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**The Cause and Effect of Cultural Dynamics on the Relationship between Media Framing
and the Perception of Obesity among 35-55 years University Female Academic Staff in
Nairobi County, Kenya**

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The Cause and Effect of Cultural Dynamics on the Relationship between Media Framing and the Perception of Obesity among 35-55 years University Female Academic Staff in Nairobi County, Kenya

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Abstract

Purpose: To establish the cause and effect of consequences frame on the perception of obesity among 35-55 years University female academic staff in Nairobi County, Kenya. To assess the moderating cause and effect of cultural dynamics on the relationship between media framing and the perception of obesity among 35-55 years University female academic staff in Nairobi County, Kenya.

Methodology: This study applied the one-group pretest-posttest experimental design. In the one-group pretest-posttest experimental design all study participants provided with the same treatment and assessment. The researcher therefore, collected data using the pre-and posttest questionnaires. The treatment applied is *Slimpossible* television program season *six* episode *one* was purposively selected out of seven seasons and ninety-eight episodes covered by the *Slimpossible* television program. The obese females were qualified through an interview process to participate in the *Slimpossible* challenge, a popular weight loss television program aired by Citizen Television Network. The cross-cultural communication theory was ideal for this study because it brought out the cultural dynamics part of the study that causes and affects perception about obesity. This theory links to this research study following Kashima (2016), where the author mentions cultural dynamics as the changes in society that inform how information is distributed across communities of the world through traditions, customs, family settings, and so forth. Although this study is a quasi-experimental research design, the researcher attempted to use randomization to improve the validity of the pretest and posttest experimental study design. Furthermore, out of the randomly selected sample, a purposeful sample was selected for assessment based on a specific interest

(Stratton, 2019). The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0. This study presented descriptive statistics using tables with frequencies and percentages. Secondly, the research conducted inferential statistics using several types of inferential analysis tools such as the Factor analysis (The Keiser-Meyer –Olkin (KMO) test), Pearson’s correlation coefficient, and regression analysis (logical regression).

Findings: The descriptive statistics reveal that Western culture played a major role in influencing how people perceive obesity in females, as opposed to the African cultural practices and beliefs, where body size diversity is celebrated. The respondents disagree with Western cultural influences about reducing obesity using slimming pills. The following were extracted from the factor analysis about cultural dynamics: African cultural practices, values and beliefs, and western cultural influences. Moreover, inferential statistics brought about the interactions between cultural dynamics and media sensationalism. The two are significant in influencing the perception of obesity at five percent.

Unique Contribution to Theory, Practice and Policy: In terms of contribution to theory, Hurn and Tomalin (2013) opine that some of the most strategic researchers in the field of cross-cultural communication include Edward Hall, Mildred Hall, and Geert Hofstede in the 1950s. Edward and Mildred Hall, American psychologists, analyzed the cultural differences between American and European companies and employees. They later published a book entitled “The Silent Language” in 1959, extending its scope to understanding cultural differences in 1990. More specifically, Hurn and Tomalin (2013) establish that the scholars examined the various communication styles and the effect of behavior on how people interact or work with people from different cultural backgrounds—their contribution aimed at establishing cross-cultural communication as a research discipline. Its contribution to practice, the conclusions help in recommending the creation of documentaries and features capturing the success stories of females who have overcome obesity. Local Kenyan television and radio stations can cover the documentaries and features to educate the masses on handling obesity as a disease.

Keywords: *Cultural Dynamics, Media Framing, Perception of Obesity, Obesity*

INTRODUCTION

According to World Health Organization (2018), the obesity prevalence rate globally has increased dramatically since 1975. Meanwhile, in America, the rate at which obesity has risen can be accounted for one-third of the larger population. Penkler, Felder, and Felt (2015) opine that media reporting of obesity is embraced in almost all media outlets. These studies mainly focus on media representations and, to some extent, on the perception of obesity. Similar studies have been done in America, France, and the United Kingdom. For instance, in America, Thompson (2015) note that media articles such as the New York Times Magazine attribute cultural frames as major contributors to the increase in obesity among African American Females. The media article shows that at least 66 percent of African American females were obese compared to 47 percent of White American females. The study was criticized because it enhanced stereotypes and promoted racial segregation between Black Americans and White Americans. Hence, a negative perception of obesity was created through media reports, which created racial discrimination in the nation. However, in a study conducted in 2014, Thompson (2015) find that racism greatly hindered the treatment of obesity in America because it marginalized a group of African American and excluded the White community, given that obesity was a global issue affecting all races. Further, the findings show that Black females could not afford to pay for exercise facilities or fresh foods; only fast-food restaurants were available for them. However, the study focused on females aged between 35 to 50 years and at risk of other lifestyle diseases (Vidar, Randi, Kristian, Aage & Stein, 2013). Similarly, several existing studies have indicated that middle age is a phase of life that can be challenging for females because they are transitioning to motherhood, some divorce, and teenagers moving out of the home, or going through menopause. We find that middle age was also termed the "midlife stage," where many are at risk of diseases such as obesity. The University's female academic staffs were around 35 to 55 years old (Lenneis & Pfister, 2017).

Problem Statement

Puraikalan (2018) opine that the perception of obesity might be influenced by how a person maintains an ideal body weight. For instance, in Western countries, a slim woman was directly perceived to be self-controlled, attractive, and youthful. In contrast, females of high social-economic status were less likely to be obese. Contrary to that, in Africa, the opposite was true; several studies, such as; Scott et al. (2013) and Louise (2016), concluded that obesity in the African setup was perceived differently, yet with a positive eye from the African perspective, where the obese female was perceived to be beautiful and sexually desirable. Likewise, Armentia and Marin (2015) establish that media has greatly contributed to the obesity epidemic, and it also has the potential to impact society and the government sector negatively or positively.

Until recently have the notion of culture received a grip from the public sector as one of the primary causes of obesity among individuals. Scott et al. (2013) establish that obesity in different cultures takes a derogatory outlook; for instance, in Central Africa, a woman is referred to as "*nzele ya*

vundese,” which means a woman with a lovely bottom or in Somali, “*hilib filican*,” meaning a woman with good flesh. In Kenya, for instance, a derogatory word like *mkonda* connotes that a man or woman is thin or malnourished. In addition, Ettarh, Vijver, Oti, and Kyobutungi (2013) concur with Scott et al. (2013) that families and communities strongly influence the perception of obesity and link obesity to wealth, health, and attractiveness in Africa, particularly Kenya. The risks of non-communicable diseases are not well known in Kenya due to the low levels of education and the lack of nutritional counseling at the community level. Ettarh et al. (2013) assert that cultural influence determines the perception of obesity. The Kenyan cultural dynamics consider obesity normal and desirable, but this cannot be backed up by science or medical facts.

Contrary to the argument, authors like Scott et al. (2013) believed that cultural dynamics could be responsible for the increase in obesity in Africa. For instance, South African media research reveal that black men preferred chubbier females because they believed that slim females were more often exposed to HIV/AIDS. The cause and effect would be an increase in obesity and an increase in HIV/AIDS, both deadly consequences. Therefore, this study sought to establish whether the cultural dynamics affect the perception of obesity among 35-55 years university female academic staff in Nairobi County.

Cross Cultural Communication Theory

Hurn and Tomalin (2013) opine that some of the most strategic researchers in the field of cross-cultural communication include Edward Hall, Mildred Hall, and Geert Hofstede in the 1950s. Edward and Mildred Hall, American psychologists, analyzed the cultural differences between American and European companies and employees. They later published a book entitled “The Silent Language” in 1959, extending its scope to understanding cultural differences in 1990. More specifically, Hurn and Tomalin (2013) establish that the scholars examined the various communication styles and the effect of behavior on how people interact or work with people from different cultural backgrounds—their contribution aimed at establishing cross-cultural communication as a research discipline. The researcher introduced two principles to cross-cultural communication; the first was related to communication, and the second was associated with time organization.

Moreover, Hurn and Tomalin (2013) discuss two major constructs, also known as communication styles, in the business world. The first was high-context communication, and the second was low-context communication. In high-context communication, it is assumed that all have the required information they need. In such cultures, relationships tend to last longer, while people assume that everyone has most of the essential information they need. For instance, obese females in Nairobi County could have the essential information that to prevent obesity, watch the foods you consume. However, Hurn and Tomalin (2013) establish that high-context communicators do not regard written information. They were rigid to change. They were comfortable in close and personal relationships. They learn from each other and criticize other

cultures.

Gregory Bateson first mentions the framing concept in 1972, but he sought them as psychological frames that allowed interactive messages. Framing analysis has been rooted in both psychology and sociology. However, references to framing theory were also discussed in linguistics, discourse analysis and political science. Furthermore, Kahneman and Tversky (1973) note that in psychology the origins of framing are traced back to experimental work by Kahneman and Tversky in 1973. They investigated how different presentations with similar decision-making scenarios affected people's evaluations of the options given to them and eventually affected their choices. According to Goffman (1974), from the sociological perspective, the framing foundation was laid by Erving Goffman in 1974. Goffman (1974) was the first to focus on framing in the communication sphere and expressed that people constantly struggle to understand the world they live in and interpret their individual life experiences.

Rodrigo (1999) asserted that the role of language in cross-communication played an important part in explaining the culture and its interpretation. Wittgenstein (1953) is one such scholar who had a separate viewpoint about cross-cultural communication by arguing that language is planned through rules that arise from cultural interactions. Because of his viewpoints, the structure provides meaning to gestures and oral communication. Though, Erickson (1989) believed that people interpret a specific piece of information based on the premise of experience in which their culture takes a critical position. The cross-cultural communication theory was ideal for this study because it brought out the cultural dynamics part of the study that causes and affects perception about obesity. This theory links to this research study following Kashima (2016), where the author mentions cultural dynamics as the changes in society that inform how information is distributed across communities of the world through traditions, customs, family settings, and so forth. The culture was why given behaviors were given diverse meanings based on the source of the culture of the individual translating the process.

Cultural Dynamics

According to Kashima (2016), cultural dynamics is characterized as the stability and the change in how cultural information is distributed in a human population. It is about customs, traditions, sexuality, and family patterns. Even though Penkler et al. (2015) argue that the Western culture from the Austrian media point of view is an alien that has invaded the Austrian culture. On the other hand, the British media reported that obesity is a sign of cultural degradation, which has amounted to Britain losing its former glory as a leading sports country.

Moreover, we find that in America, the situation is different because of racial segregation between African American citizens and the White community. Thompson (2015) points out that the challenge of obesity can be attributed to cultural practices and differences. However, the worst scenario is when obesity is tagged to a particular community just because they are African Americans, yet obesity is a global epidemic. Furthermore, a media article from the New York

Times Magazine framed culture as a major determinant of the causes of obesity in America. The article further reveals that obesity was affecting not only one culture but the entire race; for example, obesity was highest among African American females and Hispanic females compared to White females. However, Thompson (2015) note that if you dig deeper into these claims, you notice a significant belief pattern that can support the element of culture. For instance, African American women love their hair and would rather spend money on hairdos than physical fitness programs. Right there, we see cultural differences play a role in values; they value taking care of their hair compared to their physical bodies.

Three experiments were conducted to assess how cultural frames influence attitudes around health, particularly obesity, which is reflected as a public health predicament and is instilled with symbolic significance (Frederick et al., 2016). The study employed between-subjects and mixed-design experiments. Therefore, the three experiments engaged college students to participate in the study, with the total number distributed as follows: ninety-nine, one hundred and fourteen, and two hundred and ninety-three in each of the three experiments. The participants were supposed to read news articles that show obese body sizes. The content included the following: public health crisis, individual responsibility, health at all sizes, and fat rights content (Frederick et al., 2016).

The results of the three experiments reveal that those who read Health at all Sizes and Fat Rights news stories compared to those who read articles on Public Health Crises and Individual responsibility shows more trust in the health threats of being obese. The results also show they believed obese people must contribute more money for their insurance covers, and they agree that discrimination against obese persons was right. In addition, they were less willing to celebrate obese body sizes, and they were unwilling to say that females who were overweight and not obese were healthy. However, those who participated in experiment three thought that obesity was no longer a threat and obese persons should not be charged more for insurance. It was noted; only participants exposed to news articles on Fat Rights were against anti-fat campaigns and were more inclined to celebrate body size diversity (Frederick et al., 2016). The findings suggest that spreading information that people can be both obese and healthy do not do much to reduce the negative perception of obesity. Anti-fat rhetoric is assumed to be a health risk and an obstacle to decreasing obesity cases. However, fat rights perspectives can safeguard against the negative effects of the anti-fat stigma campaigns and foster a culture of good health that advocates for social justice and sympathy (Frederick et al., 2016).

Moreover, Scott et al. (2013) posit that different cultures define obesity differently. For instance, in the Westernized world, obesity is an epidemic, a serious disease; however, from the African perspective, obesity is a sign of wealth, contentment, and power. A good example is Central Africa; obesity is positive because an obese woman is celebrated as beautiful in body shape. Another example cited by Scott et al. (2013) relates to Somalia, where obese Somali females are acknowledged as females with good form and lovely flesh. The author also mentions that obese Kenyan females are depicted as admirable, while slender females are looked at as poor or lacking

resources.

The African 35-55years obese female is celebrated and perceived positively by society. Despite the different cultures represented across the African continent, culture is significant and plays a huge role in how obesity is viewed. In Nigeria's traditions, a young woman was taken to a place of fattening to prepare her for marriage. Unless the woman becomes obese, she is not to be married. When the obese woman was married off to her husband, the community perceived her husband as a man who cared for her and he was very wealthy and powerful in society.

In addition, Louise (2016) find that in South Africa, particularly the South African media has been framing obese females as sexually desirable and appealing compared to slender females. The media articles have attempted to explain the behavior of Black South African men who have been pursuing these females. Louise (2016) study sought to establish whether the Black men's intentions were genuine or misinformed on a certain issue. The author establishes that the intentions were based on perception because they viewed slender females to be carriers of the deadly disease HIV/AIDS. Therefore, they perceived obese women were safe from the virus and chose only to marry obese females, but one would not know if it was out of genuine love. However, the author's viewpoint was that it could all be a strategy and, if so, quite a primitive strategy, especially if the objective is to avoid HIV/AIDS.

Research Gaps

The research establishes that culture is important, particularly when the African media frames obesity. Culture can hinder tackling obesity in Africa, despite the consequences. For instance, Scott et al. (2013) presented a beautiful and desirable image of obese females from a Kenyan perspective making it difficult to treat obesity cases.

METHODOLOGY

Research Design

Consequently, this study applied the one-group pretest-posttest experimental design, which required all study participants to receive the same treatment and assessment (Allen, 2017). In this research experiment, the first step is to administer the pretest questionnaire to the participants to fill, then ensure that their responses are captured on the Google Excel sheet before sending the participants the treatment, which is a link to the *Slimpossible* YouTube video. Afterward, the researcher administers the post-test questionnaire for the respondents to fill in. *Slimpossible* is a television show designed to combat the issue of obesity among 35-55 years University female academic staff in Kenya. The shows ran for 15 weeks, attracting obese females from Nairobi and other environs. In the show, 21 ladies are evaluated on their consistency in losing weight, and the winner was revealed officially once the 15 weeks are completed. The host is the Royal Media Groups airing live on Kenya Citizen TV.

Table 1: One-Group Pretest-Posttest Experimental Design

Pretest	Independent Variable	Posttest
O1	Treatment (<i>Slimpossible</i> TV program)	O2

Source: Visual Illustration of the One-Group Pretest-Posttest Design (Allen, 2017).

Target Population

The target population comprised 1848 participants who were female academic staff in three public universities in Nairobi County, Kenya, as indicated in Table 3.2. This target population was derived from the Commission of University Education (2016), the University of Nairobi (2018), The Technical University of Kenya (2019), and Kenyatta University (2019).

The rationale for using female academic staff in public universities is informed by Nkwoka et al. (2014), where the authors establish that an increase in obesity correlates with an increase in education. The researchers' findings were based on a study at a public university called Usmanu Danfodiyo University in Nigeria. The study focused on both academic and non-academic staff. However, it reveals a higher prevalence of obesity among academic staff. In contrast, the non-academic staff had a lower prevalence rate of obesity because of their low-level education and low pay scale. On the other hand, Khan et al. (2013) expound that the reason why there is an increase in obesity among high-income female academic staff is contributed by the high intake of fatty content. Similarly, the Ministry of Health Report (2015) opine that the proportion of obesity cases in 35-55 years females increases with education and wealth.

Also, the rationale of Nairobi County is informed by the Ministry of Health (2015) research findings that reveal Nairobi as the leading county with the highest proportion of obese females at 48 percent compared to all other counties in Kenya. The Ministry of Health (2015) further establishes that obesity increases with age. It establishes that those between 35-55 years had the highest prevalence of obesity level compared to those below 30 years.

The rationale for choosing public universities over private universities is informed by existing statistical data for the number of female academic staff in public universities in the Kenya Bureau of Statistics (2014) report. In contrast, the report also mentions that no statistical data supported the number of female academic staff in private universities. The researcher opted to work with three public universities: the University of Nairobi, Technical University of Kenya, and Kenyatta University because of the existing data supporting the three public universities.

Furthermore, the Commission of University Education (2016) opine that chartered public universities, like the University of Nairobi, Technical University of Kenya, and Kenyatta University have the highest number of academic staff at 69 percent compared to chartered private universities at 19 percent. The rest of the 12 percent were obtained from constituent colleges. Moreover, the Commission of University Education (2016) report state that there is insufficient

evidence or even a lack of statistical data to support the number of female academic staff in private universities.

Sample and Sampling Technique

According to Babbie (2011) a sample was selected among the population that could be collected and studied. In this research study, the sample collected and studied comprised of 317 respondents. The sample size for this study was determined using Fisher et al (1998) formula (Israel, 1992). A 95% confidence level with $\pm 5\%$ margin of error (E) would be desired in this research study. The unadjusted sample size (n') required for $\pm 5\%$ using the conservative sample proportion (p) of $p = 0.5$ (or 50%) is:

$$n' = \left(\frac{Z}{E} \right)^2 p(q)$$

Where

n is the desired sample size

Z is the standard normal deviation at the required confidence interval.

E is margin of error.

p is the percentage of the target population with the desired characteristics.

$$q = 1 - p$$

Therefore, sample size for the respondents are:

$$n = \frac{1.962(0.5 \times 0.5)}{(0.05)^2}$$

$$= 384$$

Since the population was less than 10,000, the final sample estimated was calculated using the formula below:

$$nf = \frac{n}{1 + (n/N)}$$

Where: nf = The desired sample size (when the population is $< 10,000$)

n = Desired sample size when the population was more than $> 10,000$

N = Population with the desired characteristics

$$nf = \frac{384}{1 + (384/1848)}$$

=317

The sample size:

=317 Participants

Sampling Technique

Leavy (2017) defines *sampling* as the process requiring the researcher to select several elements from a large population. The study employed the stratified sampling design, a probability random sampling procedure, and then the study subjects were purposefully selected to form a sample group for the experiment. According to Etikan and Bala (2017), the probability random sampling procedure improves validity by ensuring representative sample selection. In addition, Adwok (2015) opine that probability sampling deals with the quantitative study that requires the researcher to select from a moderately great number of populations systematically to ensure adequate representation of the total population. According to Taherdoost (2016) a stratified sample ensures that a subgroup, also known as the strata of a given population, is adequately represented within the whole sample population of a study. The sub-group can be based on gender, age, educational level, and income level. For example, in this study, we divide a sample of university female academic staff into subgroups by age, like 35-39 years, 40-44years, 45-49 years, 50-55years and above. The second strata looked at the level of education, like a graduate assistant, Master's degree graduate, Ph.D. student, doctorate, associate professor, professor, and any other. The third strata looked at the income levels:

- a minimum income per month between 80,000-99,999 Kenya Shillings
- a median income per month between 100,000-199,999 Kenya Shillings
- a maximum income per month between 200,000-399,999 Kenya Shillings

According to Stratton (2019), several research methods must be applied to improve the validity of a pre-test and post-test experimental design, that is, the application of randomly selected groups of participants. Although this study is a quasi-experimental research design, the researcher attempted to use randomization to improve the validity of the pretest and posttest experimental study design. Furthermore, out of the randomly selected sample, a purposeful sample was selected for assessment based on a specific interest (Stratton, 2019).

Table 2: Proportionate Allocation of Participants

Public Universities in Nairobi County	Total population (Female Faculty)	To calculate the (%) Proportionate	Participant Proportionate
University of Nairobi	666	36 %	114
The Technical University of Kenya	222	12%	38
Kenyatta University	960	52 %	165
Total	1848	100%	317

Sample of *Slimpossible* Television Program

The *Slimpossible* television program season *six* episode *one* was purposively selected out of seven seasons and ninety-eight episodes covered by the *Slimpossible* television program. The obese females were qualified through an interview process to participate in the *Slimpossible* challenge, a popular weight loss television program aired by Citizen Television Network. The justification for choosing the season *six* episode *one* television program was based on assessing the media frames according to Entman (1993), where the scholar mentions the following: human interest, consequences, morality, and responsibility. Furthermore, in season *six*, episode *one*, variables like the perception of obesity and the cultural dynamics are also present.

Data Collection Procedure

The researcher used several steps to describe the procedure for experimenting in detail. They are as follows: In the first step, the researcher engaged an administrator working in the human resources administrations block of the three Kenyan Universities with a spacing of two separate days for each. The researcher presented the letter of approval to research provided by the Board of Postgraduate Studies at Jomo Kenya University of Agriculture and Technology, Juja Kenya. The administrators accepted and provided a copy of a list of academic staff working at the university.

The list contained the names of all academic staff, their contact details, their email details, and the schools and departments represented. The researcher recruited and trained two research assistants to assist in the entire process of selecting the participants and in experimenting. Therefore, the researcher and the assistants purposefully selected the name representing female academic staff for each university and then used the simple random number method to assign every individual a number.

Using a random number table, the researcher randomly picked a subset of the population. Then the researcher divided the responsibility by assigning each research assistant to one university at a time; for example, the first research assistant was assigned to handle the University of Nairobi, the second one was assigned to tackle the Technical University of Kenya in Nairobi, and the researcher handled Kenyatta University, Nairobi. The researcher provided airtime to each assistant to reach out to the respective university female academic staff through phone calls. In making the calls, we

would introduce ourselves to the participant, briefly explain the experiment's purpose, and spell out the study expectations for conducting it. The process went on for one week. The response to the calls, for instance, the participants expressed interest in experimenting; some recommended the research tools and the treatment to be sent to their email box, while others preferred it via *Whatsapp Messaging App*.

Each participant was contacted individually by phone, therefore eliminating subjects' interactions. The researcher and the assistants could delimit experimental mortality, especially when some participants were notified of their busy schedules, by sending the pretest first on their chosen platforms, either by email or through the *Whatsapp Messaging App* per their request. After completing the pretest, the *Slimpossible*, a 45-minute youtube video, was forwarded to their respective platforms. Follow-up calls were made to ascertain whether the participants watched and completed the video. Once a participant completed watching the video, then the post-test questionnaire was either emailed or sent to the messaging app. The researcher monitored progress through the automatic pretest responses that came in from the Google forms onto the Google sheet. A follow-up call was made to respondents who had not done the posttest to encourage them to fill it out. The procedure took one week.

Data Processing and Analysis

Data processing was done. It entailed the data cleaning process, where the researcher checked for errors in the filled data and checked for completeness of data. Data cleaning also requires screening and organizing of data before analyzing them. Hence, the researcher cleaned the data by checking the completeness of the data and whether all questions were answered. Somekh and Lewin (2005: p.215) state that “statistical methods consist of a wide range of tools and techniques that could be used to describe and interpret quantitative data. It meant they should be measured numerically.” This study analyzed the data obtained using the Statistical Package for Social Sciences (SPSS) version 23.0. Therefore, the researcher conducted several levels of analysis. Firstly, this study presented descriptive statistics using tables with frequencies and percentages. Secondly, the research conducted inferential statistics using several types of inferential analysis tools such as the Factor analysis (The Keiser-Meyer –Olkin (KMO) test), Pearson’s correlation coefficient, and regression analysis (logical regression). These tools were used to examine the cause and effect of the consequence frame on the perception of obesity among 35-55 years University female academic staff in Nairobi.

Table 3: Model of Specification

Objectives	Level of Measurement of Data	Statistical Tools
To assess the moderating cause and effect of cultural dynamics between media framing and the perception of obesity among 35-55 years University female academic staff in Nairobi County, Kenya.	Interval/Ratio	Regression Analysis, Pearson's correlation, KMO test

Regression Model

H₀₅: Cultural dynamics has no significant cause and effect on media framing and the perception of obesity among 35-55 years University female academic staff in Nairobi County, Kenya.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_{1z}X_1Z + \beta_{2z}X_2Z + \beta_{3z}X_3Z + \beta_{4z}X_4Z + z\epsilon$$

Whereby:

Y= Perception of obesity

β₀= Constant

β_i= Coefficient of X_i for i= 1,2,3, 4

x₁ = Human interest frame

x₂= Consequences frame

x₃= Morality Frame

x₄= Responsibility frame

z= Hypothesized moderator (Cultural dynamics)

β_z is the coefficient of x₁ and the cause and effect between cultural dynamics and each of the independent variables for i= 1, 2, 3, 4

ε = Error term

DATA ANALYSIS, RESULTS AND DISCUSSIONS

The results and findings of the study were based on the research objectives. The section links the various variables included in the model. It aims at assessing the moderating cause and effect of cultural dynamics between media framing and the perception of obesity among 35-55 years University female academic staff in Nairobi County, Kenya. This chapter presents the data analysis,

interpretation, and discussion. The analysis was done using SPSS software. Frequencies, graphs, and tables were used to display the results.

Response Rate

The researcher issued 317 questionnaires, of which 252 were received, translating to a response rate of 79.5%. Of the 252 questionnaires collected back from respondents, 30 were rejected because of incompleteness culminating in 222 usable questionnaires for analysis.

Descriptive Statistics of Cultural Dynamics

Descriptive statistics summarizes the observations made after data analysis.

Table 4: Average Scores on Cultural Dynamics

		Pre-test			Post-test		
		Agree	Neutral	Disagree	Agree	Neutral	Disagree
1	Western media reports obesity as a sign of cultural degradation.	157 70.7%	48 21.6%	17 7.7%	176 79.3%	12 5.4%	34 15.3%
2	Western culture advocates for the use of slimming pills to reduce obesity.	162 73%	60 27%	0 0.0%	176 79.3%	46 20.7%	0 0.0%
3	Western culture portrays obese female as unhealthy.	176 79.3%	46 20.7%	0 0.0%	188 84.7%	34 15.3%	0 0.0%
4	Western media paints obesity as an epidemic.	129 58.1%	79 35.6%	14 6.3%	147 66.2%	63 28.4%	12 5.4%
5	Western culture has a preference for slim female compared to obese female.	176 79.3%	46 20.7%	0 0.0%	188 84.7%	34 15.3%	0 0.0%
6	Western culture discourages obesity, preferring to eradicate it.	148 66.7%	61 27.5%	13 5.9%	171 77%	51 23%	0 0.0%
7	Western culture have come up with health interventions to reduce obesity from within their population.	117 52.7%	65 29.3%	40 18%	151 68.9%	46 20.7%	23 10.4%
8	African culture believes 35-55 years University female academic staff who are obese are attractive and desirable.	176 79.3%	18 8.1%	28 12.7%	152 68.5%	46 20.7%	24 10.8%
9	African culture glorifies obesity as a sign of wealth and good health.	164 73.9%	31 14%	27 12.2%	164 73.9%	46 20.7%	12 5.4%
10	African cultural practices adore obese female because their physical appearance depicts care by their husbands.	176 79.3%	32 14.4%	14 6.3%	152 68.5%	58 26.1%	12 5.4%
11	African culture celebrates body size diversity.	181 81.5%	40 18%	1 0.5%	186 83.8%	24 10.8%	12 5.4%
12	Cultural traditions & practices are an impediment to reducing obesity among 35-55 years University female academic staff.	109 49.1%	99 44.6%	14 6.3%	130 58.6%	80 36%	12 5.4%
13	African culture blames Western influences for the causes & consequences of obesity in female.	128 57.7%	77 34.7%	17 7.7%	135 60.8%	46 20.7%	41 18.5%
14	Past African cultural traditions offered best solutions for combating obesity as a disease by promoting traditional foods.	156 70.3%	66 29.7%	0 0.0%	166 74.8%	56 25.2%	0 0.0%
15	The present Western cultural practices offer the ideal solution for reducing obesity among female.	90 40.5%	81 36.5%	51 23%	64 28.8%	79 35.6%	79 35.6%

From the table above, we make the following observations: A high proportion of respondents agree with most of the statements on obesity based on cultural dynamics. The following statements registered the highest proportions in both pre and post-tests: *“African culture celebrates body size diversity,”* with **81.5%** and **83.8%** for the pre-test and post-test, respectively. *“Western culture portrays obese females as unhealthy,”* with **79.3%** and **84.7%** for pre-test and post-test, respectively. *“Western culture prefers slim females compared to obese females,”* with **79.3%** and **84.7%** for pre-test and post-test, respectively. Thompson (2015) studies support this finding because obesity cases were interlinked to cultural practices and differences; for instance, in the West, obesity was denoted as an epidemic affecting mostly African American and Hispanic communities than White Americans. Hence their perspective was that obese females are generally unhealthy.

A high proportion of respondents disagree with the following statements on obesity: *“The present Western cultural practices offer the ideal solution for reducing obesity among females,”* with **23%** and **35.6%** for pre-test and post-test, respectively. *“Western cultures have come up with health interventions to reduce obesity from within their population,”* with **18%** and **10.4%** for pre-test and post-test, respectively. *“African culture believes 35-55 years University female academic staff who are obese are attractive and desirable,”* with **12.7%** and **10.8%** for pre-test and post-test, respectively. *“African culture blames Western influences for the causes & consequences of obesity in females.”* with **7.7%** and **18.5%** for pre-test and post-test, respectively.

High proportions of respondents neither agree nor disagree with the following statements on obesity: *“Cultural traditions & practices impede reducing obesity among 35-55 years University female academic staff,”* with **44.6%** and **36%** for pre-test and post-test, respectively. *“The present Western cultural practices offer the ideal solution for reducing obesity among females,”* with **36.5%** and **35.6%** for pre-test and post-test, respectively. *“Western media paints obesity as an epidemic,”* with **35.6%** and **28.4%** for pre-test and post-test, respectively. This finding supports Thompson (2015) that Western media frames obesity as an epidemic to create an alarmist story around it. However, racial stereotype comes to play, where females in African American and Hispanic communities were among the most obese compared to White American females.

Analysis of Sample Paired Statistics

Table 5: Paired Sample Statistics and Corresponding T-Tests

		Pre-test		Post-test		T-test	
		Mean	SD	Mean	SD	t-stat.	p-value
1	Western media reports obesity as a sign of cultural degradation.	3.78	0.795	3.79	0.883	-0.148	0.883
2	Western culture advocates for the use of slimming pills to reduce obesity.	3.97	0.714	4.18	0.75	-3.9*	0
3	Western culture portrays obese female as unhealthy.	4.1	0.711	4.18	0.677	-1.551	0.122
4	Western media paints obesity as an epidemic.	3.73	0.87	3.82	0.822	-1.288	0.199
5	Western culture has a preference for slim female compared to obese female.	4.09	0.709	4.18	0.675	-1.765	0.079
6	Western culture discourages obesity, preferring to eradicate it.	3.82	0.822	3.97	0.659	-2.922*	0.004
7	Western culture have come up with health interventions to reduce obesity from within their population.	3.5	0.964	3.79	0.889	-4.566*	0
8	African culture believes 35-55 years University female academic staff who are obese are attractive and desirable.	3.92	1.092	3.81	0.914	1.422	0.157
9	African culture glorifies obesity as a sign of wealth and good health.	3.94	0.973	3.97	0.842	-0.405	0.686
10	African cultural practices adore obese female because their physical appearance depicts care by their husbands.	4.1	0.871	3.86	0.831	3.329*	0.001
11	African culture celebrates body size diversity.	4.18	0.731	4.02	0.749	2.636*	0.009
12	Cultural traditions & practices are an impediment to reducing obesity among 35-55 years University female academic staff.	3.49	0.71	3.59	0.679	-1.831	0.069
13	African culture blames Western influences for the causes & consequences of obesity in female.	3.66	0.835	3.63	1.011	0.411	0.681
14	Past African cultural traditions offered best solutions for combating obesity as a disease by promoting traditional foods.	4	0.77	4	0.715	-0.2	0.842
15	The present Western cultural practices offer the ideal solution for reducing obesity among female.	3.21	1.14	2.73	1.093	5.299*	0

From the table of mean and standard deviation, we make the following observations: Firstly, generally high means (above average) were registered by all the variables of cultural dynamics in both the pretest and post-test scores. Secondly, high means were registered across the groups in the following variables: “*Western culture advocates for the use of slimming pills to reduce obesity*”; **3.97** and **4.18** for the pretest and post-test, respectively. “*Western culture portrays obese female as unhealthy*”: **4.1** and **4.18** for the pretest and post-test, respectively. “*Western culture prefers slim female compared to obese female*”: **4.09** and **4.18** for the pretest and post-test, respectively. “*Past African cultural traditions offered best solutions for combating obesity as a disease by promoting traditional foods*”: **4.0** and **4.0** for the pretest and post-test, respectively. “*African culture celebrates body size diversity*”: **4.18** and **4.02** for the pretest and post-test, respectively. The findings on Western culture agree with Thompson (2015) studies that find the variation of the Western cultures relating it to the different races represented; for instance, in America, there are White Americans, Black Americans, Hispanics, and other migrants. These represent different cultures, and their different feelings towards obesity in females depend on their cultural orientations.

Thirdly, the variable below registers relatively low means across the groups: “*The present Western cultural practices offer the ideal solution for reducing obesity among females*”; **3.21** and **2.73** for pretest and post-test scores, respectively. The t-test results show that the pretest and post-test results were significantly different at a 5% level of significance in only the following variables: *Western culture advocates for the use of slimming pills to reduce obesity; Western culture discourages obesity, preferring to eradicate it; Western culture has come up with health interventions to reduce obesity from within their population; African cultural practices adore obese female because their physical appearance depicts care by their husbands; African culture celebrates body size diversity; The current Western cultural practices offer the ideal solution for reducing obesity among female.* Frederick et al. (2016) support the findings that things like slimming pills and other controversial methods of losing weight were greatly encouraged in Western media and its society. The products are sold over the counter, some without prescriptions, to aid in weight loss. On the other hand, Scott et al. (2013) support the findings on Africa’s perspective on obesity as a good cultural practice, depicting obese females as beautiful, wealthy, and well-cared for by their husbands.

Factor Analysis

The factor analysis was successful in extracting three independent components of cultural dynamics. The Kaiser-Meyer –Olkin (KMO) test of adequacy (KMO=0.600; Chi-square=8474.6, d.f =105, p=0.000) was significant, implying factor analysis using the principal component method was appropriate. The four components cumulatively explain 71.2 % of the total variability.

Table 6: Factor Analysis Results

	African cultural practices	Values & beliefs	Western cultural influences
Cultural traditions & practices are an impediment to reducing obesity among 35-55 years University female academic staff.	0.762*	0.078	0.3
Western culture portrays obese female as unhealthy.	0.754*	0.212	0.291
African culture glorifies obesity as a sign of wealth and good health.	0.723*	0.45	0.144
African cultural practices adore obese female because their physical appearance depicts care by their husbands.	0.65*	0.567	0.155
African culture blames Western influences for the causes & consequences of obesity in female.	0.623*	0.192	0.492
The present Western cultural practices offer the ideal solution for reducing obesity among female.	-0.558*	-0.335	0.425
Western culture advocates for the use of slimming pills to reduce obesity.	0.153	0.891*	0.245
African culture believes 35-55 years University female academic staff who are obese are attractive and desirable.	0.196	0.874*	0.238
Western culture has a preference for slim female compared to obese female.	0.264	0.842*	0.208
African culture celebrates body size diversity.	0.452	0.541*	0.184
Western media paints obesity as an epidemic.	-0.11	0.292	0.808*
Western media reports obesity as a sign of cultural degradation.	0.378	0.201	0.782*
Western culture discourages obesity, preferring to eradicate it.	0.436	0.051	0.759*
Western culture have come up with health interventions to reduce obesity from within their population.	0.371	0.313	0.755*
Past African cultural traditions offered best solutions for combating obesity as a disease by promoting traditional foods.	0.118	0.161	0.515*

Factor 1 described mostly the African cultural traditions and practices on obesity, such as the sign of wealth and good health, adoring obese females because their physical appearance depicts care by their husbands, and accusing Western influences of the causes & consequences of obesity in females. Therefore factor 1 can be referred to as “*African cultural practices.*” Factor 2 described mostly the values and beliefs of both African and Western cultures. For example, Western culture advocates slimming pills to reduce obesity and prefers slim females. Similarly, African culture celebrates body size diversity and believes obese females are attractive and desirable. Therefore factor 2 could be referred to as “*values and beliefs.*” Factor 3 mostly measured aspects of western

cultural influences on obesity. These include painting obesity as an epidemic, a sign of cultural degradation, discouraging it, and developing interventions to reduce it. Therefore factor 3 can be called “*Western cultural cause and effects.*”

Inferential Statistics for Consequences Frame

Correlation between Cultural dynamics and Perception of Obesity

Table 7: Correlations between Perception and Extracted Factors of Cultural Dynamics Frame

	Perception	African cultural practices	Values & beliefs	Western cultural influences
Perception	1			
African cultural practices	0.552**	1		
Values & beliefs	0.451**	.000	1	
Western cultural influences	0.064	.000	.000	1

****.** Correlation is significant at the 0.01 level (2-tailed).

Table shows that the selected variables of cultural dynamics were all significantly correlated with perception at 1% level of significance except the western cultural influences. However, these selected variables are uncorrelated among themselves.

Regression Analysis

Interaction of Human Interest & Cultural Dynamics

Fitting all extracted variables of cultural dynamics interacting with human interest and perception yields the following results.

Table 8: Parameter Estimates and their Standard Errors

Parameter	Estimate, β	std. error	Wald	df	sig.	exp(β)
Constant (least negative)	-3.968	.470	71.281	1	.000	.0189
Constant(moderate)	1.020	.274	13.919	1	.000	2.773
Media sensationalism *African cultural practices	2.102	.394	28.516*	1	.000	8.183
Media sensationalism * Values & beliefs	-2.711	.515	27.716*	1	.000	.0665
Media sensationalism * Western cultural influences	-3.980	.403	97.728*	1	.000	.0187
Media justification*African cultural practices	-1.055	.317	11.061*	1	.001	.348
Media justification * Values & beliefs	.545	.396	1.899	1	.168	1.725
Media justification * Western cultural influences	.863	.511	2.859	1	.091	2.370
Feelings of satisfaction*African cultural practices	-.698	.394	3.132	1	.077	.498
Feelings of satisfaction * Values & beliefs	-.251	.360	.486	1	.486	.778
Feelings of satisfaction * Western cultural influences	-4.322	.607	50.713*	1	.000	.0133
Feelings of dissatisfaction *African cultural practices	-.162	.733	.049	1	.825	.850
Feelings of dissatisfaction * Values & beliefs	-3.921	.517	57.531*	1	.000	.0198
Feelings of dissatisfaction * Western cultural influences	1.407	.362	15.082*	1	.000	4.084

Link function: Logit.

The first interaction was between media sensationalism, the first factor of the human-interest frame, and cultural dynamics. The interaction between media sensationalism with all aspects of cultural dynamics significantly influenced the perception of obesity among 35-55 years university female academic staff at a 5% significance level. The second interaction was between media justification, the second factor of the human-interest Frame and cultural dynamics. The interaction between media justification with African cultural practices was significant in influencing the perception of obesity among 35-55 years university female academic staff at a 5% level of significance. However, the interaction between media justification with either values and beliefs or western cultural cause and effects was insignificant at a 5% significance level.

The third interaction was between feelings of satisfaction and cultural dynamics. The interaction between feelings of satisfaction with western cultural influences was significant in causing and affecting the perception of obesity among 35-55 years university female academic staff at a 5% significance level. However, the interaction between feelings of satisfaction with any other form of cultural dynamics was not significant. The fourth interaction was between feelings of dissatisfaction and cultural dynamics. The interaction between feelings of dissatisfaction with either values and beliefs or western cultural influences was significant in influencing the perception of obesity among 35-55 years university female academic staff at a 5% level of significance. However, the interaction between feelings of dissatisfaction with African cultural practices was not significant.

Interaction of Consequence Frame and Cultural Dynamics

Table 9: Parameter Estimates and their Standard Errors

Parameter	Estimate, β	std. error	Wald	df	sig.	exp(β)
Constant (least negative)	-3.606	.415	75.659	1	.000	.027
Constant(moderate)	1.631	.235	48.116	1	.000	5.109
Psychological consequence* African cultural practices	-3.173	.578	30.095*	1	.000	.042
Psychological consequence* Values & beliefs	1.608	.712	5.102*	1	.024	4.993
Psychological consequence* Western cultural influences	-.394	.287	1.883	1	.170	.674
Social consequence* African cultural practices	4.345	.528	67.815*	1	.000	77.09
Social consequence *Values & beliefs	5.998	1.099	29.807*	1	.000	402.6
Social consequence* Western cultural influences	-.314	.220	2.031	1	.154	.731
Economic consequence *African cultural practices	.211	.535	.156	1	.693	1.235
Economic consequence * Values & beliefs	-3.261	.600	29.500*	1	.000	.038
Economic consequence * Western cultural influences	-4.158	.466	79.738*	1	.000	.016
Physical consequence *African cultural practices	2.250	.327	47.251*	1	.000	9.49
Physical consequence * Values & beliefs	-4.067	.829	24.084*	1	.000	.017
Physical consequence * Western cultural influences	-1.960	.299	43.083*	1	.000	.141

Link function: Logit.

The table shows that the interaction of a fairly large number of components of consequence frame and cultural dynamics significantly causes and affects the perception of obesity among middle-aged obese females at a 5% level of significance except for the following interactions: psychological consequence and cultural dynamics; social consequence and cultural dynamics; and economic consequence and cultural dynamics.

The interaction of psychological consequences with either African cultural practices or values/beliefs significantly caused and affected the perception of obesity among 35-55 years university female academic staff at a 5% significance level. It was the test for the hypothesis. The null hypothesis is rejected because there was a significant correlation between psychological consequences with either African cultural practices or values/beliefs and the perception of obesity among 35-55 years University female academic staff in Nairobi County. However, the interaction between psychological consequences and western cultural influences was insignificant at a 5% significance level. It was the test for the hypothesis, which means that the null hypothesis is accepted because there was no significant correlation between the psychological consequences of

western cultural influences and the perception of obesity among 35-55 years University female academic staff in Nairobi County.

The interaction of social consequence with either African cultural practices or values and beliefs significantly caused and affected the perception of obesity among middle-aged obese females at a 5% significance level. It was the test for the hypothesis. The null hypothesis is rejected because there was a significant correlation between social consequences with either African cultural practices or values/beliefs and the perception of obesity among 35-55 years female university academic staff in Nairobi County. However, the interaction between social consequences and western cultural influences did not significantly cause and affect the perception of obesity among 35-55 years university female academic staff at a 5% significance level. It was the test for the hypothesis. The null hypothesis was accepted because there was no significant correlation between social consequence with either African cultural practices or values/beliefs and the perception of obesity among 35-55 years University female academic staff in Nairobi County.

The interaction of economic consequences with either western cultural influences or values and beliefs significantly caused and affected the perception of obesity among university female academic staff at a 5% significance level. However, the interaction between economic consequences and African cultural practices was insignificant at a 5% significance level. The interaction of physical consequences with any form of cultural dynamics was significant in influencing the perception of obesity among university female academic staff at a 5% level of significance.

Interaction between Morality Frame and Cultural Dynamics

Fitting all extracted variables of cultural dynamics interacting with human interest and perception yields the following results.

Table 10: Parameter Estimates and their Standard Errors

Parameter	Estimate, β	std. error	Wald	df	sig.	exp(β)
Constant (least negative)	-.260	.114	5.174	1	.023	.771
Constant(moderate)	1.660	.145	131.865	1	.000	5.26
Personal moral opinion* African cultural practices	-.328	.091	13.076*	1	.000	.720
Personal moral opinion *values & beliefs	.689	.115	36.166*	1	.000	1.992
Personal moral opinion * Western cultural influences	-.666	.107	38.664*	1	.000	.514
Morality & western media * African cultural practices	-.168	.095	3.098	1	.078	.845
Morality & western media * values & beliefs	.707	.096	53.859*	1	.000	2.03
Morality & western media * Western cultural influences	-.582	.113	26.536*	1	.000	.559
Morality & African media * African cultural practices	-.840	.120	48.921*	1	.000	.432
Morality & African media * values & beliefs	.465	.113	16.998*	1	.000	1.59
Morality & African media * Western cultural influences	-.354	.083	18.008*	1	.000	.702

Link function: Logit.

Firstly, the interaction between personal moral opinion and all forms of cultural dynamics significantly caused and affected the perception of obesity among middle-aged obese females at a 5% significance level. It was the test for the hypothesis. It means that the null hypothesis was rejected because there was a significant correlation between personal moral opinion and all forms of cultural dynamics and the perception of obesity among 35-55 years University female academic staff in Nairobi County. Secondly, the interaction of morality & western media with either western cultural influences or values and beliefs significantly causes and affects the perception of obesity among 35-55 years university female academic staff at a 5% significance level. It was the test for the hypothesis, which means that the null hypothesis was rejected because there was a significant correlation between morality & western media with either western cultural influences or values and beliefs and the perception of obesity among 35-55 years University female academic staff in Nairobi County.

However, the interaction between morality & western media and African cultural practices was insignificant at a 5% significance level. It was the test for the hypothesis, which means that the null hypothesis was accepted because there was no significant correlation between morality & western media with either western cultural influences or values and beliefs and the perception of obesity among 35-55 years University female academic staff in Nairobi County. Thirdly, all the interactions between morality & African media with all forms of cultural dynamics significantly cause and affect the perception of obesity among 35-55 years university female academic staff at a 5% significance level. It was the test for the hypothesis. It means that the null hypothesis was rejected because there was a significant correlation between morality & African media with all forms of cultural dynamics and the perception of obesity among 35-55 years University female academic staff in Nairobi County.

Interaction of Responsibility Frame and Cultural Dynamics

Table 11: Parameter Estimates and their Standard Errors

Parameter	Estimate, β	std. error	Wald	df	sig.	exp(β)
Constant (least negative)	-3.167	.413	58.779	1	.000	.042
Constant(moderate)	1.816	.220	67.948	1	.000	6.15
Government responsibility* African cultural practices	1.646	.205	64.684*	1	.000	5.19
Government responsibility *values & beliefs	-.313	.280	1.244	1	.265	.731
Government responsibility * Western cultural influences	3.054	.350	76.103*	1	.000	21.20
Individual responsibility* African cultural practices	-.090	.401	.051	1	.822	.914
Individual responsibility * values & beliefs	-3.679	.362	103.398*	1	.000	.025
Individual responsibility *Western cultural influences	-4.988	.501	99.058*	1	.000	.0068
Social responsibility* African cultural practices	2.716	.289	88.400*	1	.000	15.12
Social responsibility * values & beliefs	-4.069	.383	112.862*	1	.000	.017
Social responsibility * Western cultural influences	-2.716	.323	70.629*	1	.000	.066

Link function: Logit.

Firstly, the interaction of government responsibility with either western cultural influences or African cultural practices caused and affected the perception of obesity among middle-aged obese females significantly at a 5% significance level. It was the test for the hypothesis. The null hypothesis was rejected because there was a significant correlation between government responsibility with either western cultural influences or African cultural practices and the perception of obesity among 35-55 years University female academic staff in Nairobi County. However, the interaction between government responsibility & values, and beliefs was insignificant at a 5% significance level. It was the test for the hypothesis. The null hypothesis was accepted because there was no significant correlation between government responsibility with either western cultural influences or African cultural practices and the perception of obesity among 35-55 years University female academic staff in Nairobi County.

Secondly, the interactions of individual responsibility with either values & beliefs or western influences significantly cause and affect the perception of obesity among 35-55 years university female academic staff at a 5% significance level. However, the interaction between individual responsibility and African cultural practices was insignificant at a 5% significance level. Thirdly, the interaction of social responsibility with all the aspects of cultural dynamics significantly causes and affects the perception of obesity among 35-55 years university female academic staff at a 5% significance level.

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