MASS MEDIA REVIEW (ISSN: 1597-4200)
AN INTERNATIONAL JOURNAL OF DEPARTMENT OF MASS COMMUNICATION
CHUKWUEMEKA ODUMEGWU OJUKWU UNIVERSITY
IGBARIAM ANAMBRA STATE, NIGERIA.
Volume: 1 Issue 7, (2026) https://www.massmediareview.net/

Research Article

Influence of Exposure to World Food Safety Day Campaign Messages on the Adoption of Safe Food Consumption Culture among Undergraduates in South-East Nigeria

Gideon Uchechukwu Nwafor, PhD & Kate Azuka Omenugha, PhD

About Article

Article History

Submission: October 5, 2026
Acceptance: October 8, 2026
Publication: October 12, 2026

Keywords:

World Food Safety Day; campaign messages; food safety; safe food consumption; undergraduates; behaviour change communication; South-East Nigeria

About the Authors

Gideon Uchechukwu Nwafor, PhD[1] and
Kate Azuka Omenugha, PhD[1]
[1] Department of Mass Communication, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria

ABSTRACT

Food safety remains a pressing global public health concern. The World Health Organization (WHO) estimates that about 600 million people fall ill every year from contaminated food, and that 420,000 of them die. World Food Safety Day (WFSD), observed every 7 June since the United Nations General Assembly adopted Resolution 73/250 in 2018, mobilises action for food safety across the food chain, and its campaign messages are designed to move people towards safer food handling and consumption. Yet little empirical evidence shows whether exposure to these messages changes how Nigerian undergraduates actually eat. This study investigated the influence of exposure to WFSD campaign messages on the adoption of safe food consumption culture among undergraduates in South-East Nigeria. A survey design with multi-stage sampling was used: 400 questionnaires were distributed in three federal universities and 396 (99.0%) were returned, from Nnamdi Azikiwe University, Awka (n = 187); University of Nigeria, Enugu Campus (n = 99); and Alex Ekwueme Federal University, Ndufu-Alike (n = 110). Key informant interviews with 15 purposively selected participants (student health committee representatives, university health centre officers, campus food vendors and nutrition or public health lecturers) complemented the survey. Five research questions guided the study, and data were analysed with frequencies, percentages, mean scores, Pearson correlation and chi-square, and presented in figures. Exposure to WFSD messages was moderate, with social media (18.9%) and WhatsApp (15.2%) as the leading main channels, and personal hygiene (13.9%) and the dangers of contamination (12.9%) as the most encountered content. Adoption of safe food consumption culture was largely moderate (42.9%). Exposure was positively and significantly related to adoption ($r = .648$, $p < .001$). The study recommends year-round, multi-channel WFSD campaigns that are embedded in the life of university communities.

Copyright: © 2026 by the authors. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license.

Introduction

Food safety is recognised worldwide as a basic public health priority. The World Health Organization (WHO, 2015) estimates that about 600 million people fall ill each year from contaminated food and that 420,000 die, with low- and middle-income countries carrying a disproportionate share of the burden. In the WHO African Region alone, foodborne diseases cause an estimated 91 million illnesses and 137,000 deaths every year, placing the region among the most affected in the world (WHO, 2015). These figures point to the need for sustained behaviour change communication that promotes safe food handling and consumption at every level of society. In response, the United Nations General Assembly adopted Resolution 73/250 in December 2018 and designated 7 June as World Food Safety Day (WFSD). Promoted jointly by the WHO and the Food and Agriculture Organization of the United Nations (FAO), WFSD campaigns aim to raise public awareness, stimulate action and inspire behavioural change across the food chain, from production to consumption. Since the first observance in 2019, each WFSD has carried a theme, and its messages have travelled through social media, broadcast, print and community engagement platforms (WHO, 2021).

In Nigeria, food safety challenges are compounded by weak regulatory enforcement, poor food handling practices and limited public awareness of safe consumption standards. The National Agency for Food and Drug Administration and Control (NAFDAC) has stepped up its food safety sensitisation in recent years, often in partnership with the WHO and FAO around WFSD; in 2022, for instance, its Director-General described food safety as "a shared responsibility" and urged Nigerians to follow the WHO's five keys to safer food (Ezeh, 2022). Even so, foodborne illnesses continue to be reported across population groups, and university campuses are particularly exposed because of widespread roadside food vending, communal dining and students' reliance on cheap, poorly regulated food (Odo & Onoh, 2018; Oranusi et al., 2013). The link between the information people receive and their wellbeing is well established in Nigerian communication research; Nwafor and Umunnah (2021), for instance, examined how farmers' exposure to agricultural loan information bears on food security.

Nigerian undergraduates are a distinctive audience for food safety communication. They are young, digitally connected and intellectually receptive, which makes them a natural target for behaviour change campaigns. Studies show that they turn to platforms such as TikTok for information as well as entertainment (Nwafor & Nnaemeka, 2023a), and that health content on these platforms can shape their awareness and practice of health behaviours (Nwafor & Nnaemeka, 2023b). Yet their adoption of safe food consumption practices remains inconsistent (Adegunwa et al., 2016; Iweama et al., 2024). Part of the reason may be inadequate exposure to food safety messages that speak to students' lived experience, or channels that fail to reach them.

Whether a campaign changes behaviour depends on how often people encounter it, how credible the channel is, how salient the content is, and what the audience already knows and believes (McCombs & Shaw,

1972; Rogers, 2003). Several studies have examined food safety knowledge and practice among Nigerian students (Adegunwa et al., 2016; Iweama et al., 2024; Odo & Onoh, 2018), but research that links exposure to WFSD messages with actual consumption behaviour is scarce. This study addresses that gap among undergraduates in three federal universities in South-East Nigeria.

Statement of the Problem

Despite growing global attention to food safety through platforms such as WFSD, foodborne illness remains a public health problem in Nigerian university communities. Studies on Nigerian campuses have documented unsafe practices among students, including patronage of unhygienic vendors, consumption of raw or poorly cooked food and inadequate handwashing before and after meals (Adegunwa et al., 2016; Oranusi et al., 2013). These practices suggest a disconnect between the messages promoted during WFSD and their translation into behaviour.

WFSD campaigns run every year through many channels, yet little is known about how far undergraduates are exposed to them, through which channels, or which content reaches them. Without this knowledge it is difficult to judge whether WFSD works as a behaviour change tool or to design interventions that close the knowledge and practice gaps observed on campuses. Previous Nigerian studies have focused mainly on microbiological analyses, vendor practices or knowledge assessments, and have largely ignored the communication dimension (Ibrahim et al., 2020; Odo & Onoh, 2018; Oranusi et al., 2013). Evidence from other domains shows that exposure to targeted information can shape behaviour: Nwafor (2021) studied the influence of flood risk awareness information on residents' adaptive behaviour in South-East Nigeria, and Nwammuo et al. (2015) asked how information relates to safe-motherhood practices. Comparable evidence for food safety campaigns is missing.

This study therefore examined the level of exposure to WFSD messages, the channels of exposure, the content most encountered, the level of adoption of safe food consumption practices, and the relationship between exposure and adoption among undergraduates of Nnamdi Azikiwe University, Awka; the University of Nigeria, Enugu Campus; and Alex Ekwueme Federal University, Ndufu-Alike.

Objectives of the Study

The broad objective was to investigate the influence of exposure to WFSD campaign messages on the adoption of safe food consumption culture among undergraduates in South-East Nigeria. The specific objectives were to:

- **i.** determine the level of exposure of undergraduates to WFSD campaign messages;
- **ii.** identify the channels through which undergraduates are exposed to WFSD campaign messages;
- **iii.** ascertain the content of WFSD campaign messages to which undergraduates are most exposed;
- **iv.** assess the level of adoption of safe food consumption culture among undergraduates; and
- **v.** establish the relationship between exposure to WFSD campaign messages and the adoption of safe food consumption culture among undergraduates.

Research Questions

The following research questions guided the study:

- **RQ1:** What is the level of exposure of undergraduates to World Food Safety Day campaign messages?
- **RQ2:** Through which channels are undergraduates exposed to World Food Safety Day campaign messages?
- **RQ3:** What is the content of World Food Safety Day campaign messages to which undergraduates are most exposed?
- **RQ4:** What is the level of adoption of safe food consumption culture among undergraduates?
- **RQ5:** What is the relationship between exposure to World Food Safety Day campaign messages and the adoption of safe food consumption culture among undergraduates?

Review of Related Literature

Concept of Food Safety and Its Global Significance

Food safety refers to the conditions and practices that preserve the quality of food and prevent contamination and foodborne illness. It covers all measures that keep food safe for human consumption at every stage of production, processing, distribution and consumption. Foodborne diseases, caused by bacteria, viruses, parasites, toxins and chemical contaminants, remain a major global public health challenge. The WHO's *Five Keys to Safer Food* (keep clean; separate raw and cooked food; cook thoroughly; keep food at safe temperatures; use safe water and raw materials) provides a widely adopted guide to safe food behaviour (WHO, 2006). In Nigeria, the burden of foodborne disease is worsened by inadequate food safety infrastructure, limited regulatory capacity, poor sanitation at food handling points and low public awareness of standards, concerns NAFDAC repeatedly raises during WFSD observances (Ezeh, 2022). Microbiological studies of ready-to-eat food in Nigeria, including food sold in student cafeterias, have isolated *Escherichia coli*, *Staphylococcus aureus*, *Bacillus* species and other organisms (Oranusi et al., 2013), while street-vended foods in Gombe have yielded *Salmonella typhi*, *Shigella* species and aflatoxigenic *Aspergillus* (Ibrahim et al., 2020). Unsafe handling and poor environmental sanitation are commonly implicated. These findings underline the urgency of targeted behaviour change communication within university communities.

World Food Safety Day Campaigns and Behaviour Change Communication

WFSD, established by Resolution 73/250 (United Nations General Assembly, 2018), is observed each year on 7 June to draw attention to and inspire action for food safety. Each observance carries a theme, with campaign materials developed by the WHO and FAO and disseminated with national food safety agencies. Themes have included "Food safety, everyone's business" (2019 and 2020), "Safe food now for a healthy tomorrow" (2021) and "Safer food, better health" (2022). The campaigns use social media, broadcast and print media, community outreach and institutional platforms to maximise reach (WHO, 2021).

Behaviour change communication (BCC) is a strategic process that uses communication to promote positive health behaviours and discourage negative ones. WFSD campaigns are a specialised form of BCC that combine informational, motivational and normative elements. Research on BCC shows that

exposure frequency, message salience, channel credibility and interpersonal reinforcement determine effectiveness (Bandura, 2004; Rosenstock, 1974). Grunert (2005) argues that consumer food safety communication must go beyond awareness to address the motivational and situational factors behind actual behaviour. For WFSD, this means asking not only whether undergraduates are exposed to campaign messages but how that exposure becomes behaviour.

Food Safety Knowledge and Practices among University Students

A growing body of work has assessed food safety knowledge, attitudes and practices (KAP) among Nigerian students and campus food handlers. Adegunwa et al. (2016) found that students of the Federal University of Agriculture, Abeokuta, had high food safety awareness and good attitudes, but that these did not translate into practice; students chose where to eat mainly on the basis of price. Among undergraduates of Enugu State University of Science and Technology, Iweama et al. (2024) reported that most respondents had good food hygiene knowledge and reported good practices, and that practice differed significantly by age and gender. On the supply side, Odo and Onoh (2018) found that more than nine in ten food handlers on the University of Nigeria, Nsukka campus had good hygiene knowledge.

Evidence from other developing countries points the same way. Serrem et al. (2021) found that although most Kenyan public university students had adequate knowledge and positive attitudes, about three-quarters had inadequate practices, largely because they lacked basic equipment. Together, these studies describe a persistent gap between knowing and doing, and they highlight the need for health communication tailored to the consumption environment of university campuses. They also set the context in which WFSD messages are, or are not, absorbed and acted upon by students.

Media Exposure, Health Campaign Messages and Behavioural Outcomes

The link between exposure to health campaign messages and behaviour is a long-standing concern of health communication research. Agenda-setting theory holds that the media influence the salience of issues on the public's cognitive agenda, shaping what audiences think about and, by extension, how they act (McCombs & Shaw, 1972). Nwammuo and Nwafor (2019b) showed how online newspaper headlines circulated on Facebook can sway readers' opinions, a reminder that the framing of digital content matters. Rogers' (2003) Diffusion of Innovations framework adds that people adopt new behaviours through knowledge, persuasion, decision, implementation and confirmation, with communication exposure most decisive in the early stages. Nwammuo and Nwafor (2019a) applied this logic to the awareness and diffusion of climate change adaptation strategies among farmers.

Nigerian scholarship has increasingly traced how exposure to mediated messages relates to perception, attitude and practice. Aburime and Nwafor (2025) linked viewership of a televised documentary to public perception of government performance, while Nwafor and Okamgba (2024) and Okamgba and Nwafor (2025) examined how a state broadcaster's Facebook messages on solid waste management were communicated and received. Outside Nigeria, Osaili et al. (2021)

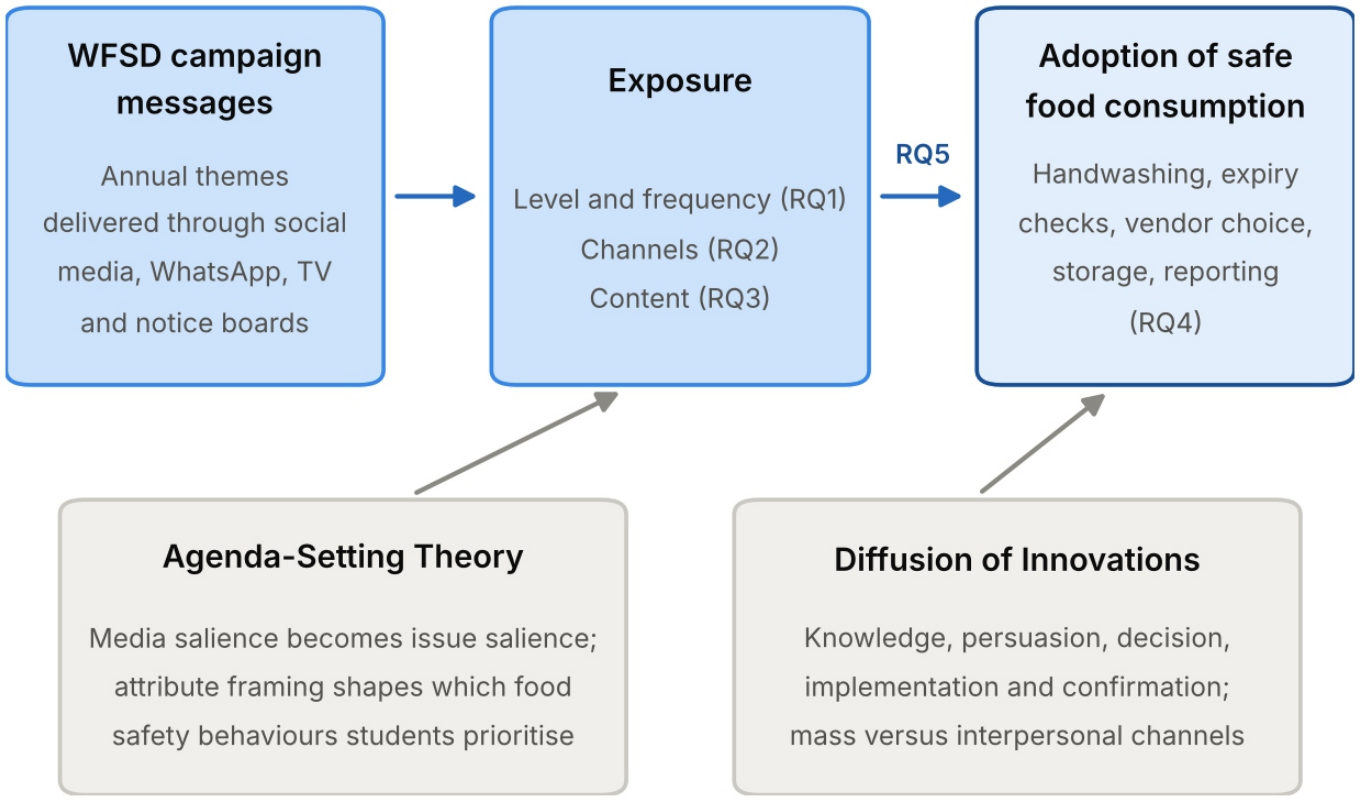
linked Jordanian students' food safety knowledge to their sources of food safety information. Evidence on digital channels, however, is mixed: a WeChat-based intervention did not significantly improve the food safety knowledge, attitudes or practices of university students in China (Cai et al., 2023), and following food safety content on social media did not close knowledge gaps among Slovenian undergraduates who lacked formal instruction (Kukanja & Planinc, 2026). In Nigeria, the spread of WhatsApp, Instagram and Facebook has extended the reach of health campaigns, including WFSD messages, to digitally connected students (Nwafor & Nnaemeka, 2023a). However, the pathways through which WFSD exposure shapes food safety behaviour among Nigerian undergraduates have not been established empirically, and this study seeks to do so.

Theoretical Framework

The study is anchored on two complementary theories, Agenda-Setting Theory and Diffusion of Innovations Theory. Figure 1 shows how they frame the relationship between WFSD messages, exposure and adoption.

Figure 1

Conceptual framework linking WFSD campaign exposure to the adoption of safe food consumption culture



Agenda-Setting Theory

Agenda-Setting Theory, formulated by McCombs and Shaw (1972) from their study of the 1968 American presidential campaign, holds that the mass media do not tell people what to think but what to think about. By giving prominence to certain issues through repeated coverage, the media transfer salience to the audience's agenda. Applied to WFSD, the theory predicts that frequent exposure to campaign messages through diverse channels will raise food safety as a salient concern among undergraduates and influence their disposition towards safe consumption.

Second-level agenda-setting extends this idea: the media shape not only what audiences think about but also how they think about it, through the attributes they emphasise (McCombs, 2005). In food safety, the attributes stressed in WFSD messages, such as personal hygiene, disease prevention and vendor practices, may determine which dimensions of food safety behaviour students prioritise.

Diffusion of Innovations Theory

Diffusion of Innovations Theory, developed by Rogers (1962) and refined in later editions (Rogers, 2003), explains how a new idea, practice or technology spreads through a social system over time via particular channels. Rogers identified five stages in adoption: knowledge, persuasion, decision, implementation and confirmation. In this study, safe food consumption practices are treated as the innovation and WFSD messages as the communication stimuli that start and advance adoption. Rogers (2003) also classified adopters as innovators, early adopters, early majority, late majority and laggards. Students' level of adoption of safe food consumption culture can be read within this classification, with WFSD exposure expected to speed movement through the stages. The theory further stresses that channel characteristics matter: interpersonal channels such as lectures and peer discussion work best at the persuasion stage, while mass media channels such as social media, television and radio work best at the knowledge stage (Rogers, 2003). Together, the two theories provide a robust basis for examining how WFSD exposure influences the adoption of safe food consumption culture.

Methodology

Research Design

The study adopted a survey design supplemented by key informant interviews. The survey allows systematic collection of data from a large, dispersed population through structured questionnaires and suits the measurement of exposure, behaviour and attitudes (Wimmer & Dominick, 2011). The interviews provided qualitative depth to contextualise the survey findings and shed light on food safety communication within the university community. The study was conducted in three purposively selected federal universities in South-East Nigeria, one in each of Anambra, Enugu and Ebonyi States, to capture the diversity of the region's undergraduate population: Nnamdi Azikiwe University, Awka (UNIZIK); the University of Nigeria, Enugu Campus (UNEC); and Alex Ekwueme Federal University, Ndufu-Alike (AE-FUNAI). The institutions were chosen for their large undergraduate enrolments, the documented prevalence of on-campus food vending, and their participation in NAFDAC-supported food safety awareness programmes. Table 1 presents the distribution of the study population.

Table 1

Study population, sample allocation and questionnaire returns by university

University	State	Total enrolment	% of total	Sample allocated	Returned
Nnamdi Azikiwe University, Awka (UNIZIK)	Anambra	68,000	47.2	189	187
University of Nigeria, Enugu Campus (UNEC)	Enugu	36,000	25.0	100	99
Alex Ekwueme Federal University, Ndufu-Alike (AE-FUNAI)	Ebonyi	40,000	27.8	111	110
Total		**144,000**	**100.0**	**400**	**396**

Note. Sample allocation is proportionate to each university's share of the total undergraduate population. Returned questionnaires total 396 (99.0%).

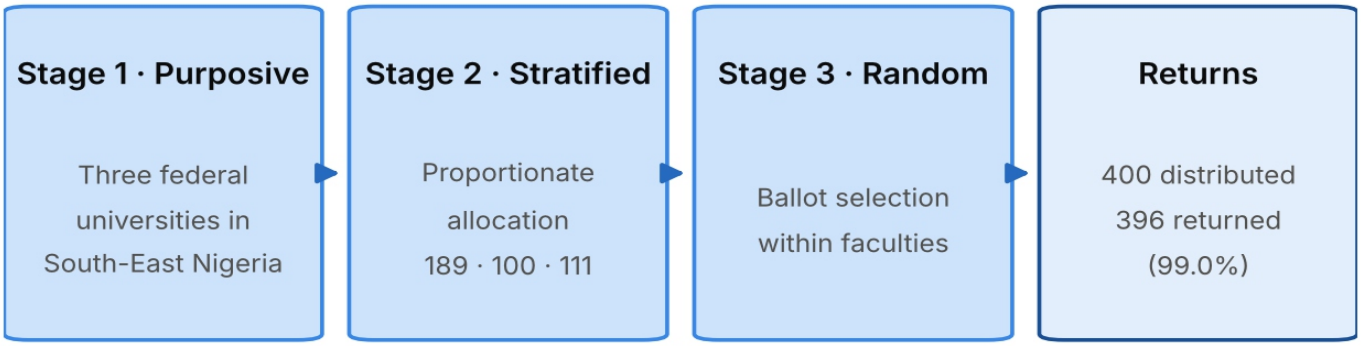
The sample size was determined with the Taro Yamane (1967) formula for finite populations:

$$n = N / [1 + N(e)^2]$$

where n is the sample size, N the population (144,000) and e the margin of error (0.05 at a 95% confidence level). Thus n = 144,000 / [1 + 144,000 (0.0025)] = 144,000 / 361 ≈ 399, rounded to 400 for convenience. Proportionate allocation then distributed the sample across the three universities according to each institution's share of the population (Table 1). A multi-stage sampling technique was used (Figure 2). First, purposive sampling selected the three federal universities on the basis of state spread, student population and participation in food safety awareness programmes. Second, proportionate stratified sampling allocated the sample across the universities. Third, simple random sampling by ballot selected individual respondents from each university's undergraduate list, stratified by faculty to ensure representation across disciplines. The key informants were selected purposively according to their relevance to the study objectives.

Figure 2

Multi-stage sampling procedure and questionnaire returns



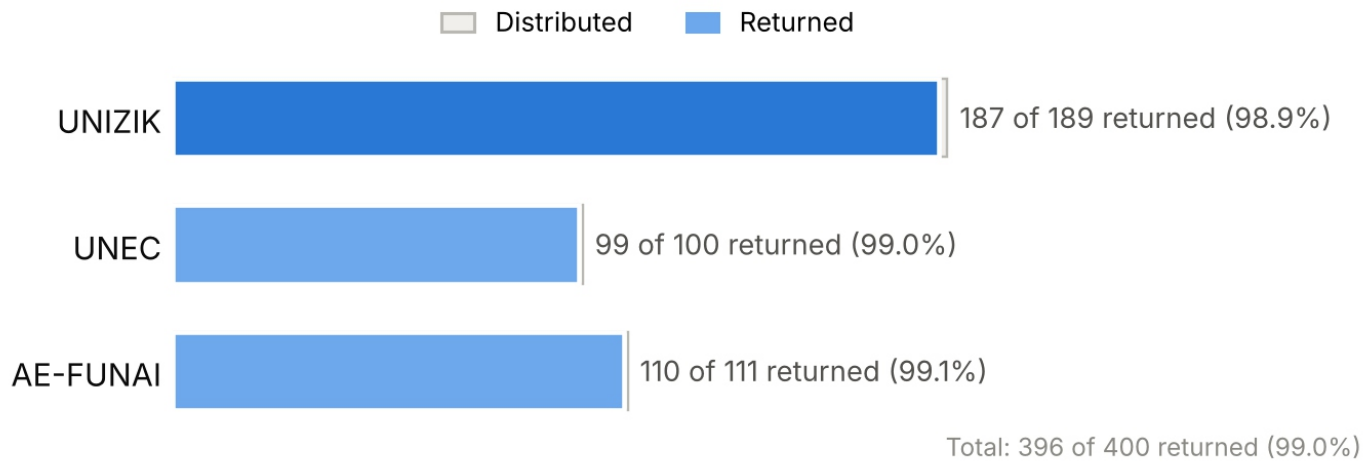
Two instruments were used: a structured questionnaire and a key informant interview guide. The questionnaire had five sections. Section A collected demographic data; Section B measured exposure to WFSD messages; Section C asked respondents to name the one main channel through which they encountered WFSD messages; Section D asked for the one message theme they encountered most; and Section E measured adoption of safe food consumption practices on a four-point scale from "Always" to "Never". The questionnaire was pre-tested with 40 undergraduates of the University of Benin who were not part of the main study, and reliability was confirmed with a Cronbach's alpha of 0.81. The interview guide contained open-ended questions on the reach, content and impact of WFSD messages within each institution.

Fifteen key informants were purposively selected across the three universities: three student health committee representatives, three university health centre officers, six campus food vendors and three nutrition or public health lecturers (Table 2). Selection followed the criterion of maximum variation (Patton, 2002) to capture different roles and perspectives. Informed consent was obtained before each interview, and interviews were conducted face to face and audio-recorded with permission.

Trained research assistants (one postgraduate student per university) administered the questionnaires during the 2022/2023 session, approaching randomly selected undergraduates in lecture periods, common rooms and library study areas. All 400 questionnaires were distributed in proportion to the sample allocation, and 396 were returned fully completed, a return rate of 99.0% (UNIZIK 187 of 189; UNEC 99 of 100; AE-FUNAI 110 of 111). All analyses are based on these 396 questionnaires (Figure 3). Interviews were held on campus during the same period, lasted 30 to 45 minutes, and were transcribed verbatim.

Figure 3

Questionnaires distributed and returned by university



Quantitative data were analysed with frequencies, percentages and mean scores, presented as figures, in the Statistical Package for the Social Sciences (SPSS), version 25.0. Practice items were scored Always = 4, Sometimes = 3, Rarely = 2 and Never = 1, and a mean of 2.50 or above was taken as adoption of a practice. For RQ5, a cross-tabulation, the Pearson product-moment correlation coefficient and a chi-square test of independence were used to establish the strength, direction and significance of the association. Qualitative data were analysed thematically following Braun and Clarke's (2006) six phases: familiarisation, coding, searching for themes, reviewing themes, defining and naming themes, and reporting. Member checking strengthened the credibility of the qualitative findings.

Results

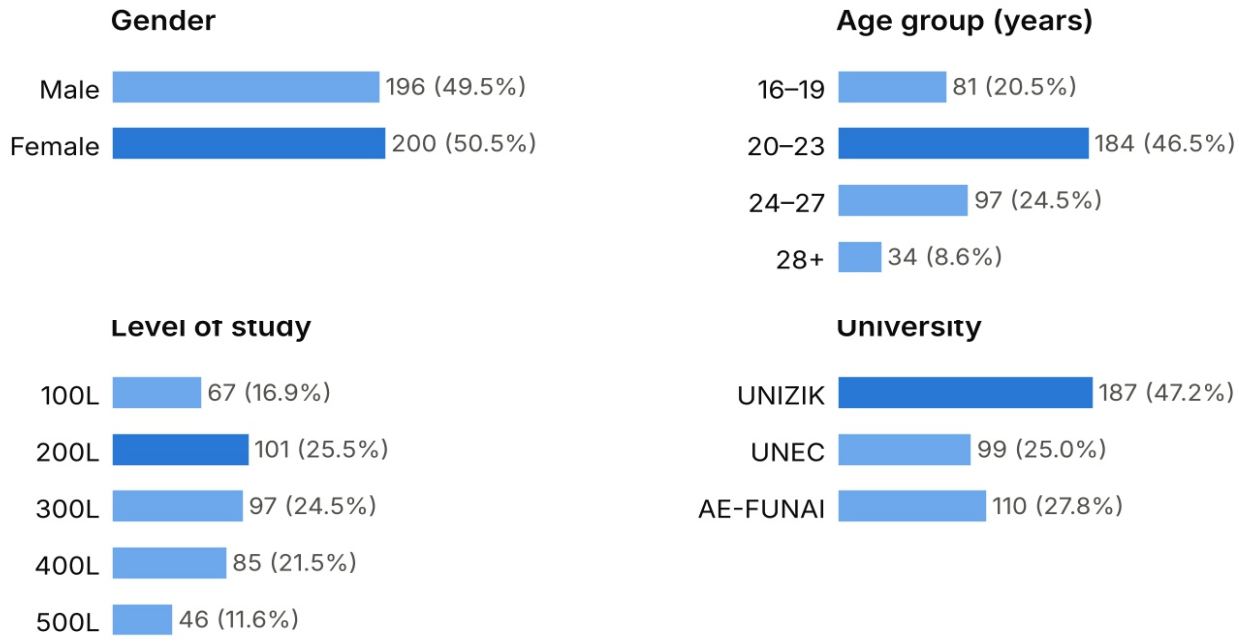
This section presents the findings for the five research questions as figures. Every figure is computed on the 396 returned questionnaires, every item allowed a single response, and no category total exceeds 396. Findings from the key informant interviews close the section.

Demographic Profile of Respondents

The 396 respondents were almost evenly split by gender (196 males, 49.5%; 200 females, 50.5%), and nearly half (184, 46.5%) were aged 20 to 23. All levels of study were represented, with 200 Level (101, 25.5%) and 300 Level (97, 24.5%) the largest groups, and the university distribution mirrors the proportionate allocation (Figure 4).

Figure 4

Demographic profile of respondents, n (%)

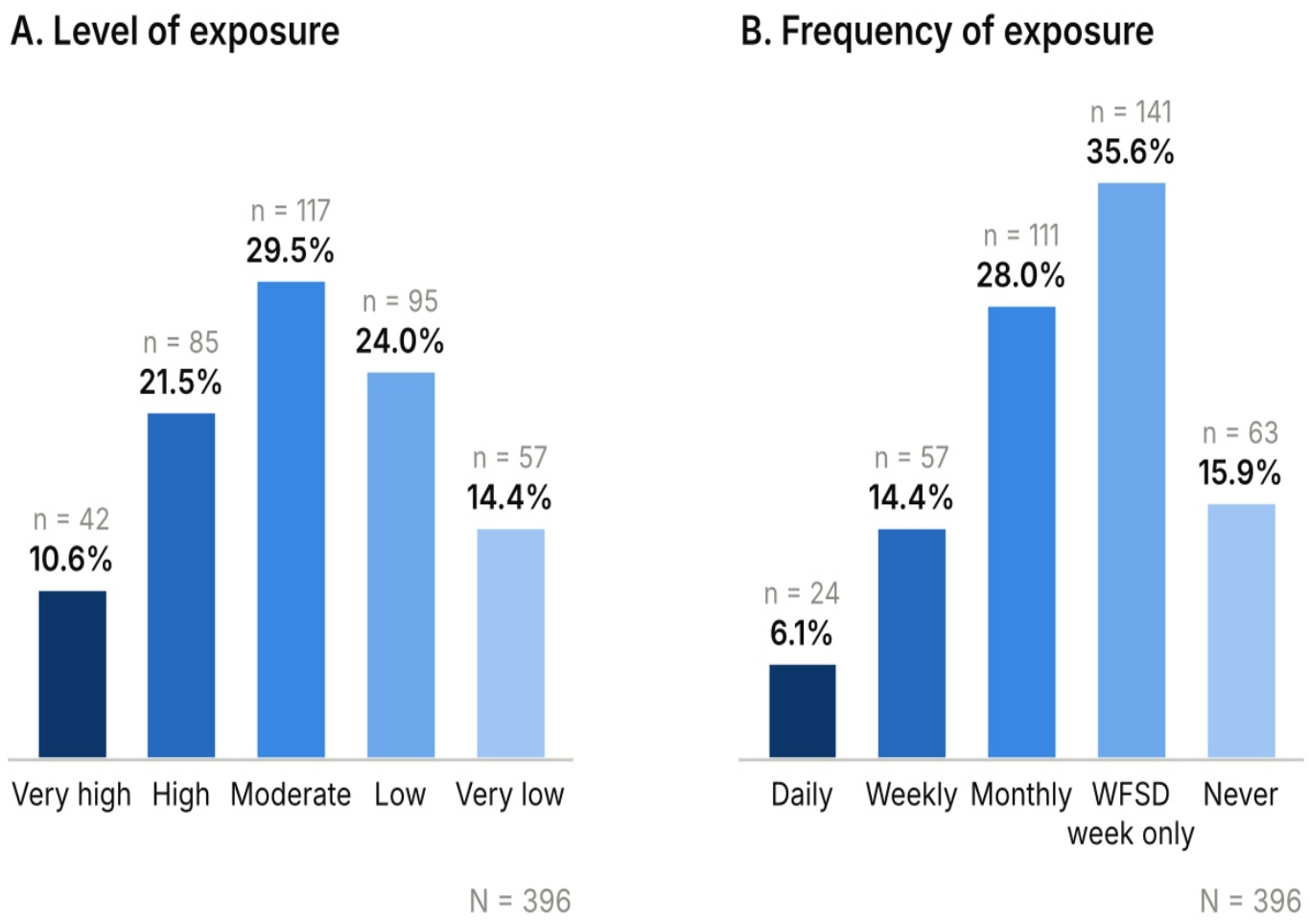


Research Question 1: Level of Exposure to WFSD Campaign Messages

Respondents rated their overall exposure on a five-point scale and reported how often they encountered WFSD messages (Figure 5).

Figure 5

Level (A) and frequency (B) of exposure to WFSD campaign messages



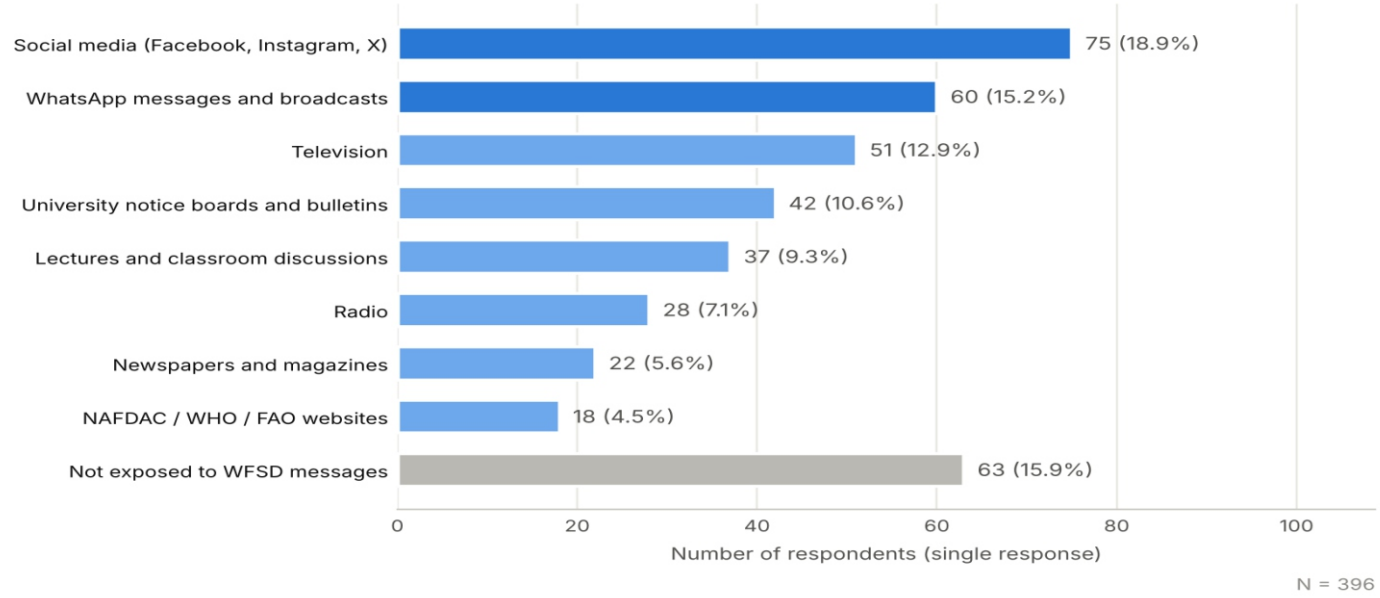
Exposure clustered in the middle of the scale: 117 respondents (29.5%) reported moderate exposure, while only 127 (32.1%) reported high or very high exposure. More than half met WFSD messages only around the June observance (141, 35.6%) or never (63, 15.9%).

Research Question 2: Channels of Exposure to WFSD Campaign Messages

Each respondent named the one main channel through which they encountered WFSD messages; the 63 respondents who had never encountered the messages are shown separately so that the distribution sums to 396 (Figure 6).

Figure 6

Main channel of exposure to WFSD campaign messages (single response)



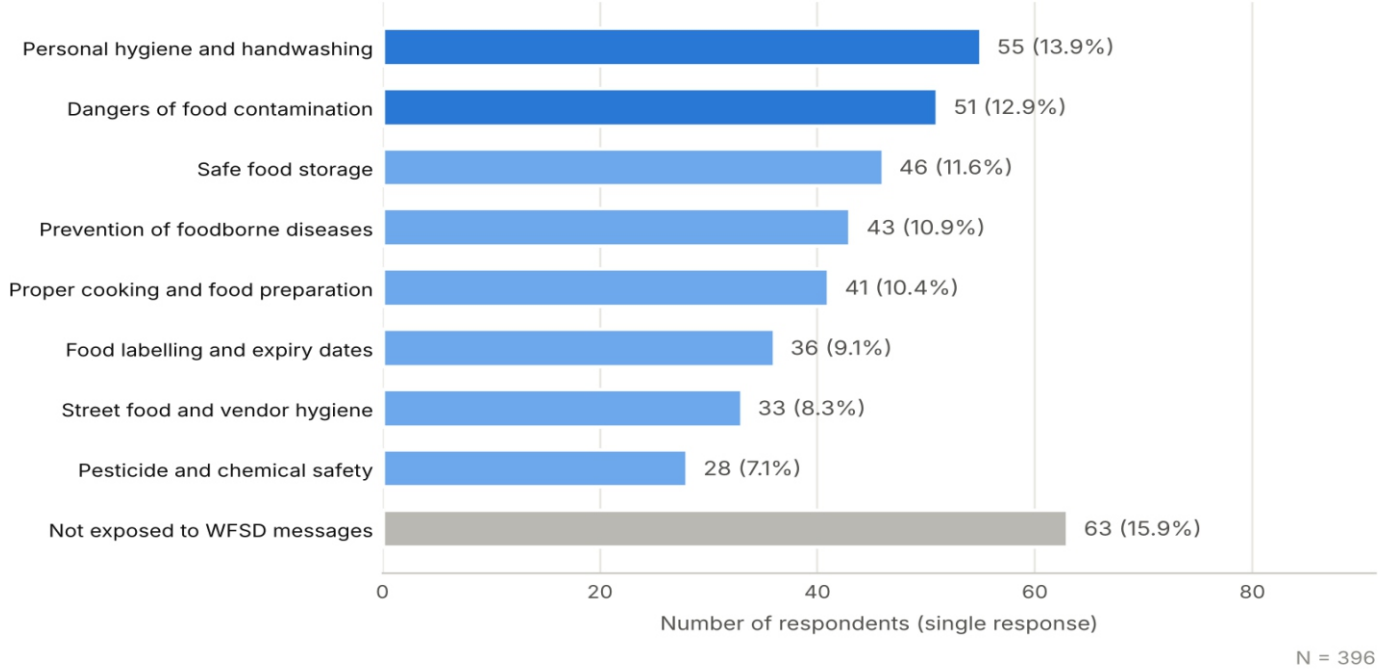
Social media (75, 18.9%) and WhatsApp (60, 15.2%) were the leading main channels, followed by television (51, 12.9%) and university notice boards (42, 10.6%). Agency websites were the least named channel (18, 4.5%).

Research Question 3: WFSD Campaign Message Content

Each respondent indicated the one WFSD message theme they encountered most (Figure 7).

Figure 7

Most encountered WFSD campaign message content (single response)



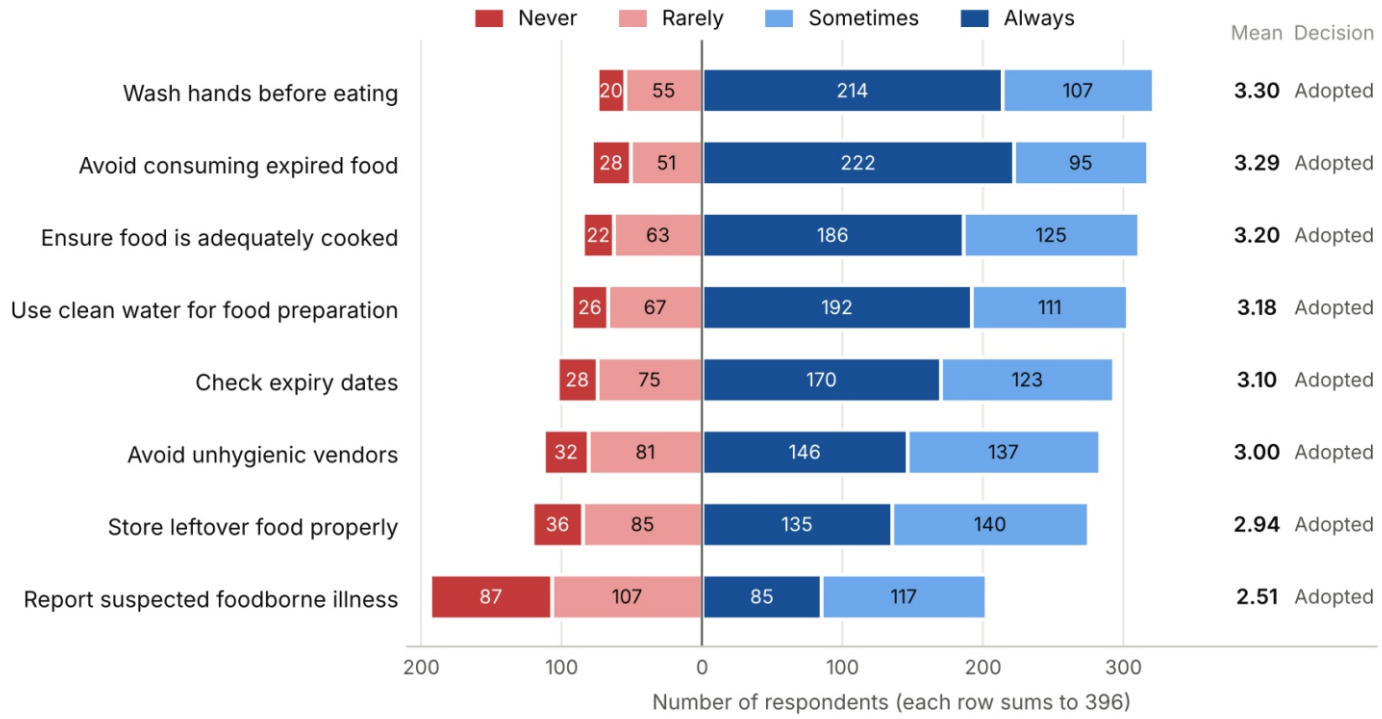
Personal hygiene and handwashing (55, 13.9%) and the dangers of food contamination (51, 12.9%) were the most encountered themes, while pesticide and chemical safety (28, 7.1%) was the least.

Research Question 4: Level of Adoption of Safe Food Consumption Culture

Adoption was measured with eight practices rated on a four-point scale. Figure 8 shows the response distribution, mean score and decision for each practice, and Figure 9 the composite adoption level.

Figure 8

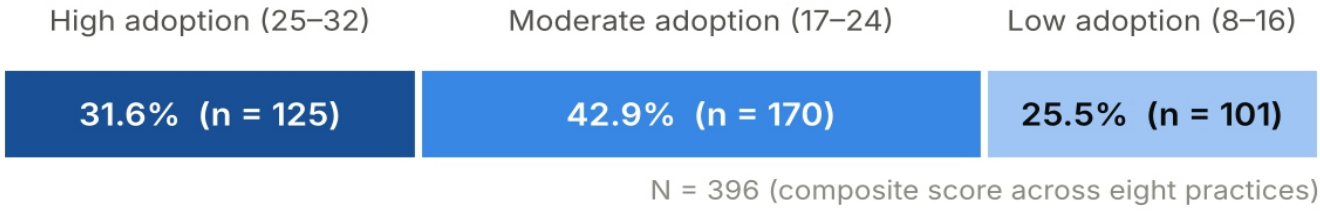
Adoption of safe food consumption practices: responses, mean scores and decisions



Note. Bars to the right of zero show respondents who practise always or sometimes; bars to the left show rarely or never. Each row sums to 396. Means use Always = 4, Sometimes = 3, Rarely = 2, Never = 1; a mean of 2.50 or above indicates adoption.

Figure 9

Overall level of adoption of safe food consumption culture



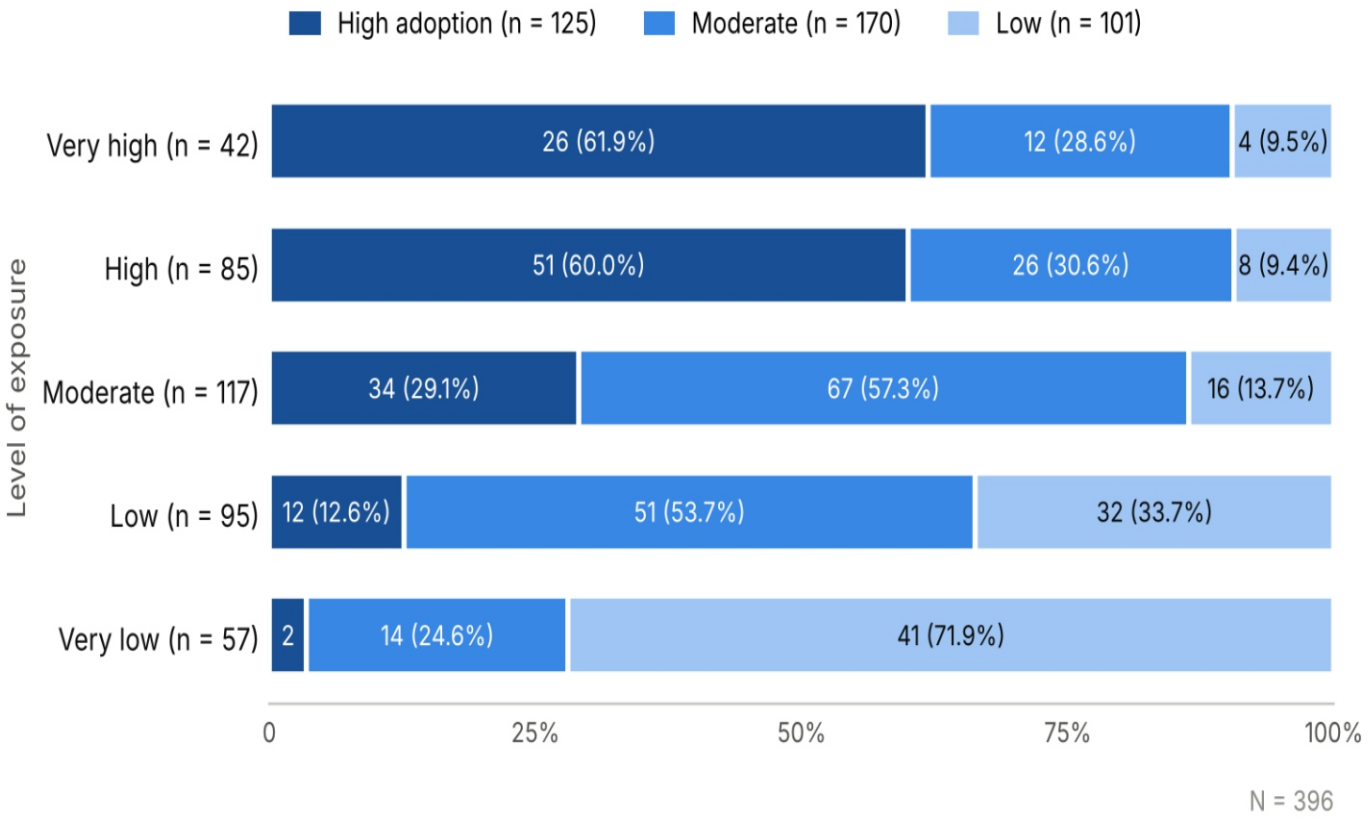
All eight practices met the 2.50 criterion, but unevenly. Handwashing before eating (mean 3.30) and avoiding expired food (3.29) were the strongest, while reporting suspected foodborne illness (2.51) only just met the criterion. Overall, 170 respondents (42.9%) showed moderate adoption, 125 (31.6%) high adoption and 101 (25.5%) low adoption.

Research Question 5: Exposure and Adoption of Safe Food Consumption Culture

Adoption was cross-tabulated against exposure, and the Pearson correlation coefficient and chi-square test established the significance of the relationship (Figure 10).

Figure 10

Adoption of safe food consumption culture by level of exposure to WFSD messages, n (row %)



Note. N = 396. Pearson correlation: r = .648, p < .001. Chi-square test of independence: $\chi^2(8, N = 396) = 146.84$, p < .001, Cramér's V = .43.

The share of high adopters falls steadily from 61.9% (26 of 42) among the most exposed students to 3.5% (2 of 57) among the least exposed, while the share of low adopters rises from 9.5% (4 of 42) to 71.9% (41 of 57).

Key Informant Interview Participants

Table 2

Key informant interview participants

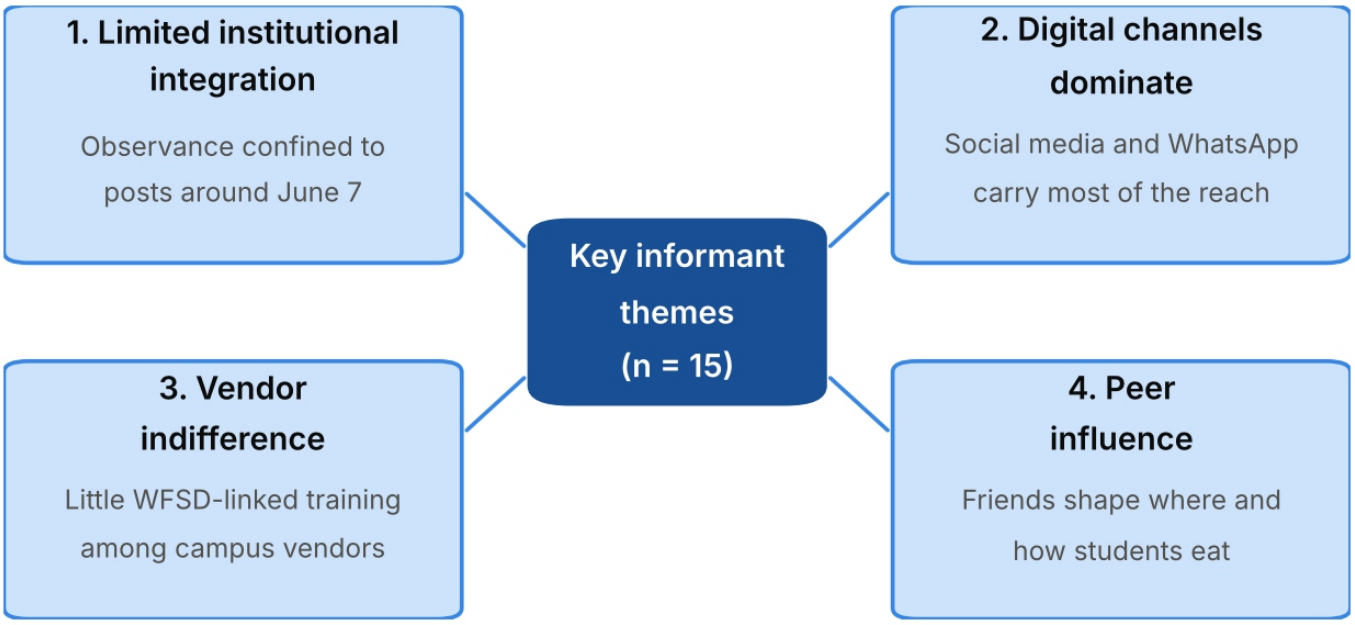
Category of key informant	Number	Selection basis
Student health committee representatives (1 per university)	3	Purposive: knowledge of campus food safety programmes
University health centre officers (1 per university)	3	Purposive: professional role in campus health services
Campus food vendors (2 per university)	6	Purposive: direct involvement in food provision on campus
Nutrition / public health lecturers (1 per university)	3	Purposive: academic expertise in food safety and health communication
Total	**15**	

Qualitative Findings from Key Informant Interviews

Thematic analysis yielded four dominant themes (Figure 11): limited institutional integration of WFSD campaigns; digital channels as the main means of reach; vendor indifference to food safety communication; and peer influence as a mediating factor in food safety behaviour.

Figure 11

Themes from the key informant interviews



Health centre officers in all three universities said WFSD is observed mainly through social media posts and occasional notice board displays, rarely through sustained campus programmes. One officer at UNIZIK put it this way:

> *"We share posts during the week of June 7, but there is no follow-up or structured awareness campaign for the rest of the year."*

Student health committee representatives reported that most students they interacted with did not know WFSD as a distinct campaign, even when they had seen food safety messages. Campus food vendors generally showed low awareness of WFSD, and several said they had never received food safety training linked to it. Nutrition lecturers stressed the need to build food safety education into general studies curricula, arguing that one-off media campaigns cannot produce lasting behaviour change among students.

Discussion of Findings

Exposure to WFSD Campaign Messages (RQ1)

Most undergraduates had low to moderate exposure to WFSD messages. Only 42 (10.6%) and 85 (21.5%) of the 396 respondents reported very high and high exposure, while 117 (29.5%) reported moderate exposure and 95 (24.0%) and 57 (14.4%) low and very low exposure. A further 141 (35.6%) met the messages only around 7 June, and 63 (15.9%) had never encountered them. WFSD messages have therefore not yet achieved the year-round visibility needed for meaningful agenda-setting effects on students' food safety behaviour.

These findings echo Nigerian evidence that students' food safety awareness does not automatically become consistent practice

(Adegunwa et al., 2016), and suggest that WFSD messages are yet to reach the frequency needed to keep food safety on students' agenda. From the agenda-setting perspective (McCombs & Shaw, 1972), the media salience of food safety would need to be raised consistently, not only during the annual WFSD window, for the campaign to have measurable effects. The interview finding that health centre officers see WFSD as little more than social media posts in the week of 7 June reinforces this conclusion.

Channels of Exposure to WFSD Campaign Messages (RQ2)

Asked for their single main channel, respondents most often named social media (18.9%) and WhatsApp (15.2%), followed by television (12.9%), university notice boards (10.6%), lectures (9.3%), radio (7.1%), newspapers (5.6%) and agency websites (4.5%); 15.9% had not been exposed. Together, the two digital channels account for a third of all respondents (135, 34.1%) and two-fifths of those exposed. This pattern mirrors the heavy mobile and social media use of Nigerian students documented by Nwafor and Nnaemeka (2023a), and the potential of social platforms to carry health content to students shown by Nwafor and Nnaemeka (2023b). The showing of notice boards and lectures, together named by one in five respondents, indicates that institutional communication still matters, even as digital platforms dominate.

The dominance of digital channels is consistent with Osaili et al.'s (2021) observation that students' sources of information shape what they know about food safety. Yet the mixed results of social media interventions elsewhere (Cai et al., 2023; Kukanja & Planinc, 2026) caution that digital reach alone may not change behaviour. Rogers' (2003) framework suggests that mass media channels work best at the knowledge stage and interpersonal channels at the persuasion stage. WFSD campaigns appear to reach undergraduates mainly at the knowledge stage through digital platforms, without the interpersonal engagement needed to move them from awareness to adoption. The low ranking of institutional websites (4.5%) suggests that NAFDAC and WHO digital outreach has not yet penetrated the campus information ecosystem.

WFSD Campaign Message Content Most Encountered (RQ3)

Personal hygiene and handwashing (13.9%) and the dangers of contamination (12.9%) were the themes respondents encountered most, followed by safe storage (11.6%) and disease prevention (10.9%). Labelling and expiry dates (9.1%), street food and vendor hygiene (8.3%) and pesticide and chemical safety (7.1%) ranked lowest. The prominence of hygiene reflects the WHO *Five Keys to Safer Food*, which treats personal hygiene as a foundation of food safety (WHO, 2006), but the weaker visibility of labelling and chemical safety points to gaps in the content reaching students.

From the agenda-setting perspective, the dominance of hygiene and contamination themes may lead students to equate food safety with handwashing and avoiding contamination while neglecting labelling literacy and chemical hazards. Grunert (2005) argues that food safety communication must address the full range of consumer concerns to bring about comprehensive change. Campaign designers should therefore

broaden WFSD content, especially on topics that matter on Nigerian campuses such as vendor hygiene and expiry date checks.

Adoption of Safe Food Consumption Culture (RQ4)

Most undergraduates showed moderate adoption (170, 42.9%), with 125 (31.6%) at high and 101 (25.5%) at low adoption. Avoiding expired food (222 always, 56.1%; mean 3.29), washing hands before eating (214, 54.0%; mean 3.30) and using clean water (192, 48.5%; mean 3.18) were the most consistent practices. Reporting suspected foodborne illness was the weakest: only 85 (21.5%) always did so and 87 (22.0%) never did, giving a mean of 2.51 that sits at the threshold of adoption. Proper storage of leftovers also showed notable gaps, with 85 (21.5%) rarely and 36 (9.1%) never doing it.

These results corroborate the knowledge–practice gap documented among Nigerian students, whose good awareness in Abeokuta did not carry over into practice (Adegunwa et al., 2016), and among Kenyan students, most of whom reported inadequate practices despite adequate knowledge (Serrem et al., 2021). The low rate of reporting is worrying for public health surveillance because it suggests that foodborne illness on campuses may be substantially under-reported. The interview finding that vendors engage little with food safety practices adds a structural factor that can undermine students' intentions. This agrees with Rogers' (2003) observation that adoption depends not only on individual knowledge and attitude but also on the social and environmental context in which the innovation must be practised.

Relationship between WFSD Exposure and Adoption (RQ5)

The study found a strong positive relationship between exposure to WFSD messages and adoption of safe food consumption culture ($r = .648$, $p < .001$), confirmed by a significant chi-square test ($\chi^2(8) = 146.84$, $p < .001$, Cramér's $V = .43$). Among respondents with very high exposure, 61.9% were high adopters, compared with only 3.5% of those with very low exposure. Conversely, 71.9% of the least exposed were low adopters, against 9.5% of the most exposed. Higher exposure was consistently associated with higher adoption at every level. These results support both theories. The correlation is consistent with McCombs and Shaw's (1972) argument that media exposure raises issue salience, which here translates into action in the food safety domain, and the pattern across exposure levels fits Rogers' (2003) view of exposure as a precondition for moving through the adoption stages. The findings echo Nigerian evidence that exposure to targeted information is associated with protective behaviour, as in Nwafor's (2021) study of flood risk information and adaptive behaviour and Nwammuo et al.'s (2015) work on information and safe-motherhood practices. The contrast with the limited effect of a short WeChat intervention reported by Cai et al. (2023) may reflect the difference between cumulative exposure across many channels, as measured here, and a brief single-channel intervention. Broader, more sustained and better targeted WFSD dissemination within Nigerian universities is therefore likely to yield measurable improvements in safe food consumption.

Conclusion

This study examined the influence of exposure to WFSD campaign messages on the adoption of safe food consumption culture among undergraduates in three federal universities in South-East Nigeria. Most students had low to moderate exposure, with social media and WhatsApp as the main channels. Personal hygiene and contamination prevention were the most encountered themes, while labelling and chemical safety were less visible. Adoption was mostly moderate: avoiding expired food and handwashing were the most consistent practices, and reporting foodborne illness the least.

Most importantly, the study established a strong positive relationship between WFSD exposure and the adoption of safe food consumption culture ($r = .648$, $p < .001$), confirming exposure as an important predictor of food safety behaviour among undergraduates. The findings, read through Agenda-Setting Theory and Diffusion of Innovations Theory, call for sustained, strategically designed and institutionally embedded WFSD communication that extends beyond the annual 7 June observance throughout the academic year.

Recommendations

Based on the findings, the study recommends that:

1. NAFDAC, the WHO and the FAO develop year-round food safety communication that sustains WFSD momentum beyond 7 June through continuous social media campaigns, WhatsApp broadcast groups and periodic campus activations.
2. University administrations institutionalise food safety education in general studies curricula and orientation programmes for new students, integrating WFSD themes into existing public health and life skills modules.
3. Food safety agencies invest in digital content suited to students' platforms and styles, including short-form video, infographics and peer-to-peer WhatsApp content, given the dominance of social media and WhatsApp as channels.
4. WFSD messages be diversified beyond personal hygiene and contamination to cover food labelling literacy, safe vendor practices and foodborne illness reporting.
5. University health authorities establish simple reporting and response systems for suspected foodborne illness to close the reporting gap identified in this study.
6. Future research use longitudinal designs to trace the causal pathway from WFSD exposure to sustained behaviour change, and extend the inquiry to other geopolitical zones, private universities and polytechnics to improve generalisability.

Funding Statement: This study was fully funded by a research grant from the Tertiary Education Trust Fund (TETFund) under the 2025/2026 Institutional-Based Research (IBR) Intervention of Chukwuemeka Odumegwu Ojukwu University.

References

Aburime, C. O., & Nwafor, G. U. (2025). Viewership of *Solution Footprint* on Channels Television and its influence on public perception of Soludo's administration. *ISRG Journal of Arts,*

Humanities and Social Sciences, 3(1), 300–308. https://doi.org/10.5281/zenodo.14770933

Adegunwa, M. O., Sanusi, M. I., Bakare, H. A., & Omemu, A. M. (2016). Food safety knowledge, attitudes and practices among Federal University of Agriculture students in Abeokuta. *Journal of Natural Sciences Engineering and Technology, 15*(1), 94–107. https://doi.org/10.51406/jnset.v15i1.1769

Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior, 31*(2), 143–164. https://doi.org/10.1177/1090198104263660

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Cai, Z., Luo, X., Xu, X., Shi, Z., Reis, C., Sharma, M., Hou, X., & Zhao, Y. (2023). Effect of WeChat-based intervention on food safety knowledge, attitudes and practices among university students in Chongqing, China: A quasi-experimental study. *Journal of Health, Population and Nutrition, 42*, Article 28. https://doi.org/10.1186/s41043-023-00360-y

Ezeh, F. (2022, June 7). World Food Safety Day: Eat right to avoid drugs, NAFDAC advises. *The Sun*. https://thesun.ng/world-food-safety-day-eat-right-to-avoid-drugs-nafdac-advises/

Grunert, K. G. (2005). Food quality and safety: Consumer perception and demand. *European Review of Agricultural Economics, 32*(3), 369–391. https://doi.org/10.1093/eurrag/jbi011

Ibrahim, H. I., Abdulrasheed, M., Hamza, J. A., Mohammed, S. A., Ibrahim, S., Babayo, C., & Nicholas, M. P. (2020). Isolation and identification of microorganisms from street vended ready-to-eat foods in Gombe Metropolis, Nigeria. *UMYU Journal of Microbiology Research, 5*(2), 26–32. https://doi.org/10.47430/ujmr.2052.004

Iweama, C. N., Boniface, M., Ozoemena, E. L., Ajani, O. E., & Abugu, M. N. (2024). Food hygiene knowledge and practice among undergraduates: A case study of Enugu State University of Science and Technology (ESUT) Enugu. *Journal of Home Economics Research, 30*(2). https://journals.heran.org/index.php/JHER/article/view/32

Kukanja, M., & Planinc, S. (2026). Food safety knowledge among tourism faculty undergraduates in Slovenia: Can social media leverage educational gaps? *Center for Educational Policy Studies Journal, 16*(2), 81–100. https://doi.org/10.26529/cepsj.1809

McCombs, M. E. (2005). A look at agenda-setting: Past, present and future. *Journalism Studies, 6*(4), 543–557. https://doi.org/10.1080/14616700500250438

McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly, 36*(2), 176–187. https://doi.org/10.1086/267990

Nwafor, G. U. (2021). Influence of flood risk awareness information on the adaptive behaviour of residents in flood prone areas in Southeast Nigeria. *International Journal of Research and Innovation in Social Science, 5*(11), 312–324.

Nwafor, G. U., & Nnaemeka, F. O. (2023a). Uses and gratifications of TikTok platform among university undergraduates. *African Journal of Social Sciences and Humanities*

Research, 6(6), 139–153. https://doi.org/10.52589/AJSSHR-66FABNCR

Nwafor, G. U., & Nnaemeka, F. O. (2023b). Influence of TikTok as an edutainment platform on female students' awareness and use of contraceptives. *Journal of Advanced Research and Multidisciplinary Studies, 3*(3), 65–77. https://doi.org/10.52589/JARMS-VJD3AKNW

Nwafor, G. U., & Okamgba, U. C. (2024). Communicating solid waste management information through social media platforms for sustainable development in Nigeria: A review of Anambra Broadcasting Service Facebook messages. *International Journal of Advanced Multidisciplinary Research and Studies, 4*(6), 1269–1277. https://doi.org/10.62225/2583049X.2024.4.6.3598

Nwafor, G. U., & Umunnah, B. O. (2021). Evaluation of farmers' exposure to CBN COVID-19 agricultural loan information for food security in Otuoke, Bayelsa State. *International Journal of Research and Innovation in Social Science, 5*(12), 645–652.

Nwammuo, A. N., & Nwafor, G. U. (2019a). Evaluation of level of awareness and information diffusion of climate change adaptation strategies among farmers. *International Journal of Informatics, Technology & Computers, 5*(1), 11–22.

Nwammuo, A. N., & Nwafor, G. U. (2019b). How online newspaper headlines sway opinion: Analysis of online newspaper readership patterns among Facebook users. *International Journal of Informatics, Technology & Computers, 5*(1), 1–10.

Nwammuo, A. N., Obi, P., & Nwafor, G. U. (2015). What has information got to do with safe-motherhood practices? *American Academic & Scholarly Research Journal, 7*(5), 9–14.

Odo, A. N., & Onoh, S. C. (2018). Food hygiene knowledge and practices among food handlers in University of Nigeria, Nsukka campus. *Mediterranean Journal of Social Sciences, 9*(6), 137–144. https://doi.org/10.2478/mjss-2018-0169

Okamgba, U. C., & Nwafor, G. U. (2025). Perception and attitude towards Anambra Broadcasting Service Facebook messages on solid waste management for sustainable development in Nigeria. *Journal of Environment, Climate, and Ecology, 2*(1), 29–39. https://doi.org/10.69739/jece.v2i1.451

Oranusi, S. U., Oguoma, O. I., & Agusi, E. (2013). Microbiological quality assessment of foods sold in student's cafeterias. *Global Research Journal of Microbiology, 3*(1), 1–7.

Osaili, T. M., Al-Nabulsi, A. A., & Taybeh, A. O. (2021). Food safety knowledge, attitudes, and practices among Jordan universities students during the COVID-19 pandemic. *Frontiers in Public Health, 9*, Article 729816. https://doi.org/10.3389/fpubh.2021.729816

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Sage.

Rogers, E. M. (1962). *Diffusion of innovations*. Free Press.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs, 2*(4), 328–335. https://doi.org/10.1177/109019817400200403

Serrem, K., Illés, C. B., Serrem, C., Atubukha, B., & Dunay, A. (2021). Food safety and sanitation challenges of public university students in a developing country. *Food Science & Nutrition, 9*(8), 4287–4297. https://doi.org/10.1002/fsn3.2399

United Nations General Assembly. (2018).

Resolution 73/250: World Food Safety Day (A/RES/73/250). United Nations. https://undocs.org/A/RES/73/250

Wimmer, R. D., & Dominick, J. R. (2011). *Mass media research: An introduction* (9th ed.). Wadsworth/Cengage Learning.

World Health Organization. (2006). *Five keys to safer food manual*. WHO.

World Health Organization. (2015). *WHO estimates of the global burden of foodborne diseases*. WHO. https://www.who.int/news/item/03-12-2015-who-s-first-ever-global-estimates-of-foodborne-diseases-find-children-under-5-account-for-almost-one-third-of-deaths

World Health Organization. (2021). *World Food Safety Day 2021: Safe food now for a healthy tomorrow*. WHO. https://www.who.int/campaigns/world-food-safety-day/2021

Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row.