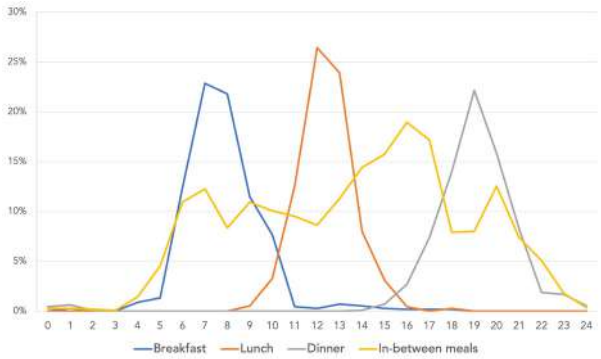


Figure 3.10. Distribution of respondents' daily mealtime for urban area

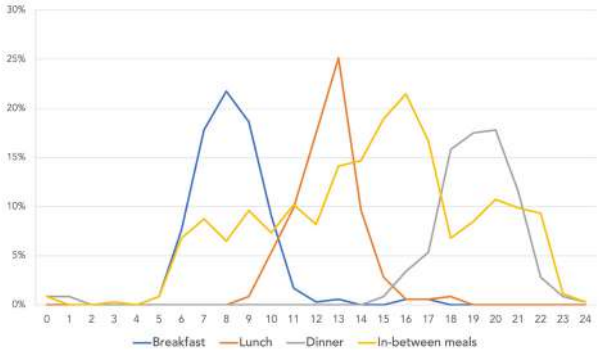


Figure 3.11. Distribution of respondents' daily mealtime for 18-25 age group

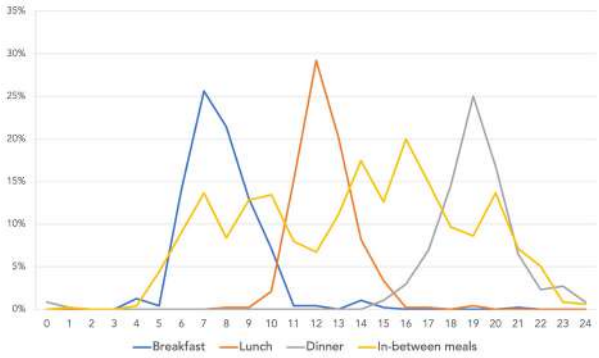


Figure 3.12. Distribution of respondents' daily mealtime for 26-35 age group

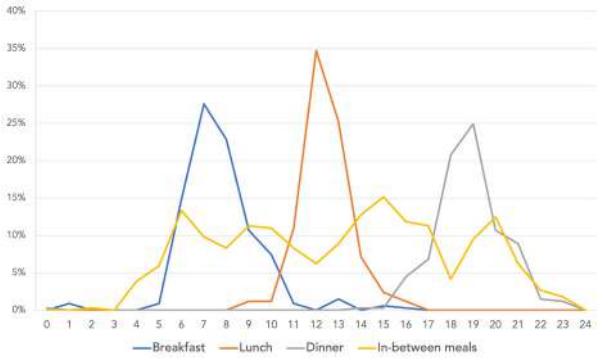


Figure 3.13. Distribution of respondents' daily mealtime for 36-45 age group

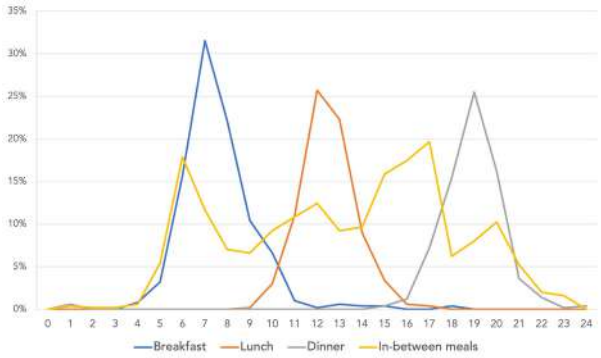


Figure 3.14. Distribution of respondents' daily mealtime for age 46+

Different phenomena were found in the urban area where people tended to have early and broad time peaks for breakfast and lunch. Most urban residents were observed to take breakfast at 06.30-08.00 h. Lunch was taken around 12.00-13.00 h. Although dinner showed a more specific peak time, which was at around 19.00 h, the eating event had a broader mealtime compared to breakfast and lunch. The three main meals (i.e., breakfast, lunch, and dinner) were thus less synchronized in urban areas, as observed in other parts of the world, along with transformations of the food system. In-between meals were relatively similar between both areas, where respondents tended to take the snack all day long with the peak time in the afternoon.

Mealtime and age

Figures 3.11-3.15 show the distribution of respondents' daily mealtime for every age group. In a closer look, Figure 3.15. shows the pattern of mealtimes' peaks by age groups which reveal relatively similar patterns across age groups. However, among the youngest age group, i.e., 18-25 years old, they tended to have a slightly wider time range, and this was also reflected as this age group had shorter peaks except for in-between meals as compared to the other age groups. These unique patterns were clear especially during breakfast and dinner. For all age groups, in-between mealtime was scattered throughout the day with some subtle repetitive peaks around 06.00-07.00 h, 09.00-10.00 h, 11.00 h (only for the youngest age group), 16.00-17.00 h, and lastly 20.00-22.00 h. Age is used in sociology both as a proxy of generation and position in the life cycle. Thus, this observation can either indicate 1) an increase of "snacking" amongst the youngest generation, or 2) a specific organization of the food day during the young adulthood.

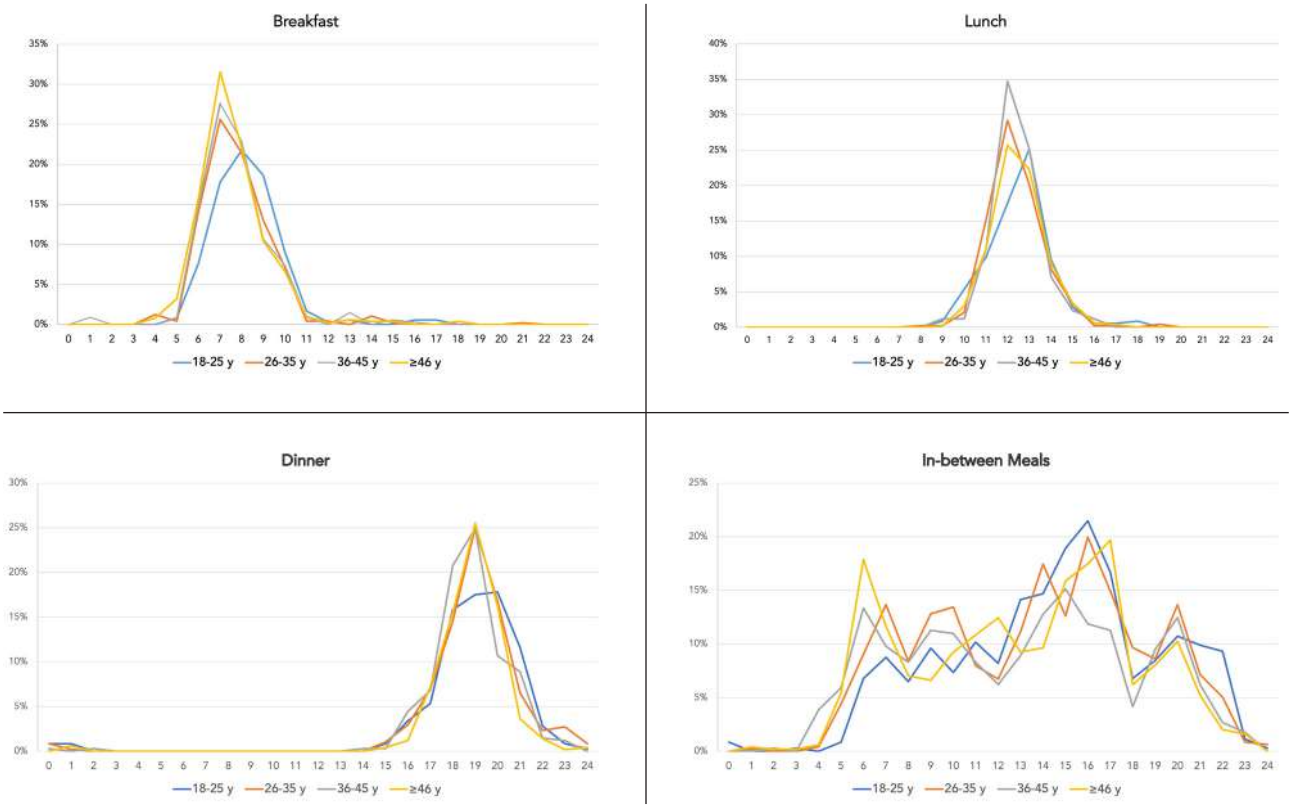


Figure 3.15. Distribution of each mealtime of all age groups

Norms and practices for the food intakes

The gaps between social norms and practices are at the core of the analysis of the transformations of food models in connection with food modernization (Poulain, 2002a; Poulain et al., 2020; Tibère & Poulain, 2019) that the food barometers aim to document. Objectified social norms are defined as a set of expectations relating to the structure of food days and meals, in a way what "is good to do in general". Practices, on the other hand, refer to what people actually do, whether or not they meet the norms. The approach in terms of gap between norms and practices is also one of the specificities of teamwork under Jean-Pierre Poulain. In the context of the study of food modernization and the transition processes associated with it, the analysis in terms of discrepancies between standards and practices makes it possible to explore the phenomena of de-structuring and re-structuring (Fischler, 1979, 2015) in terms of transitional gastro-anomie (Ascher, 2005). Indeed, the transition models developed based on the demographic transition reflect structural transformations of societies with phases of gap between the systems of values and norms on the one hand and the material living conditions on the other[1].

The distinction between norms and practices with a view to their comparison requires the design of questions related to each type of data. The presentation of questions relating to the norms for the structure of food days is followed by that of the 24-hour reminder to avoid cognitive dissonance.

Respondents were asked about their norms in terms of number of main meals and intakes between meals. For meals, the question was formulated as follows: How many times do you usually eat (main meal) in a day? (*Biasanya berapa kali Anda makan (makanan utama) dalam 1 hari?*). The respondents were requested to mention the frequency of the intake (i.e., "x" times per day). For intakes between meals, the question was: Besides the main meals, how often do you usually eat snacks/have food intakes between meals? (*Selain makan utama, biasanya seberapa sering Anda makan makanan camilan atau makanan diantara makan utama?*) and the response was "x" time per day.

The collection of practices is carried out from the 24-hour recall. This method is a tool for dialogue with researchers working in nutrition or public health given its common use since the proposition of Wiehl (1942). The role of the interviewer is to ease the participant in remembering of all the activities of the day, to be undertaken from sunrise to sunset. For each time a food intake (or drink other than water) encountered, the interviewer then asks a series of questions relating to the social organization and content of the intake. The number of food intakes as well as the name of the intakes varies according to the participants' answers. The analysis of the structures of the food days in the practices follows; where first the qualitative analysis consists of categorizing food intakes according to their names and degrees of institutionalization, with reference to the criteria proposed by Herpin (1988). Secondly, the analysis of the proportions of the population consuming the different intakes during the day allows to identify the dominant structures of food days and their variations according to socio-cultural groups.

[1] Poulain (2009) extended Ascher's proposal through a theory of food transition to understanding the increase in the prevalence of obesity then explained by a gap between the value systems and social norms prevailing in food and lifestyle patterns and body aesthetics on the one hand and the transformations of material living conditions relating to urbanization, the equipping of homes with temperature regulation devices, cars etc. Previous data analysis demonstrate that the prevalence of obesity is often associated with a lag, mainly when the number of meals is higher in practice than in norms (Fournier et al., 2016; Poulain, 2002b; Poulain et al., 1997).

Norms and practices for the number of meals per day

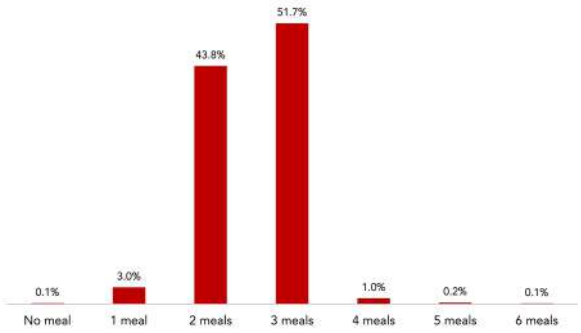


Figure 3.16. Norms in number of meals per day (n=1665)

The norm of the number of meals per day was dominated by the ''three meals per day'' pattern (51.7%), followed quite closely by the "two meals per day" pattern (43.8%). The same pattern was found in respondents' practices where more than half of them consumed meals three times a day (52.1%) and a third (32.1%) had two meals (Figures 3.16, 3.17). The prevalence of three- and two-meal patterns both in norms and practices could indicate a shift from a pattern of two meals to three meals per day. It is noticeable that the two-meal pattern was more represented in norms than practices, possibly indicating a faster change of the socio-technical dimensions of the food pattern, comparatively to the value and socio-cultural norm systems (Poulain, 2002b, 2002a, 2021; Tibère & Poulain, 2019).

Further re-grouping of the number of meals per day based on norms and practices found the proportions of the norms of having < 2 meals vs. > 3 meals per day were 47% and 53% respectively. Whilst for the practices, the proportions of having < 2 meals vs. > 3 meals per day were 39.3% and 60.7% respectively.

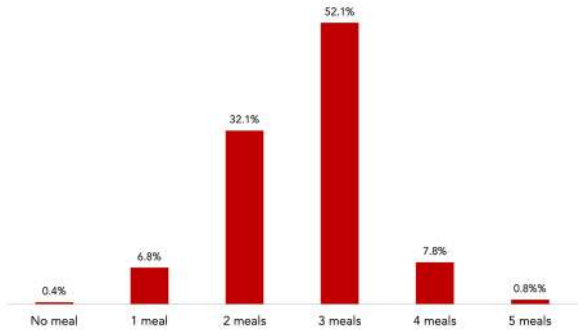
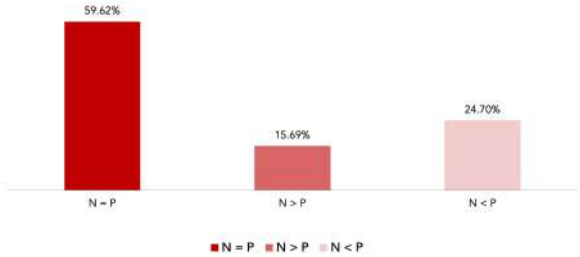


Figure 3.17. Practices in number of meals per day (n=1665)



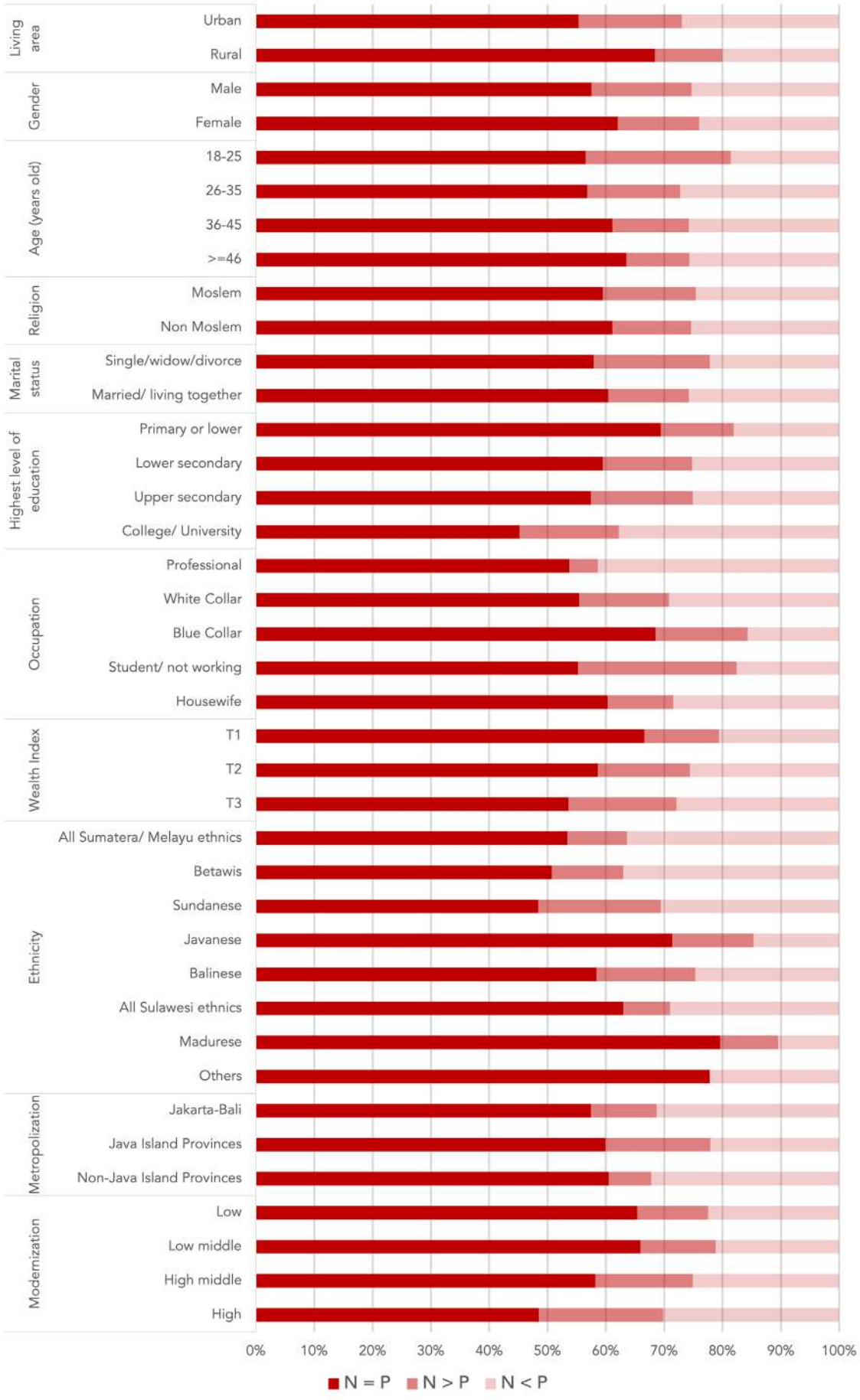
N = Norms, P = Practices

Figure 3.18. Comparison between meal frequency norms and practices (n=1665)

Figure 3.18 shows the comparison between meal frequency norms and practices. The proportion of respondents who answered the same meal frequency based on norms and practices (N = P) was the highest (59.62%) among the groups. The second and third highest proportions were the number of meal frequency norms less than the practices (N < P at 24.70%) and the meal frequency norms higher than the practices (N > P at 15.69%). Thus, when it comes to the number of meals per day, only half of the Indonesian population were having practices consistent with the norms which indicate fast transformations of the food patterns.

Furthermore, as shown in Figure 3.19, respondents whose practices were consistent with the norms (N = P) were those who lived in rural areas, aged 46 years old and above, having lower level of education, having blue collar jobs, from Javanese, Madurese, or "others" ethnic groups, lived in the least metropolization areas, and were in the lowest to middle level of modernization ($p<0.001$). Generally, this informs that compliance to the norms of the number of meals per day was characterized by the population with slight exposure to development and modernity.

When it comes to the number of meals per day, only half of the Indonesian population were having practices consistent with the norms which indicate fast transformations of the food patterns.



Median (25-75) = 3 times per day; Chi-Square test p<0.001 for living area, level of education, occupation, wealth index, ethnicity, and modernization; Chi-Square test p<0.05 for religion and marital status; There were no differences between groups of gender, age, and metropolization.

Figure 3.19. Comparison of meal frequency between norms (N) and practices (P) by respondents' characteristics (n=1665)

Norms and practices for the number of snacks per day

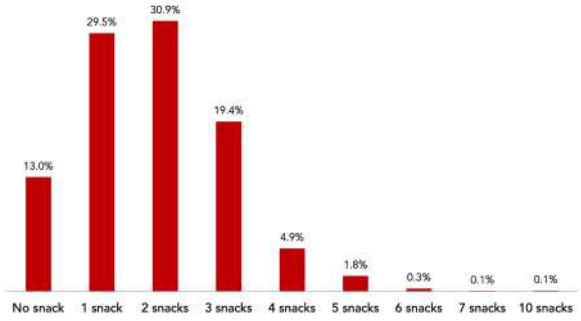


Figure 3.20. Norms in number of snacks/in-between food per day (n=1665)

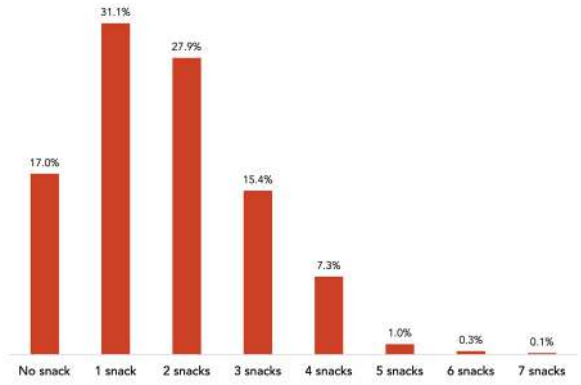


Figure 3.21. Practices in number of snacks/in-between food per day (n=1665)

Figures 3.20 and 3.21 show that 2 snacks (30.9%) and 1 snack (29.5%) were dominant in norms of the number of snacks/in-between food per day. The norms were quite similar with the practices of the number of snacks/in-between food per day. Most of the respondents were observed to eat 1 snack (31.1%) and 2 snacks (27.9%) in between their main meals per day. The organization of Indonesian food day seemed to classically include practices of in-between intakes, thus, may not solely result from modernization as often posited. When compared, the norms and practices of the number of snacks/in-between meals per day, the highest percentage of the respondents reported having an equal number of snacks in

The organization of Indonesian food day seemed to classically include practices of in-between intakes, thus, may not solely result from modernization as often posited.

Only a third of the Indonesian population reported consistent norms and practices regarding the number of in-between intakes throughout the day. This indicates important transformations of the food day pattern.

norms and practice (36.48%). It means that the respondents' representations of the number of in-between meals that should be taken in a day was aligned with the practice. Although the proportion of respondents who took in-between meals more than what they represented on a daily basis was the lowest, it still counted for nearly 30% (Figure 3.22). Therefore, only a third of the Indonesian population reported consistent norms and practices regarding the number of in-between intakes throughout the day. This indicates important transformations of the food day pattern.

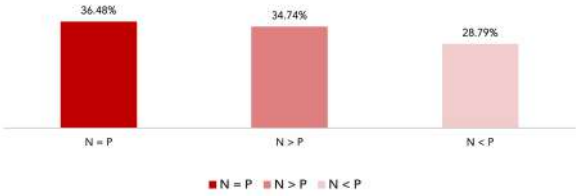
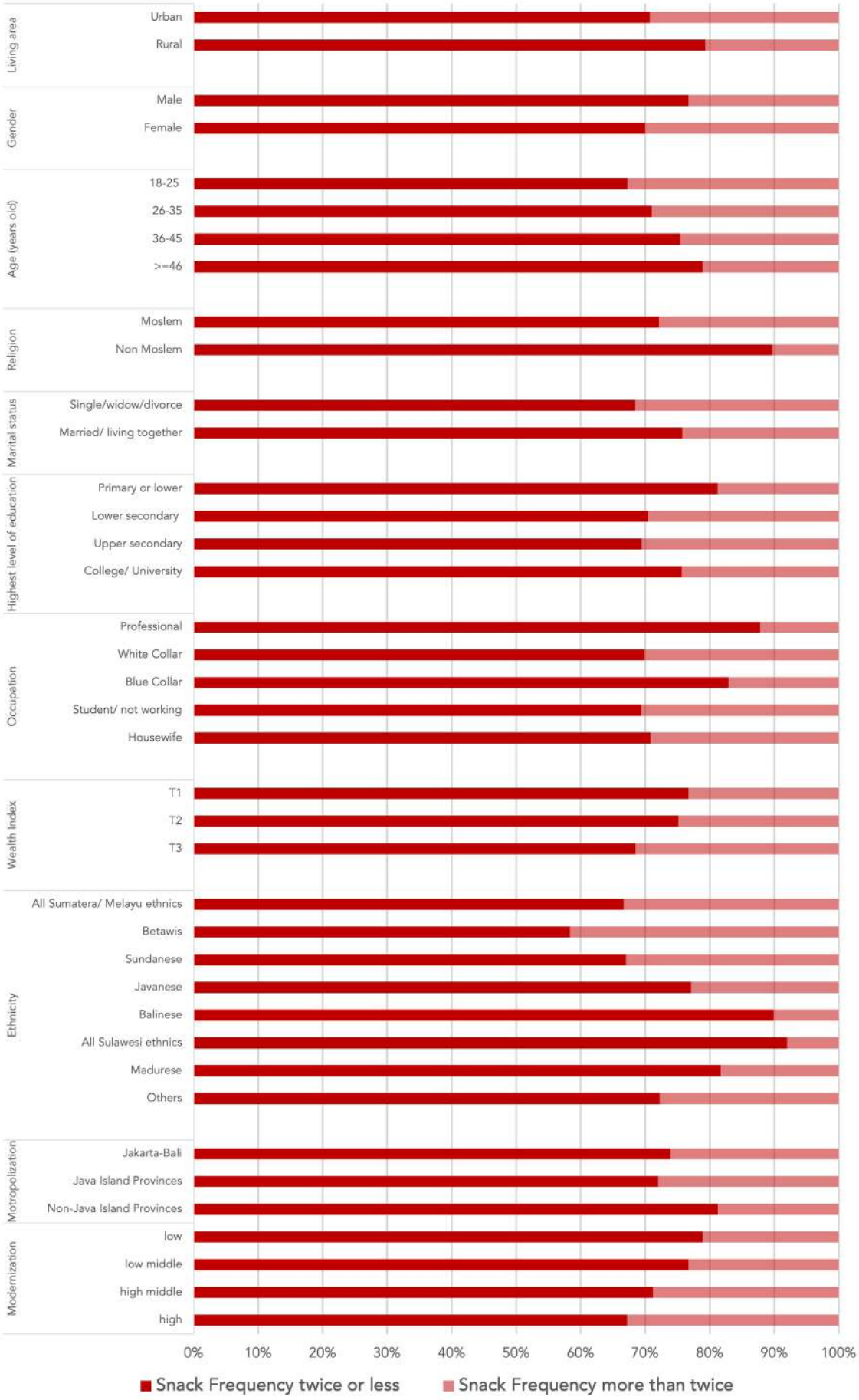


Figure 3.22. Comparison between snack frequency norms and practices (n=1665)



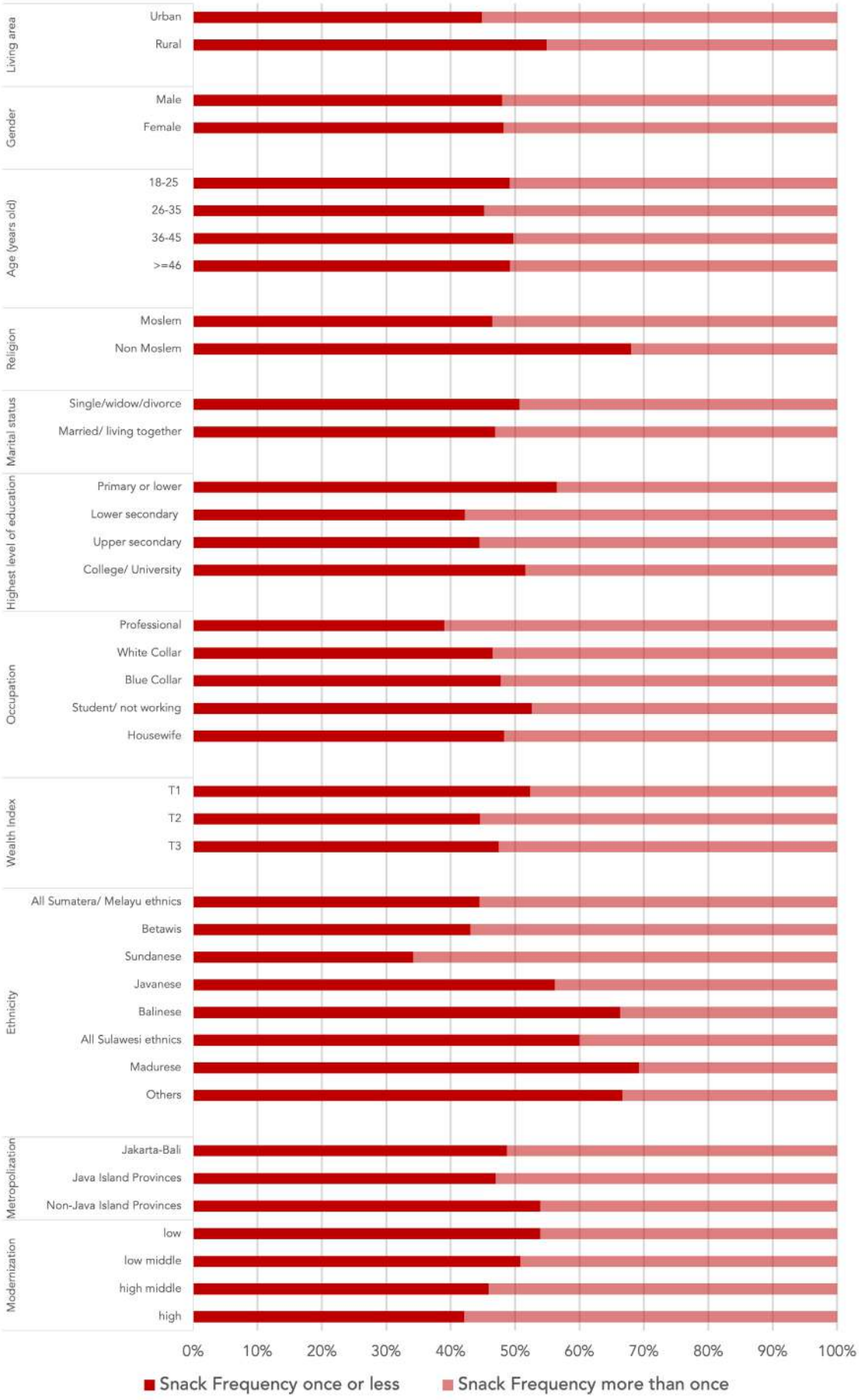
Median (25-75) = 3 times per day; Chi-Square test p<0.001 for living area, level of education, occupation, wealth index, ethnicity, and modernization; Chi-Square test p<0.05 for religion and marital status; There were no differences between groups of gender, age, and metropolization.

Figure 3.23. Norms in number of snacks/in-between food per day based on respondents' characteristics (n=1665)

Norms in the number of snacks/in-between food per day was found to be significantly associated with ethnicity ($p<0.001$). Respondents from Sulawesi tended to perceive twice or less in-between intakes per day, while the Betawis had more than twice snacking norms. Other significant associations were found by age and marital status. Higher proportions with lower snack/in-between intake frequency were observed as the age increased. The data show that respondents who were ≥46 years old and married tended to perceive that in-between intakes should be taken twice or less per day ($p<0.05$). Moreover, respondents with low modernization were also more likely to perceive that in-between intakes should be taken twice or less per day (Figure 3.23).

Respondents who were Muslims, Sundanese, with lower and upper secondary education, in high modernization status and lived in urban area were more likely to take snacks or in-between foods more than once in a day.

Figure 3.24 shows the practices of the number of snacks/in-between food per day based on respondents' characteristics. The median of the number of snacks /in-between food per day was 1 time per day. The associations were found between the living area, religion, level of education, ethnicity, modernization, and wealth index, with the number of snacks/in-between food per day. Respondents who lived in urban area tended to take snacks or in-between foods more than once in a day. In terms of religion, more than once snacking frequency was found among Moslem respondents. The same pattern was also found among those with lower and upper secondary education as compared to those with primary or lower and college/university education. The data on ethnicity shows the highest more than once snacking frequency among Sundanese, while the Madurese was the least. Those who were in high modernization status and categorized in the 2nd tertile of wealth index tended to have more than once snacking frequency in a day.



Median (25-75) = 3 times per day; Chi-Square test p<0.001 for living area, level of education, occupation, wealth index, ethnicity, and modernization; Chi-Square test p<0.05 for religion and marital status; There were no differences between groups of gender, age, and metropolization.

Figure 3.24. Practices in number of snacks/in-between food per day based on respondents' characteristics (n=1665)

Norms and practices for meal structure

Individualization is one of the major processes observed during modernization and has been the subject of much attention (see for example Danesi, 2018; Fischler, 2011; Mennell et al., 1992; Poulain, 2002b; Sobal & Nelson, 2003). Individualization can be observed at the level of the degree of commensality or socialization of food intakes (see section "Socialization of Food Intakes") as well as at the level of intake in terms of content, as observed by a socio-historical approach to gastronomy and foodways (Poulain, 1985). Following the above mentioned, analysis of the gaps between norms and practices reflects on-going transformations of the patterns.

The methodology for studying food days was initially designed to analyze the individualization of meals in the contemporary French context where individualization is illustrated in the self-service outlets (each individual serves or is served individual portions of the dishes and their combination). As previously introduced, in Indonesia, catering formulas such as *Nasi Padang* style of the Padang Restaurant, *Liwetan*, and Chinese style adjust to the individual or collective meal structure. While the rice was served individually, diners could then help themselves to their side dishes at a self-service counter either on their plate or occasionally in containers for portions to share. Differentiated structures were therefore identified for:

- Meals:
  - Diachronic and individual structure, called Western style (i.e., starter, main course, and dessert)
  - Synchronic and individual structures, for example: composite dish (e.g., *nasi rames, nasi lalapan, nasi pecel, lontong sayur)*
  - Synchronic and collective structures, for example: rice and soup in a separate bowl, Padang Restaurant style, *liwetan*
- In-between intakes, synchronic and individual structures, for example: tea/coffee and fritters

Specific tools were developed for the collection of data on the structure of meals and used in the context of the administration of the questionnaire face-to-face. Norms of meal structure were identified using meal scene visuals (in terms of events or contents) presented to the respondents. These visuals represented the meal structures identified above. They were presented with the instructions: "The following question is about the usual organization of your meal. I will ask you to explain the different food items that your breakfast, lunch, dinner and supper are usually composed of?" (in Bahasa: *Biasanya, seperti apa menu makan Anda?*). The normative dimension was recalled by the use of the term "proper" (in Bahasa: "*yang benar*") during reminders for each of the takes (a proper breakfast, a proper lunch, a proper dinner) to the exclusion of less institutionalized takes (a snack, then teatime). The selections made by the participants were collected as they were and were then recoded according to whether they were individual or collective.

Nasi pecel

Nasi lalapan

Coffee and fritters

Liwetan

Nasi soto

Padang Restaurant style

Figure 3.25. Example of visuals shown to participants

As for the practices, the 24-hour recall differentiated, during the data collection, the shared and individual food and drinks consumed. While this differentiation had its practical goal to assist the respondents in their recall of their practices, it also led to analysis where the structures of the intakes could be categorized as individual when only individual components was reported, or collective, where only collective components or a mix of individual and collective components were reported.

Norms and practices for breakfast structure

Most respondents chose an individual menu both for norms (88%) (Figure 3.26) and practices (91.6%) for breakfast (Figure 3.27). An individual menu meant that the meal was consumed by the respondent him/herself, while collective menu meant that the meal was eaten together with companions or shared with others. On the comparison between norms and practices for breakfast structure, Figure 3.28 shows that most of the respondents (77.72%) had in-line practice and norms on taking individual menu for breakfast. A small proportion of the respondents was captured on having and perceiving collective menu for breakfast (5.77%). Around 5.59% of the respondents perceived that collective menu should have been taken for breakfast but having an individual menu for the actual practice. On the contrary, the rest of 1.8% perceived individual menu should have been taken for breakfast but having the collective menu instead. Having an individual structure for breakfast is common and observed in other food cultures (Poulain et al., 2023).

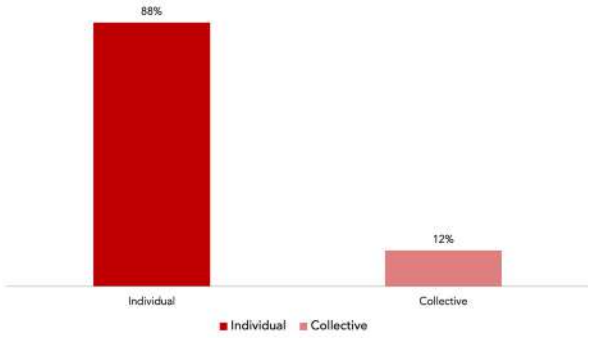


Figure 3.26. Norms for breakfast structure (n=1641)

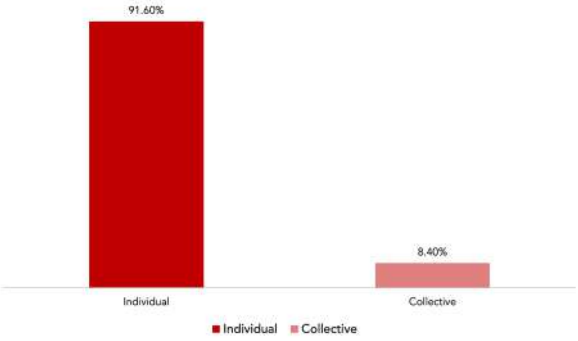


Figure 3.27. Practices for breakfast structure (n=1514)

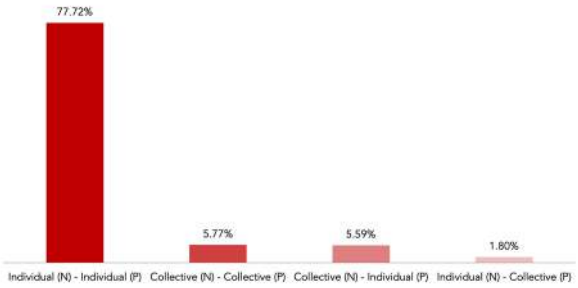


Figure 3.28. Comparison between norms and practice in breakfast structure

Norms and practices for lunch structure

Figures 3.29 and 3.30 show that most of the respondents chose an individual menu both as norms (79%) and as practices (85.9%) for lunch. Figure 3.31 shows the comparison between norms and practices for lunch structure shows that most of the respondents (69.97%) had in-line norms and practices on individual menu. It means that most of them perceived that individual menu should have been taken for lunch and they practiced it. Some other respondents perceived individual menu as the necessary food for lunch but having a collective menu instead (10.63%). Around 9.01% respondents perceived that the collective menu should have been taken for lunch but took the individual menu as the actual practice. The least respondent's percentage (2.34%) had in-line norms and practice on the collective menu for lunch.

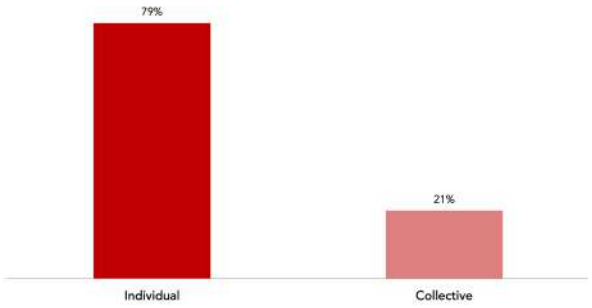


Figure 3.29. Norms for lunch structure (n=1639)

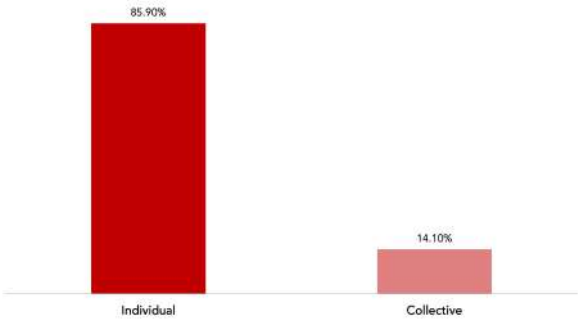


Figure 3.30. Practices for lunch structure (n=1532)

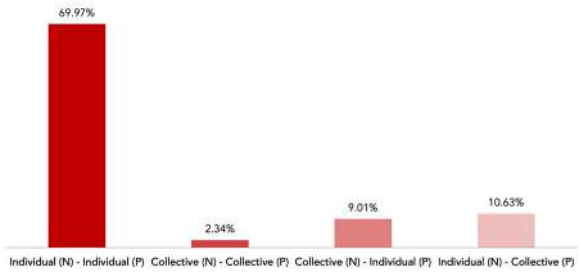


Figure 3.31. Comparison between norms and practice in lunch structure

Norms and Practices for Dinner Structure

The norms and practices for dinner structures were also dominated with individual menu as voted by 73% and 83% of the respondents respectively (Figures 3.32 and 3.33). The comparison between norms and practices for dinner structure shows that most respondents (62.64%) had in-line practices and norms on individual menu. Nearly 3% of the respondents chose individual menus as their norms but consumed collective menus as their practices (Figure 3.34).

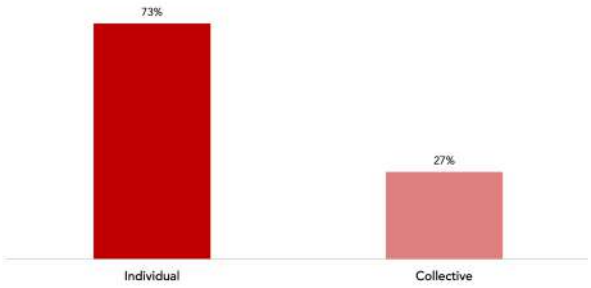


Figure 3.32. Norms for dinner structure (n=1588)

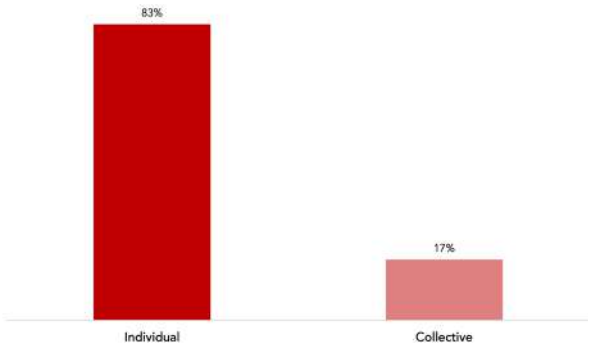


Figure 3.33. Practices for dinner structure (n=1517)

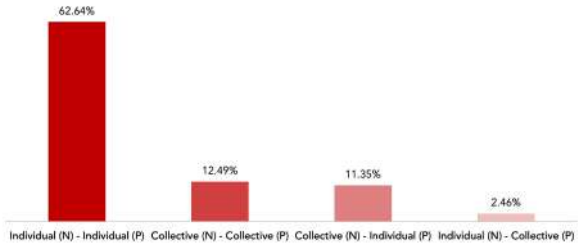


Figure 3.34. Comparison between norms and practice in dinner structure

Meal organization

Meal organization measures the usual structure for the three main mealtimes as well as the structure they thought a proper meal (norms) should follow. The data were obtained by asking respondents to choose food cards (from the food catalog) for what they usually ate and what they thought they should have eaten for each breakfast, lunch, and dinner. Table 3.13 shows that rice with side dishes (referred as "full meal") was the most commonly eaten for breakfast, lunch, and dinner. Over half of the respondents also represented the full meal as a proper meal for all main mealtimes. For breakfast, the second highest was one-dish meal in which all the carbohydrate source and the side dishes such as protein source or vegetable were mixed into a single dish, such as chicken porridge or fried rice. The third highest for breakfast was cereal/bread as both usual and proper meals. On the other hand, for lunch and dinner, the shared menus were chosen as the second highest usual as well as proper meals. The shared menu refers to the same menu type served in one food container and consumed together in an eating occasion with family members, friends, colleagues, etc. The data show some discrepancies on full meal and shared menu based on the two measurements of the norms ("usual" vs "proper") suggesting some transformation in the eating norms.

Table 3.13. Meal organization

Meal organization	Breakfast (%)		Lunch (%)		Dinner (%)	
	Usual meal (n= 1514)	Proper meal (n=1641)	Usual meal (n=1532)	Proper meal (n=1639)	Usual meal (n=1517)	Proper meal (n=1588)
One-dish meal	14.3	16.5	0.4	0.2	4.7	4.9
Instant noodle	1.6	0.7	1.7	0.8	4.1	2.7
Composite meal	5.2	4.5	4.3	4.9	7.3	6.3
Rice with soup	2.6	3.4	3.3	4.5	1.7	1.5
Full Meal (Rice with side dishes)	48.6	44.7	75.3	67.8	64.3	54.2
Cereal/Bread	12.1	13.0	0.5	0.1	0	0.7
"*Liwetan*"	0.1	0.2	0.3	1.1	0.4	1.3
Shared Menu	7.4	11.3	12.1	18.0	15.3	24.3
"*Padang restaurant*" Style	0.3	0.5	1.2	2.1	0.5	1.0
"Chinese" Style	0.4	0	0.3	0.1	0.1	0.7
Fast Food	0	0.4	0.2	0	0.1	1.1
Traditional cakes	3.8	1.1	0.1	0	0	0.5
Ultra-processed food	0.2	0.1	0.2	0	0.7	1.1
Fruit/drinks (including dessert)	3.4	3.5	0	0.3	0.6	1.7

"Liwetan" is a style of eating together known in West Java and other Java areas, where you are eating while sitting on the floor and the foods are served as a shared dish on a big banana leaf;
"Padang restaurant" style is a style of eating originated from West Sumatera where foods are served in small plates that could serve either for one person or shared with others;
"Chinese" style is a style of eating where side dishes are served as shared menu, but rice is plated individually.

Socialization of food intakes

Eating companion

In terms of socialization, more than half of the respondents ate alone at all mealtimes of breakfast, lunch, dinner, including in-between meals/snacks. The highest percentage of eating alone during the main mealtimes was at breakfast time (65.3%), although slightly more respondents reported also eating alone during in-between meals/snacks (69.4%). The proportions of eating alone declined at lunch (59.6%) and dinner (54.4%). Meanwhile, eating with companions was the highest at dinner time (45.6%) as compared to lunch and breakfast (40.4% and 34.7% respectively). A higher proportion of the respondents reported to have been accompanied by family members at each mealtime, as compared to friends (Figure 3.35).

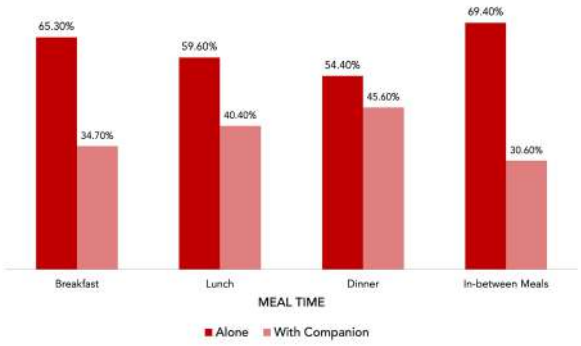
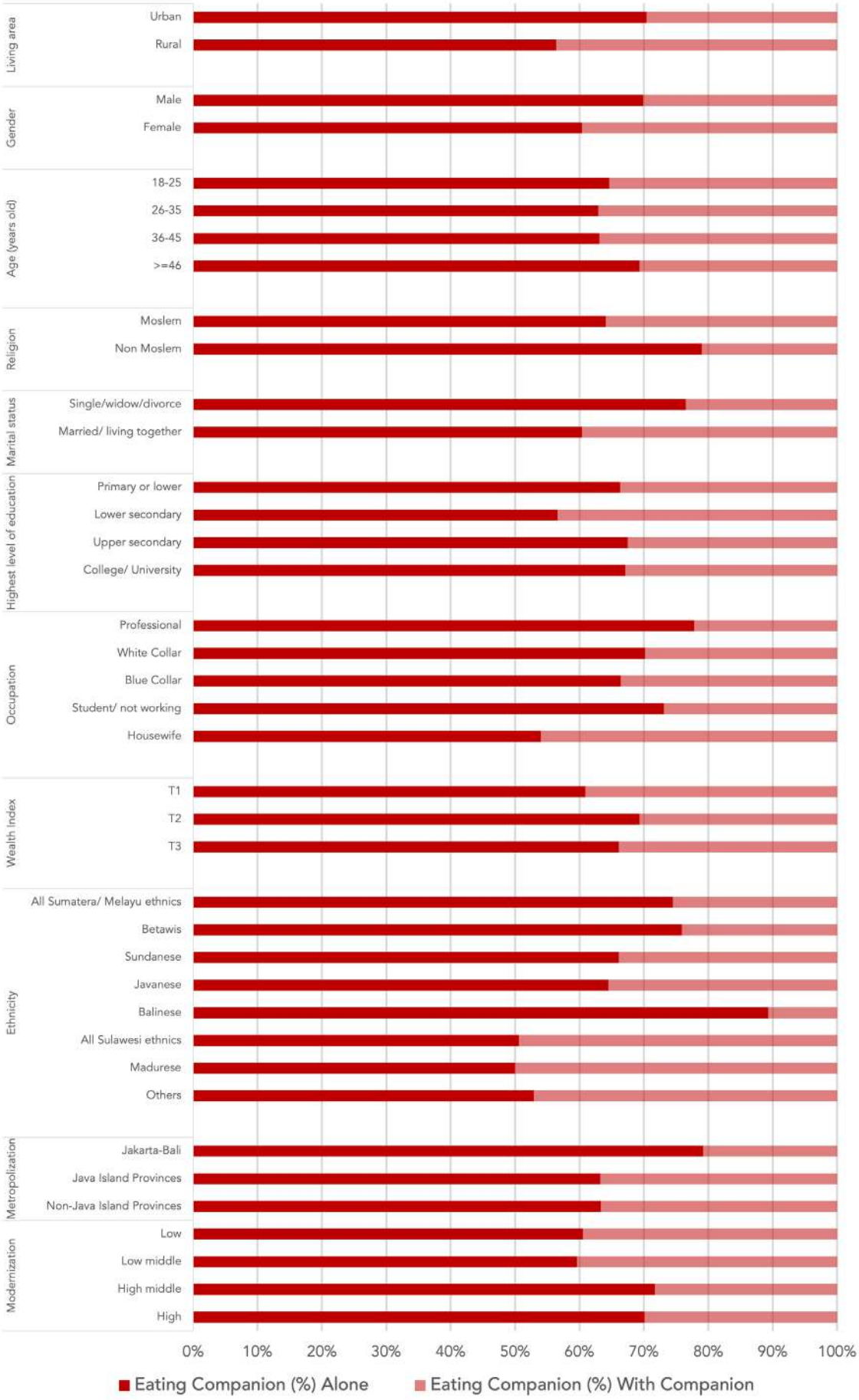


Figure 3.35. Eating companion in each mealtime (n=1665)

At breakfast time, eating companion was found to be significantly different by living area, gender, marital status, occupation, ethnicity, modernization, metropolization, religion, level of education, and wealth index (Figure 3.36). More urban residents tended to eat breakfast alone (70.4%) as compared to people in rural areas (56.4%). Males were also observed to have a higher percentage of taking the breakfast alone (69.9%) as compared to females (60.4%). In terms of religion, a higher proportion of non-Moslem respondents was found to eat breakfast alone (79%) than those of their Moslem counterparts (64.1%). A higher percentage of single, widowed, or divorced respondents reported to eating alone (76.5%) as compared to those married or lived together with their partner (60.4%). Additionally, highest percentage of eating breakfast alone was found among respondents whose level of education were above secondary school (67.5%), worked as professional (77.8%), were classified the 2nd tertile of wealth index (69.3%), Balinese (89.3%), lived in the primary metropolitan area (i.e., Jakarta and Bali) (79.2%), and belonged to high middle and high modernization index (around 70%) as compared to their counterparts in each characteristic.

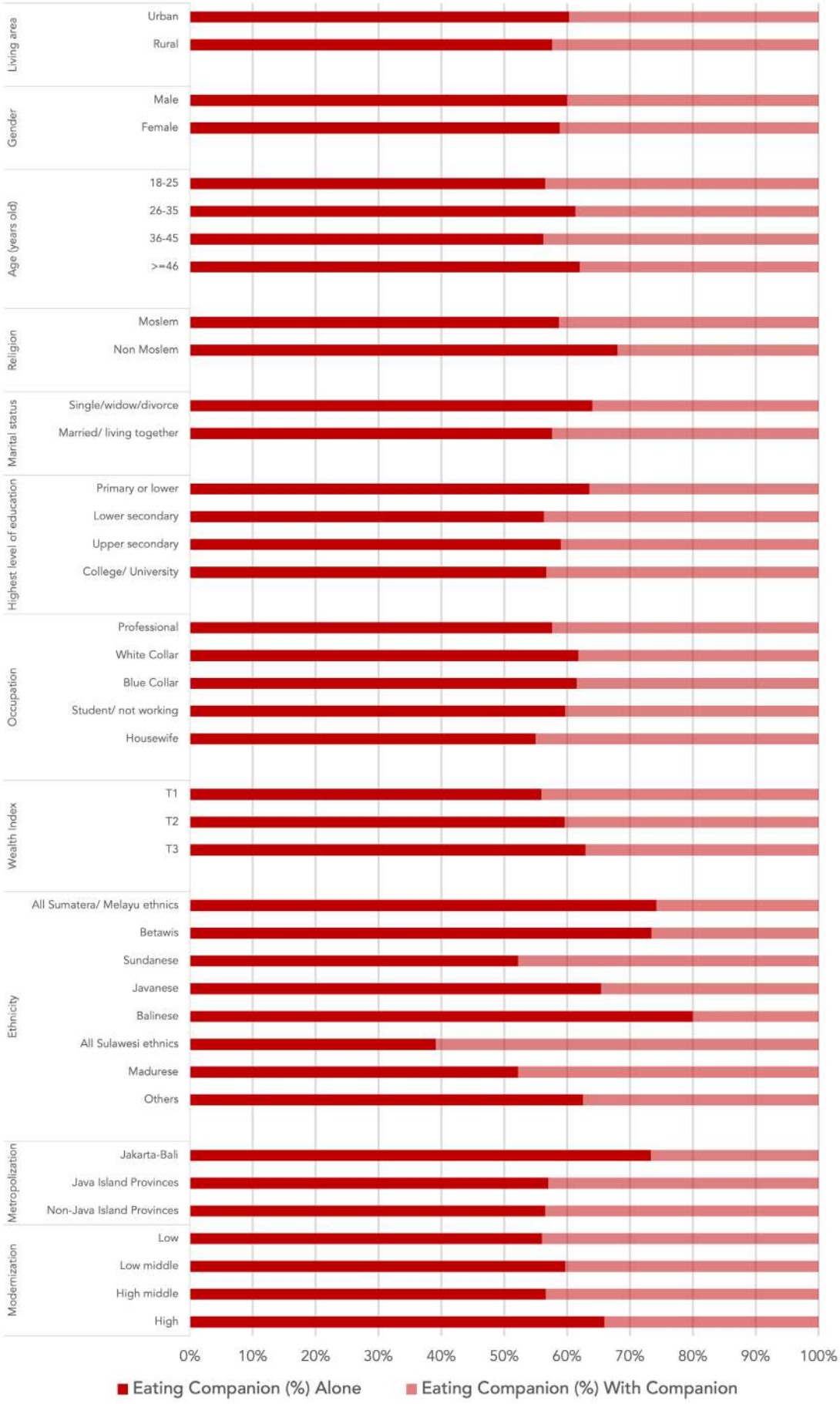
Figure 3.37 shows the association between respondents' characteristics and eating companions at lunch time. It reveals that marital status, ethnicity, and metropolization were found to be significantly associated with lunch eating companion. Respondents who were single, widowed, or divorced tended to eat their lunch alone (64%) as compared to those who were married or lived together with their partner (57.6%). Among the ethnic groups, Balinese respondents were observed to have the highest percentage of eating alone at lunch time (80%), while the lowest percentage was found among Sulawesi ethnics (39.1%). Jakarta-Bali categorized as the primary metropolitan area was observed to have a profound percentage of eating alone (73.3%) as compared to other counterparts.

Meanwhile at dinner time (Figure 3.38), eating companion was found to be different based on gender, age, religion, marital status, level of education, occupation, ethnicity, and metropolization. Males tended to eat dinner alone (59%), while females took dinner with companion (50.9%). The eldest and youngest respondents were observed to take dinner alone (61.3% and 55.5%, respectively). Respondents at their middle age group had slightly equal proportions of having dinner alone and with companions. Being non-Moslem (68.8%), single, widowed, or divorced (65.8%) were found to have a higher percentage of eating dinner alone. The highest percentage of eating alone at dinner was also found among those with lower education level and the percentages declined as the level of education increased. Students or non-working respondents had the highest proportion of eating dinner alone (65.2%), while housewives had the lowest.



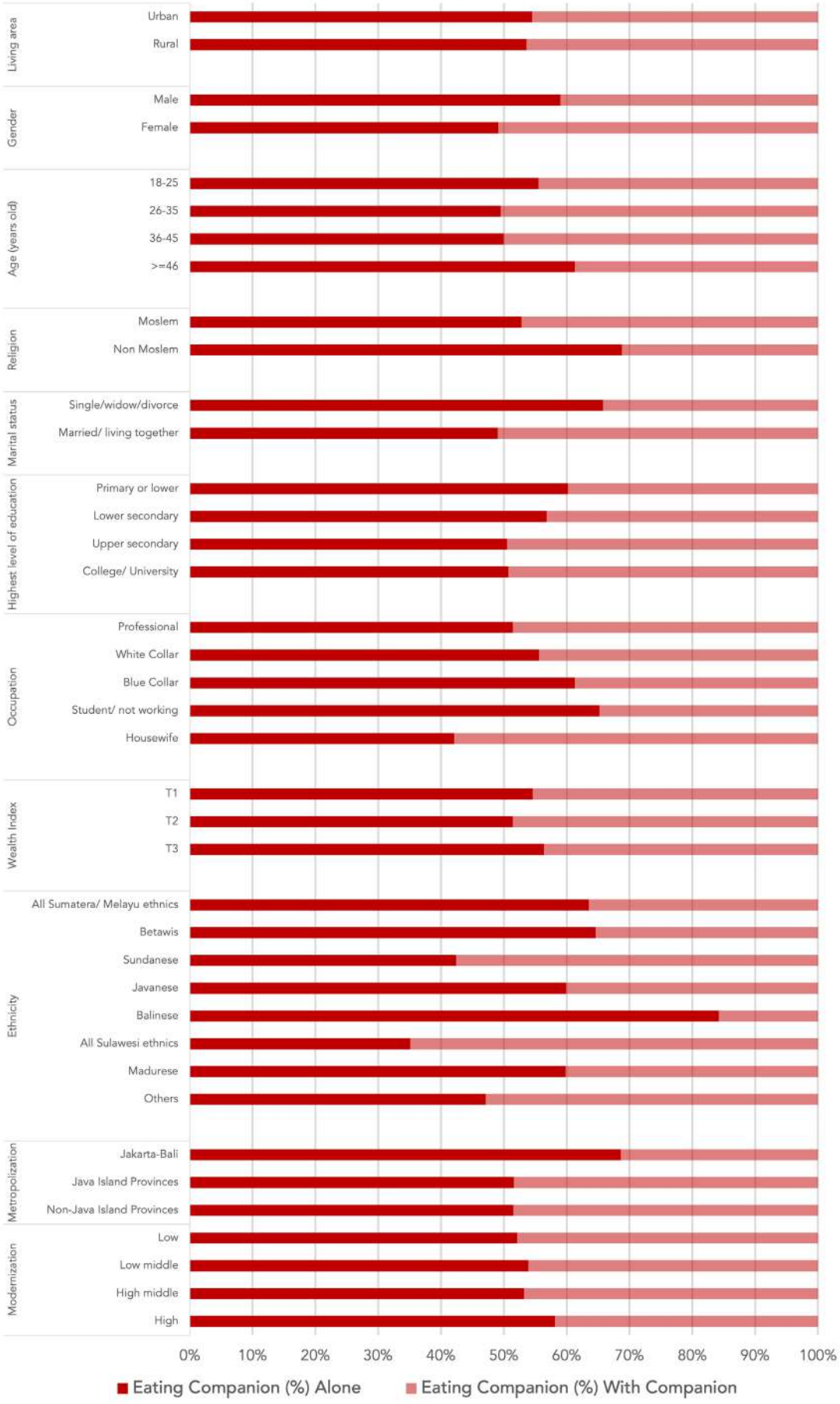
Chi-Square test p<0.001 for the living area, gender, marital status, occupation, ethnicity, metropolization, and modernization; Chi-Square test p<0.05 for religion, level of education, and wealth index; There was no significant difference between age groups.

Figure 3.36. Breakfast eating companion by respondents' characteristics (n=1665)



Chi-Square test p<0.001 for the living area, gender, marital status, occupation, ethnicity, metropolization, and modernization; Chi-Square test p<0.05 for religion, level of education, and wealth index; There was no significant difference between age groups.

Figure 3.37. Lunch eating companion by respondents' characteristics (n=1665)

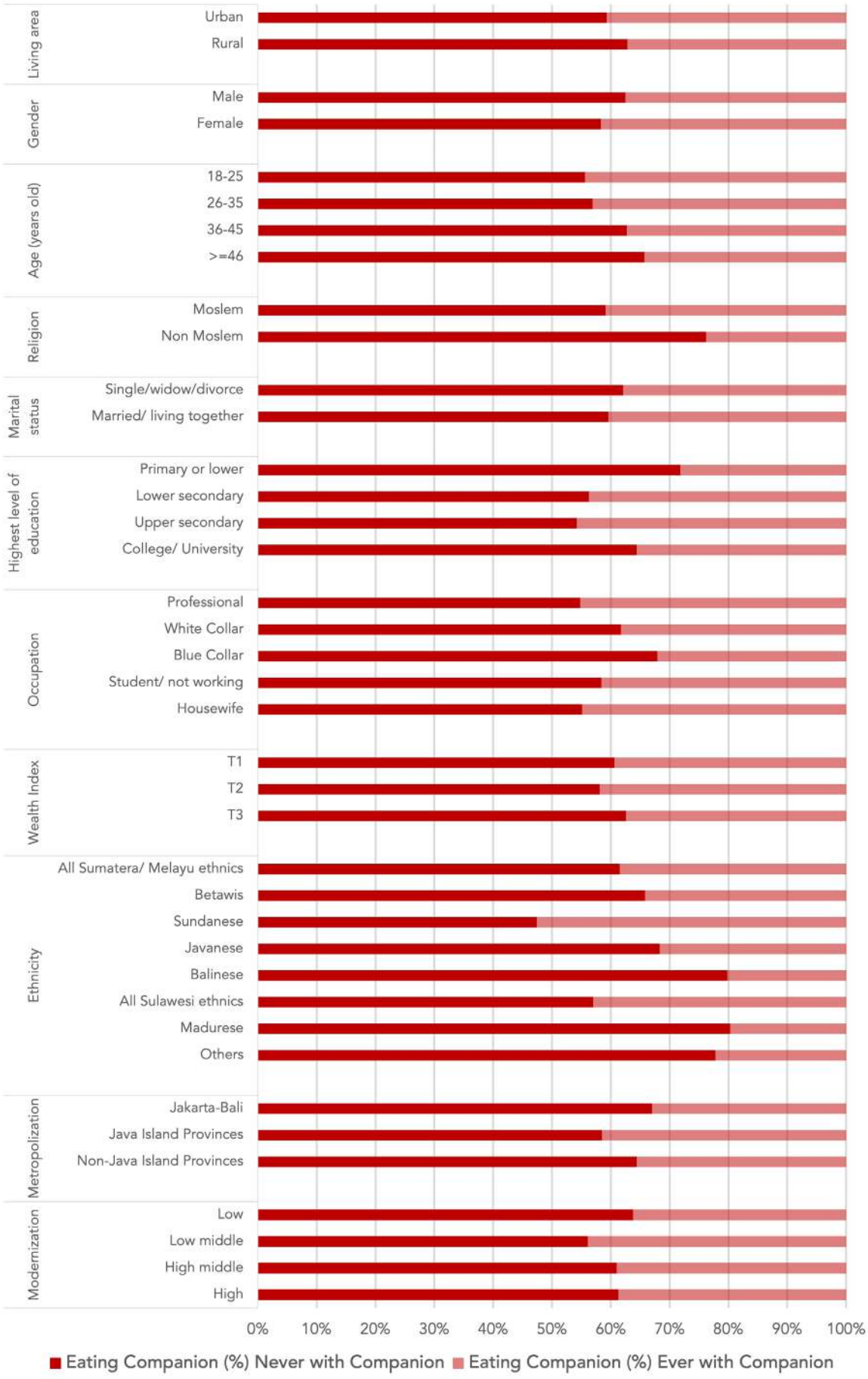


Chi-Square test p<0.001 for the living area, gender, marital status, occupation, ethnicity, metropolization, and modernization; Chi-Square test p<0.05 for religion, level of education, and wealth index; There was no significant difference between age groups.

Figure 3.38. Dinner eating companion by respondents' characteristics (n=1665)

Balinese respondents were observed to have the highest percentage of eating alone at dinner time (84.2%) as compared to other ethnic groups. Those living in the primary metropolitan area, i.e., Jakarta-Bali tended to take dinner alone (68.6%). The percentage of eating dinner alone was lowest in the non-metropolitan area, such as non-Java island provinces (51.5%) (Figure 3.38).

Meanwhile, eating companion for in-between meals/snacks is shown in Figure 3.39. Significant relationships were found with age, religion, education, occupation, ethnicity, and metropolization. Based on the analysis, older people tended to take their in-between meals alone as compared to their younger counterparts. The same pattern was also observed among non-Moslem respondents (76.2%), while their Moslem counterparts had higher proportion of taking the in-between meals with companions (59.1%). In terms of education, highest proportion of having no companion for in-between meals was found among those with primary or lower education level (71.8%) and the least among those with upper secondary level of education (54.2%). Among occupation categories, blue-collar working respondents also tended to take their in-between meals without companion (67.9%). In terms of ethnicity, Madurese were observed to have the highest proportion of taking in-between meals without companion (80.3%). Meanwhile, Sundanese had the least proportion of taking the in-between meals alone (47.4%). Sundanese tended to have their in-between meals with companion. Respondents who lived in the primary metropolized area (Jakarta-Bali) were found to have highest proportion of taking the in-between meals alone (67%), followed by the non-metropolized area (non-Java Island provinces) with 64.6%, and the secondary metropolized area (Java Island provinces) with 58.5%.



Chi-Square test p<0.001 for the living area, gender, marital status, occupation, ethnicity, metropolization, and modernization; Chi-Square test p<0.05 for religion, level of education, and wealth index; There was no significant difference between age groups.

Figure 3.39. In-between intakes companion by respondents' characteristics (n=1446)

Activity while eating

Figures 3.40 and 3.41 show the activities the respondents were doing while eating. Most respondents reported doing other activities during lunch, dinner, including in-between meals (which count for 55.20%, 63.10%, 52.70% respectively), unlike breakfast which was done as main eating activity by 51.30% of the respondents. Watching TV was the most activity that the respondents did during mealtimes followed by doing some office work and using smartphones at all three main mealtimes. The proportions of watching TV and chatting increased at breakfast, lunch, and dinner times.

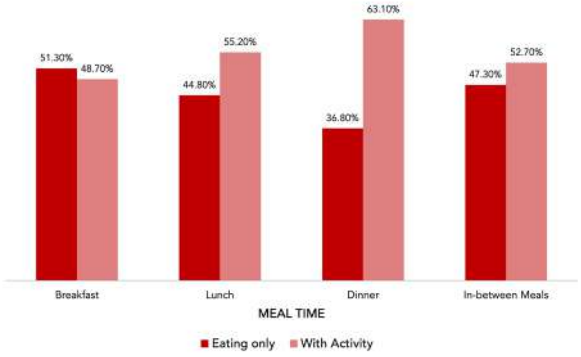


Figure 3.40. Respondents' activities at each mealtime (n=1665)

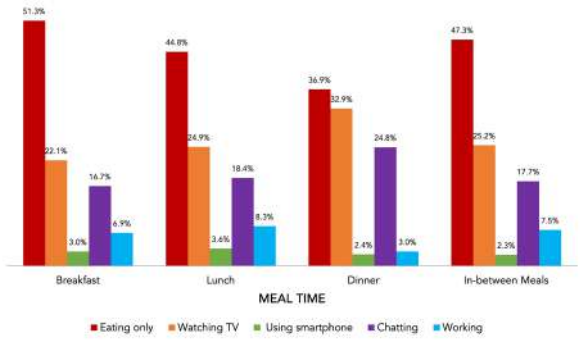
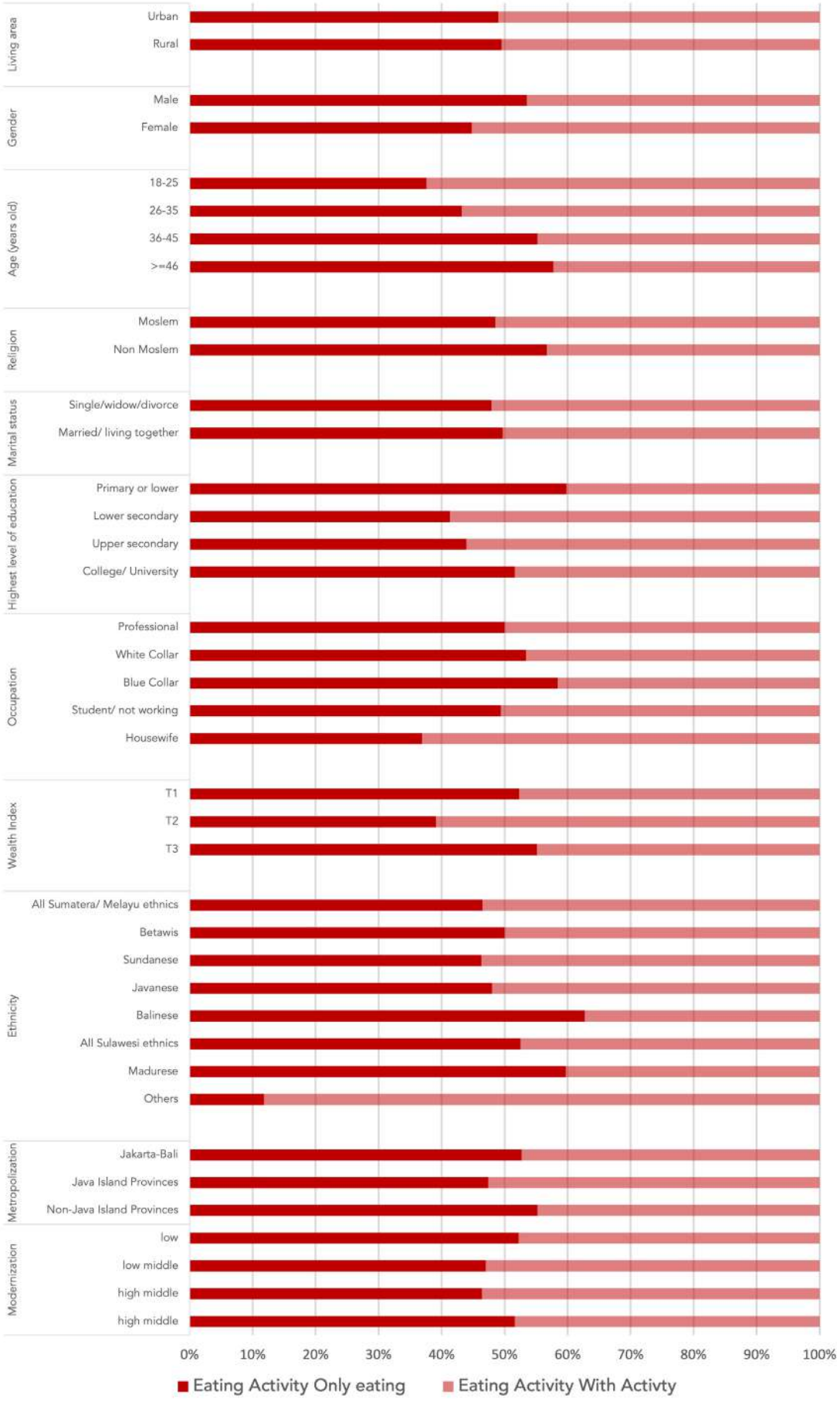


Figure 3.41. Respondents' activity details at each mealtime (n=1665)

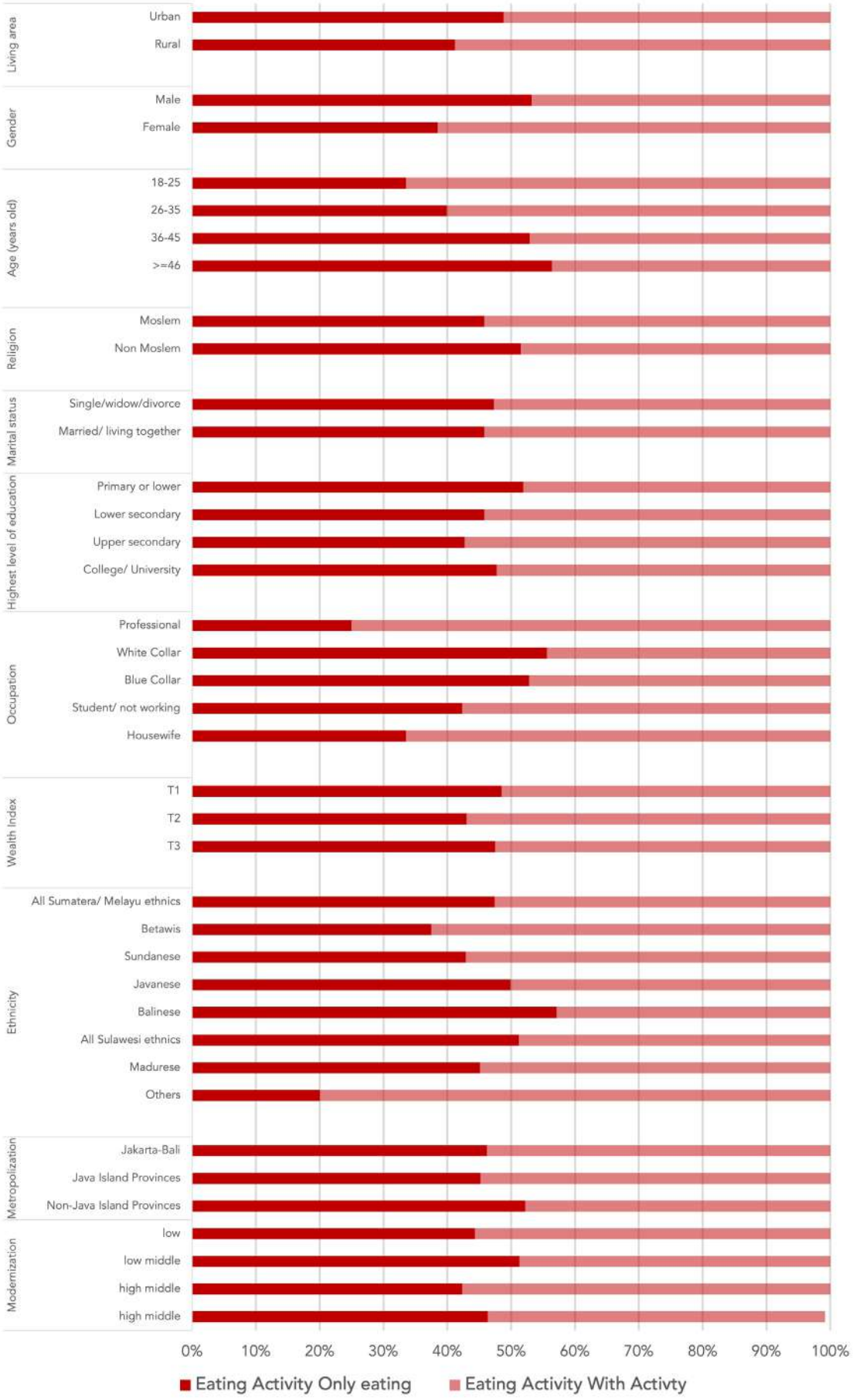
Figure 3.42 shows breakfast eating activities based on respondents' characteristics. Significant proportion differences of eating activities during breakfast were found based on gender, age, education level, occupation, wealth index, and ethnicity. Females were more likely to do activities when having breakfast as compared to males. Those within 18 - 25 years old had a higher proportion of eating breakfast while doing activities (62.4%) as compared to other age groups. The proportion of having breakfast while doing other activities declined as the age increased. The highest proportion of having breakfast while doing activities was among those with lower secondary schooling (58.7%) as compared to other levels of education. Housewives was the group with the highest proportion of eating breakfast while doing other activities (63.1%) as compared to those with other occupations. The respondents within the T2 wealth index had the highest proportion of eating breakfast while doing activities (60.9%) as compared to T1 and T3 groups. Among the ethnicity groups, all Sumatera/Melayu ethnics had the highest proportion of eating breakfast and doing other activities (53.5%). There were no differences in the proportions of eating activities during breakfast based on religion, marital status, metropolization, and modernization.

Figure 3.43 shows the lunch eating activities based on respondents' characteristics. Significant proportion differences of eating activities during lunch were found for gender, age, occupation, living area, and ethnicity. Females had a higher proportion of activities when having lunch (61.5%) as compared to males. Those within 18-25 years old had a higher proportion of eating lunch with activities (66.5%) compared to other age groups. The proportion of having lunch while doing other activities declined as the age increased. Professional group had the highest proportion of eating lunch with activities (75%) as compared to other occupation groups. Among the ethnicity groups, other ethnicities (80%) such as Chinese, Flores/Timorese, Kalimantan, Ambonese, and Papua ethnicities had the highest proportion of eating lunch with activities. There were no differences between groups of religion, marital status, educational level, wealth index, metropolization, and modernization.



Chi-Square test p<0.001 for age, education level, occupation, and wealth index; Chi-Square test p<0.05 for gender and ethnicity; There were no differences between groups of living area, religion, marital status, metropolization, and modernization.

Figure 3.42. Breakfast eating activity by respondents' characteristics (n=1665)



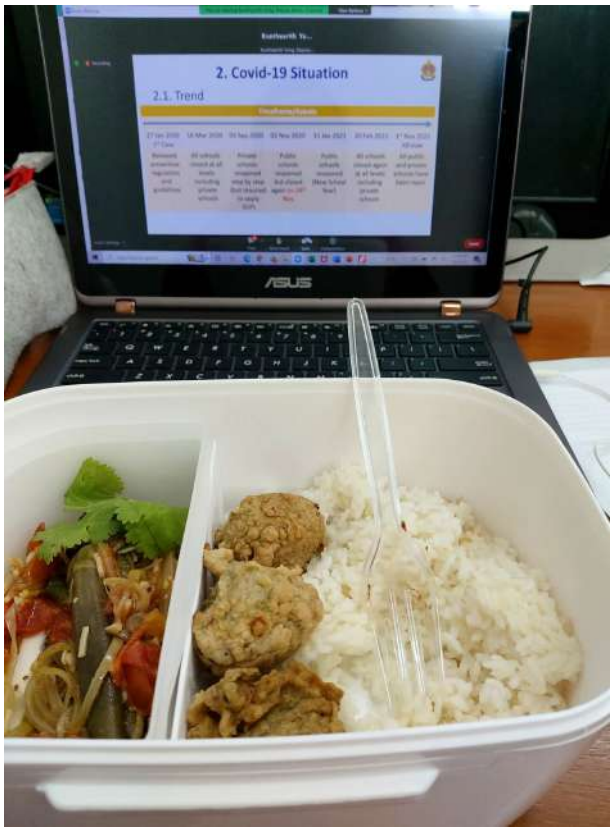
Chi-Square test p<0.001 for age, education level, occupation, and wealth index; Chi-Square test p<0.05 for gender and ethnicity; There were no differences between groups of living area, religion, marital status, metropolization, and modernization.

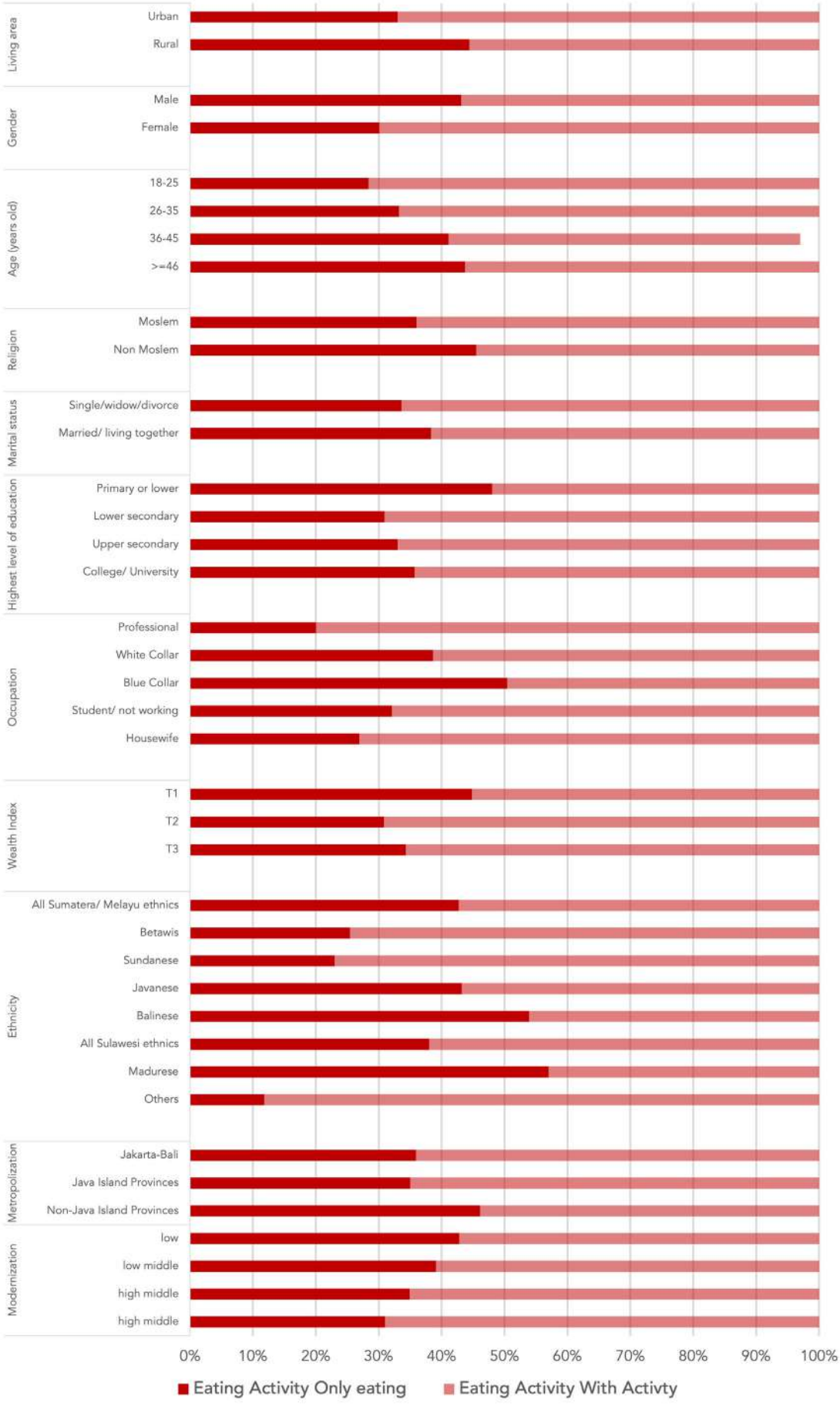
Figure 3.43. Lunch eating activity by respondents' characteristics (n=1665)

Dinner eating activities based on respondents' characteristics are shown in Figure 3.44. Dinner activity proportion differences were found based on living area, gender, age, educational level, occupation, wealth index, ethnicity, religion, metropolization, and modernization. Urban residents had a higher proportion of eating dinner while doing other activities (67%) as compared to rural residents. Females had a higher proportion of eating dinner with activities (69.9%) as compared to males. The youngest age group had the highest eating dinner with activities (71.6%) as compared to other groups. The higher the age group, the lower proportion of eating dinner with activity was found. Moslems had higher proportion of eating dinner with activities (64%) as compared to the non-Moslem group. Those in the secondary level education had the highest proportion of eating dinner with activities (69.1%) as compared to other levels of education. Professionals had the highest proportion of eating dinner with activities (80%) as compared to other occupation groups. Those in the T2 wealth index (69.2%), being in other ethnicities (88.2%), lived in Java Island (65%), had high modernization index (69%) had the highest proportion of eating dinner with activities as compared to the other counterparts. There was no proportion difference found between groups based on the marital status.

Figure 3.45 shows proportion of in-between intakes activities based on respondents' characteristics. There were significant differences found between activity of intakes taken in-between meals and many of the characteristics except for marital status, metropolization, and modernization. The urban group had a higher proportion of activity taken during in-between intakes (71.70%) as compared to the rural group. Females had a higher proportion of in-between meals activity (72.10%) as compared to male respondents. Between the age groups, the highest proportion of activity at in-between intakes were among those within 18-25 years old (80.70%). Moslems had higher proportion of in-between intakes activity (70.40%) as compared to the non-Moslem respondents. Those with upper secondary schooling levels had the highest proportion of in-between intakes activity (76.80%) as compared to other levels of education. Housewives had the highest in-between intakes activity proportion (77.60%) as compared to other occupations. Those in the T2 wealth index had the highest proportion of in-between intakes activity (75.50%) compared to other wealth index groups. "Other" ethnic groups had the highest proportion of in-between intakes activity proportion (78.60%) as compared to other ethnic groups.

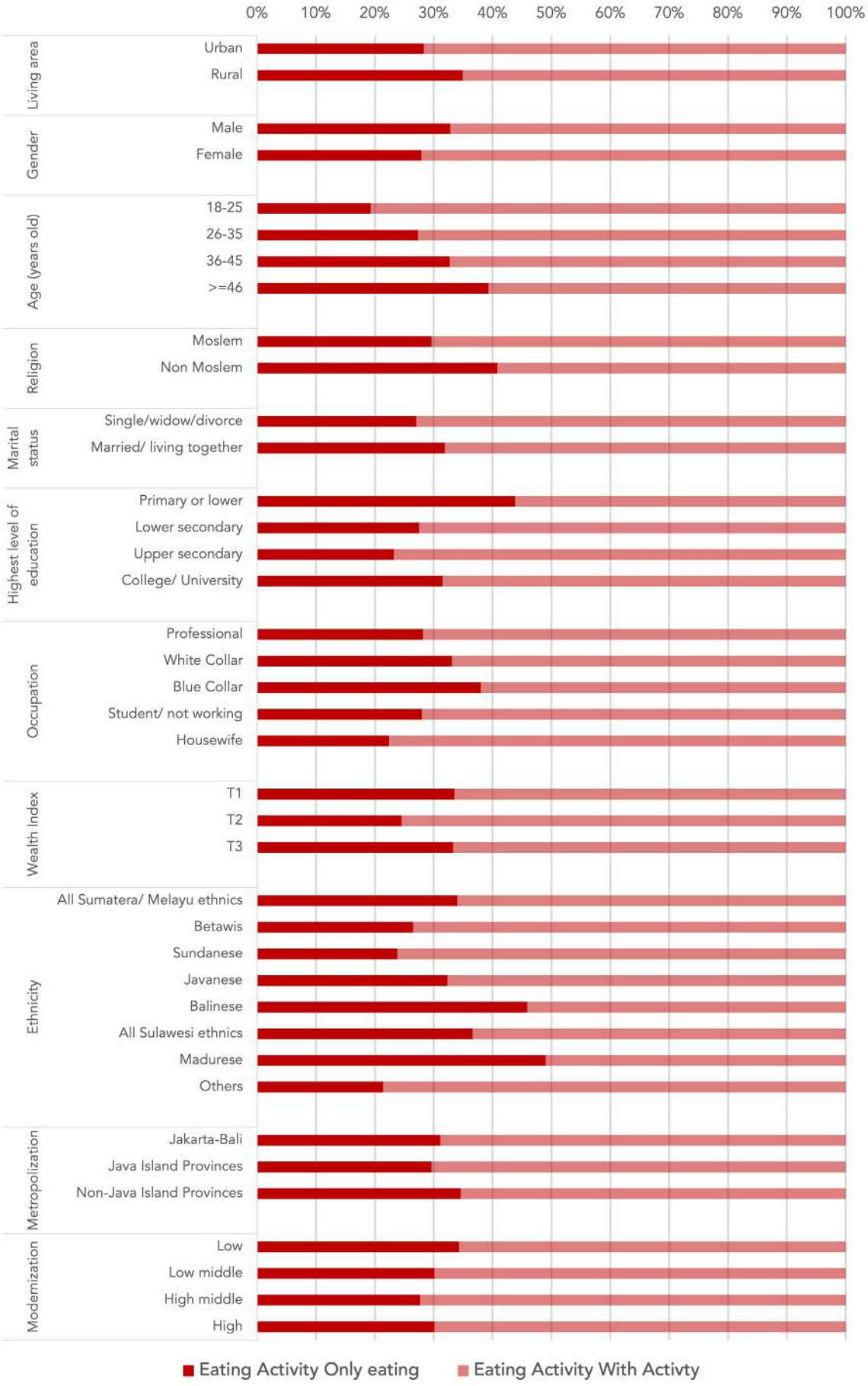
Socialization of food intake is indicated among others by how meals and eating are enjoyed with the presence of others and the act on eating while doing other activities. In the present study, more than half of the respondents ate alone at all mealtimes of breakfast, lunch, dinner, including in-between meals/snacks. The highest number of respondents reported doing other activities was during dinner (63.10%) and only eating was at breakfast (51.30%).





Chi-Square test p<0.001 for age, education level, occupation, and wealth index; Chi-Square test p<0.05 for gender and ethnicity; There were no differences between groups of living area, religion, marital status, metropolization, and modernization.

Figure 3.44. Dinner eating activity based on respondents' characteristics (n=1665)



Chi-Square test p<0.001 for age, education level, occupation, and wealth index; Chi-Square test p<0.05 for gender and ethnicity; There were no differences between groups of living area, religion, marital status, metropolization, and modernization.

Figure 3.45. In-between intakes activity by respondents' characteristics (n=1665)

Eating out

Movements of food between home and out-of-home are a central dimension of the food modernization and nutrition transition (Drewnowski & Popkin, 1997; Ferrant et al., 2023; Giacoman et al., 2021; Lhuissier et al., 2020; Popkin et al., 2012; Poulain, 2021). Given the currently dominant approach in public health that strongly emphasizes on health prevention, there is a growing interest in the food environment within which decisions occur. Assessment of these environmental and preventive policies requires an in depth-analysis of food supply and consumption practices. Eating out-of-home is assumed to be associated with public health concerns, such as the development of obesity (Anggraini et al., 2016; de Jong et al., 2017; Fachruddin et al., 2019; Nurwanti et al. 2019; Birahmatika et al., 2021; Jonatan et al, 2022). The repartition of intakes between home and outside the home is therefore a significant matter as it allows understanding of the different contexts in which the food and eating decisions are taken. However, little is known on eating out practices, specifically in the Asian context whereas it seems to be a noticeable features of those food patterns (Mognard et al., 2023). One of the challenges one may face is that of the heterogeneity in the very definition of "eating out" (Gesteiro et al., 2022; Lachat et al., 2012; Wellard-Cole et al., 2021).

Using the percentage frequency count, we described the pattern of eating out according to the respondents' characteristics. The data presented relies on the 24-hour dietary recall where the location for food preparation and food consumption was probed. Calculation of the frequency count were based on the following steps. First, for each eating occasion, we identified how the food was prepared (i.e., cooked or purchased out) and the location when it was consumed (i.e., eating in or eating out). Second, we aggregated into 5 groups (i.e., eating in – cook, eating in – purchased out, eating out – cook, eating out – purchased out, eating in – partly cook partly purchased out). Third, we generated the frequency count by summing up the eating occasion in each category. Fourth, we accounted the percentage frequency counts for each respondent and presented in mean ± SEM.

Socialization of food intake is also shown by the location where eating practices are taking place. The practice of eating at home with home-cooked foods (53.9%) was still prevailing in the present study. However, some forms of reliance to purchased foods were emerging with 26.3% purchased foods eaten at home, 11.3% eating-out practice, and 5.4% eating-in with partly purchased foods.

Table 3.14. Distribution pattern of eating out by province, ethnicity, and religion

Socio-demographic variables	Indonesia		Eating in, cook	Eating in, purchased out	Eating out, cook	Eating out, purchased out	Eating in, partly1
	Count	%	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)
All	1665	100	53.9	26.3	3.2	11.3	5.4
Province							
West Sumatera	92	5.5	59.15 ± 2.85	23.73 ± 2.33	1.51 ± 0.79	13.54 ± 2.40	2.08 ± 0.72
Jakarta	158	9.5	32.81 ± 2.47	36.35 ± 2.26	2.57 ± 0.85	19.60 ± 2.18	8.67 ± 1.27
West Java	683	41.0	48.10 ± 1.15	28.18 ± 0.96	4.17 ± 0.46	11.72 ± 0.80	7.83 ± 0.60
East Java	533	32.0	64.26 ± 1.39	22.66 ± 1.10	2.34 ± 0.42	9.21 ± 0.86	1.53 ± 0.29
Bali	72	4.3	51.47 ± 3.79	30.80 ± 3.16	1.40 ± 0.83	10.55 ± 2.33	5.78 ± 1.57
South Sulawesi	127	7.6	64.98 ± 2.69	17.76 ± 2.20	4.36 ± 1.22	6.70 ± 1.51	6.19 ± 1.27
p value			**<0.001****	**<0.001****	**0.012***	**<0.001***	**<0.001****
Ethnicity							
All Sumatra/Melayu ethnic groups	118	7.1	56.23 ± 2.66	26.56 ± 2.12	1.06 ± 0.59	13.78 ± 2.10	2.37 ± 0.74
Betawis	73	4.4	29.39 ± 3.39	36.71 ± 3.14	1.93 ± 1.11	23.43 ± 3.42	8.54 ± 1.97
Sundanese	661	39.7	47.30 ± 1.21	28.67 ± 1.01	3.99 ± 0.46	12.36 ± 0.84	7.67 ± 0.59
Javanese	463	27.8	57.64 ± 1.49	26.07 ± 1.21	3.18 ± 0.53	9.54 ± 0.91	3.57 ± 0.54
Balinese	90	5.4	55.44 ± 3.30	25.95 ± 2.64	2.93 ± 1.05	10.79 ± 2.02	4.88 ± 1.29
All Sulawesi ethnic groups	100	6.0	61.33 ± 3.14	19.80 ± 2.69	3.92 ± 1.34	8.67 ± 2.03	6.28 ± 1.42
Madurese	143	8.6	74.45 ± 2.55	15.03 ± 1.75	1.84 ± 0.68	7.42 ± 1.72	1.26 ± 0.47
Others	18	1.1	68.39 ± 7.32	25.3 ± 5.88	0	3.49 ± 2.48	2.82 ± 2.02
p value			**<0.001****	**<0.001****	0.071	**<0.001****	**<0.001****
Religion							
Moslem	1539	92.4	53.59 ± 0.82	26.42 ± 0.65	3.18 ± 0.28	11.39 ± 0.54	5.41 ± 0.34
Non Moslem	126	7.6	57.14 ± 2.99	24.36 ± 2.38	3.11 ± 1.04	10.58 ± 1.88	4.81 ± 1.06
p value			0.238	0.389	0.944	0.679	0.625

One-Way ANOVA; *0.01<p<0.05; **0.000<p<0.01

[1]*Eating-in partly* means eating at home with both home-cooked meal and purchased food from outside

Eating out by province

There was a significant difference in the mean percentage of eating-in with home-cooked dishes among the provinces, with the highest percentage was found in South Sulawesi (64.98%), followed by East Java, West Sumatra, Bali, West Java, and Jakarta as the lowest. A significant mean difference was also found in the eating-in and purchased-out practice among the provinces, with the highest percentage was found in Jakarta (36.35%) and the lowest in South Sulawesi (17.76%). However, eating out with home-cooked dishes was found highest in South Sulawesi (4.36%). Eating-out and purchasing-out practice was highest in Jakarta (19.6%), followed by West Sumatra, West Java, Bali, East Java, and South Sulawesi. In terms of eating in with both home-cooked and purchased foods, the highest percentage was found in Jakarta (8.67%), while the lowest was in East Java.

Overall, the eating-out with home-cooked dishes was the least practiced by respondents from all over the provinces. The respondents in West Sumatera, West Java, East Java, Bali, and South Sulawesi commonly practiced eating-in with home-cooked dishes. On the opposite pattern, the respondents in Jakarta commonly practiced eating-in with purchased foods, as well as eating-out with purchased foods. However, a number of respondents in West Java and South Sulawesi practiced eating-out with home-cooked dishes, such a phenomenon (termed as membawa bekal) commonly found when we were on a picnic bringing our own food from home or bringing food from home for breakfast/lunch to the workplace. A number of respondents from Jakarta and West Java were reported to practice partial eating-in as they ate at home with both cooking and purchasing out foods.

Eating out by ethnicity

Among all ethnicities, there was a significant mean difference of eating-in with home-cooked dishes, with the highest percentage practiced among Madurese (74.45%), followed by "others" ethnic group, all Sulawesi ethnicities, Javanese, all Sumatera/Melayu ethnicities, Balinese, Sundanese, and Betawis as the lowest. A significant mean difference was also found in eating-in and purchased-out practice, with the highest percentage was found among Betawis (36.71%) and the lowest among Madurese (15.03%). Eating out with home-cooked dishes was highest among Sundanese (3.99%).

Except Betawis, all other ethnic groups had high number of respondents who practiced eating in with home-cooked dishes. Compared to other ethnic groups, Betawis showed highest proportions for eating-in with purchased foods (36.71%), eating-out with purchased foods (23.43%) and eating-in with both home-cooked and purchased food (8.54%). Different patterns were observed among Madurese where most of them did eating in with home-cooked dishes (74.45%) and were less likely to eat in with both home-cooked and purchased foods (1.26%).

Eating out by religion

In terms of religion, there was no significant mean difference of eating location and food preparation practice found between Moslems and their non-Moslem counterparts.

Table 3.15. Distribution pattern of eating out by urbanization, metropolization, modernization, and ethnosocial position

Socio-demographic variables	Indonesia		Eating in, cook	Eating in, purchased out	Eating out, cook	Eating out, purchased out	Eating in, partly1
	Count	%	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)
All	1665	100	53.9	26.3	3.2	11.3	5.4
Urbanization							
Urban	1124	67.5	46.77 ± 0.95	29.95 ± 0.80	3.38 ± 0.34	13.50 ± 0.68	6.40 ± 0.42
Rural	541	32.5	68.57 ± 1.21	18.61 ± 0.91	2.77 ± 0.43	6.83 ± 0.72	3.21 ± 0.47
p value			**<0.001****	**<0.001****	0.288	**<0.001****	**<0.001****
Metropolization							
Primary metropolitan area (Jakarta & Bali)	230	13.8	38.66 ± 2.15	34.61 ± 1.85	2.20 ± 0.64	16.76 ± 1.68	7.76 ± 1.01
Java island provinces	1216	73	55.18 ± 0.92	25.76 ± 0.72	3.37 ± 0.31	10.62 ± 0.59	5.07 ± 0.37
Non-Java island provinces	219	13.2	62.53 ± 1.97	20.26 ± 1.62	3.17 ± 0.79	9.57 ± 1.35	4.46 ± 0.81
p value			**<0.001****	**<0.001****	0.341	**<0.001****	**<0.001****
Modernization							
Low	380	22.8	67.22 ± 1.51	18 .38 ± 1.14	3.77 ± 0.63	6.77 ± 0.89	3.86 ± 0.59
Low-middle	433	26	58.22 ± 1.55	24.10 ± 1.18	3.60 ± 0.57	8.82 ± 0.80	5.26 ± 0.63
High- middle	462	27.7	49.11 ± 1.45	28.35 ± 1.23	2.92 ± 0.47	14.04 ± 1.14	5.58 ± 0.64
High	390	23.4	41.63 ± 1.58	33.88 ± 1.37	2.44 ± 0.49	15.37 ± 1.23	6.68 ± 0.69
p value			**<0.001****	**<0.001****	0.289	**<0.001****	**0.029***

One-Way ANOVA; *0.01<p<0.05; **0.000<p<0.01

[1]*Eating-in partly* means eating at home with both home-cooked meal and purchased food from outside

Table 3.15. Distribution pattern of eating out by urbanization, metropolization, modernization, and ethnosocial position (continued)

Socio-demographic variables	Indonesia		Eating in, cook	Eating in, purchased out	Eating out, cook	Eating out, purchased out	Eating in, partly1
	Count	%	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)
All	1665	100	53.9	26.3	3.2	11.3	5.4
EthnoSocPos							
Sumatra ethnics and T1	66	4.0	60.22 ± 3.49	25.66 ± 2.84	0.73 ± 0.48	11.68 ± 2.75	1.71 ± 0.77
Betawis and T1	15	0.9	22.98 ± 7.06	30.81 ± 7.26	2.50 ± 1.79	34.04 ± 7.97	9.67 ± 4.89
Sundanese and T1	203	12.2	52.44 ± 2.25	24.97 ± 1.77	4.82 ± 0.92	11.79 ± 1.40	5.97 ± 0.86
Javanese and T1	104	6.2	62.29 ± 3.39	21.20 ± 2.55	2.26 ± 1.08	6.43 ± 1.43	7.83 ± 1.74
Balinese and T1	15	0.9	69.25 ± 8.20	17.66 ± 6.84	5.58 ± 3.59	6.52 ± 2.97	0.98 ± 1.56
Sulawesi ethnics and T1	58	3.5	71.72 ± 3.87	14.47 ± 3.19	3.69 ± 1.71	4.26 ±1.69	5.96 ± 1.66
Madurese and T1	86	5.2	82.14 ± 2.73	9.09 ± 1.72	2.44 ± 1.04	5.54 ± 2.16	0.78 ± 0.50
Others and T1	5	0.3	82.18 ± 14.86	15.11 ± 11.34	0	2.71 ± 4.59	0
Sumatra ethnics and T2	25	1.5	57.59 ± 5.68	21.16 ± 4.32	1.00 ± 1.39	15.82 ± 4.49	4.43 ± 2.32
Betawis and T2	32	1.9	34.24 ± 5.54	30.91 ± 4.12	2.77 ± 2.34	20.32 ± 5.05	11.76 ± 3.44
Sundanese and T2	258	15.5	46.24 ± 1.78	29.37 ± 1.63	4.10 ± 0.76	11.78 ± 1.38	8.51 ± 1.06
Javanese and T2	161	9.7	56.51 ± 2.62	25.59 ± 2.07	4.50 ± 1.04	10.67 ± 1.66	2.72 ± 0.69
Balinese and T2	18	1.1	54.14 ± 7.75	28.79 ± 6.71	2.84 ± 2.74	8.36 ± 4.71	5.85 ± 3.37
Sulawesi ethnics and T2	27	1.6	46.86 ± 5.56	30.30 ± 5.48	4.49 ± 2.96	12.19 ± 4.85	6.16 ± 3.34
Madurese and T2	30	1.8	69.27 ± 6.42	20.10 ± 4.09	0	6.93 ± 3.00	3.70 ± 1.64
Others and T2	7	.0.4	54.96 ± 5.52	37.03 ± 3.60	0	5.45 ± 5.51	2.56 ± 3.66
Sumatra ethnics and T3	26	1.6	44.83 ± 5.60	34.05 ± 4.50	1.95 ± 1.94	17.13 ± 4.81	2.04 ± 1.51
Betawis and T3	26	1.5	27.17 ± 5.27	47.41 ± 5.47	0.56 ± 0.67	20.99 ± 5.60	3.86 ± 1.99
Sundanese and T3	200	12.0	43.44 ± 2.30	31.54 ± 1.84	3.00 ± 0.68	13.68 ± 1.59	8.33 ± 1.05
Javanese and T3	198	11.9	56.11 ± 2.10	29.01 ± 1.84	2.58 ± 0.71	10.26 ± 1.46	2.04 ± 0.61
Balinese and T3	56	3.4	52.08 ± 3.99	27.28 ± 3.10	2.23 ± 1.06	12.76 ± 2.73	5.64 ± 1.70
Sulawesi ethnics and T3	15	0.9	46.72 ± 7.40	21.73 ± 7.63	3.79 ± 3.12	19.98 ± 7.54	7.78 ± 3.79
Madurese and T3	26	1.6	54.96 ± 6.09	28.85 ± 4.99	1.94 ± 1.34	14.25 ± 1.99	0
Others and T3	6	0.4	72.27 ± 16.29	20.44 ± 13.11	0	1.96 ± 2.59	5.33 ± 4.40
p value			**<0.001****	**<0.001****	0.483	**<0.001****	**<0.001****

One-Way ANOVA; *0.01<p<0.05; **0.000<p<0.01

[1]*Eating-in partly* means eating at home with both home-cooked meal and purchased food from outside

Eating out by urbanization

Rural respondents practiced more eating in with home-cooked dishes (68.57%), while their urban counterparts practiced eating in with purchased food (29.95%), eating out with purchased food (13.5%), and eating in with home-cooked and purchased food (6.40%). The practice of eating out with purchased food among the rural residents was only half of the size of urban residents. There was no significant mean difference in the practice of eating out with home-cooked food among the rural and urban dwellers.

Eating out by metropolization

Similar patterns with urbanization were found on the distribution of eating location among the metropolization areas. The area identified as the non-metropolitan like outside Java provinces practiced the most of eating in with home cooked food (62.53%) as compared to their secondary metropolitan areas like other Java provinces (55.18%) and Jakarta and Bali (38.66%). The opposite patterns were found on the practices of eating in with purchased food, eating out with purchased food, and partial eating in involving some purchased food which were highest among the primary metropolitan areas residents of Jakarta and Bali. There was no significant mean difference in the practice of eating out with home-cooked food among the three categories of the metropolization areas. However, in general the practice of eating in with home cooked food was highest as compared to other practices. Overall, these observations are asserting studies as also found in other parts of the world, along with transformations of the food system.

Eating out by modernization

Similar patterns consistent with urbanization and metropolization were found on the distribution of eating location with modernization index. Most of the respondents lived in areas with a high-middle modernization index (27.7%), followed by a low middle (26.0%), high (23.4%), and low modernization index (22.8%). The respondents living in areas with lowest modernization index practiced the most of eating in with home cooked food (67.22%) as compared to their counterparts living in areas with low-mid modern index (58.22%), high-mid modern index (49.11%) and high modern index (41.63%). On the contrary, the opposite patterns were found on the practices of eating in with purchased food, eating out with purchased food, and partial eating in involving some purchased food which were highest among respondents with the highest modernization index. There was no significant mean difference in the practice of eating out with home-cooked food among the categories of the modernization index. However, in general the practice of eating in with home cooked food was highest as compared to other practices based on the modernization index.

The findings here are asserting those pertaining to the position in the social stratification, the demographic transition and urbanization/ metropolization. Modernization is associated with a shift of the spatiality of the food preparation and/or consumption out-of-home.

Eating out by ethnic group related social position (EthnoSocPos)

The EthnoSocPos was determined based on the combined characteristics of ethnicity and wealth index (with T1=low, T2=medium, and T3=highest). This variable tells us the social position of the respondents from a given ethnic group based on their wealth category which was derived from their households' facilities and assets. The table shows the distribution of patterns of eating location based on the social position of the ethnic groups under studied.

Among those belonged to T1 wealth index, Madurese group practiced eating-in with cooked food (82.14%), Sumatrans eating-in with purchased food (25.66%), and Sundanese eating-out with purchased food (11.79%), and Javanese with partial eating-in (7.83%) highest compared to other ethnics within the same wealth index. Among those in the T2 wealth index, a highest number of Madurese people practiced eating-in with cooked food (69.27%). Betawis showed multiple practices as they highly practiced eating-in with purchased food (30.91%), eating-out with purchased food (20.32%), and partial eating-in (11.76%) as compared to other ethnics within the same wealth index. Among all ethnicities belonged to the highest wealth index, Javanese people showed the highest practice of eating-in with cooked food (56.11%), while Betawis practiced highest on eating-in with purchased food (47.41%) and eating-out with purchased food (20.99%), and Sundanese highest on partial eating-in with some purchased food involved (8.33%). However, we need to be cautious with the interpretation of these patterns as the present study sampled higher number of Sundanese and Javanese people in all tertiles of wealth index as compared to other ethnic groups.

Table 3.16. Distribution pattern of eating out by gender, age, education, occupation, and wealth index

Socio-demographic variables	Indonesia		Eating in, cook	Eating in, purchased out	Eating out, cook	Eating out, purchased out	Eating in, partly1
	Count	%	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)
All	1665	100	53.9	26.3	3.2	11.3	5.4
Gender							
Male	858	51.5	53.97 ± 1.15	22.44 ± 0.83	3.47 ± 0.37	14.84 ± 0.81	5.29 ± 0.45
Female	807	48.5	53.74 ± 1.10	30.33 ± 0.94	2.87 ± 0.39	7.61 ± 0.63	5.36 ± 0.32
p value			0.886	**<0.001****	0.274	**<0.001****	0.811
Age groups (years)							
18-25	354	21.2	46.48 ± 1.66	29.63 ± 1.48	3.78 ± 0.59	15.28 ± 1.23	4.83 ± 0.62
26-35	476	28.6	50.34 ± 1.50	29.37 ± 1.18	2.12 ± 0.42	13.37 ± 1.09	4.80 ± 0.56
36-45	337	20.3	55.27 ± 1.70	23.16 ± 1.56	4.23 ± 0.73	12.99 ± 1.12	5.35 ± 0.72
46 and above	498	29.9	61.52 ± 1.44	23.00 ± 1.08	3.05 ± 0.48	6.14 ± 0.75	6.28 ± 0.66
p value			**<0.001****	**<0.001****	**0.036***	<0.001**	0.279
Highest level of education							
Primary or lower	447	26.9	69.43 ± 1.43	19.85 ± 1.13	3.18 ± 0.54	3.85 ± 0.63	3.70 ± 0.54
Lower secondary school	302	18.1	51.42 ± 1.93	25.74 ± 1.52	3.15 ± 0.62	13.91 ± 1.41	5.77 ± 0.76
Upper secondary school	727	43.7	47.54 ± 1.14	28.33 ± 0.93	3.17 ± 0.40	14.16 ± 0.83	6.79 ± 0.55
College/University	189	11.3	45.20 ± 2.13	34.32 ± 2.03	3.25 ± 0.79	14.08 ± 1.65	3.14 ± 0.66
p value			**<0.001****	**<0.001****	1.000	**<0.001****	**<0.001****
Occupation							
Professional	41	2.5	48.08 ± 4.28	31.63 ± 3.89	3.24 ± 1.70	14.01 ± 3.05	3.04 ± 1.31
White collar	561	33.7	48.86 ± 1.39	26.72 ± 1.09	3.14 ± 0.48	15.58 ± 1.03	5.70 ± 0.57
Blue collar	369	22.1	63.04 ± 1.75	16.09 ± 1.16	4.35 ± 0.67	12.46 ± 1.19	4.06 ± 0.61
Student/not working	232	13.9	50.18 ± 2.19	31.05 ± 1.87	3.07 ± 0.70	10.39 ± 1.30	5.32 ± 0.89
Housewife	463	27.8	54.96 ± 1.35	30.94 ± 1.15	2.34 ± 0.41	5.55 ± 0.69	6.22 ± 0.65
p value			**<0.001****	**<0.001****	0.140	**<0.001****	0.127
Wealth index							
T1 (Low)	554	33.3	61.80 ± 1.41	20.63 ± 1.04	3.28 ± 0.48	9.38 ± 0.83	4.91 ± 0.53
T2 (Medium)	559	33.5	50.67 ± 1.32	27.61 ± 1.09	3.71 ± 0.51	11.70 ± 0.93	6.31 ± 0.62
T3 (High)	553	33.2	49.12 ± 1.34	30.54 ± 1.11	2.55 ± 0.39	12.93 ± 0.95	4.86 ± 0.51
p value			**<0.001****	**<0.001****	0.208	**0.019***	0.114

One-Way ANOVA; *0.01<p<0.05; **0.000<p<0.01

[1]*Eating-in partly* means eating at home with both home-cooked meal and purchased food from outside

Eating out by gender

There were significant differences of both eating in with purchased foods and eating out with purchased foods among male and female respondents. Although both consumed purchased foods, females tended to eat in while males tended to eat out. More females practiced eating in with purchased foods than males ($p<0.001$). However, more males ate out with purchased foods than females ($p<0.001$). This distribution could be associated with classic gendered public-private divide where eating out would be a public practice even though studies on gender roles have demonstrated the relatively high status of women as one of the distinctive traits of Southeast Asia as a region, compared with East and South Asia (Reid, 1988; Stivens, 1998).

Eating out by age groups

There were significant mean differences found between age groups for eating in with home-cooked food, eating in with purchased food, eating out with home-cooked food, and eating out with purchased food. The oldest age group (i.e., 46 years old and above) had the highest proportion of eating in with home-cooked dishes (61.52%). The proportion of this practice declined as the age got younger. The youngest age group (18-25 years old) had the highest proportion of eating in with purchased food (29.63%) and eating out with purchased food (15.28%) which was the lowest among the oldest age group. These observations assert global trends. Age, being a proxy for generation and position within the life cycle, could indicate either some increase of eating out and sourcing out along with the youngest generations or distinctive practices among the youngest, such as the practices of specific types of restaurants like fast food outlets. Eating out with home-cooked dishes was found highest among the 36-45 years old age group, followed by 18-25 years old, 46 years old and above, and the lowest among the 26-35 years old group.

Eating out by highest level of education

Table 3.16 shows the distribution of eating location based on highest educational attainment. Most of the respondents had an upper secondary school (43.7%), primary or lower (26.9%), lower secondary school (18.1%), and college/university (11.3). Some practices were found significantly different across these levels of education. The highest mean of eating in and cooking practice was among those graduating from the primary or lower education (69.43%) with a decrease of mean as the education level rises. On the contrary, for the eating in and purchased out practice, the highest mean was among the college/university graduates (34.32%) with decreased means as the education level got lower. Results from eating out and purchasing out among the education levels show that the highest mean of eating in and purchased practices was among the upper secondary school (14.16%), followed by those graduated from college/university, lower secondary school, and primary or lower level. The highest mean of partial eating in practice was among the upper secondary school (6.79%), followed by the lower secondary school, primary or lower, and college/university groups. In general, the highest proportion of the distribution of eating location among all levels of education was eating in with cooked food, while the practice of eating out with cooked food was lowest.

Eating out by occupation

Table 3.16 shows the proportion distribution of the respondents based on their occupation. Most of the respondents are white-collar (33.7%), housewife (27.8%), blue-collar (22.1%), student/ not working (13.9%), and professional (2.5%). The highest means of eating in and cooked practices were among the blue-collar workers (63.04%) and housewives (54.96%), followed by students/ not working respondents (50.18%), white-collar workers (48.86%), and the professionals (48.08%). While the practice of eating in with take-aways were higher among the professionals (31.63%), students/non-working (31.05%), housewives (30.94%), and white-collar (26.72%), and the lowest among blue-collar workers (16.09%). The practice of eating out with purchased food was highest among the white collars (15.58%), and lowest among the housewives (5.55%). The practices of bringing food from home eaten outside home and partial eating in were less common and not significantly different across type of occupation. Overall, the highest proportion of eating location in all the occupation groups was eating in with home-cooked food. Yet higher rates of eating in with take-aways and eating out with purchased food were associated with higher position in the social stratification and its factors of education attainment, occupation, and wealth index. It is asserting previous conclusions on eating out being associated with social distinction and the aesthetic experiences that restaurants offer nowadays in other contexts.

Eating out by wealth index

Table 3.16 shows the distribution of eating location by respondents' wealth index. It shows that the practice of eating in with cooked foods was highest among the lowest tertile group and it decreased as the wealth index increased. The opposite patterns were found for the practices of eating in with purchased food and eating out with purchased food in which the highest proportions were among the highest tertile. There were no significant mean differences in eating out with cook foods as well as eating in with cooked and purchased food among the three wealth index groups. Nevertheless, the practice of eating in with cooked food was highest compared to other practices.

Table 3.17. Distribution pattern of eating out by marital status, number of children, and number of family members

Socio-demographic variables	Indonesia		Eating in, cook	Eating in, purchased out	Eating out, cook	Eating out, purchased out	Eating in, partly1
	Count	%	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)
Marital status							
Single/widowed/ divorced/separated	523	31.5	47.20 ± 1.47	30.12 ± 1.21	2.55 ± 0.42	14.48 ± 1.01	5.65 ± 0.54
Married/living together	1142	68.5	56.91 ± 0.93	24.50 ± 0.63	3.47 ± 0.34	9.89 ± 0.60	5.23 ± 0.40
p value			**<0.001****	**<0.001****	0.113	**<0.001****	0.542
Number of children							
no children	402	24.2	44.06 ± 1.66	30.48 ± 1.40	3.49 ± 0.57	17.63 ± 1.22	4.34 ± 0.53
1-2 children	775	46.6	55.04 ± 1.13	25.82 ± 0.91	2.47 ± 0.35	10.34 ± 0.76	6.33 ± 0.53
3-4 children	356	21.4	58.31 ± 1.68	24.00 ± 1.27	4.30 ± 0.67	8.62 ± 0.93	4.77 ± 0.67
5 or more children	132	7.9	64.84 ± 2.64	22.12 ± 2.08	3.39 ± 1.05	5.28 ± 1.36	4.37 ± 1.05
p value			**<0.001****	**0.001****	0.063	**<0.001****	**0.044***
Number of family members staying together							
1 person/lived alone	85	5.1	49.94 ± 3.97	25.56 ± 3.38	6.59 ± 1.71	11.47 ± 2.25	6.43 ± 1.60
2 persons	148	8.9	56.37 ± 2.87	23.30 ± 2.14	4.09 ± 1.11	9.40 ± 1.78	6.84 ± 1.11
3-5 persons	969	58.2	55.11 ± 1.04	25.58 ± 0.80	2.54 ± 0.31	11.13 ± 0.69	5.64 ± 0.44
6 persons and more	462	27.8	51.17 ± 1.44	28.78 ± 1.21	3.60 ± 0.53	12.36 ± 0.98	4.10 ± 0.53
p value			0.080	0.068	**0.004****	0.501	0.068

One-Way ANOVA; *0.01<p<0.05; **0.000<p<0.01

[1]*Eating-in partly* means eating at home with both home-cooked meal and purchased food from outside

Eating out by marital status

Around 68.5% of the respondents were married or living together while 31.5% were single, widowed, divorced, or separated. There were significant mean differences in the practices of eating in with cooked food, eating in with purchased food, and eating out with purchased food between single/widow/divorced/separated and married/living together respondents. The married/living together respondents had a higher mean percentage of eating in and cooking (56.91%) as compared to those who were single/widowed/divorced/separated (47.20%). On the other hand, single/widowed/divorced/separated respondents had a higher mean percentage (30.12%) for eating in purchased out as compared to married/living together respondents (24.50%). In addition, the single/widowed/divorced/separated respondents had a higher mean percentage (14.48%) of eating out, purchased out as compared to married/living together respondents (9.89%).

The married/living together group tended to eat in and cook, while the single/widowed/divorced/separated respondents more commonly purchased foods even though they liked both eating in and eating out.

Eating out by number of children

Table 3.17 shows the number of children and distribution of eating location. Most of the respondents lived in households with 1-2 children (46.4%) followed by no children (24.2%), 3-4 children (21.4%), and 5 or more children (7.9%).

The highest mean in eating in with home-cook food was among the respondents living in households with 5 or more children (64.84%) followed by those with 3-4 children (58.31%), 1 – 2 children (55.04%), and no children (44.06%). Accordingly, the highest mean in eating in with purchased-out food was on the opposite i.e., households with no children were found highest practicing this eating location (30.48%), followed by those with 1-2 children (25.82%), 3-4 children (24.00%), and 5 or more children (22.12%). The latter pattern was also found similar for eating out with purchased-out foods i.e., the highest among households with and no children (17.63%), followed by those with 1-2 children (10.34%), 3-4 children (8.62%), and 5 or more children (5.28%). Meanwhile, the practice of eating in with combination of home-cooked and purchased foods, the highest was among the respondents living in households with 1-2 children (6.33%) and the lowest among those with no children (4.34%).

In general, respondents who lived with children tended to cook regardless of eating location, whilst those with no children tended to purchase foods from outside, even though the practice of eating in was much higher than that of eating out.

Eating out by number of family members staying together

Table 3.17 shows the number of family members staying and the distribution of eating out pattern. More than half of the respondents had 3-5 people staying together (58.2%) and only 5.1% who lived alone. In general, respondents who lived alone significantly more frequent to bring cooked food to be consumed outside their home than those who lived with more family member. Whilst there is no significant different for other eating-out pattern.

Marital status, number of children, and number of family members staying together are proxies for the demographic transition component of the modernization process. Single individual without children would eat out and take away more frequently, which is asserting observation in Northern European countries. Something to note here is that age may be a co-variate.

Cooking Practices

Figure 3.46 shows the cooking activity in the household. Most of the respondents' meal was cooked by others (57%). About 38% of the respondents cooked the food by themselves and 5% admitted no cooking activity in the house.

The distribution of cooking activity in households based on respondents' characteristics is shown in Figure 3.47. Association was found between the living area, gender, age, marital status, occupation, wealth index, ethnicity, metropolization, modernization, level of education with cooking in the household. Respondents who lived in rural areas, male, aged between 18 - 25 years, single/widow/divorce, college/university, student/not working, being in T2 wealth index, Sundanese, lived in outside Java provinces, and belonged to high index for modernization had a higher percentage of food cooked by the others as compared to other counterparts.

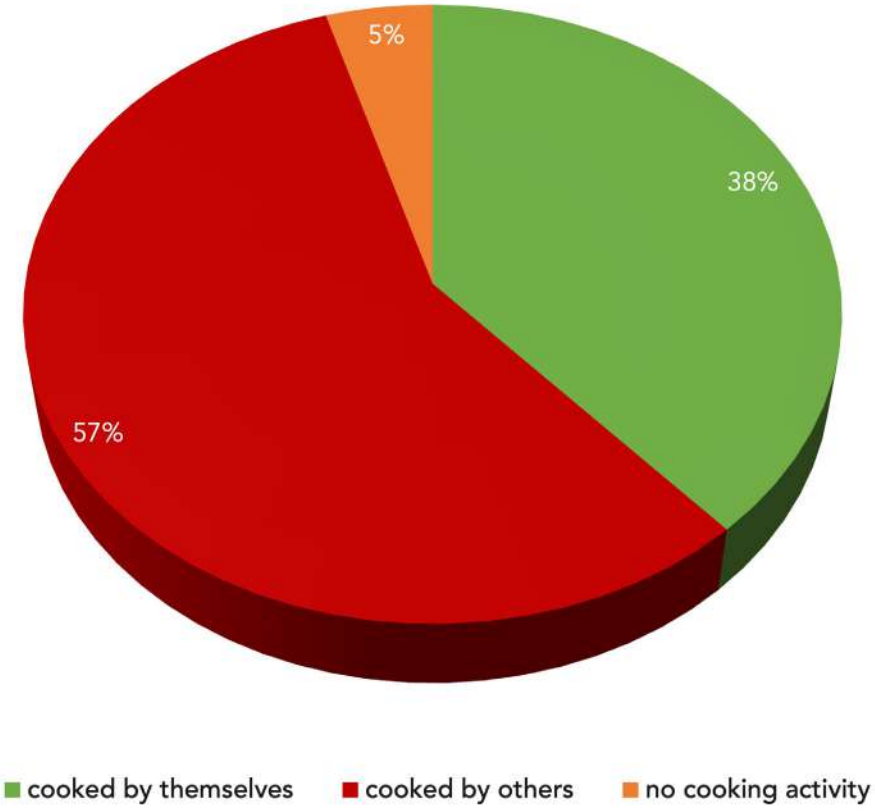
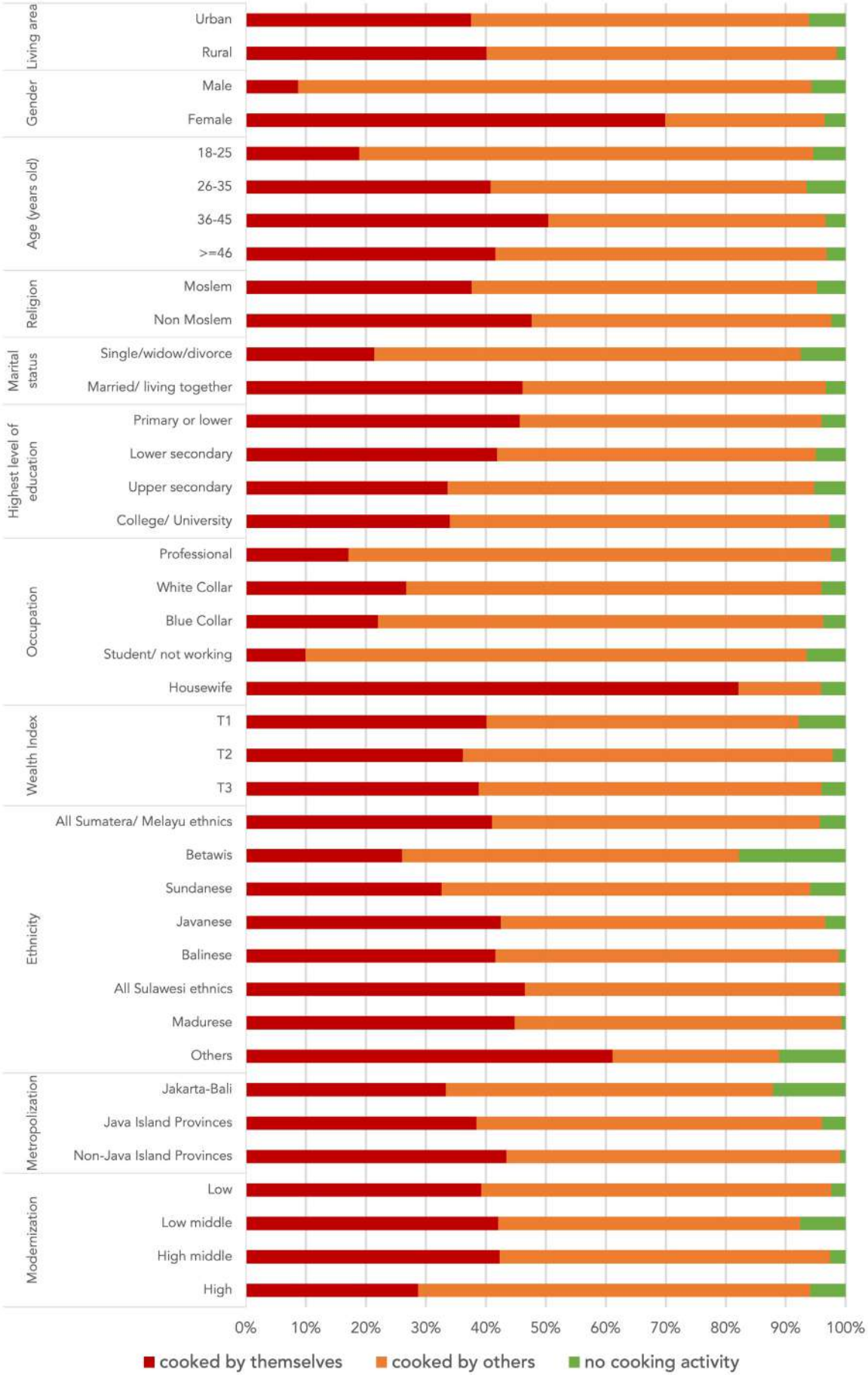


Figure 3.46. Percentage of cooking activity at home



Chi-square test p<0.001 for urban-rural, gender, age, marital status, occupation, wealth index, ethnicity, metropolization, and modernization; Chi-square test p<0.05 for the level of education; There was no difference between religions.

Figure 3.47. Cooking activity at home by sociodemographic characteristics (n=1665)

Socio-Cultural Representations of Food

Meaning of food

Figure 3.48 shows the meaning of food for respondents. Most of the respondents answered, "a need" as the meaning food (54.2%).

The distribution of the meaning of food based on respondents' characteristics is shown in Figure 3.49. Association was found in age, level of education, occupation, living area, marital status, wealth index, modernization, and ethnicity. Respondents who were living in the urban area, belonged to 18 - 25 age group, single/widow/divorce, student/not working, upper secondary level education, T3 wealth index, high modernization, and being Balinese had a higher percentage of stating ''a need'' as the meaning of food compared to other counterparts.

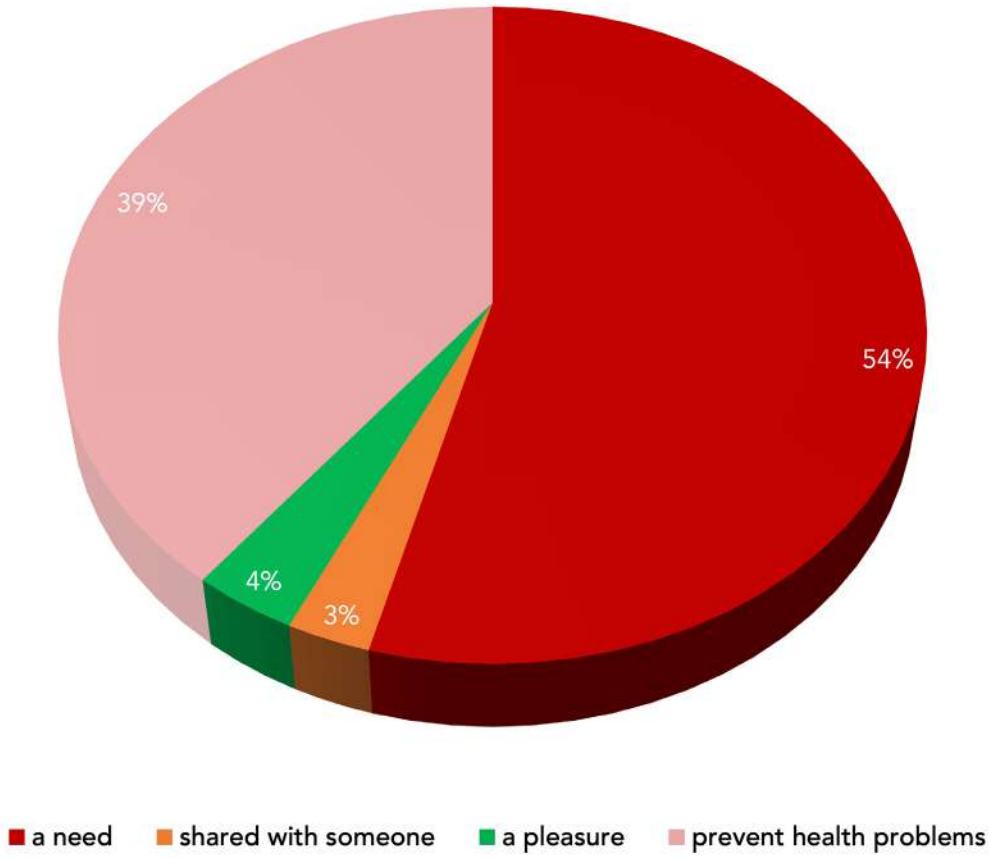
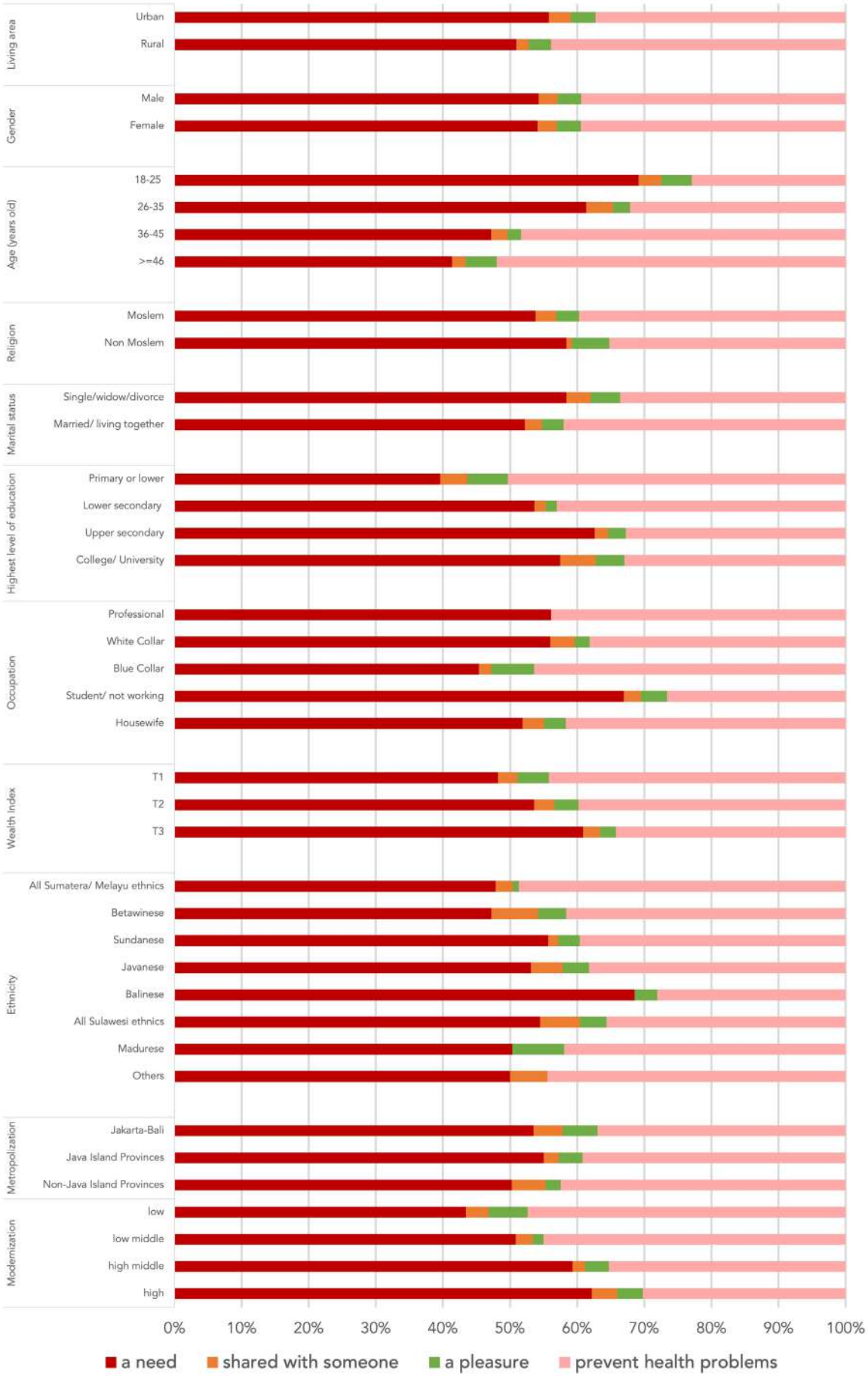


Figure 3.48. The meaning of food represented by the respondents (n=1665)



Chi-square test p<0.001 for age, highest level of education, occupation, and modernization; Chi-square test p<0.05 for living area, marital status, wealth index, and ethnicity; There were no significant differences between gender, religion, and metropolization.

Figure 3.49. Meaning of food by sociodemographic characteristics (n=1665)

Eating well

To measure the representations on eating well, respondents were asked to choose a card that represented the type of eating that would satisfy them, whether it was about eating healthy food, eating delicious food which referred to pleasure, eating together, eating to fill the stomach, eating based on tradition, or eating to gain body strength. Figure 3.50 shows the respondent's representations on eating well. Most of the respondents represented healthy food as a proper meal (41.8%) followed by food for togetherness (30.0%), pleasure (13.2%), and strength (7.9%). The least chosen options of what considered a proper meal were filling the stomach (4.7%) and tradition (2.3%).

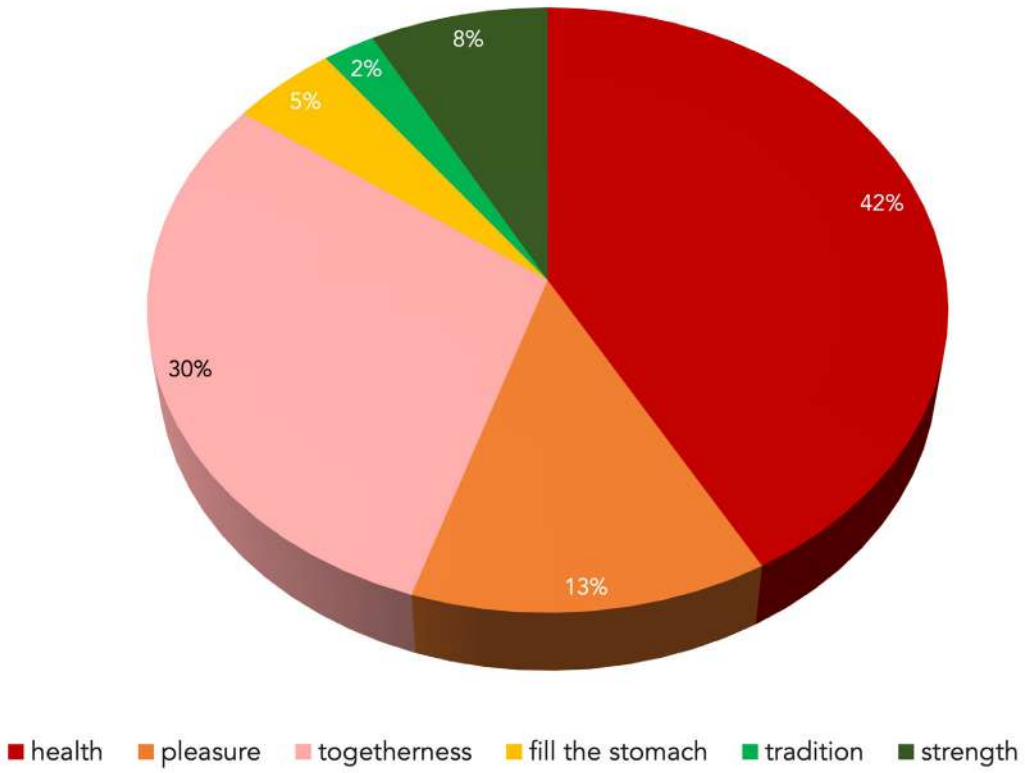
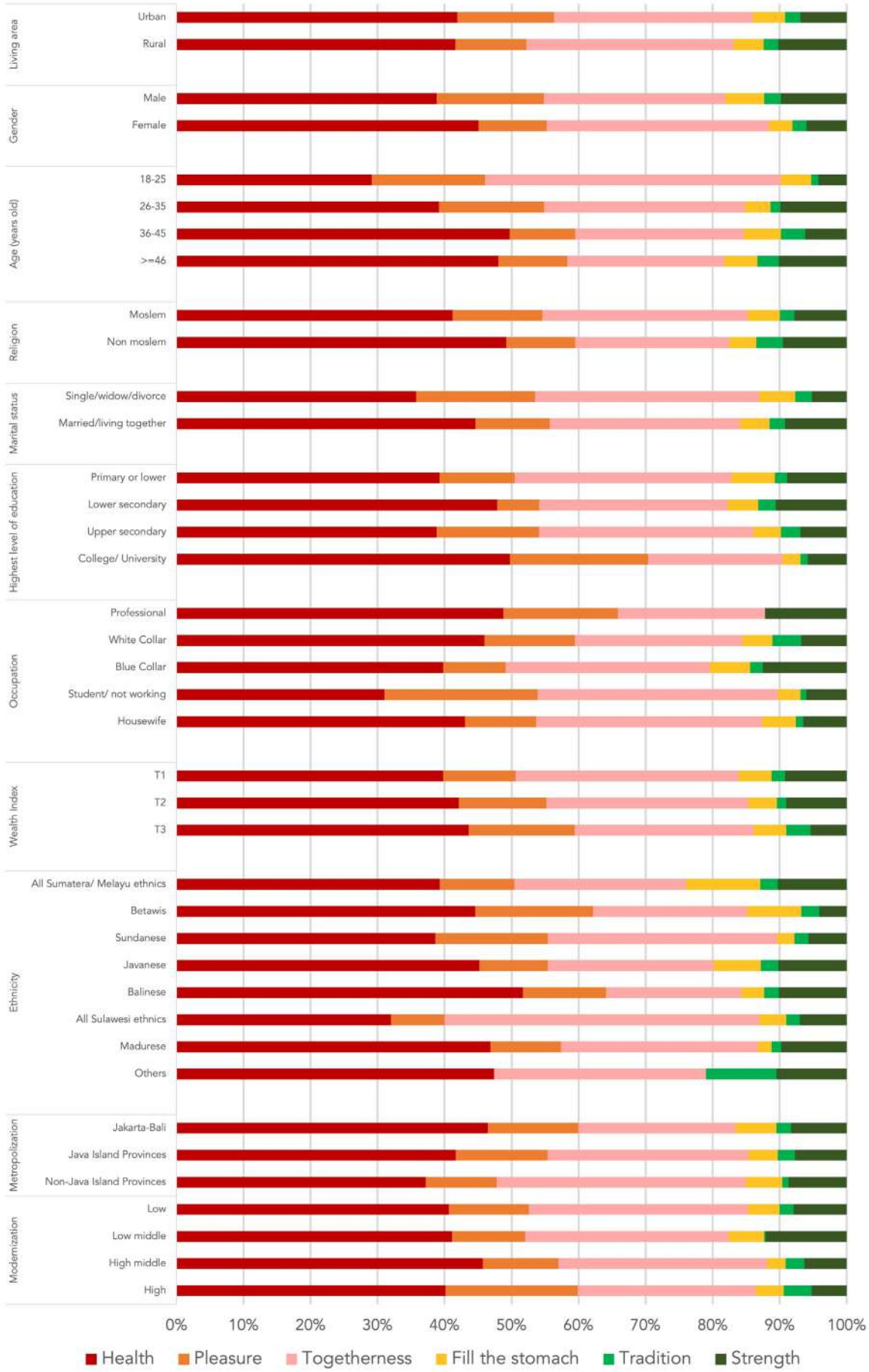


Figure 3.50. Respondents' representations on eating well



Chi-square test p<0.001 for occupation, ethnicity, highest level of education, marital status, age, gender, and modernization; Chi-square test p<0.05 for wealth index; There were no difference between gender, religion, and metropolization.

Figure 3.51. Representations on eating well by respondents' characteristics (n=1665)

Figure 3.51 shows the representations on eating well based on the respondents' characteristics. Occupation, ethnicity, highest level of education, marital status, age, gender, modernization, and wealth index were found to be associated with the representations on eating well. The highest proportion of representations on eating well based on respondents' characteristics was mostly found in health criteria. Being female, aged 36 - 45 years, married/living together, college/university, professional, T3 wealth index, Balinese, and the high-middle modern group were found to have significantly higher proportion of health as a representation on eating well compared to other counterparts.

Risk representations towards food

Respondents represented ''coloring and preservatives'', ''expired food'', and ''unbalanced diet'' as the top three food risks in the first, second, and third choices. ''GMO'' is the least food risk represented by the respondent among all choices. After combining all choices, "expired food" emerged to be the most food risk represented by the respondents (23.8%). It is followed by coloring and preservatives, unbalanced diet, germs and bacteria, food epidemic, contamination by pollutants, pesticides, allergens, and GMO, respectively.

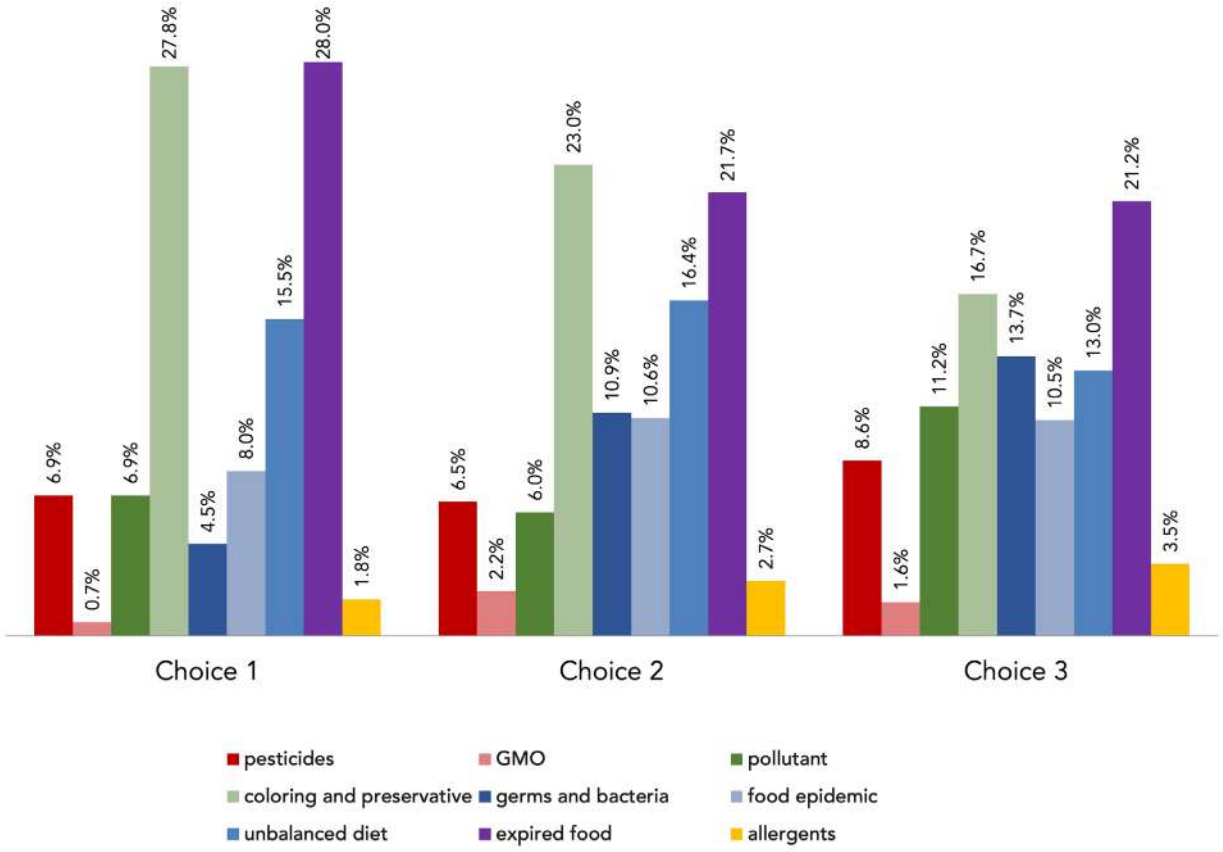


Figure 3.52. Risk representations towards food - 1st, 2nd, 3rd choices (n=1665)

Representation on food beneficial for health

For Indonesians, water was the first choice considered to be healthy (28.2%). It is then followed by vegetables, fresh fruit/juices, milk & dairy, as well as food with balanced nutrition as the top five first choices, respectively. The least food representation as healthy in the first choice was fish. In the second choice, fresh fruit/juice was the response chosen by highest number of the respondents (17.9%), followed by water, vegetables, milk & dairy, as well as flavored/ traditional drinks. Overall, the top choices for healthy food among Indonesians were water, vegetables, fresh fruit/juices, and milk & dairy (Figure 3.53).

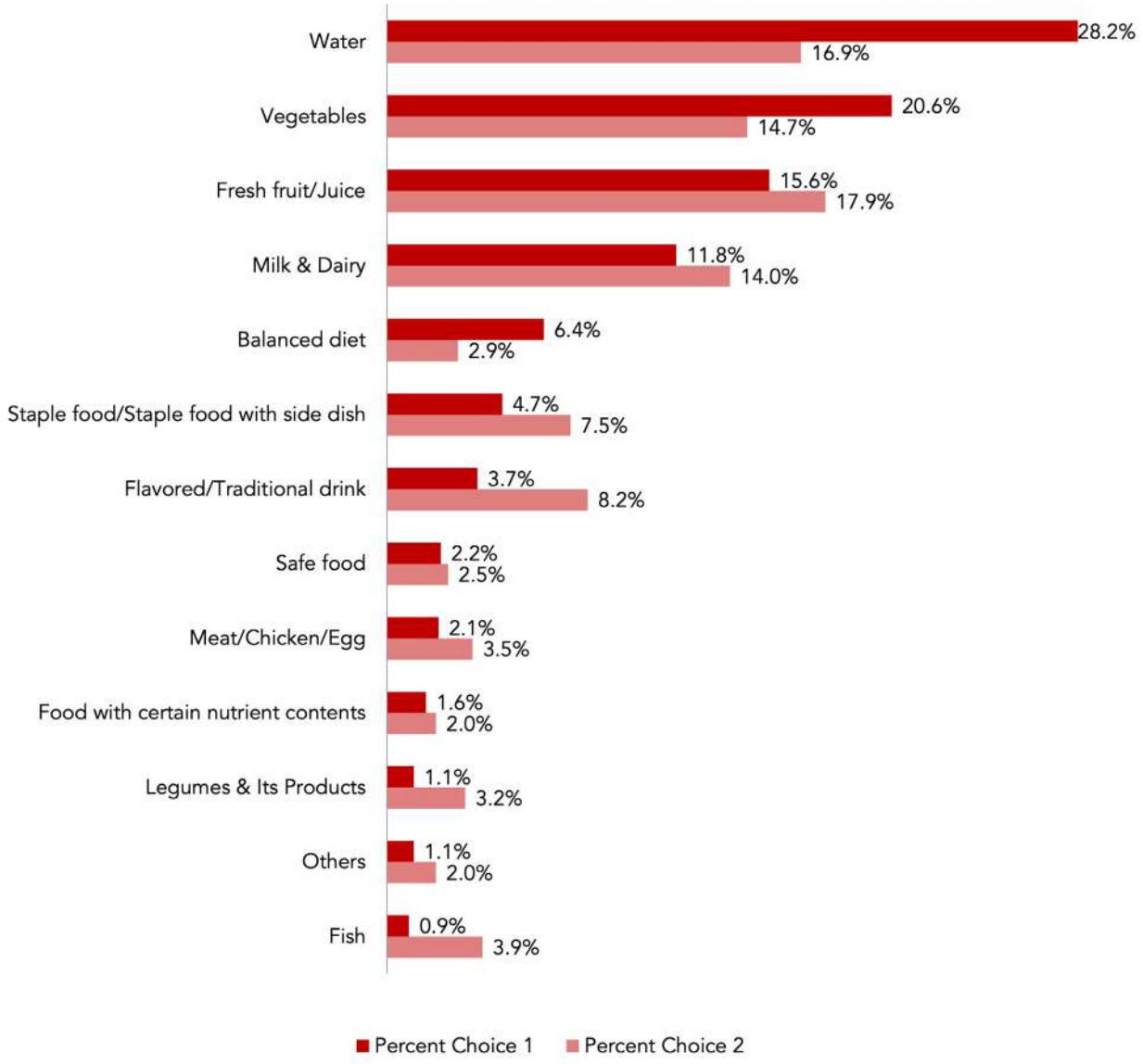


Figure 3.53. Food essential and beneficial to health - 1st and 2nd choices (n=1665)

Representation on food to be reduced for good health

Figure 3.54 shows the 1st and 2nd choice of food to be reduced to stay in good health. High-fat food was the most chosen food to be reduced to be in good health in 1st (30.3%) and 2nd (20.9%) choices. The second and third highest was caffeine (14.8%) and high sugar (7.9%) for the first choice. Meanwhile, food with preservatives, flavoring, and coloring (11.00%) and soda (10.3%) was mentioned for the second choice. The least food type chosen to be reduced in the first and second choices were high salt and high carbohydrate respectively.

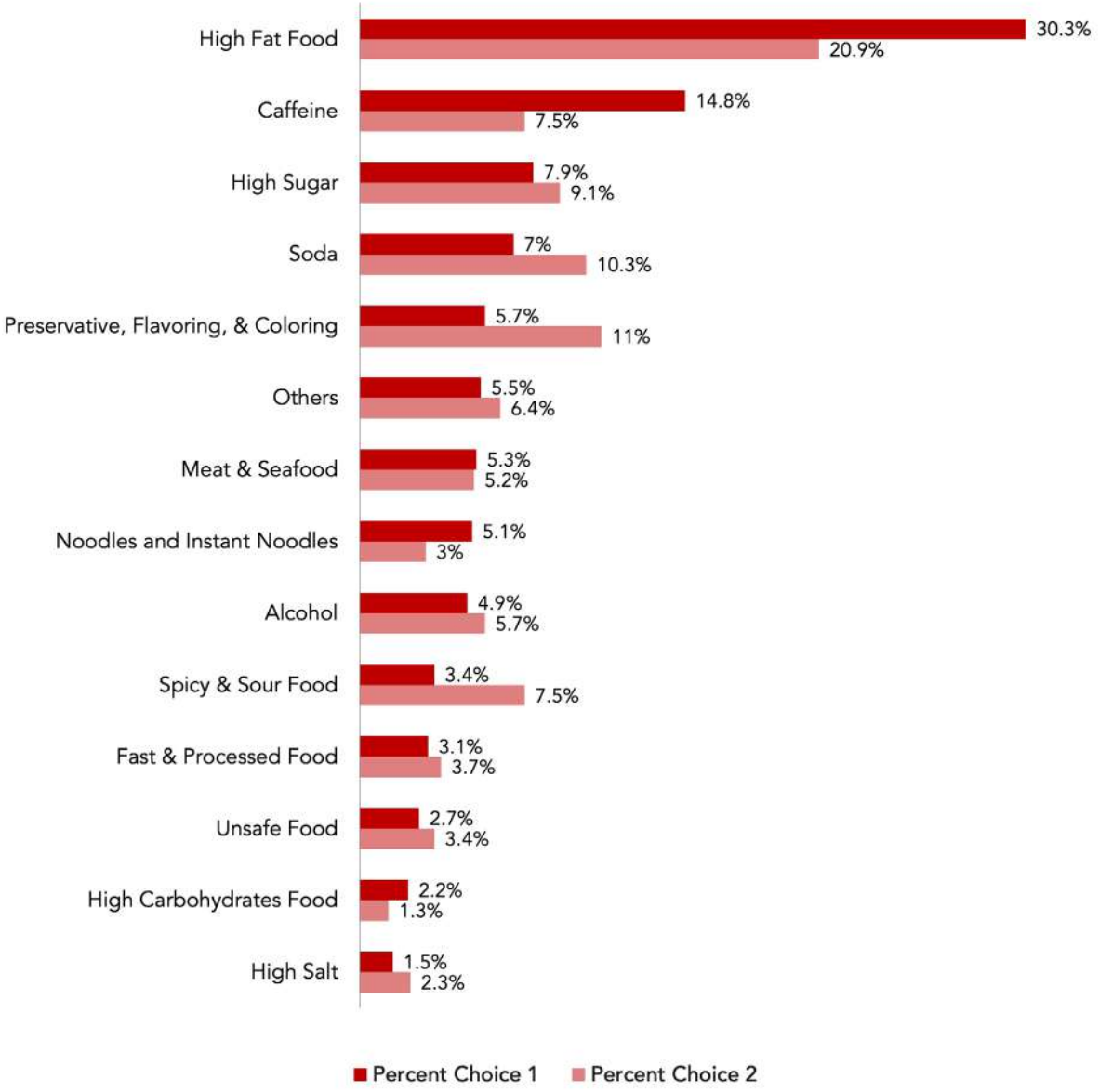


Figure 3.54. Food to reduce to be in good health - 1st and 2nd choices (n=1665)

Indonesian Emblematic Dishes

Figure 3.55. Indonesian emblematic dishes by provinces (n=1665)

The data of Indonesian emblematic dishes was obtained by using open-ended questionnaire. Respondents were asked to mention two Indonesian typical foods. It was addressed by the following original question in Bahasa Indonesia 'Sebutkan 2 jenis makanan/menu/masakan yang khas Indonesia'. The responses varied due to the nature of Indonesian diverse cultures. Around 719 foods that were represented as Indonesian typical foods/dishes by the respondents were recorded, in which 296 responses were for first choice and 423 responses for second choice. Among those, 397 responses were identified to be reflective for several provinces in Indonesia.

Figure 3.55 shows the most frequently mentioned typical foods/dishes by provinces, for example rendang from West Sumatra, soto bandung from West Java, gado-gado from Jakarta, pecel from East Java, lawar from Bali, and coto makassar from South Sulawesi. There were also unique foods classified outside of respondents' province of origin, shown that it may be mentioned by some transmigrants that currently become permanent residents in our study sites. However, many other foods were commonly found all over Indonesia. Therefore, these foods cannot be identified as emblematic dishes in certain Indonesian regions. As rice is one of the main staple food for Indonesians, rice or rice with side dishes was mainly mentioned in the first and second choice for commonly found food such as nasi goreng. Followed by other common food such as vegetable soup, soto, and bakso that were included in the beef/horseflesh/lamb dishes (Figure 3.56).

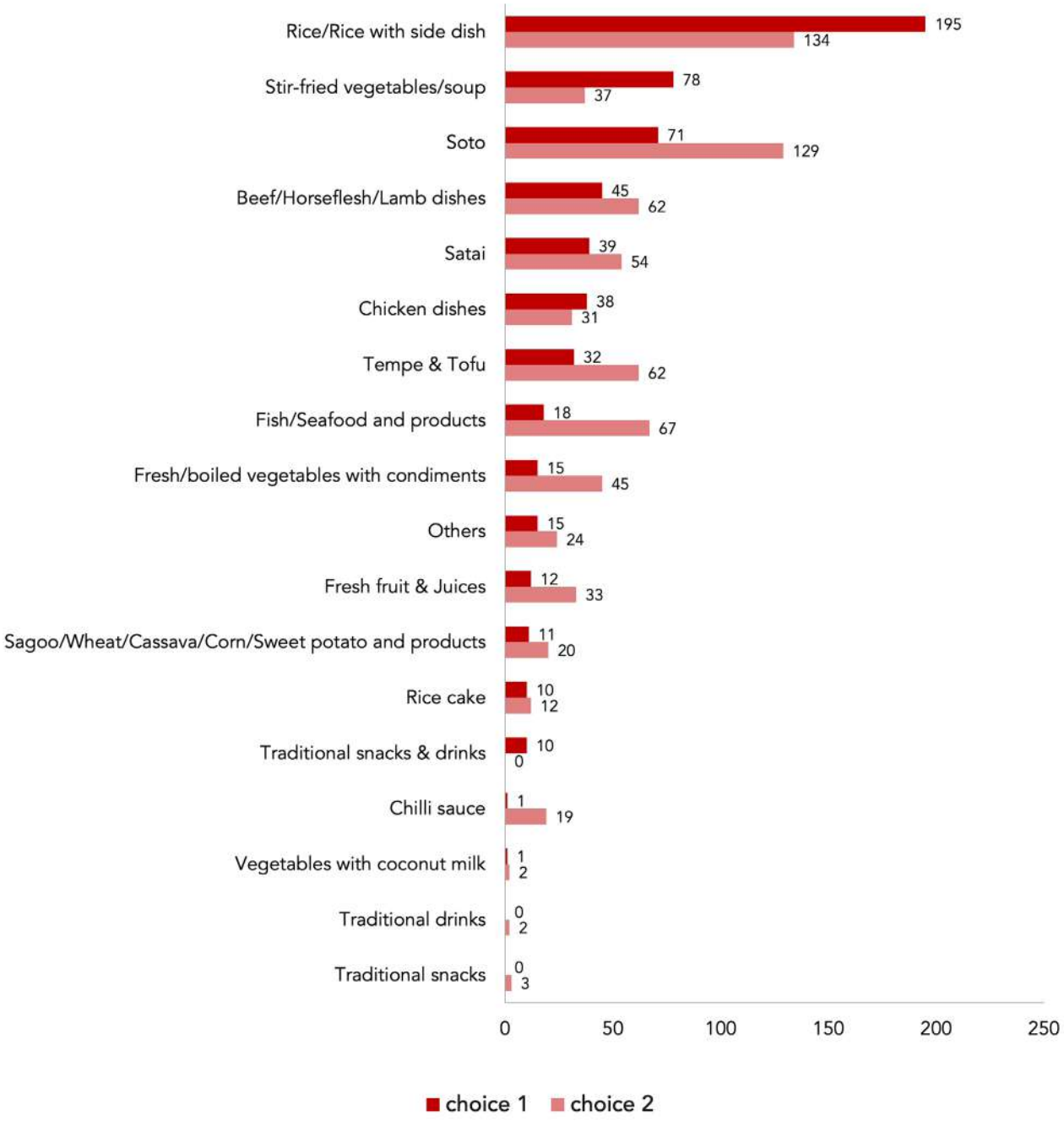


Figure 3.56. Common foods found in Indonesia (n=1665)

Macronutrient Intakes

Table 3.18. Macronutrient intakes based on sociodemographic characteristics

	Energy (kcal) (median (min-max))	p-Value	Carbohydrate g) (median (min-max))	p-Value	Protein (g) (median (min-max))	p-Value	Fat (g) (median (min-max))	p-Value
Living Area								
Urban	1463.3 (511.9 - 4069.5)	0.189	181.7 (35.4-688.4)	<0.001	50.9 (9.5 - 167.7)	0.392	54 (6.3-257.5)	<0.001
Rural	1487.1 (500.2 - 3854.2)		199.6 (45.2-694.8)		52.0 (10.6 - 200.3)		48.2 (2.2-237)	
Gender								
Men	1617.7 (500.2- 4069.5)	<0.001	215.1 (56.4-694.8)	<0.001	54.8 (10.6 - 200.3)	<0.001	56.1 (2.2-237)	<0.001
Woman	1318.8 (505.5 - 3749.1)		166.9 (35.4-688.4)		47.0 (9.5 - 158.5)		48.6 (6.3-257.5)	
Age								
18-25	1564.2 (515.7 - 3646.5)	<0.001	187.5 (54.7-616)	<0.05	55.1 (10.7 - 175.9)	<0.001	62.4 (8-187.5)	<0.001
26-35	1545.5 (523.3 - 4069.5)		199.9 (35.4-694.8)		52.8 (9.5 - 200.3)		55.8 (6.7-257.5)	
36-45	1409.1 (522.5 - 3854.2)		184.2 (46.6-589.2)		51.2 (11.5 - 166.1)		51.4 (6.3-237)	
≥46	1372.0 (500.2 - 3661.2)		178.2 (45.2-609.3)		47.2 (10.6 - 158.9)		45.6 (2.2-183.5)	
Ethnicity								
Minangkabau & Other Sumatra	1533.3 (626.3 - 3379.2)	0.037	225.9 (75-616)	<0.05	49.5 (17.5 - 175.9)	<0.001	47.8 (7.1-156.4)	<0.001
Betawi	1650.5 (515.7 - 4069.5)		197.7 (57.9-511.3)		53 (10.7 - 166.1)		59.8 (12.1-175.5)	
Sunda	1463.6 (500.2 - 3354.0)		182.6 (52.1-589.2)		50.5 (13.0 - 155.1)		57.5 (7.1-209.2)	
Jawa	1400.3 (505.5 - 3646.3)		176.9 (35.4-609.3)		52.3 (9.5 - 166.1)		50.8 (6.3-257.5)	
Bali	1436.6 (527.9 - 3564.7)		195.9 (48.7-407.7)		47.2 (10.6 - 200.3)		44.3 (2.2-237)	
All Sulawesi	1529.7 (529.6 - 3749.1)		211.5 (59.5-688.4)		46.0 (11.5 - 145.7)		46.7 (8.1-183.5)	
Madura	1426.2 (584.6 - 3739.1)		181.5 (60.8-694.8)		61.9 (13.0 - 161.0)		49.1 (7.6-216.9)	
Others	1583.0 (877.5 - 2919.3)		232.3 (80.1-332.4)		46.1 (15.8 - 123.2)		45.4 (20.7-154.8	
Religion								
Moslem	1468.7 (500.2 - 4069.5)	0.01	203.6 (35.4-694.8)	0.978	52.0 (9.5 - 175.9)	0.008	53.3 (6.3-257.5)	<0.001
Non-Moslem	1387.5 (527.9 - 3564.7)		198.8 (54.7-512.7)		45.8 (10.6 - 200.3)		41.6 (2.2-237)	
Marital Status								
Single/widowed/divorced	1463.4 (515.7 - 4069.5)	0.802	178 (48.7-616)	0.065	51.5 (10.7 - 200.3)	0.586	54.4 (7.1-177.8)	0.08
Married/living together	1464.5 (500.2 - 3854.0)		190.8 (35.4-694.8)		51.3 (9.5 - 166.1)		51.1 (2.2-257.5)	

Median (min – max) of energy 1464.3 kcal (500 – 4069.5kcal), carbohydrate 186.1 g (35 – 694 g), protein 51.3 g (9.5 – 200.3 g), and fat 52.7 g (2.2 – 257.5 g)

Table 3.18. Macronutrient intakes based on sociodemographic characteristics (continued)

	Energy (kcal) (median (min-max))	p-Value	Carbohydrate g) (median (min-max))	p-Value	Protein (g) (median (min-max))	p-Value	Fat (g) (median (min-max))	p-Value
Education Level								
Primary or Lower	1398.1 (500.2 - 3854.0)	<0.05	183.8 (45.2-688.4)	0.359	49.3 (10.6 - 166.1)	<0.05	45.5 (2.2-187.5)	<0.001
Lower Secondary school	1444.1 (529.6 - 3554)		184 (52.1-694.8)		48.5 (12.2 - 167.7)		52.6 (6.3-147.5)	
Upper secondary school	1484.4 (511.9 - 4069.5)		183.3 (35.4-572.1)		53.0 (9.5 - 175.9)		55.9 (6.7-257.5)	
College / University	1575.2 (523.3 - 3564.7)		206.1 (48.7-455)		51.9 (12.5 - 200.3)		54.8 (8-237)	
Occupation								
Professional	1760.9 (919.7 - 2971.8)	<0.001	272.8 (96.6-454.7)	<0.001	53.9 (13.8 - 122.3)	<0.05	57.2 (18-157)	<0.05
White collar	1560.4 (511.9 - 4069.5)		196.4 (46.6-570.2)		54.6 (11.4 - 200.3)		56.8 (7.1-237)	
Blue collar	1501.5 (500.2 - 3854.2)		207.4 (45.2-694.8)		51.3 (10.6 - 166.1)		50 (2.2-187.5)	
Student/not working	1433.4 (515.7 - 3646.5)		169.7 (56.6-616)		50.2 (10.7 - 161.0)		48.9 (6.7-154.8)	
Housewife	1323.9 (523.3 - 3646.3)		165.8 (35.4-528)		46.6 (9.5 - 155.1)		50.6 (6.3-257.5)	
Wealth Index								
T1	1426.5 (500 - 3854.2)	0.812	199.5 (45.2-688.4)	0.083	50.3 (9.5 - 175.9)	0.338	47.8 (2.2-216.9)	<0.001
T2	1463.3 (515.7 - 3524.5)		182.8 (48.7-572.1)		51.4 (11.4 - 166.1)		53.5 (9.1-187.5)	
T3	1499.8 (527.9 - 4069.5)		180.9 (35.4-694.8)		52.9 (11.0 - 200.3)		55.8 (6.3-257.5)	
Metropolization								
Jakarta-Bali	1516.9 (515.7 - 4069.5)	0.296	201.1 (46.6-528)	0.059	50.9 (10.7 - 200.3)	0.063	54.05 (6.7-237)	<0.05
West & East Java	1446.1 (500.2 - 3854.2)		179.1 (35.4-694.8)		52.2 (11.0 - 166.1)		52.9 (6.3-257.5)	
West Sumatra & South Sulawesi	1568.2 (511.9 - 3749.1)		219.4 (54.7-688.4)		47.5 (9.5 - 175.9)		47.8 (2.2-183.5)	
Wealth Index								
T1	1426.5 (500.0-3854.2)	0.812	199.5 (45.2-688.4)	0.083	50.3 (9.5-175.9)	0.338	47.8 (2.2-216.9)	<0.001
T2	1463.3 (515.7-3524.5)		182.8 (48.7-572.1)		51.4 (11.4-166.1)		53.5 (9.1-187.5)	
T3	1499.8 (527.9-4069.5)		180.9 (35.4-694.8)		52.9 (11.0-200.3)		55.8 (6.3-257.5)	
Modernization								
Low	1450.3 (500 - 3854.2)	0.036	190.5 (45.2-616)	<0.05	50.5 (10.6 - 175.9)	0.050	44.1 (2.2-216.9)	<0.001
Low middle	1464.5 (511.9 - 3749.1)		197.6 (48.7-688.4)		52.8 (9.5 - 167.7)		52.5 (6.3-187.5)	
High middle	1389.6 (522.5 - 3640.9)		171.4 (35.4-694.8)		47.2 (10.7 - 200.3)		53.1 (6.7-257.5)	
High	1567.8 (515.7 - 4069.5)		191.8 (52.1-528)		53.1 (12.5 - 166.1)		59.8 (7.1-204.9)	

Median (min – max) of energy 1464.3 kcal (500 – 4069.5kcal), carbohydrate 186.1 g (35 – 694 g), protein 51.3 g (9.5 – 200.3 g), and fat 52.7 g (2.2 – 257.5 g)

Table 3.18 shows the macronutrient intake based on sociodemographic characteristic of the respondents. Based on living areas, the significant differences on carbohydrate, protein, and fat intake were found. Carbohydrate and protein intakes were higher among respondents from the rural areas while fat was higher in urban areas. Macronutrient intakes were also found significantly different based on gender. Men had higher intake of energy, carbohydrate, fat, and protein compared to female. Between age groups, there were also significant differences in macronutrient intakes. The highest energy, protein, and fat intakes were found among 18 – 25 age group. Among of all age groups, the ≥46 age group had the lowest intake of all macronutrients. Protein, carbohydrate, and fat intakes were also found significantly different among the ethnic groups. The highest carbohydrate, protein, and fat intake was found in "others" ethnic groups, Madurese, and Sumatra groups. Respondents from the ethnic of Sunda, Sulawesi, Bali had the lowest intake of carbohydrate, protein, and fat. Based on the religion, there were significant differences in energy, protein, and fat intakes. Muslims had higher energy, protein, and carbohydrate intakes compared to their non-Muslim counterparts. There were no significant differences in energy and all macronutrients intake between respondents who were single or having a partner. In terms of educational levels, significant differences were found in energy, protein, and fat intakes. Respondents who graduated from college/ university tended to have higher energy intake than their other counterparts, which was probably contributed by higher carbohydrate intake. The highest intakes of protein and fat were found among respondents with upper secondary school level, followed by college/university graduates. Respondents with lower secondary school education had the least protein intake, while those with primary education or lower had the least fat intake. Significantly different energy and macronutrients intakes were also found among different types of occupation. Professionals had the highest energy, carbohydrate, and fat intakes among all the study subjects, while protein intake was highest among the white-collar respondents. Housewives were identified as having the least energy, carbohydrate, and protein intake. Among all wealth indices and metropolization groups, no significant differences were found in energy and macronutrients intakes, except for fat. Fat intake was significantly different between the wealth index groups, where those in the T3 level consumed more fat than those of T2 and T1 levels, respectively. It was also found in the metropolization groups, where those who lived in the metropolitan areas (Jakarta-Bali) tended to consume more fats. In terms of the modernization index, significant differences in energy, carbohydrate, and fat intakes were found. The highest modernization index group was found to consume the highest energy. The low middle group was observed to consume the highest carbohydrate. Meanwhile, fat intake increased among the higher modernization index group.

Nutritional Status

Based on our study samples, respondents were mainly categorized as obese (38%). The nutritional status was significantly associated with some sociodemographic characteristics such as living area, gender, age, marital status, level of education, occupation, wealth index, and ethnicity. Respondents who lived in urban areas, being female, aged above 36 years, married or living together with their spouse, graduated from college or university, being housewives, had a high wealth index, and being Javanese tended to have a higher proportion of obesity as compared to their counterparts. Based on our study samples, respondents were mainly categorized as obese (38%) (Figure 3.57). The nutritional status was significantly associated with some sociodemographic characteristics such as living area, gender, age, marital status, level of education, occupation, wealth index, and ethnicity. Respondents who lived in urban areas, being female, aged above 36 years, married or living together with their spouse, graduated from college or university, being housewives, had a high wealth index, and being Javanese tended to have a higher proportion of obesity as compared to their counterparts (Figure 3.58).

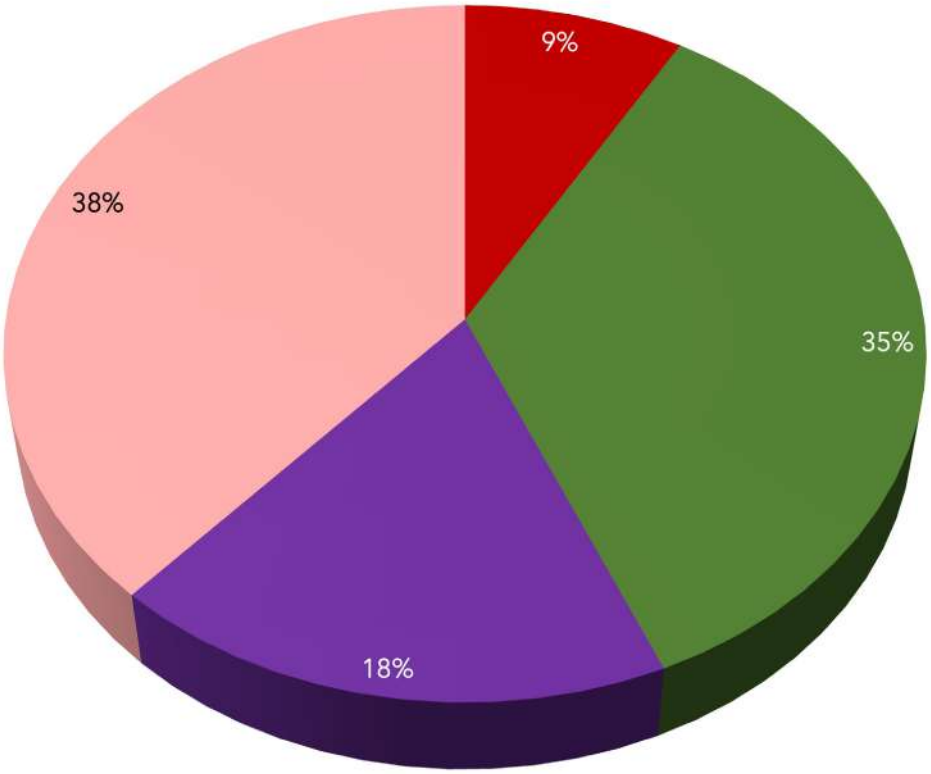
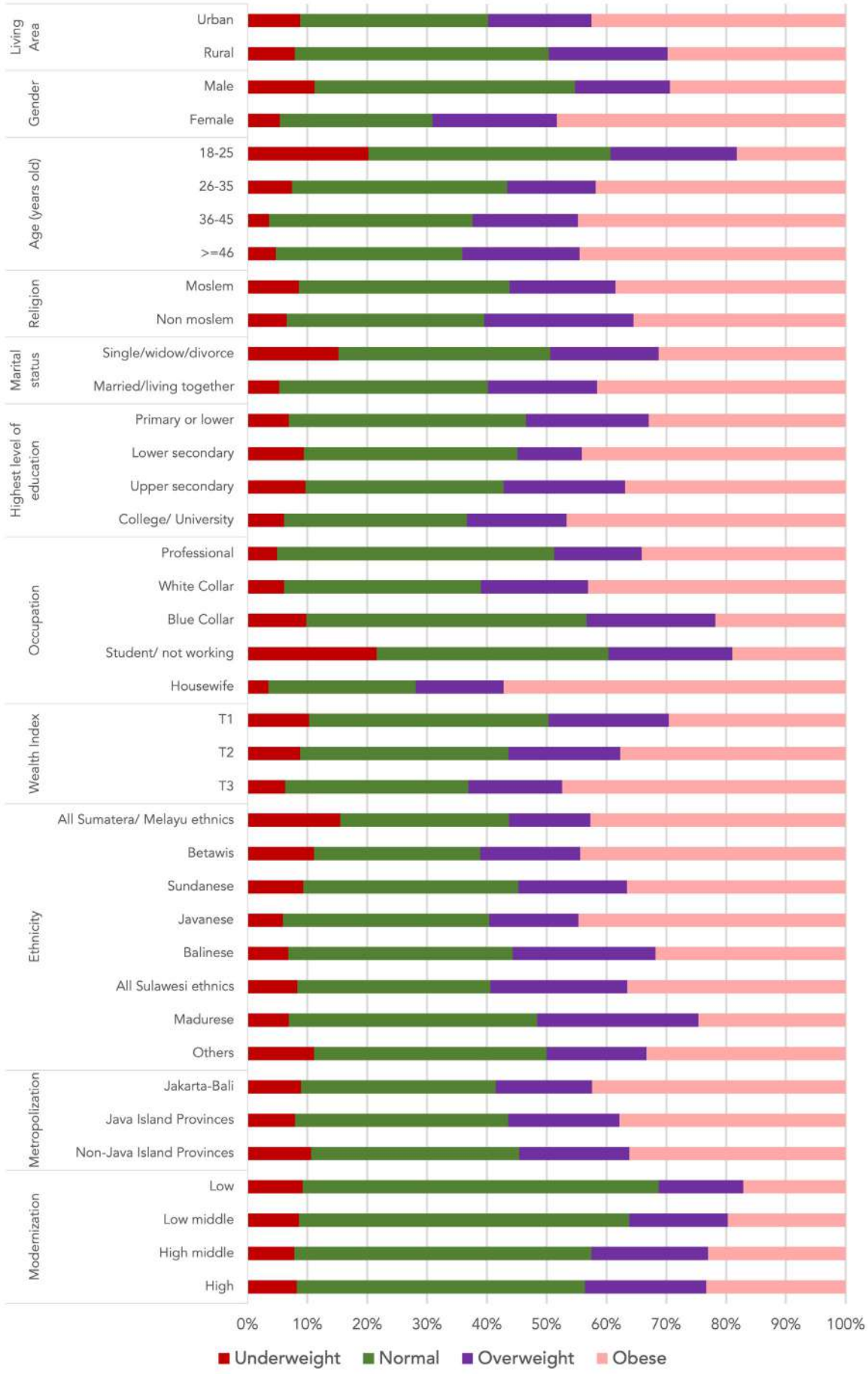


Figure 3.57. Nutritional status (n=1665)



Pregnant women were excluded; Median (25th – 75th percentiles) for BMI = 23.82 (20.82-26.75); Chi-Square test p<0.001 for urban-rural, gender, age, marital status, level of education, occupation, and SES; Chi-Square test p<0.05 for ethnicity. There were no differences between religion, metropolization, and modernization.

Figure 3.58. Nutritional status by respondents' characteristics (n=1665)

Table 3.19. BMI and sociodemographic characteristics

	BMI (median (min-max))	p-Value
Living Area		
Urban	24.14 (13.76-48.76)	<0.001
Rural	23.01 (14.69-39.79)	
Gender		
Men	22.42 (13.76 - 44.84)	<0.001
Women	24.88 (14.69 - 48.76)	
Age		
18-25	21.77 (13.76-39.79)	<0.001
26-35	24.05 (16.31-48.76)	
36-45	24.24 (15.00-45.24)	
≥46	24.48 (14.69-44.70)	
Ethnicity		
Minangkabau & Other Sumatra	24.097 (15.00 - 39.65)	0.051
Betawi	24.03 (14.95 - 42.31)	
Sunda	23.74 (14.79 - 44.84)	
Jawa	23.43 (15.76 - 48.76)	
Bali	23.90 (13.89 - 39.79)	
All Sulawesi	23.77 (15.13 - 44.71)	
Madura	23.39 (13.76 - 21.25)	
Others	23.15 (17.26 - 31.99)	
Religion		
Moslem	23.82 (13.76-48.76)	0.846
Non-Moslem	23.94 (13.89-39.79)	
Marital Status		
Single/widowed/ divorced	22.89 (13.76 - 48.76)	<0.001
Married/living together	24.412 (14.69 - 45.24)	
Education Level		
Primary or Lower	23.41 (14.85-44.70)	0.086
Lower Secondary school	23.88 (13.76-45.24)	
Upper secondary school	23.99 (14.79-44.71)	
College / University	24.52 (15.95-48.76)	
Occupation		
Professional	22.84 (16.87 - 31.91)	<0.001
White collar	24.40 (14.79 - 48.76)	
Blue collar	22.45 (14.69 - 38.18)	
Student/not working	21.67 (13.76 - 38.51)	
Housewife	25.73 (16.02 - 45.24)	
Wealth Index		
T1	23.02 (13.76-45.24)	<0.001
T2	23.74 (13.89-44.71)	
T3	24.52 (15.22-48.76)	
Metropolization		
Jakarta-Bali	24.06 (13.89 - 42.31)	0.221
West & East Java	23.82 (13.76 - 48.76)	
West Sumatra & South Sulawesi	23.52 (15.00 - 44.71)	
Modernization		
Low	23.31 (13.76 - 38.49)	0.001
Low middle	23.34 (14.69 - 45.24)	
High middle	24.31 (15.22 - 44.84)	
High	24.21 (13.89 - 48.76)	

A significant different BMI median was found between living areas where those who lived in the urban area had higher BMI median as compared to their counterparts in the rural area. There was a significant BMI median difference between gender, with females having a higher BMI median as compared to males. Among age groups, increased BMI median was found in the older age groups. Respondents who were married/lived together with their spouse also had significantly higher BMI median as compared to single/widowed/divorced. Students/non-working respondents and housewives had the lowest and highest BMI median respectively. BMI median was significantly different between the wealth index groups, where those in the T3 group had higher BMI median compared to T2 and T1 groups, respectively. Moreover, a significant difference was also found in modernization groups with high-middle group had a higher BMI median as compared to the other groups. Meanwhile, there were no significant BMI median differences between ethnicity, religion, education and metropolization groups.

QUALITATIVE FINDINGS

Characteristics of the Respondents

In total, there were 67 participants included in this study consisting of 39 participants in the focus groups and 28 in the individual interviews. The characteristics of the focus group respondents were similar to those of the individual interviews. Not many male respondents participated in the focus groups which mostly conducted during weekdays. We assume that this due to many potential male participants were working during the conduct of the focus groups.

Most of interview respondents were younger and had higher educational level. Most of them lived together with their family. Most of the respondents living alone were settlers and lived in boarding houses. Most of them were respondents in Jakarta who moved from their hometown for work. Seventeen of the respondents were workers and two of them were non office worker. One worker was a mechanical laborer; he usually worked from afternoon until dawn. Another worker was a consultant in the environmental engineering field; she did not have fixed schedule for work but did some meetings with clients based on appointments.

Since, the study conducted intentionally at Denpasar and Makassar, Buginese and Balinese respondents had bigger number than other ethnicities. The least ethnic groups participated in the study were from Minang, Sundanese, and Palembang. The detail of respondents' characteristics is presented in Table 4.1.

Table 4.1. Characteristics of the respondents

Characteristic	Focus groups n=39	Interviews n=28
Ethnicity		
Javanese	7	6
Sundanese	2	2
Buginese	9	8
Minang	3	2
Balinese	8	8
Betawis	9	2
Palembang	1	0
Age		
Younger: 19-39 y.o	31	18
Older: > 39 y.o	8	10
Religion		
Muslim	31	17
Others	8	11
Gender		
Male	16	12
Female	23	16
Marital Status		
Single	16	15
Married	23	13
Educational Level		
Low: < 12 years	13	12
High: > 12 years	26	16
Working status		
Working	32	17
Not working	6	11
Living arrangement		
Living alone	9	8
Living with others	30	20

Dimensions of the Word "Meal"

There is no exact word in Bahasa Indonesia that translates the word "meal". During our data collection, we used the word "makan". The exact question was "What does the word "makan" means to you?". Responses to this question come with several dimensions. The meal was described according to 1) physiological activity, 2) composition, 3) meal portion, 4) mealtime, and 5) satiety factor. According to the physiological activity, one female respondent described meal as "chewing activity". According to meal composition, there were differences between younger and older respondents. Older respondents described meal as eating rice. Eating rice as a meal was also found among male respondents and respondents from Denpasar and Makassar during focus group sessions. One of the respondents said that "*kalau saya belum makan nasi, saya belum makan*" (if I was not having rice as meal, I have not eaten yet). However, younger respondents represented meal was not always having rice as their staple food.

"It is not meal if eating siomay and not yet having rice. Even if it is porridge, it is still not rice for me."
"Belum makan kalau siomai, belum kena nasi. Bubur aja kan bukan nasi yah, saya bilang belum makan."

H, 40s, male, married, security staff, Sundanese, focus group, Jakarta

"It must not always be rice, it can be replaced by bread, potatoes as long as it is carbohydrate"
"Iya ngga harus nasi, bisa ganti roti bisa ganti kentang, karbohidrat gitu"

S, 30s, female, married, office worker, Sundanese, focus group, Jakarta

The *rijsttafel* which literally means 'rice table' has long been popular as a prominent symbol of Dutch colonial eating in Indonesia. This culinary tradition is known to serve many dishes (the classical one was up to 40 dishes) on the table with a rice as the center piece (Wijaya, 2019). The Dutch was inspired by the culinary cultures of local Indonesians ("*pribumi*"). Thus, through the *rijsttafel* they uplifted the values of "(cooked) rice" or known as "*nasi*" in Bahasa by conforming the food culture of the *pribumi* into their food culture especially while they stayed in *Hindia-Belanda* (the name they gave to Indonesia during the occupation). This historical evidence may well explain the importance of rice as main staple for most Indonesians as expressed by the respondents in this study.

Among younger respondents who described meal as not always having rice, most of them were from Jakarta, rather health conscious and were controlling their diet (i.e., involved in either weight management, reducing rice intake, also limiting salt and sugar). Some of the younger respondents also had background in nutrition and public health.

According to the meal portion, three younger respondents described meal with bigger portion. Bigger portion was related to bigger calories, associated with lunch time, not a single menu and there was rice although in small portion. In other words, lunch could also be referred to main meal of the day. While breakfast was represented as early or light meal by most of the respondents. Breakfast as "early meal" means that it was consumed before doing morning activities. As "a light meal", breakfast had lighter portion than the other meals. Besides light and early meal, two Buginese respondents from Makassar described breakfast as lamba-lamba which means snacking. Breakfast as snack was referred to consuming traditional snacks with or without drinks (tea or coffee).

"In the morning better to eat light food, not too heavy."
"Yang ringan-ringan kalau pagi itu gak terlalu berat"

K, 40s, male, single, civil servant, Balinese, Denpasar

"Like lunch. Lunch is categorized as heavy meal since I need big calorie intake."
"yang misalnya kayak makan siang lah. Makan siang tu termasuk kategori makan berat, karena saya butuh makanan yang asupan kalorinya besar"

M, 20s, male, single, office worker, Buginese, Jakarta

Satiety was another description associated with the word "meal". It was mostly described as a condition when the stomach was full and a feeling of unable to eat anymore. Four respondents

described having rice could make them feel satiety. However, one female respondent said that meatball (bakso) or rice-based dish could be a meal if it fulfilled her.

"Yeah, how to describe, like some feeling when my stomach feels tight. It means I feel full…but when I feel like doing it, I can still eat chips or peanuts, but not so much for cakes"
"iya apaa sih ya kenceng gitu perutnya, kenyang itu. Maksudnye sudah kenyang.. tapi saya kalo umpamanya sudah kenyang ini terus iseng pengeen makan kerupuk begitu ape kacang tapi kue2 ngga begitu"

M, 40s, female, married, housewife, Betawian, Jakarta

"My stomach can no longer receive any more foods haha... I feel fulfilled …"
"Perutnya udah gak bisa nampung haha…. Udah berasa cukup..."

KM, 40s, male, single, civil servant, Balinese, Denpasar

According to the responses, most of respondents still perceived meal as having rice. Having rice was associated with having bigger calorie and bigger portion. However, the perception was gradually shifting among younger respondents. Rice could be replaced by other carbohydrate source foods like potatoes.

Proper meal

During the interview, proper meal was one of the challenging topics to ask using appropriate translation in Indonesian language. In English, the notion of proper meal as a social norm has two dimensions intertwined. The first one refers to the rules pertaining food content and meal organization. The second one regards the significations of food and foodways in a relation and interactionist perspective. This study was focused on the exploration of proper meal as food content and meal organization. Prior to the data collection, brief interviews were done to nine respondents representing six ethnic groups involved in the study (Sundanese, Balinese, Javanese, Betawi, Buginese, and Minang). The questions were about meal definition and composition also the rationale behind them. Based on the literature review and brief interviews, a set of pictures were used to aid the data collection process. In Indonesian language, we used the following statement that closely translate What is a proper meal to you: *"Apakah makanan yang nggenah/layak/baik menurut Anda?"*. Among Javanese respondents, we used the Javanese word "nggenah" to best describe the word "proper". The following pictures were used during the interview, to describe proper meal which were more to the combination of the food.

"Kalau saya belum makan nasi, saya belum makan" (if I was not having rice as a meal, I have not eaten yet).

Sambal and *kerupuk* were considered one of the important components in a proper meal.

The respondents described it according to what should be put into the meal. The responses on proper meal were grouped into 1) meal norm, 2) meal composition, and 3) the eating moments. The considerations can be either based on their preferences or nutrition aspect. For example, a respondent who preferred anchovies would consider meal with anchovies as a proper meal. Or, a proper meal is associated with some nutritional requirements such as must be fully metabolized, consisted of all nutrients, and according to age and physical activity level. From all respondents, four respondents represented a proper meal based on nutritional aspect. Three of them were from Jakarta and one of them was ovo-vegetarian. In addition, one of them had a certain level of health awareness, while the other two admitted obtaining some nutrition information from friends and social media.

Photo credits: Photos were taken from public domain, except photos number 1 and 7 are the personal collection of the research team

Figure 4.1. Pictures used as examples of meal that may fall within the category of proper meal as represented by the respondents

During the analysis, the pictures chosen by the respondents were grouped into three meal combinations that are labeled as Complete Meal, Standard Meal, and Simple meal. A complete meal was referred to type of meal consisted of the carbohydrate (mostly rice), vegetables, plant and animal proteins, fruits, with or without milk.

Complete meal combination is similar to the outdated Indonesian dietary guideline "Empat sehat lima sempurna" introduced by Prof Purwo Soedarmo back in 1950s which is still engrained in the mind of many Indonesians until today's era. In the questionnaire, the complete meal was represented by pictures number 11 and 10.

11. Nasi + ayam+ tahu+ tempe+ buah+ sambal+ kerupuk

10. Nasi+ tahu+ tempe+ telur+ ikan+ sayuran+ buah + susu

Figure 4.2. Picture samples of complete meal

Standard Meal was referred to a typical meal consisted of carbohydrate (mostly rice), vegetables, protein (either animal or plant).

According to the responses, the standard meal was represented by pictures number 5, 7, 12 and 17 in the questionnaire.

Figure 4.3. Picture samples of standard meal

Simple Meal was referred to a typical meal consisted of two types of dishes i.e., carbohydrates (mostly rice) with vegetables or proteins. The simple meal was represented by pictures number 1, 8 and 18. For number 18, vegetables was represented by pickles (small chunks of cucumber, carrot, shallot, bird's eye chili and occasionally pineapple, and marinated in a sweet and sour solution of sugar and vinegar) although in a very small amount.

According to the meal composition, 15 out of 28 respondents associated the proper meal with a Complete Meal, similar to the concept of *Empat Sehat Lima Sempurna* (four basic, five excellent) consisted of staple food, *lauk*, vegetables, fruits, and completed with milk. However, among those who chose complete meal, seven respondents said that having milk was not necessarily needed in their everyday meal. One female respondent with lower educational level expressed that higher price was the reason of milk became less important in the proper meal.

"Not really a must, milk is expensive right, for me it is delish as long as there is vegetable."
"nggak juga sih susu kan mahal ya, yang enak mah kalau saya yang penting ada sayurnya aja"

A, 20s, female, single, shopkeeper, Minang, Jakarta

Nine out of 28 respondents perceived Standard Meal as proper meal, and four associated proper meal as Simple Meal. Two male respondents from lower socioeconomic status perceived proper meal as a meal consisting of rice and vegetables. One of them said that it was still a blessing if the meal available at home was only rice.

1. Nasi + Mie + Telur 8. Nasi + tahu + tempe + ayam 18. Nasi + Soto + acar

Figure 4.4. Picture samples of simple meal

Proper meal according to meal composition was also associated with the mealtime. One dish meal, like *bubur ayam* (mixed dish consisted of rice porridge, shredded chicken flesh, and fried soybean) and *nasi uduk* (mixed dish consisted of cooking rice soaked in coconut milk, *tempe orek*, fried vermicelli and omelet) were considered a proper meal for breakfast. A complete meal (rice, vegetables, *lauk*, fruits, and condiments) were a combination for lunch. Some respondents chose rice and soup for dinner, as they preferred warm foods for night meal. Table 4.2 shows the detail on this concept as perceived by the respondents.

Table 4.2. Composition of proper meal based on mealtimes

Proper meal for breakfast	Proper meal for lunch	Proper meal for dinner
One dish meal:	Complete meal	Complete meal**
Nasi Uduk	Standard meal	Standard meal**
Chicken porridge	Simple Meal	Simple Meal**
*Gado-gado**		Rice and soup (*soto betawi, sop konro*)
Fried rice		Bread and milk
Bread		Fruits
Cereal		
Drinks and snacks		

* Steamed vegetable salad with spicy peanut sauce

** Smaller portion of rice or smaller portion of dish

Other than complete, simple, and standard meals, some respondents raised the presence of sambal (hot chili sauce sometimes added with fermented shrimp paste called *terasi*) and *kerupuk* (flour chips or crackers sometimes with fish flavour) became one of the important components in a proper meal. Some respondents described sambal or specifically chili as something that could increase appetite. This phenomenon occurred among female respondents from Java and Makassar.

"Food is delish because there is chili, I just smashed or crushed it using hands, or I just squeezed it."
"Makanan jadi sedep kan ada lombok itu, cabe dibejek apa diulek pake tangan itu, diremes"

MG, 40s, female, married, housewife, Balinese, Denpasar

As conversation continued about whether their perception of proper meal was their everyday meal, ten respondents described the meal as something they usually ate every day. There was an indication for some respondents that the proper meal may be linked with their aspiration, hoping that it could be fulfilled.

From the nutritional aspect, in general most of the respondents described proper meal as close to the *4 sehat 5 sempurna* slogan which was the actual practice for some of them. Interestingly, when the discussion about proper meal was broken down into the mealtimes, *4 sehat 5 sempurna* was only applied for lunch and dinner. For breakfast, most of the respondents represented it as light meal. The type of meal for breakfast included one-dish meal, bread, drinks, and snacks which were considered more practical, and in terms of "heaviness", was characterized as having smaller portion. The perception of proper meal for breakfast was possibly related to the history of Indonesians being an agrarian culture which rarely consumed complete meal for breakfast.

Most of the respondents described meal according to its composition and meal requirements. Only one female respondent described proper meal as eating together. In relation to the eating moments on proper meal, there was also one question in the in-depth interview guide that asked the respondents to define what "having a good meal" meant to them. Definition of having a good meal was reflective to the respondent's experiences on eating either related to the food or the moments when having the food.

In relation to the food, favorite and delicious foods were mostly associated by the respondents as having a good meal. Satiety was also emerged on this topic, raised by two respondents when talking about having a good meal. These two respondents were part of the group who represented meal as having rice on the plate. Two respondents represented having a good meal as related to health. One male respondent who is ovo-vegetarian, felt having a good meal after consuming food that fulfilled his protein needs, he also considered this food as healthy. In addition, one female respondent with nutrition educational background clearly associated having a good meal as having all the necessary nutrition (carbohydrate, protein, and vegetables) and hygiene aspect. Price was also raised when talking about having a good meal outside the home. Delicious and healthy meal was regarded pricey. One male respondent said that the meal should worth the price and taste.

When it was related to the moments, most of the respondents said having a good meal when they ate with family or spouse, especially for respondents living far from their family. Younger respondents found eating in a place with good atmosphere, not too crowded was considered having a good meal.

Having a good meal was related to the moments when food and eating moments were shared with the closed ones. It was also associated with palatability and personal preferences that were centered around the food itself. Only a few respondents linked having a good meal with health aspect. The health concern driven from the exposure to some nutrition knowledge and vegetarian practice was the reason of the choices.

Importance of food components in a complete meal

The level of importance was asked through a food ranking activity. We requested each respondent to demonstrate what food he/she would put on the plate based on order of which came first. Previously we mentioned that a complete meal with similar characteristics as visualized in the concept of "*4 sehat 5 sempurna*" consisted of staple food (mostly rice), vegetables (in Indonesian language is called "*sayur*"), protein source foods (also called "*lauk*"), fruits and completed with milk. In this section, we present the complexity of *Sayur* and *Lauk* as side dish in a meal. We explore this because in later section we explore deeper on *Lauk* as food source of protein to reflect the essence of the overall study of Indonesian Food Barometer.

Sayur and *Lauk* were described as rice companion ("*temannya nasi*" as termed by some of the respondents) which became two important food groups after carbohydrate source of foods. Eight respondents put *sayur* as an important food after rice, while 10 others put *lauk* as an important food after rice.

Sayur was represented as any kind of watery dish by some respondents. One respondent categorized *opor* (chicken dish cooked in spiced coconut milk) as *sayur* since it contained liquid ingredient, although the main star of the dish was the protein source food. Sauteed or stir-fried vegetables was not categorized as *sayur* since it had not much liquid. However, some respondents disagreed to generalize *sayur* as soupy dish. In their opinion, sayur must be something made from vegetables either in the forms of soup, sauteed, or raw. Four respondents who had this opinion were Balinese, two of them from Makassar ethnic group and one Sundanese. As *sayur* was described as soupy food, two male respondents from Makassar said that they put sayur as important after rice because they needed to wet the rice for them to easily swallow the food. While one female respondent from Makassar put sayur as important after rice because she was used to doing it while eating.

"Even though there was no fish, sayur was more important so the meal will get soupy"
"Karena biar tidak ada ikan yang penting ada sayur supaya basah-basah toh."

M, 20s, female, single, workers, Makassar, focus group, Makassar

"My mother always prepares vegetables, but then it is up to me for eating it or not. When she cooked Chinese green mustard I would not eat it, but when she cooked spinach in clear soup I would finish it. But I would get bored when the vegetable dishes are similar. So, my mother would usually cook varied vegetable dishes such as long bean, green bean, carrots. The cooking method also has influence me eating vegetables."
"mama sih dirumah selalu sediain sayur, nah dimakan apa engga sama aku, engga tentu, mislanya kalo mama makan sawi pasti engga aku makan, tapi kalau masak bayam, sayur bening tuh pasti langsung abis gitu, tapi bosen juga kan kalau tiap hari gitu- gitu aja. Biasanya mama udah ngerti gitu, biasnya masaknya itu kacang panjang atau buncis, wortel. Cara masaknya juga ngaruh sih."

M, 20s, female, single, working, Javanese, Jakarta

Apart from *sayur*, there was *lauk* which represented protein source food. However, protein was not a common term for most of the respondents. Most of them were more familiar with the term *lauk* in Indonesian language or *kadokang* in Makassar language, or *timpalan* in Betawian that translates as side dish. *Lauk* was not specifically perceived as protein by most of the respondents, only five of them directly described *lauk* as protein. However, when the respondents gave more elaboration on the examples of *lauk*, they mentioned chicken, fish, tempeh and tofu as the type of *lauk* which are basically the protein source foods.

Lauk as side dish (i.e., "rice companion") was referred to any type of food served along the rice either in the form of protein source, vegetables, fritters, chips or even sambal. However, whether *lauk* was similar to *sayur* was still debatable in this study result. One dish meal like *soto, rawon,* and sop which consisted of both vegetables and protein were categorized as *lauk* by some respondents since it had protein. However, some other respondents categorized them as *sayur* since it has vegetable ingredients and soupy.

Despite the similar categorization on *lauk* and *sayur* by some respondents, younger respondents perceived *lauk* and *sayur* as two different things. Younger respondents associated *lauk* as protein source food and they did not generalize all soupy dishes as *sayur*. One female respondent said that although tofu was from plant, it cannot be categorized as *sayur,* rather it was lauk similar to chicken, sardines, and tempeh.

"It is still sayur (vegetable dish). As long as it has watery soup (gravy), it is still sayur."
"masuk sayur juga. Yang penting ada kuah, opor itu masuk sayur juga."

A, 40s, female, married, housewife, Betawi, Jakarta

"Ehmmm... chicken soup... because there is chicken, so it should be lauk"
"Emmmh … sup ayam ... kan ada ayamnya, jadi lauk"

R, 30s, male, single, lawyer associate, Minang, Jakarta

In summary, our understanding on differences between *lauk* and *sayur* as perceived by the respondents is inconclusive. Furthermore, the categorization of *sayur* as watery, soupy dish or a dish made from vegetables using various cooking method was debatable among the respondents. The understanding about *sayur* and *lauk* was different among older and younger groups. Even though *sayur* and *lauk* were both categorized as rice companion, younger groups differentiate between *sayur* and *lauk* based on raw ingredients used. For specific ethnic groups such as Makassar, Sundanese, and Balinese, they had different definition about sayur compared to Betawi people. This may be related to their habit built from generation to generation.

Unlike *sayur* and *lauk*, fruits were less important in most of the respondents' meal composition. Either as meal components or snacks, fruit was rarely consumed by the respondents. Six respondents consumed fruit in their daily basis but only two of them who put fruit as one of the meal components on the plate consumed either after or before the main meal. Lack of the availability of the fruits and less appetite became the reasons for less frequent fruit consumption. In as much as we observed that fruits availability in the market was not an issue, it seemed that fruits did not have an important position in the respondents' food basket. They did not purposively buy and serve fruits every day at home. In Bali, fruits were available largely at most of the religious ceremonies in the form of offerings (*pangkonan*). However, the excess fruits after these ceremonies did not guarantee consumption by the respondents and the family members until it got rotten.

"After rahinan (i.e., Balinese religious celebration), there are a lot of fruits available until it gets rotten, cause no one eats them."
"maksudnya kalau di rahinan itu pasti di Bali banyak buah kadang sampe busuk karena ndak dimakan"

A, 40s, male, married, working, Balinese, Denpasar

Other components also considered important by most of the respondents were sambal and *kerupuk* as they were present in most of their everyday meal. Both were considered increasing appetite, for sambal because of the spice, and for *kerupuk* because it acted as flavoring. The Food Historian interviewed in this study said that sambal has become popular item on the table of Indonesian households, even among the colonizers since the 19th century. This could explain the reason of why sambal was given an important position in the meal component of many Indonesians nowadays.

Sambal (traditional handmade chilli sauce or paste) is one of the most popular condiments with ingredients that are very likely to involve flavour enhancer. The flavour of *sambal* was attractive to most Indonesians especially among young female workers (Habibie et al., 2019). Fadly Rahman in his book titled *Rijsttafel*: *Budaya kuliner* di Indonesia (1870-1942) published in 2011 highlights the original idea of this culinary on elevating the value of "*nasi*" among the Dutch and Westerners but eventually promoted the inclusion of *sambal* as a must side-dish on the dining table. And this tradition creates a new food culture called "*Hindia-Belanda*" (Indie-Dutch) culinary.

Protein Source Foods

Lauk

As an archipelago, fish and seafood are also part of Indonesian traditional diets especially those in coastal areas like Makassar in South Sulawesi in the eastern of Indonesia (Maryoto, 2009). Common cooking methods for protein source foods are grilling, deep frying, *gulai* (a kind of spicy curry), and steaming in spicy soup. In addition, in the story of our elderly, coconut oil was much relied on in our culinary tradition (Pujilestari and Kurniawati, 2013). However, coconut oil had been gradually replaced by palm oil due to the increasing price of coconut oil (Lipoeto et al., 2012).

We discussed *lauk* in detail with the respondents using a food ranking participatory technique. We listed food groups such as egg, chicken, beef, pork, saltwater f ish, freshwater fish, and all sorts of Indonesian traditional soy-based protein foods like *tempe, tahu, oncom*. We asked them to rank based on what they preferred and what they actual consumed. Compared to *lauk nabati* (plant protein source food), *lauk hewani* (animal protein source food) was preferable as *lauk*. The reasons were varied but most of the respondents agreed that animal protein was more varied and tastier than plant protein. The practice also showed similar findings with the preferences, animal protein became the most consumed protein compared to plant protein.

Plant protein compared to animal protein was less tasty according to some respondents. The umami taste became the reason why animal protein was preferable than plant protein. On the other hand, there was a case when respondents got traumatized with the smell of tofu since her childhood home was near to a tofu maker. However, for some respondents who recognized the benefit of plant protein and were practicing vegetarianism, they would put plant protein as the most preferred and the most consumed protein.

"From the taste, the animal protein was tastier. I cannot lie about it. When we eat, the first thing is taste."
"dari rasa sih. Yang hewani lebih enak. Yang ngga menutup mata juga. Kita makan yah selera rasa dulu."

N, 20s, male, single, working, Sundanese, Jakarta

Among all animal protein sources, beef became the most preferred except in Makassar. However, when it came into consumption, beef was the least consumed by the respondents. According to the respondents' answer, beef was usually served during celebration. Respondents would serve beef during a *selametan* (Javanese term for a cultural ceremony/celebration) either a wedding ceremony or religious ceremony. Beef was served as beef or its product such as *krecek* (cow skin crackers). A female respondent said that one of the meals served at Christmas feast was *sambal krecek*.

"Krecek is only on a special occasion, like the celebration just now, or sometimes at home when there was a religious gathering, we always have krecek."
"kalau krecek itu tuh tertentu saja, kalau kayak tadi lagi acara, kadang dirumah juga ada ibadah gitu kan jadi kalau krecek sih ya selalu"

W, 20s, female, single, working, Javanese, Jakarta

Our discussion with the food historian concluded that even before the Dutch colonization, Indonesian people rarely consumed beef for everyday meal. Plant protein foods were mostly consumed. Indonesians serves animal proteins during *kenduri* (similar to *selametan* or ceremonies). Low consumption of beef may be associated with the influence of Hinduism that avoids the use of beef taken from the sacred cow. Furthermore, Indonesian people with its agrarian food production system consider livestock like cows and buffaloes as ploughing animals rather than for consumption, thus farmers would save them to work on the field as to increase their crops. Even tough during colonization an increase of livestock production especially beef was observed, the consumers were mostly not Indonesians but European people.

In Bali, since beef was prohibited for consumption, pork was assumed as the most preferred protein. However, surprisingly most of the Balinese respondents did not consider pork as the most preferred food as compared to chicken or saltwater fish. For ceremonial occasions such as *odalan* (i.e., birthday of *pura*, the worship place of the Hindus), recommended types of meat were duck, chicken, or buffalo (this is especially for the higher ceremonial occasion). Pork could be considered as expensive food, so Balinese respondents rarely consumed it even for religious ceremonies. Only one respondent consumed it twice a week in the form of *balungan* (bone of pork). He worked as *Kepala Dusun* (the head of the village) and therefore had a higher caste.

In Makassar, saltwater fish became the most preferred and the most consumed protein source foods. A discussion with a village head in Maros confirmed the fish pattern as the dietary habit of most ethnic groups in Makassar. During the discussion, we were presented with lunch showcasing various fish dishes such as *pallu mara* (fish soup dish cooked with tamarind, turmeric, and other herbs) and *pallu cella* (steamed fish with salt and turmeric). A market visit was done during data collection and saltwater fish was more available than any other animal protein foods. Even for Makassar people who lived in Jakarta, saltwater fish became the most preferred one as compared to other animal protein source foods. However, since the quality of saltwater fish in Jakarta was considered poor as compared to Makassar, they chose chicken for their routine consumption. On the other hand, people living in Makassar chose either eggs or freshwater fish as the second protein to consume because the price of chicken was considered higher than eggs and saltwater fish.

"Sometimes there is egg also chicken, but I choose the cheaper one... fish and chicken has similar (price)"
"kadang kadang ada telurnya, juga ada ayamnya, kita pilih yang murah aja gitu.. kalau ikan sama ayam, sama (harganya)"

D, 60s, male, married, working, Makassar

Among Jakarta respondents, chicken was not the most preferred although became the most consumed protein source. Chicken was the second most preferred food, after beef and saltwater fish. Chicken could be found in every menu at any food stalls. For usual consumption, chicken had equal position as eggs or fish (i.e., saltwater fish or dried salted fish like anchovies).

Freshwater fish rarely became the first or the second choice of consumption. Similar to protein preferences, freshwater fish usually ranked in the third position, lower than eggs and even lower than tofu and tempeh. In Makassar, food availability became the reason. Usually, freshwater fish was available during rainy season. However nowadays, housing development in the swamp area caused the lowering number of freshwater fish. The natural taste and texture of freshwater fish also became the reason of some respondents. One of Balinese male respondent expressed the difficulties on eating freshwater fish because it has many bones and muddy flavor.

Consideration for choosing between preference and consumption depended on many factors according to the area. But overall, personal taste, food availability and purchasing power became the most visible factors. However, when the food was available and money was there, personal taste became the only consideration on protein consumption. Among the respondents who migrated to Jakarta, another factor was related to palatability. Migrate respondents had the tendency to compare food between hometown and where they lived now. For example, Makassar people who lived in Jakarta would not choose saltwater fish from Jakarta because it had different taste from the fish they used to know in Makassar. Religious restriction was another consideration for choosing protein especially among Hindu and Muslim respondents. The study found that health benefits were rarely a concern for choosing protein.

Fritters as *lauk* substitute

One of meal components that cannot be separated was fritters (i.e., *gorengan* in Bahasa Indonesia). Fritters may be categorized as *lauk* or snacks. The level of importance of fritters was higher than *sambal* and *kerupuk* but sometimes had equal position as *lauk* since it could substitute *lauk*. Replacing *lauk* with fritters was mostly practiced by female respondents.

However, not all type of fritters could replace *lauk*. Fritters as *lauk* were commonly described as savoury fritters such as bakwan (i.e., vegetable fritters), tempe goreng (i.e., fried tempeh) and consumed more than one piece.

The rationale of putting more or less important food was according to personal preferences, palatability, habit, and food availability. Even though they understood the concept of health and unhealthy foods, some of them ignored that when it came to food practices. Fritters for example, some respondents acknowledged the unhealthy part (the use of deep-frying method which made the food oily/greasy, or even worse the use of cooking oil over-heated for many times) but fritters had better position than fruits and acted as *lauk* substitute on the plate for some respondents.

Figure 4.5. Picture (a) non-battered tempeh fritter (b) battered tempeh fritter

On the other hand, fritters as snacks were mostly described as sweet fritters (such as fried banana, fried sweet potatoes) and battered fritters (fried foods usually consisting of a portion of batter or breading which has been filled or mixed with fruits, vegetables like corn, or other ingredients). For some respondents, battered fried tempeh could not be regarded as *lauk* while fried tempeh without batter could be considered as lauk. Fritters as snacks may be consumed in one portion, either for savoury or sweet ones.

Fritters may be categorized as *lauk* or snacks. The level of importance of fritters was higher than *sambal* and *kerupuk* but sometimes had equal position as *lauk* since it could substitute *lauk*. Replacing lauk with fritters was mostly practiced by female respondents.

The importance of milk in a daily meal

Getting back to the topic on the perception of proper meal, among respondents who perceived *4 sehat 5 sempurna* as proper meal, seven respondents said that having milk was not necessarily needed in their everyday meal.

Our discussion with the food historian suggested that the history of the recommendation of milk consumption in Indonesia may be associated with the current attitudes towards milk consumption. Before 1950s, milk was rarely consumed by Indonesian people. As explained under the sub-section *Lauk*, low utilization of livestock as a food source influenced the consumption of animal protein source foods, so did the milk consumption.

In addition, the Chinese, staying in Indonesia at that time, perceived consuming milk as disgusting. This association came from the thinking that milk was similar to animal blood. On the other hand, to overcome malnutrition problems during that era, Prof Eijkman recommended the consumption of milk along with legumes. Starting 1950, the nutrition recommendation "*4 sehat 5 sempurna*" was introduced. This was the milestone of the introduction of milk in the food basket of Indonesians as the slogan positioned milk to make the meal 'perfect' (i.e., *sempurna* in Bahasa). This nutrition recommendation then underwent several improvements in the successive years as the nutrition problems and challenges also changed or shifted. Since 1995, the nutrition recommendation has been established to cover more balanced nutrition messages in which milk was positioned as part of animal protein source foods and not anymore acted to complete the meal. In other words, Indonesian people could have or have not milk in their meal. The latest nutrition recommendation for Indonesians is shown in Figure 4.6.

Those seven respondents who did not put milk in their proper meal definition were in their 20s and 30s. However, four of those respondents consumed milk in a daily basis. They consumed milk as a meal substitute for breakfast or dinner. These respondents had high educational level and had some level of exposure to nutrition and health. One female respondent studied in nutrition science. Two male respondents had history of illness that exposed them to nutrition information. Another female respondent was in a weight management program, so she consumed milk as a meal substitute at night.

Figure 4.6. *Tumpeng Gizi* – The recommendation of balance diet for Indonesians established in 2014 (Kemenkes RI, 2014)

Eating-in and Eating-out throughout the Day

The emerging practice of eating out was one of the interests of social representation of eating practices in this study. Eating venues (i.e., at home vs outside home) were considered when discussing what foods/drinks the respondents consumed and when they consumed them. Prior to the detail results of the eating venues, first we try to understand the food day practice of the respondents in this study obtained from the focus group discussion. Figure 4.7 shows that most respondents ate three meals a day, but there were also respondents who ate one or two meals a day. All respondents usually started breakfast at 06.00 until 08.00 AM, then had lunch at 11.00 to 12.00 but the latest lunch was at 15.00. Dinner usually started at 18.00 until 20.00, the latest was at 24.00. Somehow, the daily eating time distribution was shaped by the type of occupation the respondents had. Those who had dinner at very late time was the ones working in night shifts such as security guards. In addition, the eating location and the source of food consumed throughout the day depended on their position during the time they consumed the foods/drinks.

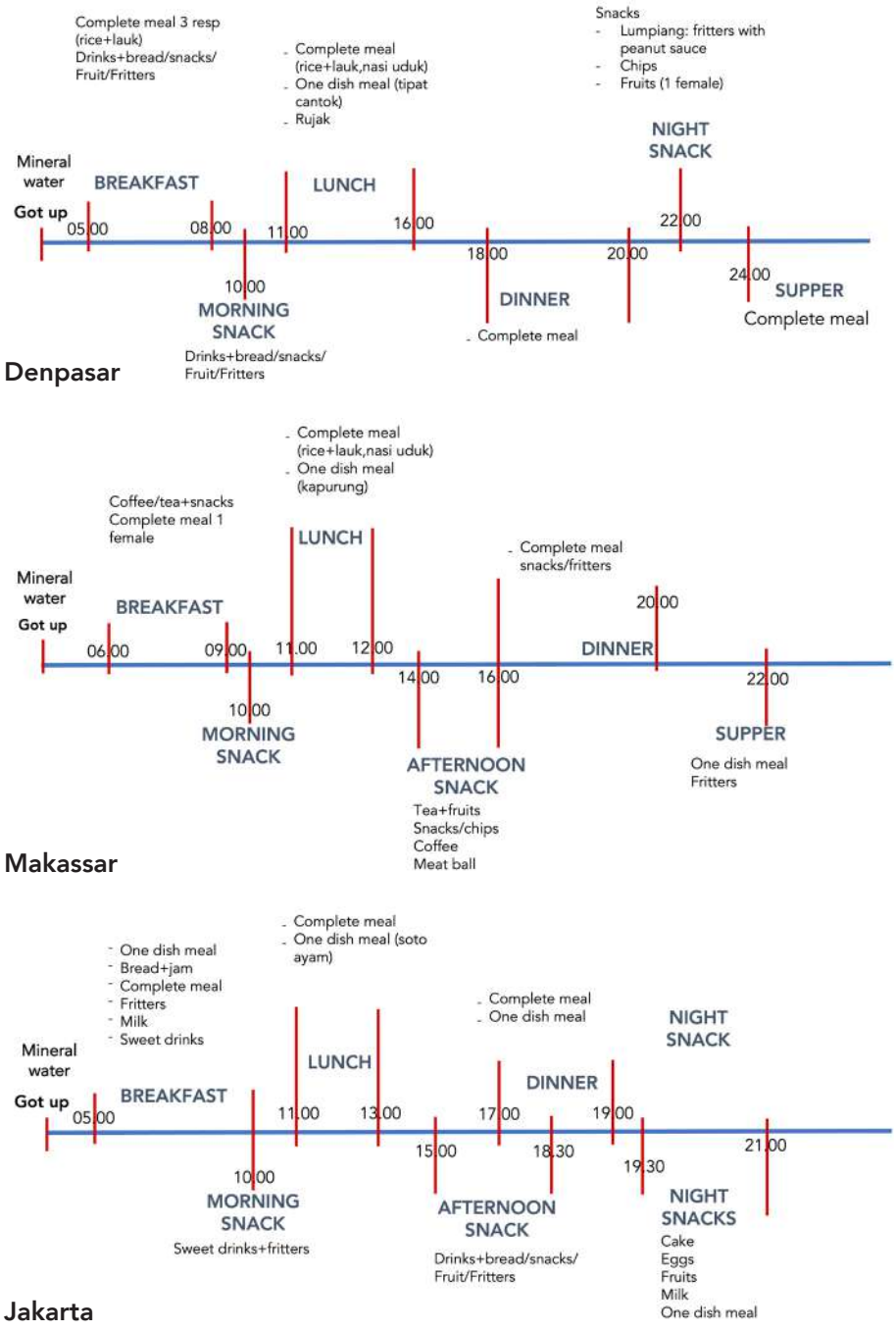


Figure 4.7. Typical meal and snack times among respondents from three different cities based on focus groups

Mealtimes during weekdays and weekends

Among all mealtimes, breakfast was commonly skipped by respondents especially among the housewives, since their morning time was packed with housework (preparing breakfast, getting the children ready for school, and other housework). Based on the respondents' opinion, breakfast was defined as early or light meal which was lesser in portion and more practical. Meal such as one-dish meal like *ketoprak* (i.e., rice cake, fined rice noodle, tofu and steamed bean sprout served with spicy garlicy peanut sauce) and *gado-gado* (i.e., steamed mixed vegetable, with or without rice cake served with peanut sauce), composite meal (like *nasi uduk*, similar to *nasi lemak* of the Malaysians) and drinks (tea or coffee) with snacks were described as proper meal for breakfast. Most of respondents' common practices were similar to their perception on proper meal. Only few respondents put a complete meal as breakfast.

"Sometimes I have breakfast, sometimes not, well at least I have milk or rice with less portion than for lunch."
"memang kadang-kadang sarapan kadang-kadang gak, maksudnya paling ya sekedar susu atau gak susu ya udah secukupnya ya nasi yang maksudnya gak banyak, porsinya beda lah sama makan siang"

H, 30s, female, married, office worker, Balinese, Denpasar

As the term of 'meal' was associated with eating meal with rice by most respondents, having foods which did not consist of rice was not considered as having a meal nor having breakfast. Therefore, skipping breakfast was seen as not a new habit. One respondent mentioned her being used to having steamed cassava and coffee in the morning with her family when she was a child. According to an Anthropologist from one university in Makassar, *lamba-lamba* is the term used to describe having a breakfast but not as a meal among Makassar society. The practice of having light meal with no rice in the morning were considered as skipping breakfast. However, the understanding of having rice as breakfast was gradually shifting surprisingly among male respondents. Two male respondents often ate fruits and milk in the morning, and they defined it as breakfast.

Our discussion with the Food Historian on the practice of not having rice as breakfast or by the respondents' term "skipping breakfast" was associated with the history of Indonesia as an agrarian society. He said that agrarian society usually did not have much time in the morning for eating rice because they had to work very early in the paddy field. Therefore, they tended to have early lunch with rice and for morning food they replaced the meal with tea or coffee.

"Agrarian society, in Java for example... In the past until now, people are not taking breakfast before going to the paddy field. They only drink coffee or tea."
"Masyarakat agraris, di Jawa misalnya... Ketika pada masa lalu, orang mau pergi ke sawah itu, ada ee... Sampe sekarang masih berlaku, misalnya pagi tuh ga sarapan. Mereka cuman ee minum kopi, trus kemudian minum teh gitu ya...."

F, Food historian

The difference on the mealtime was seen among workers and non-working respondents. Workers usually had more regular mealtimes as compared to the non-workers. Non-workers' mealtime was more to personal reasons based on the mood when they feel like having a meal or when they felt hungry.

Among workers, there were office workers and non-office workers. Among office workers, their mealtime was partly a result of adjustment to their working hours. Overtime, client meetings, and meetings outside the office would change their usual mealtime, either earlier or later. Office workers would delay their mealtime because of overtime. Their mealtime would be earlier than usual when they had a client meeting or worked outside the office.

For non-office workers, their mealtime was more flexible because they did not have rigid working schedules. One of them was a mechanic who fixed home appliances and worked at home. Since he preferred to work in the afternoon, he worked from afternoon until dawn. So, he slept very late and woke up at 11 o'clock. As a result, he skipped breakfast and started eating at 11.00 o'clock which he considered as lunch.

As the term of 'meal' was mostly associated with eating meal with rice, having non-rice based food was not considered having a meal nor having breakfast. Therefore, the practice of having light meal with no rice in the morning were often considered as skipping breakfast.

On weekends, the changes of meal consisted of a change in the number of meals and snacks, a shift in the mealtime, or a change in the portion. Logically, workers need more portions of food during weekdays but interestingly most of them admitted having eaten more portions on weekends. Similar with the number of meals, snack times also increased at weekends. The reason was still related to work. Some respondents ate more foods since there was nothing to do on the weekend besides eating. Some other respondents felt the need of more energy because of the housework they needed to do on weekends. In contrast, one female worker said the number of meals and snacks decreased on weekends because as a shopkeeper who also worked during weekends, she said lack of foods available around the workplace during weekend. She often did not have lunch on weekend because all food stalls nearby were closed.

"Emhhh.. on Sunday there are no food stalls opened. That is why sometimes, I do not eat on Sunday. But there are food sellers like sweet tea, fritters, or instant cup noodle. If I want a rice meal, I have to go far, in Senen Jaya"
"Emhhh.. ada kalau hari Minggu itu nggak ada yang buka, nggak ada yang jual makanan makanya kadang kalau hari Minggu kita nggak makan. Tapi ada yang jual minuman teh manis, gorengan atau pop mie. Kalau mau beli nasi kan jauh ada di Senen Jaya"

A, 20s, female, single, working, Minang, Jakarta

Among workers, the changes in the mealtimes usually occurred among female workers. Since on weekends they had to prepare foods in the morning for the family, the mealtime became a little later than the usual days.

"When I work, I tend to remember my eating schedule. When I am at home, I am eating late. Because I need time to cook, well I am just easy about my mealtime"
"kalo saya kalo kerja itu biasanya lebih hafal saya makan bu. Kalo di rumah itu agak ke belakang (telat) lah. Soalnya kan pake masak dulu, yah nyantai lah bu."

A, 30s, female, married, working, Balinese, focus group, Denpasar

Where and what to eat: who decides?

In terms of eting places, workers spent most of the time eating at the office either through buying the foods or bringing lunch box from home. Unlike office workers who spent lunch at their office, non-office workers could spend their lunch at home. Office workers spent eating at home either at breakfast or dinner. One female Balinese respondent mentioned that having breakfast at home was a habit in the family. She explained about the purpose of breakfast as family time and sharing moments with the family.

Among office workers, those who lived alone bought all their daily meal from outside since they rarely cooked in the boarding house. Dinner became their usual mealtime at home either alone or with their housemates. At family occasion such as *arisan* (i.e., usually monthly communal or family gathering involving money collected from all members, and eating together too), religious ceremonies (such as the first or the last day break fasting during Ramadhan, Eid, or Christmas), they would come home and eating together with whole family. Besides lack of cooking skills, lack of proper kitchen utensils (i.e., stove and refrigerator) at the boarding house, and lack of time to cook were most common reasons cited by the respondents who often buy ready-to-eat foods from outside. Most of the foods they stored at the boarding house were packaged foods (such as biscuits, bread and jam, sachet drinks), instant noodles, rice, instant coffee, and milk. Only one respondent who stocked banana for everyday meal. He consumed banana daily for breakfast and dinner as a diet recommendation from a doctor due to his suffering from GERD.

In contrast with workers who lived alone, foods among working respondents who lived with their parents or family were provided by their mother or relatives. So, the practice of bringing lunch box to the office was mostly highlighted among them. However, one female worker often bought additional *lauk, sayur*, or fritters. She bought additional food because sometimes the component of meal was lack of either *lauk* or *sayur.*

"I am used to bringing a lunch box. Usually I buy additional lauk for example stir-fried buttered chicken when I feel like it. Foods I bought depend on what I currently want to eat, also depends what food is prepared for me by Mom. Sometimes my Mom prepares a lot of sayur, she would ask me to buy the lauk on my own, or the other way around she prepares me with some chicken, eggs, but no sayur, so I would just buy the sayur to complement my lunch box. And when my Mom prepares a complete lunch box, still I would buy fritters to add on my meal, somewhat sinful I know hahaha"
"makan siangnya biasanya aku bawa bekal, atau kalau biasanya ada tambahan, paling aku nambahnya, kalau lagi pengen ayam goreng mentega, tergantung aku maunya apa, sama tergantung sama bekal yang disiapin mama itu apa, kan biasanya mama itu ngasih bekal bisanya sayurnya banyak tapi lauknya suruh beli sendiri. Jadi aku beli lauk doang, atau misalnya mama ngasihnya lauk semua nih, ada ayamlah, ada telorlah, tapi sayurnya engga ada, jadi aku belinya sayur aja gitu. Tapi kalo dikasi lauknya lengkap, sayurnya lengkap, paling aku cuman kayak, beli gorengan gitu…dosa sih sebenernya hahaha"

M, 20s, female, single, working, Javanese, Jakarta

Besides bringing lunch box, bringing foods during a picnic also occurred especially in Makassar. Most of the respondents brought their homemade foods during a picnic at the beach. They mostly brought raw fish and steamed rice from home then grilled the raw fish on the beach. In Denpasar, a similar practice was also found. During Hindu recitation, Hindu's respondents must serve their offerings called *pangkonan*. The *pangkonan* was filled with rice, animal protein dish (chicken/duck/pork), also fruits. After the recitation, on their way back home, the family could eat their offerings.

Housewife respondents spent most of their mealtimes at home, except on special occasions such as Muslim recitation, birthday party, or family gathering. Unlike housewives, college students who lived with their family had similar pattern with worker respondents. Their mealtime depended on their course schedules. They usually spent their mealtime at home during breakfast or dinner. Most of the housewife respondents cooked their family meals. The foods cooked were based on the family preferences, and mostly their children's preferences.

Commonly during eating at home with family, rice and side dishes such as *lauk, sayur, sambal, kerupuk* were put on a dining table or on the floor covered with a mat (also called *lesehan*, a Javanese term but well-known by general Indonesians), then all family members would gather around to eat. Among Sundanese respondents, soupy food would be served individually in a small bowl. Prioritizing older family member was not a particular norm in everyday meals, but it would be usually practiced during Eid festive and at a wedding ceremony.

Among respondents who usually cooked at home (i.e., non-workers and workers who lived with family), they rarely bought foods from outside. However, occasionally they got food parcels or rice box (also called *nasi kotak* in Bahasa Indonesia or *nasi besek* in Javanese dialect) from some religious gatherings like recitation or *selamatan*. *Selametan* was the term for the communal feast from Java, symbolizing the social unity of those participating in it. *Selametan* would be performed to celebrate important events like birth, marriage, death, housewarming, school graduation, and others. The common practice was that the food parcel was provided by the host, then after the celebration every participant brought home the parcel. The food parcel could be in a form of rice box or snack box.

Respondents who usually cooked, would buy foods when there were not enough foods available at home or during the presence of guests. During the guest presence, most of the respondents invite the guests to eat at home by serving homemade food with additional bought foods such as *lauk* or snacks. At times when guests coming without notice, some respondents admitted serving the guests with any foods available at home complemented with foods bought from outside. However, when the guests came with notice, the respondents said that they would cook the foods and consider the guests' preferences for special guests such as close family or friends.

Buying foods from outside home was a common practice among respondents who lived alone. They usually bought food from food stalls and through the food delivery services. Workload and lack of time were the most common reasons for using food delivery services. Most respondents highlighted the basic rules for selecting the food vendor which must be a familiar place, offer tasty foods, near, and provide a fast responsive service. Peer influence or superior influence (i.e., influence from the boss/supervisor) was also highlighted to be a consideration when choosing food vendors among worker respondents.

Hotline delivery and ride-hailing service (such as GO-Food by GO-JEK, GRAB-Food by GRAB) were main portals of delivery service commonly used. Food delivery service by ride-hailing service provided convenience to the respondents to choose the foods. In Makassar, a Facebook based marketplace named Makassar Dagang™ was reported to be commonly used. Female informants from Makassar usually ordered foods through this platform in which they could get traditional lauk for lunch.

Eating out was more frequently practiced by workers as part of daily routine. Accessibility aspect became the biggest consideration when choosing the eating place, while personal preferences and appetite became the biggest considerations when choosing the menu. They explained that firstly they would decide on the accessible eating place, then individually decide on the menu. The personal preference was a result of decision making influenced by peers, familiarity with the taste and menu, also the palatability. Appetite was also triggered by personal preferences of the peers.

"Sometimes, based on my friends' choice or mine. For example, I am in the mood of something fresh like soto [soupy dish available in so many variants from various cultures in Indonesia], I would offer my friends to have soto. Or when they are into karedok [raw vegetable salad with peanut sauce served with rice or diced rice cake called lontong], then I will join them eating karedok or gado gado [steamed vegetable salad wth peanut sauce, served with rice or diced rice cake called lontong]"
"kadang teman, kadang aku, misalnya kalo aku lagi ingin kayak yang seger2 kayak soto, makan soto yuk soto, atau temen aku lagi pengen banget karedok, ya udah makannya karedok sama gado-gado gitu."

M, 20s, female, single, working, Javanese, Jakarta

Especially among respondents from Jakarta, most of the workers relied on an office boy to buy lunch. The office boy was rarely given the instructions what foods to buy but they mostly already knew the personal preference of the respondents.

During some office events (i.e., formal, or less formal like birthday celebration, farewell party, Ramadhan breakfasting), the boss, the clients, or "the host" (the person who did the treat) were usually the parties who chose the eating place and the menu. However, most respondents said that sometimes they (who received the treat) also got the privilege to choose the menu.

The similarity among most of respondents either younger or older respondents was found that they would consider choosing traditional menu and family-friendly eating place during a family meal out. Preference of older family members, or superior officemate influenced the groups' decision when eating out. Personal preference of friends also became an important consideration on a special event like reunion. Most respondents would choose a place like food court for a small group reunion gathering because such as place offered comfortable atmospheres for all friends, and it provided various types of food.

Among younger respondents, they tended to choose a comfortable place to eat. By comfortable, it meant comfortable for chatting, had good ambiance, and more importantly had free internet connection. Franchise restaurant was often chosen as an eating place with friends.

Child-friendly restaurant became the biggest consideration among married respondents. For them, child-friendly eating place should meet children's needs in terms of both facilities and the type of foods. Non-smoking regulations, availability of baby chair, children's playground/ facilities were categorized as child-friendly restaurant by eight respondents. In terms of food aspects, menu meeting the nutritional and food safety requirements, menu meeting the standard of children's palatability, child meal in smaller portion, serving different menu for children as compared with the regular menu were among the tick boxes for some married respondents. Eight respondents raised the concern that the child meal should be free from preservatives. Moreover, meal presentation for child meal should meet the child's preferences.

In Jakarta, shopping malls became one of the most favorite places not only for younger but also older respondents because they could do more than just eating activities there. While in Makassar, most respondents picked cafes and traditional coffee shops (i.e., *kedai kopi*). Younger respondents from Makassar, spent their eating-out time at the coffee shop for not only hanging out with friends but also doing some homework. During observation through the city of Makassar, cafes and coffee shops were available all over the streets.

Beside fast food, restaurant, cafe, coffee shop and shopping mall, neighbor's and family's house were also regarded as important venue of eating. Housewife respondents were more exposed to traditional events such as Qur'an recitation, homecoming celebration (i.e., *tradisi pulang kampung*), *arisan*, or baby born ceremony (i.e., *aqiqah* "a baby shower like" ceremony in Muslim society) which took place at homes and involved a lot of food sharing of both meals and snacks.

Eating Companion and Food Sharing

Most respondents enjoyed eating with someone compared to eating alone. Younger respondents mostly from Jakarta, however, seemed to have enjoyed more eating alone. One female respondent preferred eating alone and loved enjoying the food without doing any activities. Eating alone for her was considered more personal for enjoying the foods, no need to please the companion, and no rush, so she could have the moment all by herself.

"Eating with enjoyment, I cannot enjoy my meal while scrolling through the mobile phone. I will ignore the incoming calls when I am eating. Eating with chatting will take time to finish my meal, and I cannot enjoy the food I am eating, it is like I just finished the foods without knowing and enjoying the taste of the foods."
"makan sambil nikmatin dan oh ngga nikmat kalau main HP bahkan kalau ada yang nelfon aku biarin. Kalau sambil ngobrol tuh bisa lama banget aku makannya, ga bisa aku nikmati itu ibaratnya tiba tiba aja habis itu jadi ga bisa nikmatin rasanya"

W, 20s, female, single, working, Javanese, Jakarta

In the practice, during mealtime, most respondents were accompanied by either housemate, spouse, or family. Seven respondents usually ate alone at home and five of them were male respondents. Breakfast and dinner were the most common mealtimes they were used to eating alone. One male respondent from Makassar ate alone since his wife already passed away. Another male respondent from Makassar ate alone at dinner because he usually arrived home late at night while everybody had already eaten. Two respondents (one male and one female) ate alone during dinner because they lived alone. One younger respondent from Denpasar usually ate alone because both of his parents were at work. In summary, eating alone occurred among those who lived alone and worked late.

When eating with friends, family, and spouse, most respondents enjoyed it with some chatting during the meal. When eating alone, activities such as watching TV, reading book, or scrolling the internet through the mobile phone (also termed as *main HP* in Indonesian slang language) were common during mealtime. Other than that, one female respondent from Jakarta ate her meal while supervising her shop located in front of the house. But there was also a female respondent who did nothing and only ate her meal during the mealtime. At mealtime, she put away her mobile phone and enjoyed the meal. She was the respondent who said to enjoy eating alone.

Among those who usually ate with companion, food sharing occurred during eating at home or eating out. Female married respondents used to sharing meals with her companion, usually rice or lauk either because she was on weight monitoring, or she already felt full.

Indonesian Cuisine as Food Identity

When asked about Indonesian cuisine to represent the food identity, most respondents associated this question to component in an Indonesian dish, taste, type, rather than eating manners. However, one male respondent described Indonesian cuisine as eating food on the floor (also called *lesehan* in Javanese or *ngampar* in Sundanese) and using hands.

Most of the answer was not related to their ethnicity background. Five respondents described Indonesian cuisine according to their local foods in relation to the herbs used in the dish. Two Balinese female respondents mentioned Balinese local food as the characteristics of Indonesian cuisine. *Ayam Betutu* (i.e., whole chicken slow cooked in rich herbs with unique aromatic from the condiments called *base genep*) was traditional dish from Bali. One male Sundanese respondent said *pepes* (i.e., any steamed foods wrapped with banana leave) as the example of Indonesian cuisine which used various herbs and a simple cooking method. There was also female Makassar respondent who described fish as characteristics of Indonesian cuisine which coincided with the identity of the foods in Makassar where saltwater fish was abundant.

"Ayam betutu since it has a rich flavor. The herbs include the use of lemongrass."
"Ayam betutu karena rasanya ya lebih mantap gitu loh. Bumbunya rasanya ada sesenya (sereh)"

MG,40s, female, married, housewife, Balinese, Denpasar

Most of the respondents answered the use of herbs as the characteristics of Indonesian cuisines especially among those with higher educational level. Five respondents considered herbs as the identity of Indonesian cuisines. The used of herbs along with the complexity of the cooking process made Indonesian cuisines have rich flavor. In addition, spicy was mentioned as the taste characteristics of Indonesian cuisines by three respondents. Apparently, the history reveals that the Indonesian dishes had long been known to be using complex aromatic herbs showing a sophisticated culinary culture (also called "haute cuisine") similar to those of the French. This was a great attraction to the Dutch as they had food culture with minimal use of herbs (Rahman, 2016).

Six respondents described Indonesian cuisines by the food ingredients used. A female Balinese respondent described chicken as a representative of Indonesian cuisines since we often saw chicken served in every restaurant in Indonesia. Female respondents from Makassar perceived *sayur* and tempeh as the identity of Indonesian cuisines because the two could be found everywhere. In relation to *sayur,* one male respondent from Makassar described plant-based food as a characteristic of Indonesian cuisines. The use of coconut milk was mentioned to characterize the Indonesian cuisines by one male Makassar respondent as it was commonly found in many Indonesian cuisines in every region.

According to the type of dish, most respondents with lower educational level associated the Indonesian cuisines with famous traditional foods such as *rendang*, *sate*, *nasi goreng*, and *ayam betutu*. And once again, rice was also highlighted as the identity of Indonesian cuisines.

The respondents considered Indonesian foods to be characterized by the use of varied herbs, the complexity of the cooking process to result in rich flavors, and the spicy aromatic taste.

Sustainable Diet

Most of the respondents had more concern on food safety than that on health. In terms of health aspect, six respondents considered fatty and fried foods, and instant foods as unhealthy. In terms of food safety, hygiene and the use of food additives became their biggest concerns. However, respondents with lower educational level admitted that if the food was tasty and they did not witness the cooking process, they would consider the food as consumable.

Avian influenza was one of the issues discussed during the interviews and focus groups. During the outbreak of avian influenza, most of the respondents did not eat chicken for three until five months. However, there were also respondents who would still eat the chicken provided that it was fully cooked or did not buy chicken dish from any food sellers.

However, the term of Genetically Modified Organism (GMO) and food on animal welfare were an abstract topic for most of them. Most of them did not recognize the terms and the idea of GMO and animal welfare. During the interviews, examples of the GMO foods also animal welfare was given to get their opinion about that.

Among respondents with low educational level, GMO foods was considered ineligible to consume. Most of them perceived GMO foods was unnaturally made, so they felt it was weird to eat them. Two respondents neglected to eat since they did not know the effect of food to their body.

Respondents with higher educational level perceived GMO foods as consumable with several conditions. Consumable GMO foods should be affordable, certified by FDA, eligible to consume, had health benefit and harmless.

"It depends. If in the market I see bigger-sized tomato I will ask the origin of the tomato. I cannot trust (buy) it right away. The same thing with boxed watermelon. But if someone give it to me for free, why not, I will try. And if it is pricey, I would not buy it."
"Kalau saya sih tergantung kalau liat tomat mbak mau beli tomat, tomat apa aja saya dikasi hehe kok tomatnya gede paling saya nanya ini tomat apa gitu, oh tapi gak percaya gitu aja sih ya cuman banyak juga kan kayak buah yang sekarang dibentuk-bentuk karena dia dari kecil dibikin sekat lah kayak gitu jadi kotak dari melon yang bulat jadi kotak. Ya kalau saya di kasi gratis saya mau, kalau belinya mahal saya gak mau hehe"

H, 20s, female, married, working, Balinese, Denpasar

"It is a modified food to put more benefits on it. However, many people are not aware of this purpose, including me. As long as there is a specific control and regulations from credible agency like FDA or Ministry of Health, I think the food is harmless."
"Itu kan makanan yang direkayasa untuk menambahkan nilai lebih yah. tapi itu banyak juga yang belum tau maksudnya. Saya sendiri belum terlalu paham gitu yah. selagi ada pengontrolan, ada regulasinya tertentu dari badan yang dapat dipercaya dari badan BPOM atau pun dinkes itu sih ngga masalah sih."

N, 20s, male, single, working, Sundanese, Jakarta

Similar to GMO, animal welfare was an uncommon concept among the respondents when choosing foods to consume. They agreed that animal was born to be consumed by humans. They also agreed endangered species needed to be protected, and therefore, consumption of shark fin should be regulated.

In terms of the effect of food consumption on the environment, two respondents from Jakarta represented the way we ate foods affected the sustainability of the foods available on the planet earth. Most of the respondents associated the connection between food and the environment with the amount of trash produced from food packages.

As Colozza and Avendano (2021) stipulated that the transition in the dietary pattern was similar between rural and urban areas of Indonesia, a study in West Papua revealed that dietary transition was evident even in the place ranked as the most food-insecure. Rice was widely available and cheaper due to subsidy program, thus traditional diet which encompassed the locally available carbohydrate sources as sago and tubers was no longer desired, even among the indigenous population. The penetration of processed foods (including processed legumes, e.g., tofu, tempeh) had influenced the West Papua community, particularly children; hence the consumption of locally available fresh food was decreased (Nurhasan et al., 2022).

PERSPECTIVES AND WAYS FORWARD

The Indonesian Food Barometer (IFB) offers a holistic approach of studying human food consumption by combining the scientific foundation of the nutritionists and sociologists. It allows a global understanding on food practices and provides useful information on the current dietary behaviors of Indonesians that include among others:

- Spread of food (i.e., meals and snacks/in-between meals) events during the day
- Norms and the actual practices of food intake
- Socialization of food intake (i.e., eating companion, activity while eating)
- Eating location (i.e., eating in vs. eating out; home cooked vs. purchased food)
- Socio-cultural representations of food
- Attitudes towards food safety, healthy eating, animal welfare, genetically modified foods
- Indonesian emblematic dishes
- Macronutrient (i.e., energy, carbohydrate, protein, fat) intakes indicating nutrition transition based on the daily diet of the Indonesians
- Prevalence of overweight and obesity among Indonesian adults

With the data focusing on food intake, the contexts of consumption and social representations related to the food, the IFB complements the already available data obtained from previous nutritional surveys. The data will be useful to various stakeholders from the following sectors such as:

- Public health nutrition
- Food and agriculture
- Academics of different disciplines
- Policymakers
- Catering and food service
- Tourism and hospitality

The first edition of IFB will provide the basis for serial scientific articles as data presented in this report is limited to basic information on the dietary behaviors and their association with the socio-demographic characteristics of the Indonesian adults involved in the study. Thus, these scientific articles will allow further comparative analyses with the existing national surveys and other studies. For future research, the first IFB report will form as the baseline to make a dynamic comparison with the next IFB report collected to understand the trend over time. It will also facilitate the establishment of other comparative analyses with various European as well as Asian countries in which parallel studies are being conducted using similar methodology.

As the IFB reveals information on the stages of modernization potentially impacting the eating habits and food practices in contemporary multi-ethnic societies like Indonesia, it is valid to say that the report provides a new data source that will greatly facilitate the study of the evolution of food cultures and eating habits in Indonesia. Furthermore, the investigation on food and nutrition policy recommendations for tackling the emerging public health problems such as obesity and other non-communicable diseases allows the utilization of the IFB for setting up a wider dialogue, based on empirical data between the spheres of social sciences with the nutrition, public health, economics, and political sciences.

Through the analysis of the influence of modernization on social hierarchies and ethnic cultures, and ultimately on food eating patterns and food styles, the IFB may revisit theories of convergence in trying to show the influence and inertia of ethnic food cultures in societies such as Indonesia that is undergoing rapid industrialization and social change in one generation, along with the rural-urban migration which this entails.

As with the Malaysian Food Barometer (MFB), the IFB research tools and the data it generates may stimulate enrichment of the Indonesian academic landscape to embracing many disciplinary contexts and theoretical perspectives such as the Sociology and Anthropology of Food; Socio-Economy of Consumption, Medicine, especially Diabetes and Obesity Studies; Ethnic Studies; Modernization Theory; and Class Theory.

Food modernization which – in this study – refers to the practices linked with the modernization factors (such as income, education, ownership of assets, type of occupation, household size, number of people living under the same roof) takes the form of:

- Emerging practice of eating out and reliance to purchased foods even when eating at home
- Highly individualized menu structures during breakfast, lunch, and dinner
- Less practice of socialization during breakfast, lunch, and dinner, including in-between meals, with emerging practices of doing other activities while eating
- nformalization of food practices especially for in-between meals (i.e., snacks, light meals, drinks, etc.) scattered throughout the day, indicating that Indonesians tended to have snacks anytime.
- Deskilling of household food gatekeepers where most of the respondents' meal was cooked by others and emerging proportion of no cooking activity in the house.

Indonesian context and consequences for policies and programs for controlling non-communicable diseases

The characteristics of the context are:

1. The present study shows that double burden of malnutrition still occurred in Indonesia with over half of the respondents having overnutrition problems (i.e., 38% obese and 18% overweight) and 9% were underweight. The phenomenon is alarming as the present overnutrition prevalence exceeded the 2018 Riskesdas national data taken from a similar year with the present study which counted for 21.8% among Indonesians aged above 18 years old.
2. The present study also underlines some significant associations found between urban-rural, gender, age, marital status, level of education, occupation, socio-economic level, and ethnicity with the nutritional status. Higher obese percentage was found among respondents who lived in urban areas, female, aged above 36 years old, married/ lived together with their spouse, graduated from college/university, housewives, had a high wealth index, and being Javanese as compared to their counterparts.
3. The socio-demographic characteristics further explained the transition in the dietary behaviors, compounded with some emerging forms of food modernization as highlighted above among Indonesians.
4. Even with high awareness on "expired food", "presence of coloring and preservatives", and "unbalanced diet" as the top 3 issues considered as risks in food, and association of proper meal as "to support the health of the body", overnutrition remained a prevailing nutrition problem in the present study. This suggests that other environmental factors in the food systems need further investigation. And this effort is urgent.

Because of this context:

1. Food and nutrition related policies and programs must be developed with full consideration of the cultural and socio-economical contexts in Indonesia.
2. Aside from strengthening the awareness of the Indonesian population on health and balanced nutrition, a specific food literacy education among Indonesians across age groups may serve as an ideal venture to cultivate the proper food selection skills and to demand for healthier options of food/beverage.
3. As highlighted in no. 2, the next front-line stakeholders are the professionals in the catering/restaurant industry and the food industry. Healthier options of food/beverage must be introduced to them. Fiscal related policies must be improved to create attractive incentives for them to change.
4. The data of IFB can help to move the food and nutrition policy from being based on a population approach to a target group-based approach and to develop not only "science based" but also "social reality based" policies.

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APPENDICES

APPENDIX 1. Instruments of the Study

(1) Quantitative survey questionnaire
(2) Food catalog
(3) In-depth interview guide
(4) Focus group discussion guide

PROV	DISTRICT	VILLAGE ID	HOUSEHOLD ID

LIST OF HOUSEHOLD MEMBERS AGED >18 YEARS OLD AND SCREENING FORM

Ask the information about each family members aged >18 years old to the informant (head of the household or the wife) and fill the columns in the table below.

Table completion guide:

Column (1): fill in the order of each household member; Column (2): fill in the name of each household member; Column (3): fill in the age (in years) of each household member
Column (4): circle 1 if 'Male' or 2 if 'Female'; Column (5-7): circle 1 if 'Yes' and 2 if 'No'
Column (8):
- If the answer to column (7) is 2 (no), circle 1 (Yes, meets the inclusion criteria) in column (8)
- If the answer to column (7) is 1 (yes), circle 2 (Does not meet the inclusion criteria) in column (8)

Column (9): of all those who meet the inclusion criteria in column (8), make selection based on the fulfillment of the quota based on columns 3,4,5

No	Name of the family members aged >18	Age (years)	Gender: 1. M 2. F		Currently pregnant/breastfeeding? 1. Yes 2. No		Sick/recovered from any disease in the last one month? 1. Yes 2. No		Have diet changes due to the disease in #(6)? 1. Yes 2. No		Meet the inclusion criteria 1. Yes 2. No		**Selected? 0. No 1. Priority 2. Backup** (RANDOM)		
(1)	(2)	(3)	(4)		(5)		(6)		(7)		(8)		(9)		
			1	2	1	2	1	2	1	2	1	2	0	1	2
			1	2	1	2	1	2	1	2	1	2	0	1	2
			1	2	1	2	1	2	1	2	1	2	0	1	2
			1	2	1	2	1	2	1	2	1	2	0	1	2
			1	2	1	2	1	2	1	2	1	2	0	1	2
			1	2	1	2	1	2	1	2	1	2	0	1	2
			1	2	1	2	1	2	1	2	1	2	0	1	2

PROV	DISTRICT	VILLAGE ID	HOUSEHOLD ID

SOCIAL, CULTURAL, AND ECONOMIC STUDIES
RELATED TO THE PROTEIN TRANSITION IN INDONESIA

SEAMEO Regional Center for Food and Nutrition (SEAMEO RECFON)
Pusat Kajian Gizi Regional (PKGR) Universitas Indonesia
Jl. Salemba Raya No 6, Jakarta Pusat 10430
Telp 021-31930205, 3913932

INFORMED CONSENT

After hearing and reading the explanation about study background, objectives, procedures, and benefits of "**Social, Cultural, and Economic Studies related to the Protein Transition in Indonesia",** I understand that I will be interviewed using a questionnaire on the topics of:

1. Respondent's data and household characteristics
2. Eating and grocery shopping habits
3. Effect of culture and tradition on daily eating habits in the family
4. Weight and height measurements

I give permission for the researcher to record the interview process and take notes. Hereby, I am the undersigned:

Name : .....

Gender : Male / Female (circle accordingly)

Address : .....

City/District: .....

Province: .....

Phone no. : .....

voluntarily agree to participate in this study without force, provided that if I feel aggrieved in any form at any time, I have the right to withdraw this consent.

....., ... 2017

Principal Investigator — Respondent

(Dr. Helda Khusun) — (.....)

PROV	DISTRICT	VILLAGE ID	HOUSEHOLD ID	

A. KARAKTERISTIK RESPONDEN - *RESPONDENT'S CHARACTERISTICS*				
1	Tanggal wawancara *Interview date*	__ __ / __ __ / 2 0 18 (tanggal/bulan/tahun) (*day/month/year*)	I1	
2	Kode pewawancara* *Interviewer code**		I2	
3	Kode supervisor* *Supervisor code**		I3	
4	Kode petugas entry data* *Data entry clerk code**	Diisi petugas Jakarta - *filled by Jakarta officer*	I4	
5	Provinsi *Province*	1. Sumatera Barat 4. Jawa Timur 2. DKI Jakarta 5. Bali 3. Jawa Barat 6. Sulawesi Selatan	I5	
6	Kota/ Kabupaten *City/District*	1. Bandung 5. Denpasar 8. Makassar 2. Garut 6. Klungkung 9. Luwu Timur 3. Surabaya 7. DKI Jakarta 10. Padang 4. Lumajang 11. Pariaman	I6	
7	Nama Kecamatan (tuliskan) *Sub-district (write down the name)*		I7	
8	Jenis tempat tinggal *Living area*	1. Kelurahan (*Village in urban area*) 2. Desa (*Village in rural area*)	Q3	
9	Kode Kelurahan/Desa* *Village code**		I8	
10	Kode klaster* *Cluster code**	__ / __ __ / __ __ Prov/Kab/ No. Klaster *(Province/District/Cluster number)*	I9	
11	Nama responden *Name*		I10	
12	Jenis kelamin responden *Gender*	1. Laki-laki - *male* 2. Perempuan - *female*	Q2	
13	Tanggal lahir responden *Date of birth*	__ __ / __ __ / __ __ __ __ (tanggal/ bulan/tahun) *(day/month/year)*	Q4	
14	Usia responden *Age*	Tahun - *year*	I11	
15	Apakah Anda sedang hamil atau menyusui? *Are you currently pregnant or breastfeeding?*	1. Sedang hamil/menyusui *(currently pregnant/breastfeeding)* 2. Tidak hamil/ menyusui *(not currently pregnant/breastfeeding)* 66. tidak relevan *(not relevant)*	I13	

**) daftar nama dan kode akan disediakan dalam lembar terpisah/name and code list is provided in a separate sheet*

PROV	DISTRICT	VILLAGE ID	HOUSEHOLD ID

Kota/ Kabupaten *City/district*	Kecamatan Terpilih *Selected sub-district*	Code Cluster *Cluster code*	Kelurahan/ Desa *Village*
Denpasar	Denpasar Selatan	49	Pemogan
	Denpasar Selatan	50	Panjer
	Denpasar Timur	51	Kesiman
	Denpasar Barat	52	Pemecutan Klod
	Denpasar Barat	53	Tegal Kertha
	Denpasar Utara	54	Dangin Puri Kangin
Klungkung	Banjarangkan	55	Takmung
	Banjarangkan	56	Bungbungan
	Klungkung	57	Satra
	Klungkung	58	Semarapura Kelod
	Klungkung	59	Tegak
	Dawan	60	Paksebali

PROV DISTRICT VILLAGE ID HOUSEHOLD ID

24-HOUR RECALL (Q11)

Jam (0) ***Time***		
Waktu makan (1) ***Mealtime*** **Note: disebutkan oleh respondent/*mentioned by respondent***	1 Sarapan - *breakfast* 2 Selingan pagi - *morning snack* 3 Makan siang - *lunch* 4 Selingan sore - *evening snack* 5 Makan malam - *dinner* 6 Selingan malam - *night snack* 77 lainnya - *other*……	
Nama menu (2) ***Menu***	Tuliskan nama menu makanan/camilan/minuman *Write the name of the food/snack/beverage*	
Jenis bahan makanan (3) ***Composition/ingredients***	Tuliskan bahan penyusun menu kolom 2 *Write the composition/ingredients of the menu in column (2)*	
URT (4) ***Household measurement***	Gunakan Buku Foto Makanan *Use food portion photograph book*	
Berat (gram) (5) ***Weight (gram)***	Tulis sesuai hitungan URT pada Buku Foto Makanan *Write based on the household measurement in the food portion photograph book*	
Lokasi membeli/ menyiapkan makanan (6) ***Food preparation/buying place***	1 dimasak oleh subject - *cooked by* oneself 2 dimasak oleh teman/ keluarga - *cooked by friends/family* 3 dalam 1 kali makan, ada yang dibeli, ada yang dimasak sendiri - *in one mealtime, some are bought from outside and the rest is self-cooked* 4 *food delivery* 5 restoran/*restaurant* 6 food court/kantin - *canteen*	7 *fast-food restaurant* 8 pedagang keliling/PKL - *hawkers/street vendors* 9 warung makan - *food stalls* 10 supermarket, indomaret/*retail* 11 pasar - *traditional market* 12 toko kue/makanan - *cake or grocery store* 77 Lainnya, sebutkan - *others, mention*…….. 88 tidak tahu - *don't know*
Lokasi makan (7) ***Eating location***	1 di rumah - *at home* 2 di tempat membeli makanan - *at food-buying location* 3 di tempat kerja - *at work* 4 di perjalanan - *while on the way to somewhere* 77 Lainnya, sebutkan - *others, mention*……..	
Menu individu/sharing (8) ***Individual/sharing menu***	1 Menu individu - *individual menu* 2 Menu yang dimakan bersama - *sharing menu*	
Makan sendiri/bersama (9) ***Eating alone/with companion***	1 Makan sendiri - *eating alone* 2 Makan bersama teman - *eating with friends* 3 Makan bersama keluarga - *eating with family* 4 sharing menu, namun tidak duduk bersama - *sharing menu, but not sitting together*	

Jml anak (10) ***Number of children***	Sebutkan jumlah anak yang ikut makan bersama Isikan 0 jika makan sendiri *Mention number of children who eat together with the respondent* *Write 0 if the respondent eats alone*
Jml dewasa (11) ***Number of adults***	Sebutkan jumlah orang dewasa yang ikut makan bersama Isikan 0 jika makan sendiri *Mention number of adults who eat together with the respondent* *Write 0 if the respondent eats alone*
Etnis teman makan (12) ***Eating companion's ethnicity***	Sebutkan etnis mayoritas dari teman makan - *mention ethnic majority of the eating companion* 1. Minangkabau 2. Betawi 3. Sunda 4. Jawa 5. Bali 6. Bugis 7. Makassar 77 Lainnya, sebutkan - *others, mention*……..
Kegiatan saat makan (13) ***Activity during eating***	1 hanya makan saja - *only eating* 2 sambil menonton TV, mendengarkan musik - *watching TV, listening to music* 3 menggunakan Smartphone - *using smartphone* 4 sambil bekerja, mengasuh anak - *working, babysitting* 5 mengobrol - *chatting* 77 Lainnya, sebutkan - *others, mention*……..

PROV DISTRICT VILLAGE ID HOUSEHOLD ID

Day/date of the 24-hour recall interview:
Day/date of recalled intake:

Food No.	Time (0)	Mealtime (1)	Menu (2)	Compositi-on/Ingre-dients (3)	House-hold measure-ment (4)	Weight (gram) (5)	Food prepa-ration/ buying place (6)	Eating location (7)	Individual /sharing menu (8)	Eating alone/with companion (9)	No of children (10)	No of adults (11)	Eating compa-nion's ethnicity (12)	Activity during eating (13)
Food 1														

PROV DISTRICT VILLAGE ID HOUSEHOLD ID

Day/date of the 24-hour recall interview:
Day/date of recalled intake:

Food No.	Time (0)	Mealtime (1)	Menu (2)	Composition/Ingredients (3)	Household measurement (4)	Weight (gram) (5)	Food preparation/ buying place (6)	Eating location (7)	Individual/sharing menu (8)	Eating alone/with companion (9)	No of children (10)	No of adult (11)	Eating companion's ethnicity (12)	Activity during eating (13)

B. ASUPAN MAKAN - *FOOD INTAKE*			
1	Dibandingkan dengan hari-hari lain, yang dimakan kemarin …….. *Compared to other days, what you ate yesterday was….* 1 Lebih banyak – *more than most days* 2 Sama saja, lanjut ke B3 - *similar, continue to B3* 3 Lebih sedikit – *less than most days*	E1a	
2	Jika lebih banyak, apa alasannya? …… *If it was more than usual, why?* Jika lebih sedikit, apa alasannya? …… *If it was less than usual, why?* Isikan 66 jika "sama saja" - *Write 66 if it was 'similar' with usual*	E1b	
3	Apakah dalam 2 minggu terakhir Anda mengonsumsi suplemen/vitamin? *Did you consume any supplements/vitamins in the past 2 weeks?* 1. Ya - *Yes* 2. Tidak, lanjut ke B7 - *No, continue to B7*	E2a	
4	Jika mengonsumsi suplemen/vitamin, apa merk nya? *If yes, would you please mention the brand?* Isikan 66 jika "tidak mengkonsumsi suplemen/vitamin" *Write 66 if the respondent 'do not consume any supplements/vitamins'*	E2b	
5	Seberapa sering suplemen/vitamin itu diminum? (sebutkan frekuensinya, gunakan satuan per hari, per minggu) *How often do you consume supplements/vitamins? (mention the frequency, per day, per week)* Isikan 66 jika "tidak mengkonsumsi suplemen/vitamin" *Write 66 if the respondent 'do not consume any supplements/vitamins'*	E2c	
6	Seberapa banyak setiap kali suplemen/ vitamin itu diminum? (gunakan satuan tablet/ kapsul/ tetes/ sendok teh/ sendok makan) *How much is the dosage for each supplement/vitamins consumption? (in tablet/capsule/drop/teaspoon/tablespoon)* Isikan 66 jika "tidak mengkonsumsi suplemen/vitamin" *Write 66 if the respondent 'do not consume any supplements/vitamins'*	E2d	

PROV DISTRICT VILLAGE ID HOUSEHOLD ID

PROTEIN SCREENER

Dalam 1 bulan terakhir, seberapa sering responden mengonsumsi bahan makanan berikut (tuliskan frekuensinya)
In the last 1 month, how often did the respondent consume the following food (write down the frequency)
Berapa kali Anda makan ..... (sebutkan nama bahan makanan) dalam 1 hari atau 1 minggu atau 1 bulan?
How many times did you eat..... (mention the food name) in 1 day or 1 week or 1 month?
Jika tidak pernah mengkonsumsi bahan makanan tersebut dalam 1 bulan terakhir, tuliskan "0" nol di semua kolom
If the respondent did not consume the food in the last 1 month, write '0' (zero) in all columns.

NO	**BAHAN MAKANAN** *FOOD*	**FREQ. KONSUMSI** *CONSUMPTION FREQUENCY*		
		HARI *DAY*	**MINGGU** *WEEK*	**BULAN** *MONTH*
Makanan Pokok/*Staple Food*				
1	nasi putih - *white rice*			
2	nasi berperisa (nasi uduk, nasi goreng) - *flavored rice (*uduk *rice, fried rice)*			
3	bubur ayam - *chicken porridge*			
4	mie instant rebus/goreng - *instant noodle (soup/fried)*			
5	mie bukan instant (mie ayam/mie goreng) - *noodle dish (chicken noodle/fried noodle)*			
6	bihun goreng - *fried vermicelli*			
7	lontong oncom/ketupat sayur – *vegetable rice cake*			
8	roti tawar - *white bread*			
Umbi/*Tuber*				
9	Perkedel kentang/French Fries - *potato patties/French fries*			
Sumber Protein Hewani/*Animal Protein Source*				
10	Ayam goreng/ bebek goreng - *Fried chicken/duck*			
11	Ayam goreng nugget (SO GOOD) - *Chicken nugget (SO GOOD)*			
12	Opor/ kare ayam/ soto ayam - *Opor/chicken curry/chicken soto*			
13	sate ayam - *chicken satay*			
14	telur ayam goreng/ mata sapi/ dadar/rebus - *fried egg/sunny side*			

	up/omelet/boiled egg			
15	hati ayam - *chicken's liver*			
16	jeroan ayam lain - *other chicken's innards*			
17	lele goreng/ pesmol/ masak balado - *fried/pesmol/*balado *catfish*			
18	mujair goreng/pesmol/masak balado - *fried/pesmol/*balado *tilapia*			
19	tongkol goreng/pesmol/masak balado - *fried/pesmol/*balado *tuna*			
20	Seafood (cumi, udang) kukus/ rebus/ masak sup/ goreng/ pesmol/masak balado - *steamed/boiled/soup/fried/pesmol/*balado *seafood (squid, prawn)*			
21	teri goreng - *fried anchovy*			
22	tongseng sapi/kambing - *beef/mutton tongseng*			
23	coto makasar/ rawon daging - *coto makassar/beef rawon*			
24	sate kambing/sapi - *mutton/beef satay*			
25	bakso sapi - *beef meatball*			
Sumber Protein Nabati/*Vegetable Protein Source*				
26	tempe goreng/goreng tepung/mendoan/bacem/orek - *fried/mendoan/bacem/orek tempeh*			
27	tahu goreng/bacem/ tahu isi - *fried/bacem/stuffed tofu*			
28	Jamur - *mushroom*			
Susu dan Olahan/ *Milk and Its Products*				
29	Susu Bubuk - *milk powder*			
30	Susu Cair/Energen - *ready to drink milk/Energen*			
31	Es krim - *ice cream*			
Sayur/*Vegetables*				
32	sayuran berdaun hijau (bayam, kangkung, sawi,katuk, dll) *Green leafy vegetables (spinach, water spinach, mustard, katuk, etc.)*			
33	sayuran kacang-kacangan (kacang panjang, buncis, kacang polong, dll) - *legumes (long beans, green beans, peas, etc.)*			

34	sayuran buah (tomat, labu, oyong, timun, pare, baby corn) *Fruit vegetables (tomato, pumpkin, cucumber, bitter gourd, baby corn)*			
35	kubis, brokoli, bunga kol - *cabbage, broccoli, cauliflower*			
36	touge - *bean sprouts*			
37	cap jai/ sup sayur - *capcay/mixed vegetable soup*			
Snack/*Snack*				
38	Martabak manis/ telur - *sweet/egg martabak*			
39	Siomay bandung/ batagor/ seblak basah - *assorted dumplings*			
40	Pempek - *assorted fish cakes*			
41	Roti manis/ roti isi - *sweet/stuffed bread*			
42	Donat - *doughnut*			
43	Lemper - *glutinous rice stuffed with chicken floss*			
44	cireng/ bakwan goreng - *tapioca/vegetable fritter*			
45	pisang goreng - *banana fritter*			
46	Bubur kacang hijau - *mung beans porridge*			
47	Biskuit crackers, Malkist, Roma - *biscuits, crackers, Malkist, Roma*			
48	coklat batang (Silver Queen, Cadbury, Chunky Bar) - *chocolate bar (Silver Queen, Cadbury, Chunky Bar)*			
49	wafer			
50	pizza			
51	kacang kulit rebus - *boiled peanuts*			
52	kacang atom/ kacang telur - *coated peanuts*			
53	Kerupuk udang - *prawn crackers*			

C. PRAKTIK DAN NORMA MAKAN - *EATING PRACTICES AND NORMS*

1	Biasanya berapa kali Anda makan (makanan utama) dalam 1 hari? *How many times do you usually eat (main meal) in a day?*	kali dalam 1 hari *times per day*	Q6	
2	Selain makan utama, biasanya seberapa sering Anda makan makan camilan/makan diantara makan utama? *Besides the main meals, how often do you usually eat snacks/have food intakes between meals?*	kali dalam 1 hari *times per day*	Q7	
3	Dalam 1 minggu terakhir, berapa kali Anda makan utama di LUAR RUMAH? *In the last 1 week, how many times did you eat outside?* Misal, pengumpulan data hari Kamis Tanyakan mulai Kamis minggu kemarin Kamis minggu kemarin (day1), Rabu hari kemarin (day 7) *For example, if the data collected on Thursday* *Ask the information starting from last Thursday* *Last Thursday (day 1), Wednesday, this week (day 7)*	Jumlahkan - *add up*: Kali - *times* *beri catatan jika no.3+4 tidak sama dengan 21 - *note if no. 3+4 is not equal to 21*	Q10a	
4	Dalam 1 minggu terakhir, berapa kali Anda makan utama DI RUMAH? *In the last 1 week, how many times did you eat full meals at home?*	Jumlahkan - *add up*: Kali - *times* *beri catatan jika no.3+4 tidak sama dengan 21 - *note if no 3+4 is not equal to 21*	Q10b	
5	**Menggunakan Card** ***Using card*** **Biasanya**, seperti apa menu makan Anda? Seperti apa camilan Anda?	a. Sarapan - *breakfast*	Q8a	
		b. camilan siang - *afternoon snack*	Q8b	
		c. Makan siang - *lunch*	Q8c	

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7

	*What does your **usual** meal compose of? What does your snack compose of?* *Pilihan sesuai pada katalog makanan- *options based on the Food Catalog* 66. Jika tidak makan pada salah satu waktu makan - *if no intake at one mealtime* 77 Lainnya, sebutkan - *others, mention*……	d. camilan sore - *evening snack*	Q8e	
		e. Makan malam - *dinner*	Q8f	
		f. camilan malam - *night snack*	Q8h	
6	**Menggunakan Card** ***Using card*** Seandainya ada waktu/ kesempatan/ bahan makanan, seperti apa makan/selingan **yang benar** menurut Anda? *If you have time/opportunity/food ingredients, what do you think **the proper** meal/in-between meals is like?* *Pilihan sesuai pada katalog makanan - *options based on the Food Catalog* 66. Jika sebaiknya tidak makan pada salah satu waktu makan - *if it is better not to eat at one mealtime* 77 Lainnya, sebutkan - *others, mention*……	a. Sarapan - *breakfast*	Q9a	
		b. camilan siang - *afternoon snack*	Q9b	
		c. Makan siang - *lunch*	Q9c	
		d. camilan sore - *evening snack*	Q9e	
		e. Makan malam - *dinner*	Q9f	
		f. camilan malam - *night snack*	Q9h	

D. PRAKTIK MEMASAK - *COOKING PRACTICES*

1	Siapa yang biasanya memasak di rumah anda? *Usually, who does the cooking in your household?*	1. Saya sendiri - *myself* 2. Istri saya - *my wife* 3. Suami saya - *my husband* 4. Kakek/ nenek saya - *my grandparents* 5. Teman saya - *my friend* 6. Ibu saya - *my mother* 7. Pembantu - my *maid/household assistant* 8. Di rumah jarang ada kegiatan memasak - *we seldom cook at home* 77. Lainnya, sebutkan - *others, mention*_____	Q13	

E. PANDANGAN TERKAIT MAKANAN - *PERSPECTIVES RELATED TO FOOD*

1	**Menggunakan Card** ***Using card*** Manakah pernyataan pada kartu berikut yang paling sesuai diri	1. Makanan adalah kebutuhan - *food is a need* 2. Makanan adalah sesuatu untuk dibagi - *food is something to be shared* 3. Makanan adalah sumber kenikmatan - *food is a source of pleasure*	Q14	

	anda menurut Anda? *Which statement on the following cards best fits you?*	4. Makanan adalah sumber kesehatan - *food is a source of health* 77. Lainnya, sebutkan - *other, mention*_____		
2	**Menggunakan Card** ***Using card*** Manakah pernyataan pada kartu berikut menggambarkan "makan yang memuaskan" menurut Anda"? *Which statement on the following cards do you think describes ''eating well''?*	1. Makan makanan yang sehat - *eat healthy food* 2. Makan yang nikmat - *eat with pleasure* 3. Makan bersama-sama - *eat together* 4. Makan hingga kenyang - *eat until full* 5. Makan yang sesuai tradisi dan budaya - *eat according to tradition and culture* 6. Makan yang memberikan kekuatan - *eat to gain strength* 77. Lainnya, sebutkan - *other, mention*_____	Q16	
3	Sebutkan 2 jenis makanan/ menu/ masakan yang khas Indonesia *Mention 2 dishes/menu/cuisines that best represent Indonesia*	1.	Q15a	
		2.	Q15b	

F. ASPEK KESEHATAN - *HEALTH ASPECT*				
1	Sebutkan 2 makanan/ minuman yang **baik untuk kesehatan** *Mention 2 foods/beverages that are **beneficial for health***	1.	Q17a	
		2.	Q17b	
2	Sebutkan 2 makanan/ minuman yang **perlu dikurangi/ dihindari agar tetap sehat** *Mention 2 foods/beverages **that need to be reduced to maintain health***	1.	Q18a	
		2.	Q18b	
3	**Menggunakan Card** ***Using card*** Diantara hal-hal yang tercantum pada kartu berikut ini, pilih 3 kartu yang menurut Anda paling berbahaya/berisiko *Among the things listed on the following cards, choose 3 cards*	1. Pestisida pada makanan - *pesticides on food* 2. GMO/ rekayasa genetik pada bahan pangan *GMO/genetically modified food* 3. Makanan terkontaminasi - *contaminated food* 4. Pewarna dan pengawet buatan - *artificial coloring and preservatives* 5. Bakteri pada makanan - *bacteria in food* 6. Flu burung - *bird flu*		

	that you think are the most dangerous/risky	7. Makanan tinggi lemak dan gula - *high fat and sugar food* 8. Makanan kadaluarsa - *expired food* 9. Alergi makanan tertentu - *allergic to particular food*		
		Pilihan 1 - *1st choice*	Q19a	
		Pilihan 2 - *2nd choice*	Q19b	
		Pilihan 3 - *3rd choice*	Q19c	

G. KARAKTERISTIK RESPONDEN - *RESPONDENT'S CHARACTERISTICS*

1	Etnis/*Ethnicity* 1 Minangkabau 2 Betawi 3 Sunda 4 Jawa 5 Bali 6 Bugis 7 Makassar 77. Lainnya - *others*, sebutkan - *mention*___ 88. Tidak tahu *Don't know* 66. Tidak relevan *Not relevant*	a. Anda - *You*	Q5	
		b. Suami/istri Anda - *Your spouse*	Q21a	
		c. Ayah anda - *Your father*	Q21b	
		d. Ibu Anda - *Your mother*	Q21c	
		e. Kakek dari pihak ayah - *Grandfather from father's side*	Q21d	
		f. Nenek dari pihak ayah - *Grandmother from father's side*	Q21e	
		g. Kakek dari pihak ibu - *Grandfather from mother's side*	Q21f	
		h. Nenek dari pihak ibu - *Grandmother from mother's side*	Q21g	
2	Bahasa sehari-hari *Language*	1. Indonesia 2. Bahasa daerah/ lokal - *local dialect* Sebutkan - *mention* _____	Q22	
3	Agama *Religion*	1. Islam - *Muslim* 2. Kristen Protestan - *Christian* 3. Katholik - *Catholic* 4. Hindu 5. Budha - *Buddhist* 77. Lainnya - *other*, sebutkan - *mention*___	Q23a	

		6. Konghucu - *Confucianism*		
4	Apakah sejak lahir Anda memeluk agama tersebut? *Do you observe this religion since you were born?*	1. Ya, lanjut no 6 - *Yes, continue to No. 6* 2. Tidak - *No*	Q23b	
5	Jika tidak, apa agama Anda sebelumnya? *If not, what was your previous religion?*	1. Islam - *Muslim* 2. Kristen Protestan - *Christian* 3. Katholik - *Catholic* 4. Hindu 5. Budha - *Buddhist* 6. Konghucu - *Confucianism* 77. Lainnya - *others*, sebutkan - *mention*____	Q23c	
6	Dari skala 1-2-3- 4, seberapa agamis/ taat agama Anda? *From a scale of 1-2-3-4, how religious are you?* 1 tidak sama sekali - *not at all* 4 sangat beragama - *very religious*		Q24	
7	Status menikah *Marital status*	1. Single/tidak menikah - *single/not married* 2. Menikah dan tinggal bersama - *married and living together* 3. Janda/duda (meninggal) - *widowed (died)* 4. Bercerai - *divorced* 5. Menikah tapi hidup terpisah - *married but living apart* 6. Tinggal bersama (belum legal secara catatan sipil menikah) - *cohabitation (not legally married based on civil registry)* 99. tidak menjawab - *decline to answer*	Q30	
8a	Berapa jumlah anak yang Anda miliki? *How many children do you have?*	orang – child/children	Q31	
8b	Berapa jumlah orang yang tinggal bersama di rumah Anda? **(termasuk Anda)** *How many people do you live together with?* ***(including yourself)***	orang - persons	Q32	

PROV DISTRICT VILLAGE ID HOUSEHOLD ID

9	Seperti apa tipe keluarga yang tinggal di rumah? *What family type do you live with?*	1. Keluarga inti - *nuclear family* 2. Keluarga besar - *extended family*		
10	Tingkat pendidikan formal tertinggi *Highest formal education*	1. Tidak sekolah - *no formal education* 2. Tidak lulus SD – did *not finish elementary school* 3. Lulus SD/MI - *finished elementary school* 4. Lulus SMP/ MTS - *finished junior high school* 5. Lulus SMA/ MA - *finished senior high school* 6. Lulus diploma - *finished diploma degree* 7. S1 - *finished university, bachelor's degree* 8. Lulus S2/S3 - *finished post graduate degree*	Q29	
11	Apa pekerjaan dari ..... *What is the occupation of…..* 1 Pejabat daerah, anggota legislatif, manager - *Local government high executives, member of parliament, and managers* 2 Tenaga profesional - Dokter, pengacara, dosen, guru - *Professionals – doctor, lawyer, lecturer, teacher* 3 Teknisi (dengan skill) - *Technicians with skill* 4 Tenaga administrasi - *Clerical workers* 5 Pekerja bidang jasa dan penjualan - pedagang, sales - *Service and sales workers - traders, sales* 6 Bidang pertanian -nelayan, petani - *Agricultural, forestry, and fishery workers* 7 pekerja industri - *industrial employees* 8 Operator mesin, tukang masak - *machine operators, cooks* 9 Pekerja kasar - Tukang kayu, bangunan, buruh, cleaning service, pembantu rumah tangga, tukang becak - *menial work - carpenter, construction workers, factory workers, cleaning service workers, domestic helpers, tricycle drivers)* 10 TNI, polisi, satpam - *armed forces* 11Pensiunan - *retired* 12 Pelajar - *student* 13 Ibu rumah tangga - *housewife* 14 Supir - *drivers* 15 Tidak bekerja - *not working* 77 Lainnya, sebutkan - *others, mention*_____	1. Anda *You*	Q27	
		2. Ayah Anda *Your father*	Q28a	
		3. Ibu Anda *Your mother*	Q28b	
12	**Menggunakan Card** ***Using card***	Tulisan 1 *1st card*	Q20a	

	Kartu berikut bertuliskan agama, etnis, dan warga negara. Pilih 3 tulisan yang sesuai dengan Anda *The following cards state religion, ethnicity, and citizenship.* *Choose 3 cards that suit you.* 1 Warga Negara Indonesia - *Indonesian citizen* 2 Warga Negara selain Indonesia, sebutkan – *Citizen of other country,, mention*……. 3 Islam - *Muslim* 4 Kristen Protestan - *Christian* 5 Katholik - *Catholic* 6 Hindu 7 Budha - *Buddhist* 8 Khonghucu - *Confucianism* 9 Penghayat/Kejawen/Kebatinan - *Spiritualism* 10 Minangkabau - *Minang* 11 Betawi - *Betawis* 12 Sunda - *Sundanese* 13 Jawa - *Javanese* 14 Bali - *Balinese* 15 Bugis 16 Makassar 77 Suku lain, sebutkan - *other ethnicity, mention*……	Tulisan 2 *2nd card*	Q20b	
		Tulisan 3. *3rd card*	Q20c	

H. INDEKS KEKAYAAN - *WEALTH INDEX*			
1	Apa sumber utama air minum untuk rumah tangga ini? *What is the household's main source of drinking water?*	1. Ledeng/ PDAM - *water from government company* 2. Sumur terbuka - *open well* 3. Sumur tertutup/sumur pompa - *well with cover/pump* 4. Mata air/ sungai/ danau/ air hujan - *spring/river/ lake/rain water* 5. Truk tangki air/ air pikulan - *water tank/water vendor* 6. Air kemasan, air isi ulang/ gallon - *bottled water, refill water/gallon* 77 Lainnya, sebutkan – *others, mention*	
2	Apakah jenis kakus yang biasanya digunakan anggota rumah tangga ini? *What type of latrine do you use?*	1. Kakus sendiri dengan septic tank - *private latrine with septic tank* 2. Kakus sendiri tanpa septic tank - *private latrine without septic tank* 3. Kakus bersama/umum - *public latrine* 4. Sungai/parit - *river/ditch* 5. Cubluk/WC cemplung - *traditional latrine*	

		6. Halaman/semak/hutan - *yard/bush/forest* 77 Lainnya, sebutkan - *others, mention*.....	
3	Apakah di rumah ini memiliki *Do you have the following in your household?* 1. Ya - *Yes* 2. Tidak - *No*	a. Listrik - *electricity*	
		b. Radio	
		c. Televisi - *television*	
		d. Telepon - *phone*	
		e. Handphone	
		f. Lemari es - *refrigerator*	
4	Apa jenis bahan bakar utama yang digunakan untuk memasak? *What main fuel do you use for cooking?*	1. Listrik - *electricity* 2. Gas LPG alam - LPG/*natural gas* 3. Biogas 4. Minyak tanah/batu bara/arang - *kerosene/coal/charcoal* 5. Kayu bakar - *wood* 6. Tidak ada kegiatan memasak - *no cooking activity* 77 Lainnya, sebutkan - *others, mention*.....	
5	Apakah rumah tangga ini mempunyai: *Do you have the following in your household?* 1. Ya - *Yes* 2. Tidak - *No*	a. Sepeda - *bicycle*	
		b. Sepeda motor - *motorcycle*	
		c. Mobil - *car*	
		d. Perahu motor/sampan - *motorboat/traditional boat*	
		e. Kapal - *ship*	
6	Apakah rumah tangga Anda memiliki lahan pertanian/sawah/ ladang/kebun? *Do you have farmland/ rice field/garden?*	1. Ya - *Yes* 2. Tidak - *No*	
7	Apakah rumah tangga	a. Sapi - *cow*	

	ini memiliki *Do you have the following in your household?* 1. Ya - *Yes* 2. Tidak - *No*	b. Kerbau - *buffalo*	
		c. Kuda/keledai - *horse/donkey*	
		d. Kambing/domba - *goat/sheep*	
		e. Babi - *pig*	
		f. Ayam/bebek - *chicken/duck*	

(TIDAK UNTUK DITANYAKAN, CUKUP DILIHAT LALU LINGKARI KODE YANG SESUAI).
(*DO NOT ASK, OBSERVE AND CIRCLE THE CORRESPONDING CODE*)

8	BAHAN BANGUNAN UTAMA LANTAI RUMAH *Main materials of the house' flooring*	1. Tanah - *soil* 2. Kayu/papan/ bamboo - *wood/timber/bamboo* 3. Semen - *cement* 4. Ubin/keramik – *tiles/ceramic* 5. Parket - *parquet* 77 Lainnya, sebutkan - *others, mention*.....	
9	BAHAN BANGUNAN UTAMA ATAP RUMAH *Main materials of the house's roof*	1. Jerami - *hay* 2. Bambu kayu - *bamboo/wood* 3. Seng - *tin roof* 4. Genteng - *tile roof* 5. Beton - *concrete* 77 Lainnya, sebutkan - *other, mention*.....	
10	BAHAN BANGUNAN UTAMA DINDING RUMAH *Main materials of the house's walls*	1. Bambu/kayu - *bamboo/wood* 2. Semi permanen - *semi-permanent* 3. Permanen: bata/tembok - *permanent: brick/wall*	

Q35	Jika suatu saat nanti kami menghubungi Anda lagi untuk keperluan studi, apa Anda mengijinkan/berminat? *Do you give us permission to contact you again for research purposes in the future?*	1. Ya - *Yes* 2. Tidak - *No*	

I. DATA ANTHROPOMETRY - ANTHROPOMETRIC DATA

		Pengukuran 1 *1st measurement*	Pengukuran 2 *2nd measurement*		Rata-rata *Average*
1	Berat badan - *body weight*	kg	kg	Q26	kg
2	Tinggi badan - *body height*	cm	cm	Q25	cm

3	LILA - MUAC	cm	cm		cm
4	Nama pengukur *Measurer*	:			

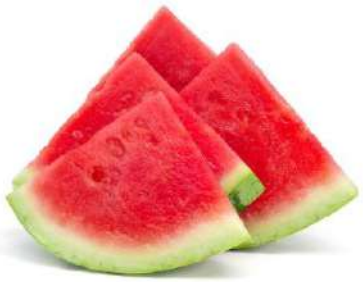
FOOD CATALOG

A1	**NON-SOUP FOODS** **In 1 serving – the majority of carbohydrate sources are mixed with vegetables/side dishes into one meal. For example: porridge/congee, fried rice**  	**A11 with a dessert/drink** **A10 without a dessert/drink**
A2	**INSTANT NOODLES (with soup or fried)** 	**A21 with a dessert/drink** **A20 without a dessert/drink**
A3	**COMPOSITE MENU** **Satay, rice cake with vegetables, meatballs, chicken noodle, *siomay* (dumpling – steamed), *batagor* (dumpling – fried), etc.**     	**A31 with a dessert/drink** **A30 without a dessert/drink**

A4	**SOUP/SOTO** **Soupy dishes and served separately with rice** 	**A41 with a dessert/drink** **A40 without a dessert/drink**
B	**MIXED MENU/INDONESIAN SALAD/ PECEL** **One plate contains various types of dishes**     	**B1 with a dessert/drink** **B0 without a dessert/drink**
C	**DRINKS AND ADDITIONAL MENU** **For example: tea/coffee/milk and an additional menu**  	**C1 with a dessert/drink** **C0 without a dessert/drink**

		
D1	**LIWETAN** 	**D11 with a dessert/drink** **D10 without a dessert/drink**
D2	**EATING TOGETHER with family/friends/etc.** ***Shared menu* = the same menu is eaten together (rice is served in a shared basket)** 	**D21 with a dessert/drink** **D20 without a dessert/drink**
D3	**PADANG STYLE** **Rice is served individually, various menus are served and eaten together** 	**D31 with a dessert/drink** **D30 without a dessert/drink**

D4	**CHINESE STYLE** **Rice is served individually, dishes are served in 1 plate and eaten together** 	**D41 with a dessert/drink** **D40 without a dessert/drink**
E	**FAST FOODS** 	**E1 with a dessert/drink** **E0 without a dessert/drink**
F1	**TRADITIONAL FOODS/ HOMEMADE** **Example = *jajan pasar* (traditional steamed cakes), *gorengan* (fritters), *rebusan* (steamed sweet potato, banana, corn, peanut, cassava)**   	**F11 with a dessert/drink** **F10 without a dessert/drink**

F2	**MANUFACTURED FOODS/PACKAGED FOODS** **For example: chips, crisps/crackers, packaged foods**  	**F21 with a dessert/drink** **F20 without a dessert/drink**
F3	**FRUITS**   	
	Example of desserts: **Tea, coffee, other drinks** **Pudding, fruits, fruit juice, etc.**	
	    	

IN-DEPTH INTERVIEW QUESTIONS GUIDE
For respondents

Day/ date interview :_____/_____201…

Interviewer :_____

City : Jakarta / Denpasar / Makassar * circle the appropriate

The interviewer greets, introduces him/herself, and explains the purpose of the interview.
Good morning (morning, afternoon, evening) Sir/Madam. I am (interviewer's name) from SEAMEO RECFON. We are currently working on research about social, cultural, and economic aspects of food consumption among Indonesians aged 18-59 years. This interview will take for about 2 hours. There are no right or wrong answers in this interview. We would like to request your permission that this interview will be recorded. We assure you that all information gathered will be kept confidential, only the researchers who can access the data. Thank you in advance for participating in this interview.

THEME: INFORMANT'S PERSONAL IDENTITY		
Variable	**Notes**	**Variable**
Name		Working status
Type sex	F/M * *circle the relevant	Education level
Age		Current residential address
Date born		
Marital status		Type of residential buildings (Boarding house/Single family house)
Residing with whom? (self/nuclear family extended family) *Mention the family members*	Alone / family (specify which members of the family)	Mobile phone number

Now I will ask you about your daily activity and sources of information that you usually get. **What are your activities recently?**	
Types of work Notes: Work is whether you work in an office, from home (online sellers/catering, other online activities, etc.), or field workers/only occasionally (*freelancers*, *writers, bloggers / social media influencers, consultants, etc.)*	Do you work? What is your current job? Where do you work? Working from home or outside the home? If you work outside the home, how do you get to work? (*vehicle/transportation*) Do you work every day? *Also ask about side jobs*
Other activities	Is there any sport or hobbies that you often do? Explain what kind of activities do you engage in? Where is the place you do those activities (sports/hobbies)? Do you engage in these activities from home or outside the home? If you do these activities from outside the home, what kind of transportation do you use? (private vehicle/ transportation) Are these activities conducted every day?
	If the activity was done mostly <u>at home</u> please ask: Eating habit? Eating with whom? What time and in what kind of moment? Usual menu consumed at home? Are there any eating norms (food sharing)? Are there usually any food waste? If yes, how to handle it?
	If activity was done mostly outside home <u>(office/campus</u>) please ask: Eating habit? With whom? Specify which people you eat with (colleagues from the office, friends from campus, close friends, playmates, family members ? How many people are usually with you in each moment of eating? What time and in what kind of moment? The eating place and reasons behind food choices?

<table>
<tr><td></td><td colspan="2">In terms of the distance, do you prefer closer or further place?
Usual menu eaten when alone?
Are there usually any food waste? If yes, how do you handle it?</td></tr>
<tr><td>Religion</td><td>What is your religion?
Father’s/mother's religion?
Daily religious rituals?
How often the ritual is done?

What religious ritual /events do you usually attend to? How often do you attend the ritual/event?

What kind of religious events / celebrations? Are there any particular food/signature dish served at the celebration?

Wedding
Birth
Circumcision
Christmas/ Easter
Maulidan
Related religious event tradition</td><td>Probing:
- Islam
▪ Have you ever skipped Shalat/a prayer? Explain your reason
- Christian
▪ Have you ever skipped attending the church service at least once?
▪ How many times do you pray in a day / are there any particular time to pray apart from the ones done in church?
- Hindu
○ Have you ever skipped Trisandhya?
○ Do you always prepare offerings (yadnes sesa)?
- Buddha
▪ Have you ever skipped puja bakti?
▪ Have ever violated Pancasila?
- Catholic
▪ How many times do you pray in a day / are there any particular time to pray apart from the ones done in church?
▪ Have ever skipped attending the church service at least once?
- Kong hu chu</td></tr>
<tr><td colspan="2">Terms in religious?
- Pancasila: avoid despicable deeds, like killing other living creatures, take items that are not owned, do something immoral, say things that are not the truth/lie, and consume intoxicating substance and create loss of awareness
- Trisandhya : obligatory worship done by all Hindus, three times a day (trisandhya), namely pratah sandhya, at dawn approaching sunrise, madyama sandhya, at midday, and pascima sandhya, at sunset</td></tr>
<tr><td>Tribe/ethnicity</td><td colspan="2">What is your ethnicity/tribe?
What about the ethnicity of your parents and husband/wife?
What ethnicity do your friends come from? (colleagues at the office, close friends, or close neighbors)</td></tr>
</table>

<table>
<tr><td></td><td colspan="2">On a daily basis, how much close are you with people from other ethnicity /religion?</td></tr>
<tr><td rowspan="5">Ethnic relations</td><td>Have you ever dined with people from different ethnicities/religions to you?</td><td>How much often?</td></tr>
<tr><td>If so, what kind of menu do you eat?</td><td></td></tr>
<tr><td>Do you think the eating place/restaurant need to serve food for people with special conditions or needs?
(halal foods for Muslims, foods for vegetarians, etc.)</td><td>What do you think if the eating place/restaurant does NOT provide food for consumer with special needs?
(do not have menus for Muslims, do not have a menu for vegetarians)</td></tr>
<tr><td>Are there any eating norms related to tradition?
(food offerings/eating norms)</td><td>Are these still relevant now?</td></tr>
<tr><td colspan="2">Remove the cards below from the least important to the one that needs to be saved in your life:

POSITION | RELIGION
FAMILY | WEALTH
ETHNICITY/CULTURE | CITIZENSHIP

You are almost drowning in the ocean, and you brought a bag containing of 6 items. To survive this, you need to remove items from your bag one at a time and safe the last item.</td></tr>
</table>

THEME: FOOD HABITS		
Sub-theme	**Question**	***Probing* / Follow-up Questions**
Perception	In your opinion, what is considered a proper meal? From the following picture (show picture) which of these foods do you think is good for you (*proper meal*)?	What is the reason? Do you usually eat the food that you choose? If not, what kind of foods you usually eat? State the reason.
	In your opinion, what does "Lauk"- side dish/protein mean? what are some examples of this type of food?	
	In your opinion, what does "Sayur" vegetables mean? what are some examples of this type of food?	
	Have you ever heard of protein-based foods? what are some examples of this type of food?	
	What do you know about animal-based protein and plant-based protein?	Probing: - Type of food - Benefits - Side effects - Portion needs
	In your opinion, among all types of protein-based foods that you have mentioned, what type of protein-based foods do you need the most right now?	
Temporality (norms)	How many times do you usually eat in a day? What are the mealtimes?	(Breakfast, lunch, dinner, snacks/snacks, etc.) Probes: - During weekdays? weekends? - At the boarding house / at home - Snacking Ask respondent's definition of **eating, breakfast, coffee, small food, snacking, satiety (**along with example the food, if appropriate)

	What time do you usually eat?	Do you always eat at the same time? Probing mealtimes for breakfast, lunch, and dinner (see if there is a time pattern to eat regularly or none) How much time does it usually take for you to eat?
Meal structure (norms)	What are the usual menus served/consumed when you eat? How many types of dishes are there? What food/drink do you usually eat in one meal? (provide details, if necessary)	Probing: Ask per meal time For example: - Rice + fried tempe + sour soup →3 servings of different food groups - Rice + fried chicken + egg omelet + spinach →4 servings of different food groups
	What are the structures of your daily food intakes?	Are there any **vegetables**, animal-based protein, plant-based protein, fruits, etc.? Probes: - Consumption of breakfast, frequency, what kind of food? - Consumption of fruits (frequency) and as what (dessert/snack) - Consumption of fried foods (frequency) and as what (snack/breakfast/side dish)? Typical example food eaten (snack/breakfast/side dish) - How much is the consumption of soy sauce, chili sauce, crackers? - Milk consumption (as complement, substitution, regularly/irregularly)
	On a daily basis, what does the served menu look like? **SHOW PICTURES** Which one is usually taken? Order taken/consumed food based on what is required/preferred	- All menus on the table (1 menu, 1 plate) - All menus on the table + rice for an individual - All menus in 1 plate - 1 tray for communal eating (Arabic style) - Separated = fried food + main meal in 1 plate + dessert/fruits/juice - Beverages (tea/coffee/milk)+ fried food/traditional snacks/bread
	When eating together (with friends or family), do you share the same menu with the people you eat with?	In what kind of moment/situation that eating together is done? At home and outside the home?

		If there are leftovers on the plate (eating in or eating out), did you remove it to waste or share it with a friend?
	 1. Nasi + Mie + Telur  2. Bubur Ayam  3. Mie goreng  4. Roti + susu  5. Gado-gado  6. Sereal+susu+buah  7. Nasi+sayuran+tempe  8. Nasi+tahu+tempe+ayam  9. Sop Iga  10. Nasi+ tahu+ tempe+ telur+ ikan+ sayuran+ buah + susu  11. Nasi + ayam+ tahu+ tempe+ buah+ sambal+ kerupuk  12. Nasi+ tahu+ tempe+ lalapan+ sambal  13. Nasi Liwet  14. Nasi Gudeg  15. Nasi+ rendang+ sayur nangka+ singkong rebus  16. Nasi+sop konro  17. Nasi+ Sate lilit+ telur+ sayuran  18. Nasi + Soto + acar
Food Hierarchy	Based on your regular food consumption, please sort out the food that you think must be served/consumed from the most to the least important? PUT IN ORDER FROM THE MOST IMPORTANT TO THE LEAST IMPORTANT (GIVE RANKING) ask the concept and the usual practice. Customized with respondents' food intake (choose one of the following)	

<table>
<tr><td></td><td>
<table>
<tr><td>RICE</td><td>CARBOHYDRATE</td></tr>
<tr><td>VEGETABLES</td><td>PROTEIN</td></tr>
<tr><td>FRUIT</td><td>CRACKERS</td></tr>
<tr><td>CHILI PASTE</td><td>SOY SAUCE</td></tr>
<tr><td>KETCHUP</td><td>FRIED FOODS</td></tr>
<tr><td>EMPING</td><td>FLAVOR ENHANCER</td></tr>
</table>
</td><td>Protein
• Animal-based protein
• Plant-based protein

Type of protein (preferred vs often consumed)
<table>
<tr><td>SALTWATER FISH</td><td>SALTED FISH</td></tr>
<tr><td>FRESH WATER</td><td>EGG</td></tr>
<tr><td>CHICKEN</td><td>MEAT</td></tr>
<tr><td>TEMPEH</td><td>TOFU</td></tr>
<tr><td>ONCOM</td><td></td></tr>
</table>
</td></tr>
<tr><td>Resources</td><td>What kind of food/protein to buy or consume if the case as following?

- Time, tools and places are available but with no money
- Money, place and tools are available however, no time available
- Money, place and time are available with no tools to cook
- Money, tools and time are available with no place to cook available
- All resources are available</td><td>ASK THE REASON

Explore about replaced/removed food:
- type of protein (animal-based or plant-based)
- fried foods
- vegetables or fruit

condiments: crackers /chili paste/ketchup/soy sauce</td></tr>
<tr><td rowspan="3">Food Preferences and Food cravings</td><td>What is your favorite food?</td><td>What are the reasons?</td></tr>
<tr><td>Do you prefer animal-based or plant-based protein?</td><td>- What type
- The reasons behind it
- Since when

Is it because you are used to it since childhood?</td></tr>
<tr><td>Is there a protein-rich food that you are craving right now?</td><td>Probing:
If you have the chance and the food is available</td></tr>
</table>

<table>
<tr><td></td><td></td><td>Ask the reason</td></tr>
<tr><td></td><td>Are there certain protein-based foods that become your family favorites?</td><td>Example: pizza, beef rendang, tofu, tempeh, etc</td></tr>
<tr><td rowspan="3">Personal dieting habit</td><td>Are you on a certain diet?

What is your reason when choosing food?

Are there certain foods/drinks that you avoid/do not eat / limit/scared of?

Do you regularly fast?

Notes:
Providing ‘just don’t like the food’ as a reason will not be considered</td><td>If yes, how long have you been practicing this diet/eating habit?

What are the reasons? Please explain the reasons/motivation to do the diet.
Elaborate the reason behind your diet choices:
Religion (halal, fasting, etc.), health (no sugar, low fat, allergies), personal reasons (local food, organic, vegetarian, yin-yang food theory, hot-cold food theory etc.), taboos</td></tr>
<tr><td colspan="2">Choose 3 of these cards below that influence your food selection?
and give your top 3 ratings (1, 2, and 3) out of the following:</td></tr>
<tr><td colspan="2">HALAL | HEALTH | FLAVOR | PREFERENCES
PRICE | FOOD SAFETY | BRAND | BODY IMAGE
MOOD | REQUIREMENTS | OTHERS</td></tr>
</table>

THEME: EATING IN Context: - For those who are staying in a dormitory → home = dormitory - For those who regularly go back and forth from home to dormitory → ask for both cases (dormitory and home)		
Sub-theme	**Question**	***Probing* / Follow-up Questions**
Time and space	In a week, how often do you eat at home?	*If they said 'often', it is sufficient*
	When do you eat at home?	Under what circumstances do you eat at home? (on weekends, every breakfast, when coming home earlier from work, when parents come to visit, etc.)
	When you are at home, where do you usually eat?	(in your room, in the kitchen, at the dining room, in front of the TV/computer)
	Whom are you usually eating your food with?	(oneself, entire family, certain family members, please specify)
	Do you store your food at home that everyone can eat? Note: **ready to eat food** For example: ready to eat food, fruit, snacks, instant noodles, cereals, etc.	Are there any particular times when those foods can/cannot be consumed? What do you think about packaged/fast food? (cheaper, more practical, healthier, etc.)
Cuisine	What are the menus you usually eat at home?	Are there any family members who do not like/choose the same food? **Are there any food that are usually left on the table? Why?**
	When eating at home, are there any certain rules when eating together?	Usual day, family events, special moments Example: waiting for father's presence before starting to eat, everyone sits on the chairs surrounding a dining table, and father/son/older person taking the food first
	When eating at home, does everyone take food as they wish?	Has everyone's meals been distributed according to a designated portion? If someone has already designated portions, ask: -who designs the portion? -type of foods -how was it done? -why do you think it was done?
	When eating at home, are there any leftovers after eating?	How often (at every meal)?

		What does the leftover usually consist of? How is it handled?
	When you are at home, do you usually cook? Or have you ever cooked? Note: addressed for informants	Probe: - If not you, who does the cooking?
	What food do you usually cook?	What is your favorite recipe?
	How do you learn to cook? Who did you learn cooking from?	Since when did you start learning to cook? Does cooking related with special moments in your life?
	Where does the water you use for cooking come from? What about for drinking?	
	What tools do you usually use for cooking?	(Frying pan, steamer, pan, oven/microwave, rice cooker, etc.)
	When cooking at home, **which part of the food do you usually throw away? (becomes food waste)**	How is it handled? - Vegetables waste - Fish waste - Chicken waste
	When you eat at home with other people (guests/friends/ family), what are the same menu that you usually eat daily?	Menu served for guest, is it self-cooked/homemade or purchased? • If it is self-cooked, are there any particular recipes/menus that you cook? • If purchased, did you prepare a menu that you usually eat or different for the guests?
	Have you ever purchased food from outside, but to eat at home?	How often? **Snacks…….** **Meal…….**

THEME: FOOD SYSTEMS								
COMMODITY NAME	**HOW TO GET (Purchased/not purchased? How? Where? From whom? Frequency?)**	**PREPARATION BEFORE STORAGE**	**STORAGE**	**PREPARATION BEFORE PROCESSING**	**PROCESSING (What usually done)**	**STORAGE AFTER PROCESSED**	**PRESENTATION**	**HANDLING OF FOOD WASTE**
RICE								
NUTS (tempeh and tofu)								
TUBERS								
VEGETABLES								
FRUIT								
OIL								
FISH/ SEAFOOD								

THEME: FOOD SYSTEMS								
COMMODITY NAME	**HOW TO GET (Purchased/not purchased? How? Where? From whom? Frequency?)**	**PREPARATION BEFORE STORAGE**	**STORAGE**	**PREPARATION BEFORE PROCESSING**	**PROCESSING (What usually done)**	**STORAGE AFTER PROCESSED**	**PRESENTATION**	**HANDLING OF FOOD WASTE**
MEATS								
CHICKEN/ POULTRY								
EGG								

Income	How do you receive your income (every month/week/day, etc.)? How much is approximately your monthly income? (provide details, if necessary)	
Food Supply	Whose income is used to meet the food needs?	(from the informant 's income, or other family members?) If it is paid/provided by spouse/parents/a family member, how is it provided? (weekly / monthly?)
Food supply selection	What information do you pay attention to before buying, especially on food packaging?	How was fresh food selected? (chicken/vegetable/organic/meat) (Halal certificate, composition, expiry date, etc.)
	What are your concerns in choosing protein-based foods? Is there a difference between plant-based and animal-based products?	Fresh products, processed products, packaged products (chicken, eggs, meat, fish, sardines, sausages, nuggets, meatballs, rice, tofu, tempeh, nuts, etc.) Example: brand, quality of ingredients/products, price, nutritional value, processing time, storage container, family preferences Specify: what kind of material/product quality is preferred, how much the price is, etc.

THEME: EATING OUT		
Sub-theme	**Question**	***Probing* / Follow-up Questions**
Time and space	In a week, how often do you eat out? *(including EAT AT THE OFFICE, EAT AT CAMPUS)*	Probe: Weekdays? Weekends? *How much often?*
	When do you usually eat out?	In what kind of situations/moments do you eat out? (when working, meeting friends, etc.) Probes: are there any other moment apart from while at work?
	Where do you usually eat when eat out? (name/type of the place to eat out) Examples: restaurants, cafes, stalls, food courts, street vendors, canteens	How much time does it take for you to reach the place for eating? (from the initial place – to office/home/etc.) Probe: - how many minutes? - Use what type of transportation? - Do you think it is far or not? - Are there any difference between eating together with family and friends?
	What are the considerations of choosing a place to eat? Are there any certain criteria?	Are there any particular moments/events that influence the decision-making behind choosing the place to eat?
	Have you ever brought food from home to be eaten outside/at the office/on campus?	How often?
Commensality	When you eat out, do you usually eat alone or with other people?	With whom? How many people do you usually eat out with?
	What menu do you usually eat when you eat out?	Have you eaten food that you have not once tried or cooked yet? Menu to eat with family and friends
	When you eat with other people, do you order the same menu? Or 1 menu is eaten together?	What menu did you order? 1 menu? Multiple menus? Same menu eaten together? When with family and friends

	How do you pay when you eat together with other people?	Each pay for their own foods, pay jointly, or paid by one person? How much do you usually spend when you eat out? *Cost range of eating out (max-min)*
	When eating outside, are there any leftovers after eating?	How often (at each meal)? What are the leftovers? How is it handled?
	For a place that serves food for children, In your opinion, what kind of food they need to serve?	

THEME: REPRESENTATIONS OF FOOD		
Sub-theme	**Question**	***Probing* / Follow-up Questions**
Invitation	Which one do you prefer more, eating alone or eating with a friend?	
	How many times a week do you invite/ invite people to eat with you?	Who do you usually invite / invite? (friends, colleagues from work, family, etc.)
	Where do you usually invite others to eat? Eating at home/eating out?	- If it is at home, do you cook? - How about eating out? how to select the location to eat?
	How do you determine the menu when inviting others to eat?	Do you pay attention to factors, such as: Halal, vegetarian, allergy, etc.
	how do you feel when the person you invite to eat said that there is certain type of food that they cannot eat? (for personal reasons) Personal reasons, for example: Religion, allergies, certain diets, vegetarian, do not like certain food	
Delivery	Do you like to buy food from outside the home through a delivery service?	How much often? How to order it? through what kind of platform?
	Does all family members like the same food as you do when ordering food delivery?	What are preferred and not preferred?
	What considerations are made when ordering food via delivery?	
Food identity	What type of cuisine is your favorite?	(Chinese food, European dishes, homemade foods, etc.)
	What do you think is the characteristics of signature Indonesian dishes?	(Characteristics of taste/ ingredients, method of eating, food processing methods, etc.)
	What type of food do you usually cook?	(Signature Minangkabau /Javanese/Chinese foods/etc.)
	What is your signature dish? (Menu that you often cook and eat)	
	What do you think “pleasurable eating” means?	(eating well-balanced/healthy food, eating in a nice place, eating with friends/family, eating favorite food)

	Or what kind of eating experience do you find most pleasurable?	
Nutrition	In your opinion, are there any correlation between food and health?	what do you think is the correlation?
	What kind of food that needs to be consumed for it to be called "a balanced diet"?	Are there any foods that should be avoided/reduced?
	What do you think is the healthiest food? What cooking method do you consider the healthiest?	Why is it considered healthy?
	What kind of food/cooking method do you consider unhealthy?	Why is it considered unhealthy?
	What do you think is considered "healthy eating habits/patterns?"	(in terms of mealtime, amount of main meal eaten, type of food, etc.)
	Do you feel satisfied with your current eating pattern/habits?	
	If there is anything you can improve from your eating pattern, what would you like to change?	
	Body height (cm)	How tall are you right now? When was the last time you have it measured?
	Body weight (kg)	What is your current weight? When was the last time you have it measured?
	Are you satisfied with your body shape?	Do you have any desire to increase/lower your body weight?
Others	In your opinion, what kind of eating pattern that could impact the environment?	
	Do you have any food concerns? (food safety, hygiene)	What do you think about food with GMOs? GMO = genetically modified organism/food What kind of food that usually treated with GMOs?

	Are you concerned about animal welfare?	
	Exposure of information	Where does the source of information usually come from? What about health information? From where do you usually receive it? Example: TV, internet and social media (Facebook, WhatsApp, Twitter, etc.), newspaper/magazine, center of healthcare service, Posyandu cadre, friends, or family How much do you trust the information from those media? (especially social media)
	Does the Indonesian government need to provide suggestions or recommendations regarding eating pattern?	Do food-related policies from the government important to you?
	What do you think should be explained in nutrition education?	

THEME: CONSUMPTION OF PROTEIN-BASED FOODS		
Sub-theme	**Question**	***Probing* / Follow-up Questions**
Type of protein-based foods	Were the foods you consumed yesterday the usual foods you eat?	- Was it more, less, or the same? - What are the differences? - On what occasion? (fasting, birthday, attending events) - What are the reasons for choosing these foods? (focus on protein-based foods)
	Summarize the protein-based foods consumed recently by the informant	Are there any difference in the consumption of protein-based foods in the present compared to the ones consumed in the past (when they were children/teenagers)

Summary and impressions of the interview:

_____
_____
_____
_____
_____
_____

IN-DEPTH INTERVIEW QUESTIONS GUIDE

For resource person (public figure: i.e., village elder)

Day/date of interview :_____/_____201…

Interviewer :_____

Location : _____

The interviewer greets, introduces his/herself, and explains the purpose of the interview

Good morning (morning, afternoon, evening) Sir/Madam. I am (interviewer's name) from SEAMEO RECFON. We are currently working on research about social, cultural, and economic aspects of food consumption among Indonesians aged 18-59 years. We would like to discuss with about some norms and habits related to the food pattern in this area. We will have about 1 hour to have this conversation. We would like to request your permission to record this conversation. We assure you that all information gathered will be kept confidential, only the researchers who can access the data. Thank you in advance for participating in this interview.

PERSONAL INFORMATION			
Variable	**Notes**	**Variable**	**Notes**
Name		working status	
Gender		last education	
Age		Current residential address	
Date of birth			
Religion			
Ethnicity			
Marital status		Mobile phone no.	

EATING HABITS AND NORMS			
Sub-theme	**Question**	***Probing* / Follow-up Questions**	**Notes**
EATING HABITS	In your opinion, what are the typical eating patterns that only exist in your area?	- History of local food, folk tales related to local food, - Typical food that is usually consumed/special ritual food/favorite food - Eating habit - Food as a symbol/food taboos - Traditions/rituals/celebrations related to eating or food - Rules for eating at the dinner table/ritual/celebration - Food structure - Harvest and post-harvest handling technology (food commodities)/cooking process characteristics (e.g., West Java prefers fresh foods, Minangkabau prefers using coconut milk)	
EATING NORMS	How do the eating norms change from time to time and what are the factors influencing the change?		

IN-DEPTH INTERVIEW QUESTIONS GUIDE

For resource person (i.e., anthropologist, food historian)

Day/date of interview :_____/_____201…

Interviewer :_____

Location : _____

The interviewer greets, introduces his/herself, and explains the purpose of the interview

Good morning (morning, afternoon, evening) Sir/Madam. I am (interviewer's name) from SEAMEO RECFON. We are currently working on research about social, cultural, and economic aspects of food consumption among Indonesians aged 18-59 years. We would like to discuss with about some norms and habits related to the food pattern in this area. We will have about 1 hour to have this conversation. We would like to request your permission to record this conversation. We assure you that all information gathered will be kept confidential, only the researchers who can access the data. Thank you in advance for participating in this interview.

PERSONAL INFORMATION			
Variable	**Notes**	**Variable**	**Notes**
Name		Working status	
Gender		Last education	
Age		Current residential address	
Date of birth			
Religion			
Ethnicity			
Marital status		Mobile phone no.	

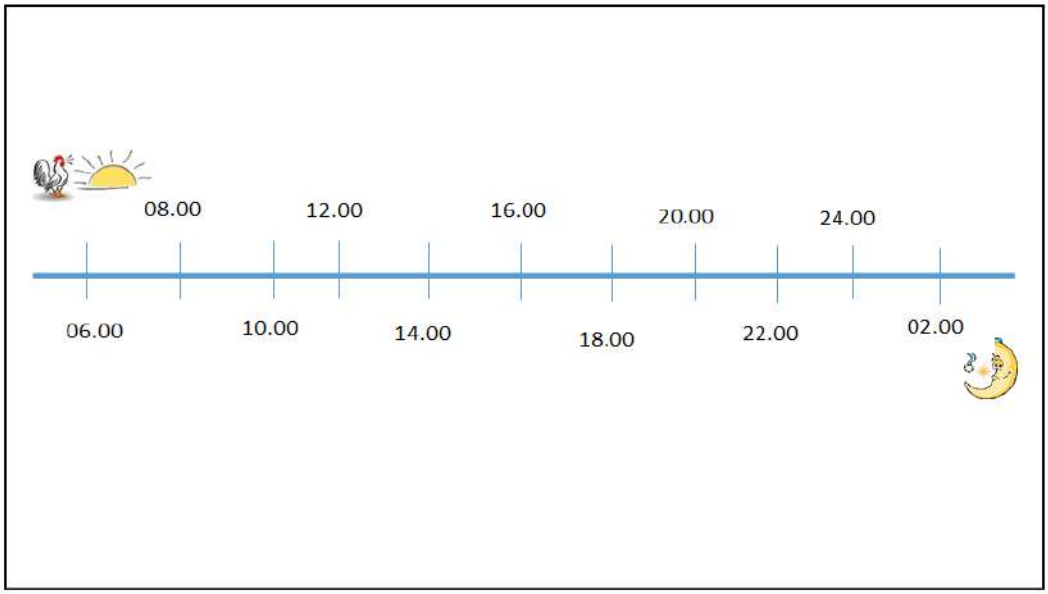
EATING PRACTICES AND HABITS			
Sub-theme	**Question**	***Probing* / Follow-up Questions**	**Notes**
Eating Norms	1. In your opinion, generally, are there any differences between the eating norms in Indonesia in the past and present?	- Types of food and food processing - Mealtime - Food rules - Cooking skills	
	2. What do you think are the factors influencing eating norms and its alteration then vs. now?	- Foreign cultures (colonial/Chinese/Arab etc), Technological advancement (food technology/information technology, etc), Climate change, etc.	
Eating practices/patterns	3. In your opinion, what are the signature eating patterns from Sundanese, Javanese, Minangkabau, Balinese, Bugis and Makassar ethnicities?	- Signature dishes that are usually consumed/special ritual foods/favorite foods - Eating habit - Food rules during dining/ritual/celebration - Food as symbols/food taboos - Tradition/rituals/celebrations related to food and eating practices - Food structure - Characteristics of food processing/cooking processes	
	4. Explain factors influencing the differences of eating patterns, signature dishes, and cooking processes between ethnicities.	Characteristics of regions, livelihoods, and religions	
	5. How do you explain the shift in definition of the following? a. Meal b. Snack (in-between intakes)		

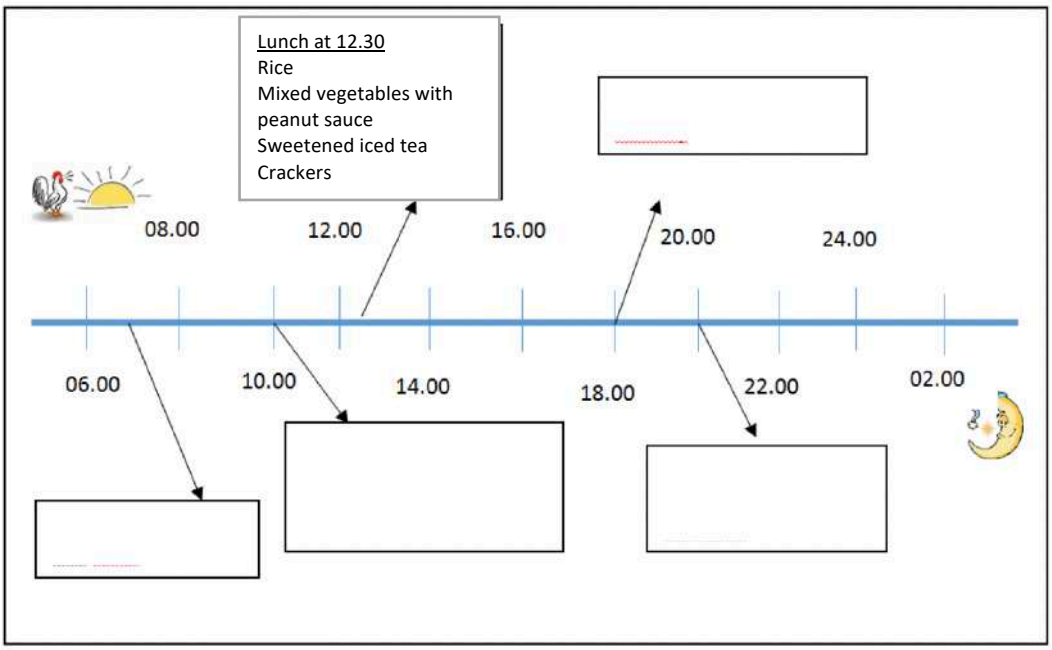
	6. How do you describe the shift in food consumption between the past and present? a. Vegetables b. Carbohydrates c. Protein d. Fruits		
	7. Factors related to the shift of definition and food consumption.		

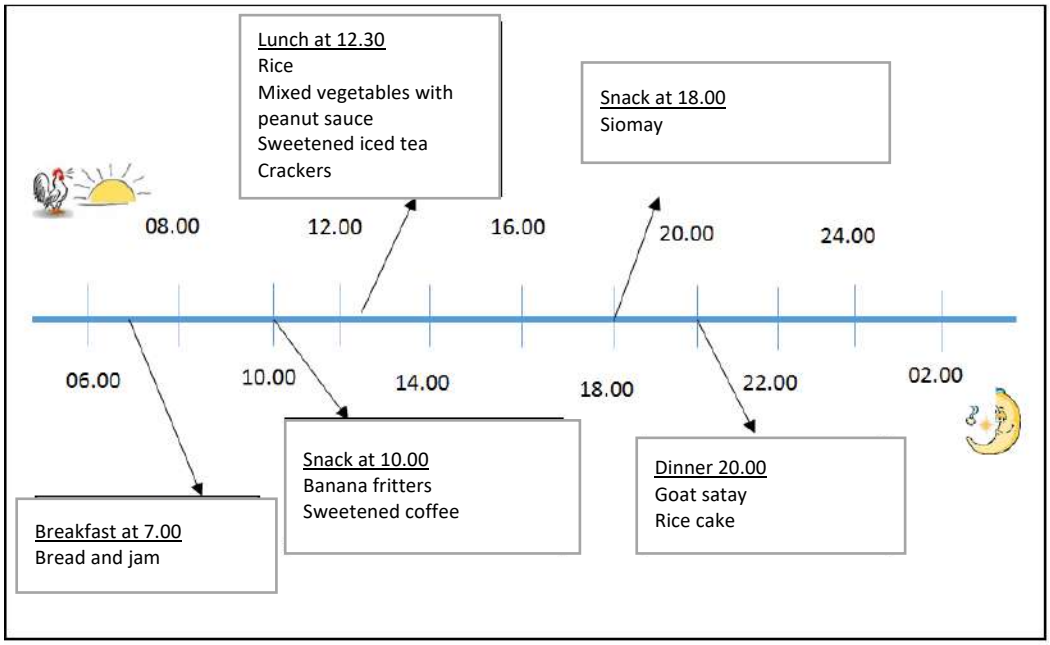
Focus Group Discussion
QUESTIONS GUIDE

Eating habits in their relation to social and cultural aspects

This discussion aims to understand the eating habits of Indonesian coming from various tribes, ethnicities, and religions. In the discussion, you are free to express your opinions. There is no right or wrong answer. The discussion will take approximately 2 hours.

No.	Probing
1.	**Food day** You are requested to record food and beverages you consumed yesterday (Tuesday) – from waking up to before bed. Elaborate on what you ate yesterday based on your mealtime. 





- How many times do you usually eat in a day?
- How many main meals do you usually have?
- Are there any snack in between mealtime?
- Do you have similar eating habits between working days and days off?
- What factors do you think influence eating habits?
    - Marital status?
    - Who do you live with?
    - Do you live in a boarding house or at home?

2. **Meal structure**

- You are asked to observe **six meal structures** below.
- Which meal structure do you usually practice?
- When are these six meal structures usually practiced? (e.g., when eating alone, with friends/family, during special occasions/celebrations)

No.	Meal Structure
1	 - All meals are served on the table. - Rice is served in a rice basket/container. - When you eat, you take portions of rice and other dishes as desired.
2.	  - All foods are served on the table. - Rice is served in individual portion. - When you eat, you take portions of food as desired.
3.	  - Rice, vegetables, and side dishes are served in one large tray. - Then, foods are eaten together with several people directly from the tray.

4.


- Rice, vegetables, and side dishes are served in an individual serving package.
- You cannot choose your desired portion.

5.




One mealtime includes:

- Tea and fried foods or snack
- Or milk and bread
- Or milk and fruit

6.




A mealtime consists of several stages:

- Starting with appetizers
- Followed by a main course
- Closed with dessert(s)

3. **Food Hierarchy**

Rank the following food groups below from the most to the least important that must be in your menu:

Food group	Rank
SAYUR – vegetables	
LAUK – side dishes	
NASI/KARBOHIDRAT – rice/carb	
SUSU – milk	
KERUPUK/SAMBAL/KECAP/SAOS - Crackers/chili paste/ketchup/sauce	
BUAH – fruits	

Rank the following type of "Lauk" (protein-source foods – side dishes) below from the most to the least important that must be in your menu.

Type of "Lauk"	Rank
TEMPE – tempeh	
TAHU – tofu	
IKAN LAUT – fish and other seafoods	
IKAN ASIN – salted dried fish	
IKAN AIR TAWAR – freshwater fish	
AYAM – chicken	
DAGING – meat (including beef, mutton, pork)	
ONCOM – i.e., fermented cake made from soybean sediment	
TELUR – egg	

4	***Gorengan* – fritters** GORENGAN       • How many times per week do you consume any sorts of *gorengan*? What do you consider the *gorengan* that you consumed (probe: as a snack - *cemilan*, breakfast meal - *sarapan*, or as *lauk*)? • Please give an example of each category of the *gorengan* you consumed as above. Probe if there has been a different representation of *gorengan* as lauk vs. *gorengan* as a snack. • Contexts: 1) fried tempeh in the top-lefthand picture above is often considered as *lauk*, while battered fried tempeh (on the right side of the fried tempeh picture can function both as *lauk* and snack; 2) sweet fritters such as banana or sweet potato fritter are mostly regarded as snack, less preferred as *lauk*.
5	**Eating out – practices of eating outside home** • How frequent are you eating outside home? • When or on what occasion do you eat out? Probe: when at work, when with friend/family, on specially occasion like birthday or other ceremonies, when on holiday, etc. • With whom do you usually eat out? • When you eat out, which type of eating places do you choose? Why?
6	**Food supply – food procurement** • You are requested to tell us your food shopping and procurement in the table provided. • Where do you usually buy/procure the food stuff? • How often do you buy/procure each specific food stuff? • Write down the frequency as shown in the example below:

Food ingredients	Frequency							
	Traditional market	Super-market	Warung/ small shop	Restaurant	Small restaurant	Street vendor	Retail shop (Alfamart etc.)	Others
Rice, cooking oil, sugar		1x/month						
Vegetables	1x/week							
Fruits								
Egg								
Fish, chicken, beef								3x/week (mobile vendor)
Milk								
Tea, coffee								
Snack								
Cooked food (take away)				Every holiday				

- Explore why frequency and place of shopping varied among respondents and within each food stuff. Relate the discussion with the following aspect:
  - Cooking habits
  - Habits of buying cooked foods
  - Living companion at home
  - Location of the house
  - Price of the food stuff
  - Considerations when buying food stuff

7 **Representations related to food and its related practices**

- We have 5 series of pictures with certain themes.
- You are requested to observe the pictures.
- Tell us what come to mind immediately when you see each of the picture.

	
8	**Traditions and culture** You are requested to observe the following pictures: • Which of the practices/traditions/rituals shown in the picture that you have ever performed? • At present, whether the practice is still frequently performed? • According to you, what representation/meaning is present within such a practice? • How important do you feel the practice to you? 








APPENDIX 2. Variables Identification Details

1. Living Area

In the questionnaire, the living area was collected with a close-ended question, where respondents were asked whether they stayed in "*Kelurahan*" (denoting as village level in the urban areas) or in "*Desa*" (denoting as village level in the rural areas). For further analysis, to calculate the modernization index, the responses were combined with provinces to arrive at 3 categories, as follows:

- **Urban:** Built-up city or large town with large buildings and houses, such as urban areas of Jakarta and Bali
- **Suburban city:** urban areas in West Sumatera and South Sulawesi
- **Rural:** village area defined as rural in all provinces.

Definition of urban or rural was given to each village following the definition used by the Central Bureau of Statistics Indonesia (CBS). CBS defined urban/rural area as an administrative area at the village level under sub-district level, which was given a score based on population density, percentage of farming households, and the availability of certain facilities, i.e., kindergarten, junior and senior high schools, market, stores, movie theater, hospitals, hotels, and other hospitality facilities, electricity, and landline telephone (percent households have access to electricity and landline telephone). A village was defined as urban when the score was more than or equal to 10, and as rural for the score below 10.

2. Ethnicity

Ethnicity was collected from the respondents with a close-ended question having eight response options as the following:

1 Minangkabau
2 Betawi
3 Sunda
4 Jawa
5 Bali
6 Bugis
7 Makassar
8 Others

In Indonesia, ethnicity was corresponding closely with the variable of "province", as shown in the following table:

Ethnicity	Province						Total
	West Sumatera	Jakarta	West Java	East Java	Bali	South Sulawesi	
Minangkabau	75	3	7	4	0	0	89
Betawi	0	70	4	0	0	0	74
Sundanese	1	27	642	8	0	0	678
Javanese	3	44	42	396	2	12	499
Balinese	0	1	0	4	60	14	79
Bugis	0	1	0	0	0	39	40
Makassar	0	1	0	0	0	31	32

Other Eastern Indonesian ethnic groups	0	2	4	4	0	2	12
Other Sumatera/Melayu ethnic groups	2	3	4	8	0	1	18
Other Sulawesi ethnic groups	0	0	0	2	0	33	35
Madurese	0	3	0	160	0	0	163
Chinese	0	4	0	4	0	0	8
Total	**81**	**159**	**703**	**590**	**62**	**132**	**1727**

In most provinces, one or two ethnic groups dominated the ethnicity in the province, i.e., Minangkabau in West Sumatra, Sundanese in West Java, Javanese and Madurese in East Java and Balinese in Bali. In Jakarta, the ethnicity was dominated by Betawis and major ethnicities in Java Island, i.e., Sundanese and Javanese. While in South Sulawesi, the ethnicity was Bugis, Makassar, and other Sulawesi ethnic groups; but all are ethnicities originated from Sulawesi, although Javanese and Balinese were also found. Chinese ethnics were only found in 8 respondents from Jakarta and East Java.

For further analysis, the ethnicity was recategorized into eight categories, consisting of 1) Minangkabau and other Sumatera/Melayu ethnic groups, 2) Betawi, 3) Sundanese, 4) Javanese, 5) Balinese, 6) All Sulawesi ethnic groups, 7) Madurese and 8) Others, consisting of Other Eastern Indonesia ethnic groups and Chinese. Considering the above Table, ethnicity in Indonesia could be represented by province-code or by the 8-category ethnicities. Thus, in further analysis, the province code and the 8-categories ethnicity were used to form the Ethno-socioeconomic Index.

3. Age

In the questionnaire, age was collected with an open-ended question whereby respondents were asked about their birth date (day, month, and year) and with the declared age after. This was done to avoid the under-declaration of age. This variable has been recorded in three different levels (4, 6, and 10 categories) with 4 categories being mostly used and consisting of:

1. 18 – 25 years old
2. 26 – 35 years old
3. 36 – 45 years old
4. 46 years old and above

It can be used either as a continuous or categorical variable.

4. Religion

Religion was studied with 3 questions:

- A closed-ended question of kind of religion with seven response options, which were:
    1. Muslim
    2. Christian
    3. Catholics
    4. Hindu
    5. Buddhist
    6. Confucianism
    7. Others

For analysis purpose, the religion was re-grouped into two variables (Moslem and non-Moslem) since Moslem respondents were dominant in the study.

5. Marital status

A closed-ended question was used with 6 response options as follows:

1. Single or never married
2. Married and living together
3. Widowed
4. Divorced
5. Married but separated
6. Living in as married (or cohabitation)
99. Decline to answer

The above categories were then regrouped in two main categories, which were:

1. Single/Widowed/ Divorced or Separated
2. Married/Living together

6. Number of children

This was also addressed using an open-ended question and the respondents gave the number of children they had (if any). It was then grouped and categorized into 4 different categories as follows:

1. No children
2. 1 - 2 children
3. 3 - 4 children
4. 5 or more children

And there was additional option of "decline to answer".

7. Number of family members

An open-ended question was used inquiring on how many family members (including the respondent) are living together under the same roof. This was then categorized a few times on different levels, which were 3, 4, 6, and 7 categories, with the following 4 categories being mostly used:

1. 1 person (living alone)
2. 2 persons
3. 3 - 5 persons
4. 6 persons and above

8. Level of Education

Level of education was assessed with a close-ended question which included eight options as follows:

1. No formal education
2. Not finish primary school
3. Finish primary School
4. Junior high school
5. Senior high school
6. University, Diploma degree
7. University, Bachelor degree

8. University, Post Graduate degree
9. Others
10. No answer

The variable was categorized in four categories for analysis purposes, these categories were as follows:

1. Primary or lower
2. Lower secondary school
3. Upper secondary school
4. College/University

9. Occupation

The occupation was assessed using a close-ended question with 15 responses adapted from the questions in Malaysia Food Barometer which was recoded based on MASCO, 2013 (Malaysia Standard Classification of Occupation). However, when the respondents provide the answer 'others', they were given the opportunity to describe the occupation. Only the main occupation was asked to the respondents. The 15 categories of responses were as follows:

1. Managers, local government high executives, and members of parliament
2. Professionals (medical doctor, lawyer, lecturer, midwives, teachers)
3. Technicians with skill
4. Clerical support workers
5. Service and sales workers (traders, sales)
6. Agricultural, forestry and fishery workers
7. Industrial employees
8. Plant and machine-operators and assemblers, cooks
9. Elementary occupations (carpenter, construction workers, factory workers, cleaning service workers, domestic helpers, tricycle drivers)
10. Armed forces
11. Retired
12. Student
13. Housewife
14. Drivers
15. Not Working
77. Others

The 15 responses were categorized into 5 categories as follows for use in further analyses:

New 5 categories	Component from the 15 categories
Professional	- Managers, local government high executives and member of parliament - Professionals (medical doctor, lawyer, lecturer, midwives, teachers)
White-collar	- Technicians with skill - Clerical support workers - Service and sales workers (traders, sales) - Industrial employees - Plant and machine operators and assemblers, cooks - Armed forces - Retired
Blue-collar	- Agricultural, forestry, and fishery workers - Elementary occupations (carpenter, construction workers, factory workers, cleaning service workers, domestic helpers, tricycle drivers)

	- Drivers
Student/Not-working	- Student - Not Working
Housewife	Housewife

10. Metropolization

A metropolitan area is a region that consists of a densely populated urban agglomeration and its surrounding territories sharing industries, commercial areas, transport network, infrastructures, and housing. Metropolitan areas typically include satellite cities, towns and intervening rural areas that are socioeconomically tied to the principal cities or urban core, often measured by commuting patterns.

Metropolization has been defined as a specific process of urbanization in the age of globalization that invites a re-think of the relations between urbanity and rurality (Ascher, 2005). The concept of metropolization aims to describe the institutional and functional integration of spatially fragmented urbanized regions into coherent metropolitan systems (Cardoso & Meijers, 2021).

To differentiate the levels of metropolization, a variable has been built regarding the living area.
For Indonesia, in terms of the physical development of the province, Jakarta is way above the other 6 provinces. Jakarta is the Capital City and usually classified as metropolitan area by international reports. However, due to its insertion in the global economy because of tourism, Bali may be considered as a metropolitan area (Goldblum et al., 2019). Thus, both Jakarta and Bali were grouped into one category as primary metropolitan area. Non-Java Island provinces, even at the capital cities such as Padang and Makassar, were less metropolitan areas as compared to Java Island provinces. Moreover, both provinces were also known for their coastal characteristics. Thus, West Sumatra and South Sulawesi were categorized as the non-metropolitan area. In between, Java Island provinces (West and East Java) showed more metropolitan than West Sumatra and South Sulawesi but less metropolitan when compared with Jakarta and Bali. They are considered as secondary metropolitan areas.

11. Modernization

For Indonesia, the variable of modernization was a combination of wealth index, urbanization, and the number of children in the household. A score was given for each dimension. For "wealth index", the highest tercile scored 50, the medium got 30, and the lowest one 10. Urban areas in Java Island provinces, Jakarta, and Bali scored 50, while urban areas in West Sumatra and South Sulawesi as less urbanized scored 40 and all the rural areas of every regions scored 10.

The following table presents the modernization scoring developed from three variables as mentioned above.

Wealth Index	Urbanization	Number of children
Lowest tertile = 10	Urbanized = 50	No children = 50
Medium tertile = 30	Less urbanized = 40	1 - 2 children = 50
Highest tertile = 50	Rural = 10	3 - 4 children = 30
		5 or more children = 0

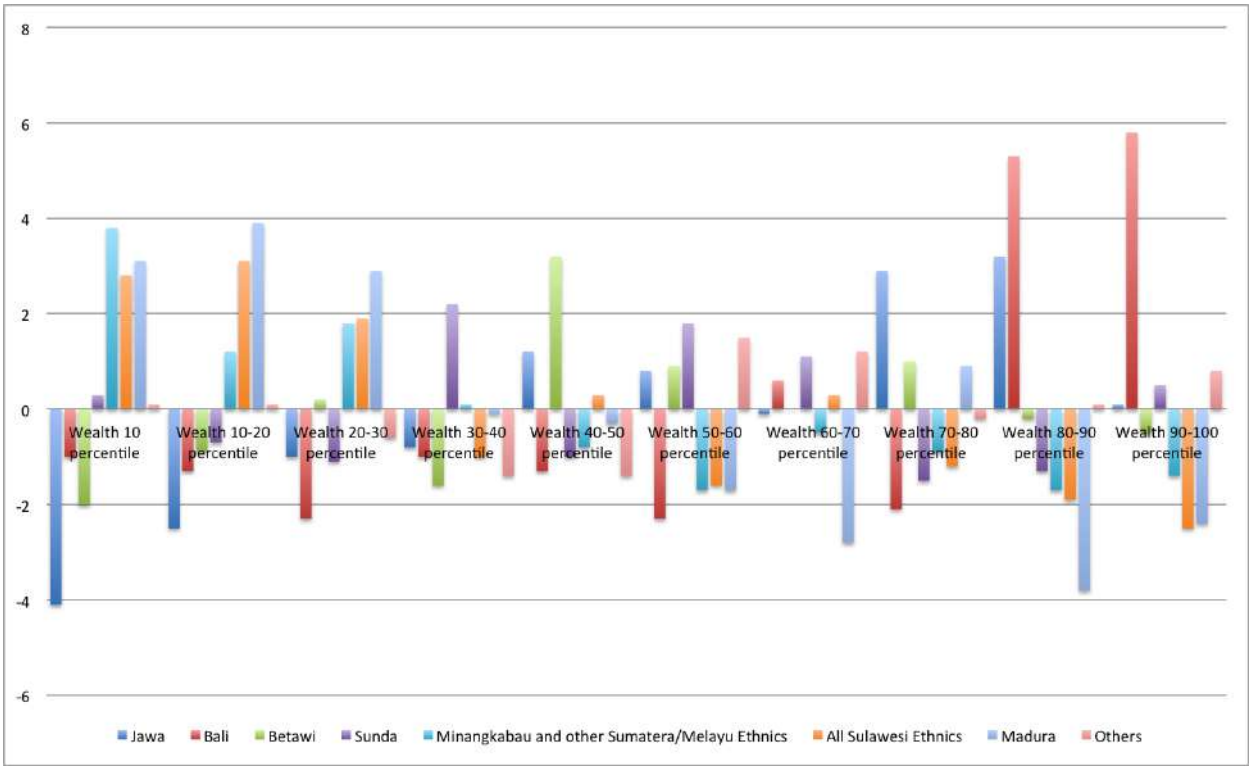
12. Wealth Index

Wealth index was developed using a composite variable based on housing condition and ownership of household assets. Initially, there were 24 variables (6 on housing conditions and 18 on household assets). After a reliability analysis, eventually 13 variables were used for developing the score, i.e., house wall material, floor material, type of toilet used, sources of electricity, sources of fuel for cooking, as well as ownership of car, bicycle, motorcycle, refrigerator, mobile phone, landline phone, television, and radio. The score was calculated based on the factor score of principal component analysis (PCA) with varimax rotation. The score was ranked and divided into tertile. The lowest tertile (T1) represented the lowest wealth index and the highest tertile (T3) represented the highest wealth index.

13. Ethno-socioeconomic position

For Indonesia, ethnicity was not known to be a meaningful representation of social position. Nonetheless, we attempted to explore the ethno-socioeconomic position by using variables of ethnicity and wealth tertile. There were eight defined ethnicity groups and three wealth groups in this study, resulting in 24 distinct ethno-socioeconomic positions as follows:

No	Ethno-socioeconomic position category	Frequency	Percent
Lowest wealth tertile			
1	All Sumatera/Melayu ethnic groups	66	4
2	Betawis	15	0.9
3	Sundanese	203	12.2
4	Javanese	104	6.2
5	Balinese	15	0.9
6	All Sulawesi ethnic groups	58	3.5
7	Madurese	86	5.2
8	Others	5	0.3
Medium wealth tertile			
9	All Sumatera/Melayu ethnic groups	25	1.5
10	Betawis	32	1.9
11	Sundanese	258	15.5
12	Javanese	161	9.7
13	Balinese	18	1.1
14	All Sulawesi ethnic groups	27	1.6
15	Madurese	30	1.8
16	Others	7	0.4
Highest wealth tertile			
17	All Sumatera/Melayu ethnic groups	26	1.6
18	Betawis	26	1.5
19	Sundanese	200	12
20	Javanese	198	11.9
21	Balinese	56	3.4
22	All Sulawesi ethnic groups	15	0.9
23	Madurese	26	1.6
24	Others	6	0.4
	Total	1665	100



The distribution as shown in the graph revealed that Java and Bali ethnics were underrepresented at the lowest decile of wealth and over-represented at higher wealth decile. Meanwhile, Minangkabau, Sulawesi, and Madurese were overrepresented at lower wealth decile and under-represented at higher wealth decile. Betawis, even though they were the native ethnic of Jakarta province, showed less superiority as compared to Java and Bali ethnic groups. Betawis was over-represented at the middle-income level, similar to Sundanese, the native ethnic group of West Java.

APPENDIX 3. Comparison of Meal Frequency between Norms (N) and Practices (P) by Respondents' Characteristics

Characteristics		Comparison of meal frequency norms and practices			p-value
		N = P	N > P	N < P	
Living area	Urban	55.3%	17.7%	27.0%	**<0.001**
	Rural	68.4%	11.5%	20.1%	
Gender	Male	57.5%	17.2%	25.3%	**0.107**
	Female	62.0%	14.0%	24.0%	
Age (years old)	18-25	56.5%	24.9%	18.6%	**<0.001**
	26-35	56.8%	15.9%	27.3%	
	36-45	61.1%	13.1%	25.8%	
	>=46	63.5%	10.8%	25.7%	
Religion	Moslem	59.5%	15.9%	24.6%	0.782
	Non-Moslem	61.1%	13.5%	25.4%	
Marital status	Single/widow/divorce	57.9%	19.9%	22.2%	0.004
	Married/ living together	60.4%	13.8%	25.8%	
Highest level of education	Primary or lower	69.4%	12.5%	18.1%	**<0.001**
	Lower secondary	59.5%	15.3%	25.2%	
	Upper secondary	57.4%	17.5%	25.1%	
	College/ University	45.2%	17.0%	37.8%	
Occupation	Professional	53.7%	4.9%	41.4%	**<0.001**
	White Collar	55.4%	15.4%	29.2%	
	Blue Collar	68.5%	15.8%	15.7%	
	Student/ not working	55.2%	27.2%	17.6%	
	Housewife	60.3%	11.2%	28.5%	
Wealth index	T1	66.6%	12.8%	20.6%	**0.001**
	T2	58.6%	15.8%	25.6%	
	T3	53.6%	18.5%	27.9%	
Ethnicity	All Sumatera/Melayu ethnics	53.4%	10.2%	36.4%	**<0.001**
	Betawis	50.7%	12.3%	37.0%	
	Sundanese	48.4%	21.0%	30.6%	
	Javanese	71.4%	13.9%	14.7%	
	Balinese	58.4%	16.9%	24.7%	
	All Sulawesi ethnics	63.0%	8.0%	29.0%	
	Madurese	79.6%	9.9%	10.5%	
	Others	77.8%	0.0%	22.2%	
Metropolization	Jakarta-Bali	57.4%	11.3%	31.3%	**<0.001**
	Java Island Provinces	59.9%	18.0%	22.1%	
	Non-Java Island Provinces	60.5%	7.3%	32.2%	
Modernization	Low	65.4%	12.1%	22.5%	**<0.001**
	Low middle	65.9%	12.9%	21.2%	
	High middle	58.2%	16.7%	25.1%	
	High	48.5%	21.3%	30.2%	

APPENDIX 4. Norms in Number of In-between Meals per Day and Respondents' Characteristics

Characteristics		Frequency of in-between meal		p-value
		twice or less	more than twice	
Living area	Urban	70.7%	29.3%	<0.001
	Rural	79.3%	20.7%	
Gender	Male	76.7%	23.3%	0.002
	Female	70.0%	30.0%	
Age (years old)	18-25	67.2%	32.8%	0.001
	26-35	71.0%	29.0%	
	36-45	75.4%	24.6%	
	>=46	78.9%	21.1%	
Religion	Moslem	72.1%	27.9%	<0.001
	Non Moslem	89.7%	10.3%	
Marital status	Single/widow/divorce	68.5%	31.5%	0.002
	Married/ living together	75.7%	24.3%	
Highest level of education	Primary or lower	81.2%	18.8%	<0.001
	Lower secondary	70.4%	29.6%	
	Upper secondary	69.5%	30.5%	
	College/ University	75.7%	24.3%	
Occupation	Professional	87.8%	12.2%	<0.001
	White Collar	69.9%	30.1%	
	Blue Collar	82.9%	17.1%	
	Student/ not working	69.4%	30.6%	
	Housewife	70.8%	29.2%	
Wealth Index	T1	76.7%	23.3%	0.004
	T2	75.1%	24.9%	
	T3	68.5%	31.5%	
Ethnicity	All Sumatera/ Melayu ethnics	66.7%	33.3%	<0.001
	Betawis	58.3%	41.7%	
	Sundanese	67.0%	33.0%	
	Javanese	77.1%	22.9%	
	Balinese	89.9%	10.1%	
	All Sulawesi ethnics	92.0%	8.0%	
	Madurese	81.7%	18.3%	
	Others	72.2%	27.8%	
Metropolization	Jakarta-Bali	73.9%	26.1%	0.017
	Java Island Provinces	72.0%	28.0%	
	Non-Java Island Provinces	81.3%	18.7%	
Modernization	Low	78.9%	21.1%	0.001
	Low middle	76.7%	23.3%	
	High middle	71.2%	28.8%	
	High	67.2%	32.8%	

APPENDIX 5. Practices in Number of In-between Meals per Day and Respondents' Characteristics

Characteristics		Frequency of in-between meal		p-value
		once or less	more than once	
Living area	Urban	44.8%	55.2%	**<0.001**
	Rural	54.9%	45.1%	
Gender	Male	48.0%	52.0%	0.961
	Female	48.2%	51.8%	
Age (years old)	18-25	49.2%	50.8%	0.497
	26-35	45.2%	54.8%	
	36-45	49.7%	50.3%	
	>=46	49.2%	50.8%	
Religion	Moslem	46.5%	53.5%	**<0.001**
	Non Moslem	68.0%	32.0%	
Marital status	Single/widow/divorce	50.7%	49.3%	0.152
	Married/ living together	46.9%	53.1%	
Highest level of education	Primary or lower	56.5%	43.5%	**<0.001**
	Lower secondary	42.2%	57.8%	
	Upper secondary	44.4%	55.6%	
	College/ University	51.6%	48.4%	
Occupation	Professional	39.0%	61.0%	0.432
	White Collar	46.5%	53.5%	
	Blue Collar	47.7%	52.3%	
	Student/ not working	52.6%	47.4%	
	Housewife	48.3%	51.7%	
Wealth Index	T1	52.3%	47.7%	**0.031**
	T2	44.5%	55.5%	
	T3	47.5%	52.5%	
Ethnicity	All Sumatera/ Melayu ethnics	44.4%	55.6%	**<0.001**
	Betawis	43.1%	56.9%	
	Sundanese	34.2%	65.8%	
	Javanese	56.2%	43.8%	
	Balinese	66.3%	33.7%	
	All Sulawesi ethnics	60.0%	40.0%	
	Madurese	69.2%	30.8%	
	Others	66.7%	33.3%	
Metropolization	Jakarta-Bali	48.7%	51.3%	0.165
	Java Island Provinces	47.0%	53.0%	
	Non-Java Island Provinces	53.9%	46.1%	
Modernization	Low	53.9%	46.1%	**<0.01**
	Low middle	50.8%	49.2%	
	High middle	45.9%	54.1%	
	High	42.1%	57.9%	

APPENDIX 6. Breakfast Eating Companion based on Respondents' Characteristics

Characteristics		Eating companion		p-value
		Alone	With companion	
Living area	Urban	70.4%	29.6%	<0.001
	Rural	56.4%	43.6%	
Gender	Male	69.9%	30.1%	<0.001
	Female	60.4%	39.6%	
Age (years old)	18-25	64.6%	35.4%	0.210
	26-35	62.9%	37.1%	
	36-45	63.1%	36.9%	
	>=46	69.3%	30.7%	
Religion	Moslem	64.1%	35.9%	<0.05
	Non Moslem	79.0%	21.0%	
Marital status	Single/widow/divorce	76.5%	23.5%	<0.001
	Married/ living together	60.4%	39.6%	
Highest level of education	Primary or lower	66.3%	33.7%	<0.05
	Lower secondary	56.6%	43.4%	
	Upper secondary	67.5%	32.5%	
	College/ University	67.1%	32.9%	
Occupation	Professional	77.8%	22.2%	<0.001
	White Collar	70.2%	29.8%	
	Blue Collar	66.4%	33.6%	
	Student/ not working	73.1%	26.9%	
	Housewife	54.0%	46.0%	
Wealth Index	T1	60.9%	39.1%	<0.05
	T2	69.3%	30.7%	
	T3	66.1%	33.9%	
Ethnicity	All Sumatera/ Melayu ethnics	74.5%	25.5%	<0.001
	Betawis	75.9%	24.1%	
	Sundanese	66.1%	33.9%	
	Javanese	64.5%	35.5%	
	Balinese	89.3%	10.7%	
	All Sulawesi ethnics	50.6%	49.4%	
	Madurese	50.0%	50.0%	
	Others	52.9%	47.1%	
Metropolization	Jakarta-Bali	79.2%	20.8%	<0.001
	Java Island Provinces	63.2%	36.8%	
	Non-Java Island Provinces	63.3%	36.7%	
Modernization	Low	60.5%	39.5%	<0.001
	Low middle	59.6%	40.4%	
	High middle	71.7%	28.3%	
	High	70.1%	29.9%	

APPENDIX 7. Lunch Eating Companion based on Respondents' Characteristics

Characteristics		Eating companion		p-value
		Alone	With companion	
Living area	Urban	60.3%	39.7%	0.363
	Rural	57.6%	42.4%	
Gender	Male	60.0%	40.0%	0.653
	Female	58.8%	41.2%	
Age (years old)	18-25	56.5%	43.5%	0.301
	26-35	61.3%	38.7%	
	36-45	56.2%	43.8%	
	>=46	62.0%	38.0%	
Religion	Moslem	58.7%	41.3%	0.066
	Non Moslem	68.0%	32.0%	
Marital status	Single/widow/divorce	64.0%	36.0%	**<0.05**
	Married/ living together	57.6%	42.4%	
Highest level of education	Primary or lower	63.5%	36.5%	0.292
	Lower secondary	56.3%	43.7%	
	Upper secondary	59.0%	41.0%	
	College/ University	56.7%	43.3%	
Occupation	Professional	57.6%	42.4%	0.341
	White Collar	61.8%	38.2%	
	Blue Collar	61.5%	38.5%	
	Student/ not working	59.7%	40.3%	
	Housewife	55.0%	45.0%	
Wealth Index	T1	55.9%	44.1%	0.113
	T2	59.6%	40.4%	
	T3	62.9%	37.1%	
Ethnicity	All Sumatera/ Melayu ethnics	74.2%	25.8%	**<0.001**
	Betawis	73.4%	26.6%	
	Sundanese	52.2%	47.8%	
	Javanese	65.4%	34.6%	
	Balinese	80.0%	20.0%	
	All Sulawesi ethnics	39.1%	60.9%	
	Madurese	52.2%	47.8%	
	Others	62.5%	37.5%	
Metropolization	Jakarta-Bali	73.3%	26.7%	**<0.001**
	Java Island Provinces	57.0%	43.0%	
	Non-Java Island Provinces	56.5%	43.5%	
Modernization	Low	56.0%	44.0%	0.056
	Low middle	59.7%	40.3%	
	High middle	56.6%	43.4%	
	High	65.9%	34.1%	

APPENDIX 8. Dinner Eating Companion based on Respondents' Characteristics

Characteristics		Eating companion		p-value
		Alone	With companion	
Living area	Urban	54.5%	45.5%	0.747
	Rural	53.6%	46.4%	
Gender	Male	59.0%	41.0%	**<0.001**
	Female	49.1%	50.9%	
Age (years old)	18-25	55.5%	44.5%	**<0.05**
	26-35	49.5%	50.5%	
	36-45	50.0%	50.0%	
	>=46	61.3%	38.7%	
Religion	Moslem	52.8%	47.2%	**<0.05**
	Non Moslem	68.8%	31.2%	
Marital status	Single/widow/divorce	65.8%	34.2%	**<0.001**
	Married/ living together	49.0%	51.0%	
Highest level of education	Primary or lower	60.2%	39.8%	**<0.05**
	Lower secondary	56.8%	43.2%	
	Upper secondary	50.5%	49.5%	
	College/ University	50.7%	49.3%	
Occupation	Professional	51.4%	48.6%	**<0.001**
	White Collar	55.6%	44.4%	
	Blue Collar	61.3%	38.7%	
	Student/ not working	65.2%	34.8%	
	Housewife	42.1%	57.9%	
Wealth Index	T1	54.6%	45.4%	0.353
	T2	51.4%	48.6%	
	T3	56.4%	43.6%	
Ethnicity	All Sumatera/ Melayu ethnics	63.5%	36.5%	**<0.001**
	Betawis	64.6%	35.4%	
	Sundanese	42.4%	57.6%	
	Javanese	59.9%	40.1%	
	Balinese	84.2%	15.8%	
	All Sulawesi ethnics	35.1%	64.9%	
	Madurese	59.8%	40.2%	
	Others	47.1%	52.9%	
Metropolization	Jakarta-Bali	68.6%	31.4%	**<0.001**
	Java Island Provinces	51.6%	48.4%	
	Non-Java Island Provinces	51.5%	48.5%	
Modernization	Low	52.1%	47.9%	0.487
	Low middle	53.9%	46.1%	
	High middle	53.2%	46.8%	
	High	58.1%	41.9%	

APPENDIX 9. In-between Meals Eating Companion based on Respondents' Characteristics

Characteristics		Eating companion		p-value
		Never with	Ever with	
Living area	Urban	59.3%	40.7%	0.160
	Rural	62.8%	37.2%	
Gender	Male	62.5%	37.5%	0.083
	Female	58.3%	41.7%	
Age (years old)	18-25	55.6%	44.4%	<0.01
	26-35	56.9%	43.1%	
	36-45	62.7%	37.3%	
	>=46	65.7%	34.3%	
Religion	Moslem	59.1%	40.9%	<0.001
	Non Moslem	76.2%	23.8%	
Marital status	Single/widow/divorce	62.1%	37.9%	0.331
	Married/ living together	59.6%	40.4%	
Highest level of education	Primary or lower	71.8%	28.2%	<0.001
	Lower secondary	56.3%	43.7%	
	Upper secondary	54.2%	45.8%	
	College/ University	64.4%	35.6%	
Occupation	Professional	54.8%	45.2%	<0.01
	White Collar	61.7%	38.3%	
	Blue Collar	67.9%	32.1%	
	Student/ not working	58.4%	41.6%	
	Housewife	55.1%	44.9%	
Wealth Index	T1	60.6%	39.4%	0.317
	T2	58.1%	41.9%	
	T3	62.6%	37.4%	
Ethnicity	All Sumatera/ Melayu ethnics	61.5%	38.5%	<0.001
	Betawis	65.8%	34.2%	
	Sundanese	47.4%	52.6%	
	Javanese	68.3%	31.7%	
	Balinese	79.8%	20.2%	
	All Sulawesi ethnics	57,0%	43,0%	
	Madurese	80.3%	19.7%	
	Others	77.8%	22.2%	
Metropolization	Jakarta-Bali	67.0%	33.0%	<0.05
	Java Island Provinces	58.5%	41.5%	
	Non-Java Island Provinces	64.4%	35.6%	
Modernization	Low	63.8%	36.2%	0.15
	Low middle	56.1%	43.9%	
	High middle	61.0%	39.0%	
	High	61.3%	38.7%	

APPENDIX 10. Breakfast Eating Activity based on Respondents' Characteristics

Characteristics		Eating activity		p-value
		Eating only	With activity	
Living area	Urban	49.0%	51.0%	0.875
	Rural	49.5%	50.5%	
Gender	Male	53.5%	46.5%	**0.002**
	Female	44.8%	55.2%	
Age (years old)	18-25	37.6%	62.4%	**<0.001**
	26-35	43.2%	56.8%	
	36-45	55.2%	44.8%	
	>=46	57.7%	42.3%	
Religion	Moslem	48.5%	51.5%	0.107
	Non Moslem	56.7%	43.3%	
Marital status	Single/widow/divorce	47.9%	52.1%	0.536
	Married/ living together	49.7%	50.3%	
Highest level of education	Primary or lower	59.8%	40.2%	**<0.001**
	Lower secondary	41.3%	58.7%	
	Upper secondary	43.9%	56.1%	
	College/ University	51.6%	48.4%	
Occupation	Professional	50.0%	50.0%	**<0.001**
	White Collar	53.4%	46.6%	
	Blue Collar	58.4%	41.6%	
	Student/ not working	49.4%	50.6%	
	Housewife	36.9%	63.1%	
Wealth Index	T1	52.3%	47.7%	**<0.001**
	T2	39.1%	60.9%	
	T3	55.1%	44.9%	
Ethnicity	All Sumatera/ Melayu ethnics	46.5%	53.5%	**0.001**
	Betawis	50.0%	50.0%	
	Sundanese	46.3%	53.7%	
	Javanese	48.0%	52.0%	
	Balinese	62.7%	37.3%	
	All Sulawesi ethnics	52.5%	47.5%	
	Madurese	59.7%	40.3%	
	Others	11.8%	88.2%	
Metropolization	Jakarta-Bali	52.7%	47.3%	0.095
	Java Island Provinces	47.4%	52.6%	
	Non-Java Island Provinces	55.2%	44.8%	
Modernization	Low	52.2%	47.8%	0.304
	Low middle	47.0%	53.0%	
	High middle	46.4%	53.6%	
	High	51.6%	48.4%	

APPENDIX 11. Lunch Eating Activity based on Respondents' Characteristics

Characteristics		Eating activity		p-value
		Eating only	With activity	
Living area	Urban	48.8%	51.2%	**0.011**
	Rural	41.2%	58.8%	
Gender	Male	53.2%	46.8%	**<0.001**
	Female	38.5%	61.5%	
Age (years old)	18-25	33.5%	66.5%	**<0.001**
	26-35	39.9%	60.1%	
	36-45	52.9%	47.1%	
	>=46	56.4%	43.6%	
Religion	Moslem	45.8%	54.2%	0.273
	Non Moslem	51.5%	48.5%	
Marital status	Single/widow/divorce	47.3%	52.7%	0.640
	Married/ living together	45.8%	54.2%	
Highest level of education	Primary or lower	51.9%	48.1%	0.062
	Lower secondary	45.8%	54.2%	
	Upper secondary	42.7%	57.3%	
	College/ University	47.7%	52.3%	
Occupation	Professional	25.0%	75.0%	**<0.001**
	White Collar	55.6%	44.4%	
	Blue Collar	52.8%	47.2%	
	Student/ not working	42.3%	57.7%	
	Housewife	33.5%	66.5%	
Wealth Index	T1	48.5%	51.5%	0.233
	T2	43.0%	57.0%	
	T3	47.5%	52.5%	
Ethnicity	All Sumatera/Melayu ethnics	47.4%	52.6%	**0.044**
	Betawis	37.5%	62.5%	
	Sundanese	42.9%	57.1%	
	Javanese	49.9%	50.1%	
	Balinese	57.1%	42.9%	
	All Sulawesi ethnics	51.2%	48.8%	
	Madurese	45.1%	54.9%	
	Others	20.0%	80.0%	
Metropolization	Jakarta-Bali	46.2%	53.8%	0.220
	Java Island Provinces	45.2%	54.8%	
	Non-Java Island Provinces	52.2%	47.8%	
Modernization	Low	44.3%	55.7%	0.100
	Low middle	51.3%	48.7%	
	High middle	42.3%	57.7%	
	High	46.3%	52.9%	

APPENDIX 12. Dinner Eating Activity based on Respondents' Characteristics

Characteristics		Eating activity		p-value
		Eating only	With activity	
Living area	Urban	33.0%	67.0%	**<0.001**
	Rural	44.4%	55.6%	
Gender	Male	43.1%	56.9%	**<0.001**
	Female	30.1%	69.9%	
Age (years old)	18-25	28.4%	71.6%	**<0.001**
	26-35	33.2%	66.8%	
	36-45	41.1%	58.9%	
	>=46	43.7%	56.3%	
Religion	Moslem	36.0%	64.0%	**0.047**
	Non Moslem	45.5%	54.5%	
Marital status	Single/widow/divorce	33.6%	66.4%	0.110
	Married/ living together	38.3%	61.7%	
Highest level of education	Primary or lower	48.0%	52.0%	**<0.001**
	Lower secondary	30.9%	69.1%	
	Upper secondary	33.0%	67.0%	
	College/ University	35.7%	64.3%	
Occupation	Professional	20.0%	80.0%	**<0.001**
	White Collar	38.6%	61.4%	
	Blue Collar	50.4%	49.6%	
	Student/ not working	32.1%	67.9%	
	Housewife	26.9%	73.1%	
Wealth Index	T1	44.8%	55.2%	**<0.001**
	T2	30.8%	69.2%	
	T3	34.3%	65.7%	
Ethnicity	All Sumatera/ Melayu ethnics	42.7%	57.3%	**<0.001**
	Betawis	25.4%	74.6%	
	Sundanese	23.0%	77.0%	
	Javanese	43.2%	56.8%	
	Balinese	53.9%	46.1%	
	All Sulawesi ethnics	38.0%	62.0%	
	Madurese	57.0%	43.0%	
	Others	11.8%	88.2%	
Metropolization	Jakarta-Bali	35.9%	64.1%	**0.015**
	Java Island Provinces	35.0%	65.0%	
	Non-Java Island Provinces	46.1%	53.9%	
Modernization	Low	42.8%	57.2%	**0.019**
	Low middle	39.1%	60.9%	
	High middle	34.9%	65.1%	
	High	31.0%	69.0%	

APPENDIX 13. In-between Meals Eating Activity based on Respondents' Characteristics

Characteristics		Eating activity		p-value
		Eating only	With activity	
Living area	Urban	28.3%	71.7%	**0.012**
	Rural	34.9%	65.1%	
Gender	Male	32.8%	67.2%	**0.041**
	Female	27.9%	72.1%	
Age (years old)	18-25	19.3%	80.7%	**<0.001**
	26-35	27.3%	72.7%	
	36-45	32.7%	67.3%	
	>=46	39.3%	60.7%	
Religion	Moslem	29.6%	70.4%	**0.018**
	Non Moslem	40.8%	59.2%	
Marital status	Single/widow/divorce	27.0%	73.0%	0.059
	Married/ living together	31.9%	68.1%	
Highest level of education	Primary or lower	43.8%	56.2%	**<0.001**
	Lower secondary	27.5%	72.5%	
	Upper secondary	23.2%	76.8%	
	College/ University	31.5%	68.5%	
Occupation	Professional	28.2%	71.8%	**<0.001**
	White Collar	33.1%	66.9%	
	Blue Collar	38.0%	62.0%	
	Student/ not working	28.0%	72.0%	
	Housewife	22.4%	77.6%	
Wealth Index	T1	33.5%	66.5%	**0.002**
	T2	24.5%	75.5%	
	T3	33.3%	66.7%	
Ethnicity	All Sumatera/ Melayu ethnics	34.0%	66.0%	**<0.001**
	Betawis	26.5%	73.5%	
	Sundanese	23.8%	76.2%	
	Javanese	32.3%	67.7%	
	Balinese	45.9%	54.1%	
	All Sulawesi ethnics	36.6%	63.4%	
	Madurese	49.0%	51.0%	
	Others	21.4%	78.6%	
Metropolization	Jakarta-Bali	31.1%	68.9%	0.379
	Java Island Provinces	29.6%	70.4%	
	Non-Java Island Provinces	34.6%	65.4%	
Modernization	Low	34.3%	65.7%	0.275
	Low middle	30.1%	69.9%	
	High middle	27.7%	72.3%	
	High	30.1%	69.9%	

APPENDIX 14. Cooking Practice at Home by Respondents' Characteristics

Characteristics		Cooking practice			p-value
		by themselves	by others	no cooking	
Living area	Urban	37.5%	56.3%	6.1%	<0.001
	Rural	40.1%	58.4%	1.5%	
Gender	Male	8.7%	85.5%	5.7%	<0.001
	Female	69.9%	26.6%	3.5%	
Age (years old)	18-25	18.9%	75.7%	5.4%	<0.001
	26-35	40.8%	52.7%	6.5%	
	36-45	50.4%	46.3%	3.3%	
	>=46	41.6%	55.2%	3.2%	
Religion	Moslem	37.6%	57.6%	4.8%	0.057
	Non Moslem	47.6%	50.0%	2.4%	
Marital status	Single/widow/divorce	21.4%	71.1%	7.5%	<0.001
	Married/ living together	46.1%	50.6%	3.3%	
Highest level of education	Primary or lower	45.6%	50.3%	4.0%	0.001
	Lower secondary	41.9%	53.2%	5.0%	
	Upper secondary	33.6%	61.2%	5.2%	
	College/ University	34.0%	63.3%	2.7%	
Occupation	Professional	17.1%	80.5%	2.4%	<0.001
	White Collar	26.7%	69.3%	4.0%	
	Blue Collar	22.0%	74.3%	3.7%	
	Student/ not working	9.9%	83.6%	6.5%	
	Housewife	82.1%	13.8%	4.1%	
Wealth Index	T1	40.1%	52.1%	7.8%	<0.001
	T2	36.1%	61.7%	2.1%	
	T3	38.8%	57.2%	4.0%	
Ethnicity	All Sumatera/ Melayu ethnics	41.0%	54.7%	4.3%	<0.001
	Betawis	26.0%	56.2%	17.8%	
	Sundanese	32.6%	61.5%	5.9%	
	Javanese	42.5%	54.1%	3.4%	
	Balinese	41.6%	57.3%	1.1%	
	All Sulawesi ethnics	46.5%	52.5%	1.0%	
	Madurese	44.8%	54.5%	0.7%	
	Others	61.1%	27.8%	11.1%	
Metropolization	Jakarta-Bali	33.3%	54.5%	12.1%	<0.001
	Java Island Provinces	38.4%	57.7%	3.9%	
	Non-Java Island Provinces	43.4%	55.7%	0.9%	
Modernization	Low	39.2%	58.4%	2.4%	<0.001
	Low middle	42.0%	50.3%	7.6%	
	High middle	42.3%	55.1%	2.6%	
	High	28.7%	65.4%	5.9%	

APPENDIX 15. Meaning of Food by Respondents' Characteristics

Characteristics		Meaning of food				p-value
		a need	shared with someone	a pleasure	prevent health problems	
Living area	Urban	55.8%	3.3%	3.6%	37.3%	**0.038**
	Rural	50.9%	1.9%	3.3%	43.9%	
Gender	Male	54.3%	2.8%	3.5%	39.4%	0.999
	Female	54.1%	2.9%	3.6%	39.5%	
Age (years old)	18-25	69.1%	3.4%	4.5%	22.9%	**<0.001**
	26-35	61.3%	4.0%	2.5%	32.1%	
	36-45	47.2%	2.4%	2.1%	48.4%	
	>=46	41.4%	2.0%	4.6%	52.0%	
Religion	Moslem	53.8%	3.1%	3.4%	39.7%	0.206
	Non Moslem	58.4%	0.8%	5.6%	35.2%	
Marital status	Single/widow/divorce	58.4%	3.6%	4.4%	33.6%	**0.008**
	Married/ living together	52.2%	2.5%	3.2%	42.0%	
Highest level of education	Primary or lower	39.6%	4.0%	6.0%	50.3%	**<0.001**
	Lower secondary	53.6%	1.7%	1.7%	43.0%	
	Upper secondary	62.6%	2.1%	2.6%	32.7%	
	College/ University	57.4%	5.3%	4.3%	33.0%	
Occupation	Professional	56.1%	0.0%	0.0%	43.9%	**<0.001**
	White Collar	56.0%	3.7%	2.2%	38.2%	
	Blue Collar	45.4%	1.9%	6.4%	46.4%	
	Student/ not working	67.0%	2.6%	3.9%	26.6%	
	Housewife	51.8%	3.2%	3.2%	41.7%	
Wealth Index	T1	48.2%	2.9%	4.7%	44.2%	**0.003**
	T2	53.6%	3.0%	3.6%	39.8%	
	T3	60.9%	2.5%	2.4%	34.2%	
Ethnicity	All Sumatera/ Melayu ethnics	47.9%	2.6%	0.9%	48.7%	**0.001**
	Betawis	47.2%	6.9%	4.2%	41.7%	
	Sundanese	55.7%	1.5%	3.2%	39.6%	
	Javanese	53.1%	4.8%	3.9%	38.2%	
	Balinese	68.5%	0.0%	3.4%	28.1%	
	All Sulawesi ethnics	54.5%	5.9%	4.0%	35.6%	
	Madurese	50.3%	0.0%	7.7%	42.0%	
	Others	50.0%	5.6%	0.0%	44.4%	
Metropolization	Jakarta-Bali	53.5%	4.3%	5.2%	37.0%	0.075
	Java Island Provinces	55.0%	2.2%	3.5%	39.2%	
	Non-Java Island Provinces	50.2%	5.0%	2.3%	42.5%	
Modernization	Low	43.4%	3.4%	5.8%	47.4%	**<0.001**
	Low middle	50.8%	2.5%	1.6%	45.0%	
	High middle	59.3%	1.9%	3.5%	35.3%	
	High	62.1%	3.8%	3.8%	30.2%	

APPENDIX 16. Representations of Eating Well and Respondents' Characteristics

Characteristics		Eating well represented as….						p-value
		health	pleasure	togetherness	filling the stomach	tradition	strength	
Living area	Urban	41.9%	14.4%	29.7%	4.8%	2.3%	6.9%	0.090
	Rural	41.6%	10.6%	30.9%	4.5%	2.2%	10.2%	
Gender	Male	38.8%	16.0%	27.1%	5.8%	2.5%	9.8%	**<0.001**
	Female	45.1%	10.2%	33.2%	3.5%	2.1%	6.0%	
Age (years old)	18-25	29.1%	16.9%	44.1%	4.5%	1.1%	4.2%	**<0.001**
	26-35	39.2%	15.7%	30.0%	3.8%	1.5%	9.9%	
	36-45	49.7%	9.8%	25.1%	5.6%	3.6%	6.2%	
	>=46	48.0%	10.3%	23.4%	5.0%	3.2%	10.1%	
Religion	Moslem	41.2%	13.4%	30.6%	4.8%	2.2%	7.8%	0.223
	Non Moslem	49.2%	10.3%	23.0%	4.0%	4.0%	9.5%	
Marital status	Single/widow/divorce	35.8%	17.8%	33.5%	5.4%	2.5%	5.2%	**<0.001**
	Married/living together	44.6%	11.1%	28.4%	4.4%	2.3%	9.2%	
Highest level of education	Primary or lower	39.3%	11.2%	32.4%	6.5%	1.8%	8.9%	**<0.001**
	Lower secondary	47.9%	6.3%	28.1%	4.6%	2.6%	10.6%	
	Upper secondary	38.8%	15.3%	32.0%	4.1%	2.9%	6.9%	
	College	49.7%	20.6%	20.1%	2.6%	1.1%	5.8%	
Occupation	Professional	48.8%	17.1%	22.0%	0.0%	0.0%	12.2%	**<0.001**
	White Collar	46.0%	13.5%	25.0%	4.5%	4.3%	6.8%	
	Blue Collar	39.8%	9.3%	30.5%	6.0%	1.9%	12.5%	
	Student/ not working	31.0%	22.8%	35.8%	3.4%	0.9%	6.0%	
	Housewife	43.1%	10.6%	33.8%	5.0%	1.1%	6.5%	
Wealth Index	T1	39.8%	10.8%	33.3%	4.9%	2.0%	9.2%	**0.012**
	T2	42.1%	13.1%	30.1%	4.3%	1.4%	9.0%	
	T3	43.6%	15.8%	26.7%	4.9%	3.6%	5.4%	
Ethnicity	All Sumatera/ Melayu ethnics	39.3%	11.1%	25.6%	11.1%	2.6%	10.3%	**<0.001**
	Betawis	44.6%	17.6%	23.0%	8.1%	2.7%	4.1%	
	Sundanese	38.6%	16.8%	34.2%	2.6%	2.1%	5.7%	
	Javanese	45.2%	10.2%	24.8%	7.0%	2.6%	10.2%	
	Balinese	51.7%	12.4%	20.2%	3.4%	2.2%	10.1%	
	All Sulawesi ethnics	32.0%	8.0%	47.0%	4.0%	2.0%	7.0%	
	Madurese	46.9%	10.5%	29.4%	2.1%	1.4%	9.8%	
	Others	47.4%	0.0%	31.6%	0.0%	10.5%	10.5%	
Metropolization	Jakarta-Bali	46.5%	13.5%	23.5%	6.1%	2.2%	8.3%	0.146
	Java Island Provinces	41.7%	13.7%	30.0%	4.4%	2.6%	7.7%	
	Non-Java Island Provinces	37.2%	10.6%	37.2%	5.5%	0.9%	8.7%	
Modernization	Low	40.6%	11.9%	32.7%	4.7%	2.1%	7.9%	**<0.001**
	Low middle	41.1%	10.9%	30.4%	5.3%	0.2%	12.1%	
	High middle	45.7%	11.3%	31.1%	2.8%	2.8%	6.3%	
	High	39.3%	19.3%	26.0%	4.1%	4.1%	5.1%	

APPENDIX 17. Nutritional Status and Respondents' Characteristics

Characteristics		Nutritional status (based on BMI for non- pregnant/lactating Asians)				p-value
		Underweight	Normal	Overweight	Obese	
Living Area	Urban	8.8%	31.4%	17.3%	42.5%	<0.001
	Rural	7.9%	42.5%	19.9%	29.8%	
Gender	Male	11.2%	43.6%	15.9%	29.4%	<0.001
	Female	5.4%	25.5%	20.8%	48.3%	
Age (years old)	18-25	20.2%	40.5%	21.1%	18.2%	<0.001
	26-35	7.4%	36.0%	14.8%	41.8%	
	36-45	3.6%	34.0%	17.6%	44.8%	
	>=46	4.7%	31.2%	19.6%	44.5%	
Religion	Moslem	8.6%	35.2%	17.7%	38.5%	0.217
	Non Moslem	6.5%	33.1%	25.0%	35.5%	
Marital status	Single/widow/divorce	15.2%	35.4%	18.1%	31.3%	<0.001
	Married/living together	5.3%	34.9%	18.3%	41.6%	
Highest level of education	Primary or lower	6.9%	39.6%	20.5%	32.9%	<0.001
	Lower secondary	9.4%	35.7%	10.8%	44.1%	
	Upper secondary	9.7%	33.1%	20.3%	36.9%	
	College/ University	6.1%	30.6%	16.7%	46.7%	
Occupation	Professional	4.9%	46.3%	14.6%	34.1%	<0.001
	White Collar	6.1%	32.9%	17.9%	43.1%	
	Blue Collar	9.8%	46.9%	21.5%	21.8%	
	Student/ not working	21.6%	38.8%	20.7%	19.0%	
	Housewife	3.5%	24.6%	14.7%	57.2%	
Wealth Index	T1	10.3%	40.0%	20.1%	29.6%	<0.001
	T2	8.8%	34.8%	18.7%	37.7%	
	T3	6.3%	30.6%	15.7%	47.4%	
Ethnicity	All Sumatera/ Melayu ethnics	15.5%	28.2%	13.6%	42.7%	0.003
	Betawis	11.1%	27.8%	16.7%	44.4%	
	Sundanese	9.3%	36.0%	18.2%	36.6%	
	Javanese	5.9%	34.5%	14.9%	44.7%	
	Balinese	6.8%	37.5%	23.9%	31.8%	
	All Sulawesi ethnics	8.3%	32.3%	22.9%	36.5%	
	Madurese	6.9%	41.5%	26.9%	24.6%	
	Others	11.1%	38.9%	16.7%	33.3%	
Metropolization	Jakarta-Bali	8.9%	32.6%	16.1%	42.4%	0.671
	Java Island Provinces	7.9%	35.6%	18.6%	37.8%	
	Non-Java Island Provinces	10.6%	34.8%	18.4%	36.2%	
Modernization	Low	9.2%	59.5%	14.2%	17.1%	0.051
	Low middle	8.6%	55.2%	16.5%	19.7%	
	High middle	7.8%	49.7%	19.5%	23.0%	
	High	8.2%	48.2%	20.3%	23.3%	

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