International Journal of
Communication and Public Relations
(IJCPR)

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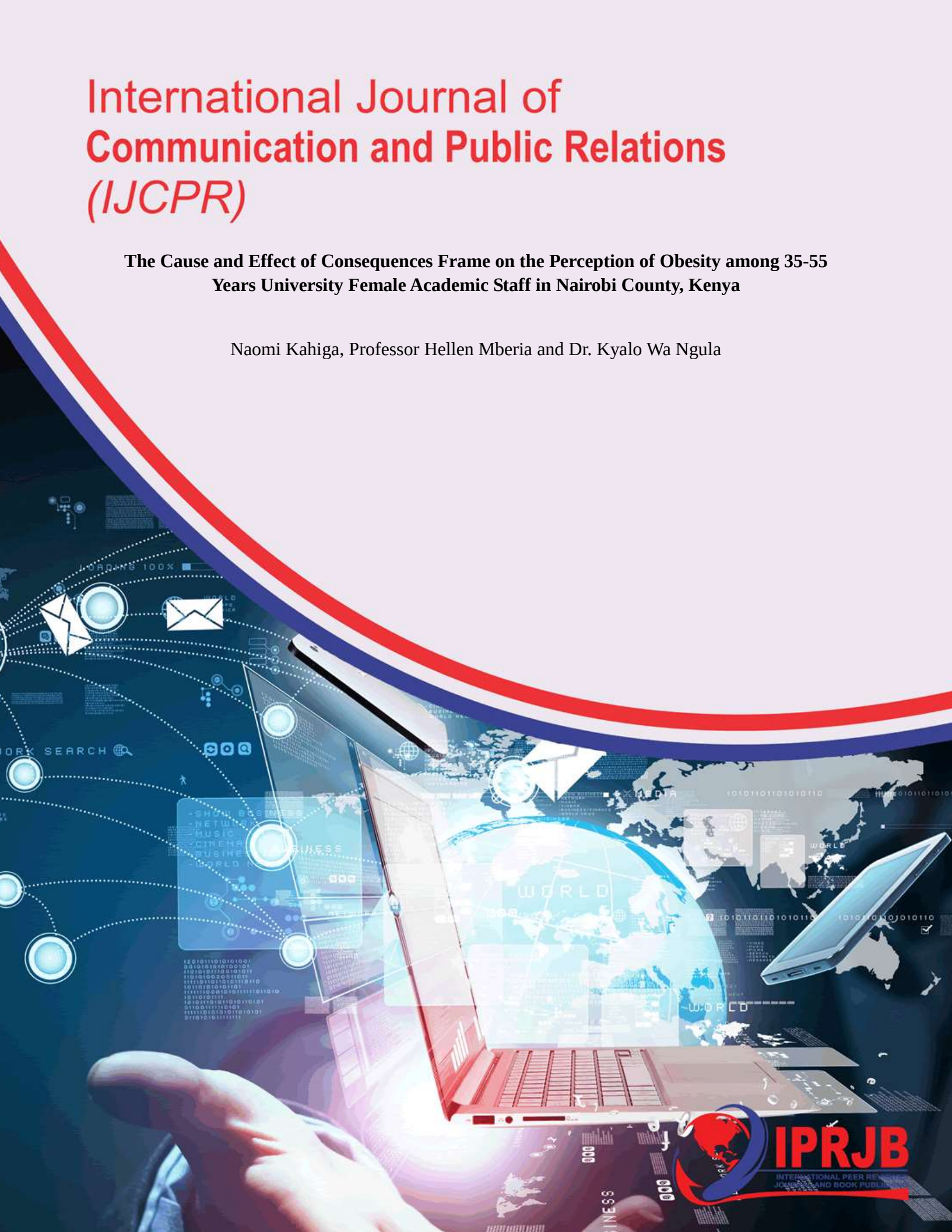

International Journal of Communication and Public Relation
ISSN 2520-7989 (Online)
Vol.5, Issue 1, No. 1, pp 1 - 24, 2020

www.iprjb.org

The Cause and Effect of Consequences Frame on 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.

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 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. 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 shows that physical consequences, like obesity-related diseases, and psychological and social consequences significantly cause and affect the perception of obesity, except for economic consequences, where there was no relationship. Secondly, with increased social and physical consequences, the respondents were likelier to have a lower negative perception towards obese 35-55 years University female academic staff of Nairobi County than higher levels of negative perception. Therefore, the results show a statistically significant relationship between the three factors of the consequences frame, except economic consequences.

Unique Contribution to Theory, Practice and Policy: In terms of contribution to theory, this study emanated from the media framing theory, where it provided consequences frame as one among five frames, mentioned by an American political scientist known as Robert Entman in 1993. Its contribution to practice, the conclusions help in recommending that bodies like the Media Council of Kenya and Kenya Union of Journalists, in conjunction with Nutritional and Dietary Consultant, should create media programmes that talk about the consequences of obesity on society and how to help 35-55 years University female academic staff suffering from obesity. They could work with UNESCO and the Ministry of Health to develop well-written communication strategies to curb obesity and advocate for better nutritional practices. The study recommends that international bodies such as the World Health Organization and the Ministry of Health –in Human Nutrition and Dietetics Unit be actively involved in developing relevant nutrition policies that address obesity cases affecting individuals.

Keywords: *Consequences Frame, Perception of Obesity, Obesity, Media Framing Theory*

INTRODUCTION

Obesity is a global health problem that often affects both men and female. However, Amugsi, Dimbuene, Mberu, Muthuri, and Ezeh (2017) note that obesity is mostly among females compared to men in urban populations. 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. Moreover, McGlynn and McGlone (2018) state that in the United States, obesity is currently affecting about 35 percent of men and 40 percent of female consecutively. The perception is that females are at high risk compared to men, whereas in America alone, more females than men are obese. Despite these statistics, further developments have emerged that men in the United Kingdom are at a higher risk of getting obese than females. However, through the statistics of 2016, it was perceived that in the United Kingdom, obesity levels among female was slightly above 26.6 percent compared to 25.7 percent of men who were obese. Nevertheless, Baker (2018) argue that since 2016 to date, obesity levels in the United Kingdom have somewhat stabilized.

35-55 years University male academic staff and females between 40 to 69 years are at risk of death. The perception was that the main cause of death was connected to obesity and smoking. However, the study focused on those 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

According to McGlynn and McGlone (2018) obesity is a serious disease that results to about three million deaths being reported each year, where the number of death has doubled in the last forty years in Western Countries. In Kenya, the Ministry of Health (2014) reported that more women than men are obese. The highest prevalence of obesity was in Nairobi County and it mostly affects women between 35 to 50 years. Furthermore, Lenneis and Pfister (2017) research studies showed that middle-age is a stage, where women are at risk of obesity problems and other related diseases such as cancer, and Type2 diabetes.

Moreover, Penkler et al. (2015) stated that since interception, existing studies have largely investigated on media representations of health issues. However, the authors' state that little focus has been given to issues of perception relating to health and media. Yoo and Junghyun (2012) posited that in media research, framing is useful in explaining people's attitudes and perceptions about obesity. Hence, in this study, the consequences frame was applied to explain the perception of obesity among middle-aged women in Nairobi County.

However, the consequences frame brings about the catastrophic effect of obesity as one that can have a negative effect on the economic, social, and physical environment. For instance, the report presented by the Ministry of Health in Kenya (2015) established that obesity results to other obesity-related diseases such as Type2 diabetes, cancer, and many other diseases. This could be translated to mean that increase in obesity would have a ripple effect on the economy of Kenya, where sick, working, middle-aged Kenyan women would be unproductive at work. Eventually, the cost of treating obesity could be high, thus making it difficult for Kenya as a Country to treat the disease, resulting to more deaths being reported each year. Despite of this, Kyoung and Gower (2009) argued that the manner in which media frames obesity, the causes and consequences of it should be reported based on the actual facts to produce positive behavioral change among middle-aged obese women but so Therefore, this study sought to establish the influence of consequences frame on the perception of obesity among middle-aged women in Nairobi, Kenya.

Among seventeen counties in Africa, Kenya has emerged as the country with the highest prevalence of obesity cases. According to Amugsi et al. (2017), obesity as an epidemic is doubling significantly in the African continents, for example, in Kenya, Rwanda, Niger, Ivory Coast, Benin, and Uganda. Obesity is gradually increasing among Kenyans, with approximately 25 percent obese. The highest level was obtained from females who are between 35 years and 50 years, where a majority reside in urban areas (Ministry of Health, 2013). Reports show that in 2015 at least 14 percent of females compared to 4.3 percent of men were obese; a further 17.5 percent of men and 38.4 percent of females were also overweight. Urbanization was a major contributor to the increase of the disease at a rate of 1.6 times more than the rural population (The Ministry of Health & World Health Organization, 2014). Despite that, the Kenya Demographic and Health Survey (2014) and the Kenya STEPS Non-communicable Disease Risk Factors Survey (2015) show that Nairobi had the highest prevalence of obesity above 50 percent, followed by Central, then Coast, Eastern, and Nyanza regions ranging between 30 and 40 percent. Nevertheless, regions like Rift valley, Western, and specifically North-eastern had less than 30 percent prevalence.

Media Framing Theory

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 n and interpret their individual life experiences.

On the other hand, Abreu (2015) note that one of the most significant contributors to research in framing theory was an American political scientist known as Robert Entman in 1993. Entman defines media framing as selecting a few aspects distinguished from reality to make them more noticeable in a media text. Furthermore, Abreu (2015) state that Entman warned that without a unifying theory of framing, one could not explain how frames are developed, how they manifest in writing and how they influence the public's mind. This ideology brought about a different approach to identifying frames, for instance, media frames, audience frames and sociocultural frames, including measuring the cause and effect it has on audiences.

Entman (1991) establish five prevalent ways of framing news stories and highlights the following media frames; conflict frames, human interest frames, consequence frames, morality frames and responsibility frames. In addition, Semetko and Valkenburg (2000) concur with Entman (1991) description of the five frames: attribution of responsibility, human interest, conflict, morality and economic consequences. Entman's (1991) viewpoint about the conflict frame was to consider prioritising people engaged in a conflict to resolve it quickly because the conflict captures the audience's attention.

In addition, Semetko and Valkenburg (2000) define the human-interest frame as the efforts to personalize and dramatize news stories to draw and retain the audience's attention. On the other hand, the consequence frame is essential because it helps the journalist put a value tag on what becomes a news story. Also, in the consequences, the media producers strive to make the issue relevant to the audience. Conversely, Entman (1991) state that in the morality frame, media could attempt to give the moral implication of an issue or even politicize the issue; for instance, some policies can take a moral tone while using the responsibility frame, the media seeks for who to blame for the obesity issue. The media seeks to attribute responsibility for a cause or a solution to the problem

Consequences Frame

Brun et al. (2015) examined how research studies have shed light on the consequences of obesity. These research studies indicated that there are two categories of consequences as follows: physical and psychological consequences; economic and social consequences. Some of the physical consequences of obesity, as mentioned by Armentia and Marin (2018), include heart disease, diabetes, hypertension, and some forms of cancer, such as colon cancer, throat cancer, pancreas cancer, and much more. In this context, Brun et al. (2015) establish that the media highlights the mentioned consequences several times, and most are related to physical diseases connected to obesity. The referenced media reports have associated obesity with dementia, using the dramatic and controversial language every so often, deliberating the fear and alarm connected to such illnesses.

It indicates the media's selective reporting of sensational and alarming research. It is consistent

with recent research highlighting the emotive discourse of blame around weight and obesity in the media. Moreover, according to Brun et al. (2015), at least fifty (50) percent of media content references some of the following diseases; type 2 diabetes, heart disease, high cholesterol, high blood pressure, and cancer levels. Amugsi et al. (2017) concur with Armentia and Marin (2018) recent reports that link obesity to thirteen different cancers, such as kidney, colon, breast, and gallbladder cancers.

Furthermore, these studies draw an alarming conclusion that obesity is a risk factor for spreading other diseases rapidly annually. Sadly, it appears those affected by obesity are not aware of the problem in the first place; hence does not know how to seek treatment. Armentia and Marin (2018) provide real cases by stating that eighty (80) percent of existing media frames from El Correo dailies indicate diabetes affected the majority of people who were obese. The dailies further point out that those obese individuals above fifty (50) years were more likely to suffer from Alzheimer's illness. In addition, the authors state that obesity causes are more inclined to physical and physiological consequences (World Health Organization, 2015; Amugsi et al., 2017; Armentia & Marin, 2018).

Furthermore, Brun et al. (2015) mention some of the psychological consequences of obesity framed in the media as depression and low self-esteem. These psychological consequences have undoubtedly gotten more media coverage compared to the psychological causes of obesity. For instance, we find that the media would practically create fear that obesity is high among children as young as two (2) years old, which causes depression leading to death or cause diseases. In addition, Brun et al. (2015) concur that various media articles insinuate that, for instance, the government of Ireland had failed to fund and manage the obesity epidemic because of a lack of obesity clinics for offering treatment of the disease. Luo et al. (2018) concur with Brun et al. (2015) in that one of the psychological consequences of obesity is depression. Depression as a condition was linked to the problem of moving about with excessive weight and the negative perception that obese people experience. The authors establish that the psychological consequences of obesity were usually mentioned in media articles. It has been related to the cause of dementia disease, characterized by progressive memory loss and learning disabilities. The media articles also cited that obesity was the cause of disorders such as anxiety attacks and depression, which are consequences of negative perceptions associated with obesity.

Furthermore, the media blamed the dreadful effect of obesity on self-esteem. A patient suffering from obesity tends to have a lower image of him/herself. According to Brun et al. (2015), even though the media admitted the detrimental effects of this stigma and bordered on the magnitude of the stigmatization affecting obese people, reporting more about it tends to propagate this negative perception through applying imagery that propels antipathy, enabling the environment for negative stereotyping of suffering individuals.

The third consequence frame of obesity is the economic consequences and causes. El Pais,

publication of January 4th, 2015, shows that the economic consequences of obesity appeared dominant in the news articles and made up fifty percent of the coverage in the press. The El Pais mentions that the cost of obesity was immensely high and managing it would require financial investment from the person affected and public health institutions (Armentia & Marin, 2018). In addition, media reports point out that Ireland's public health services were poorly equipped to manage the healthcare pressure of obesity. Over a few media reports indicated that the government has failed to fund health care to cope with the epidemic. On the same note, the economic costs of obesity were discussed amid the highest commonly quoted environmental consequences.

In general, the news reports debated the business opportunities and risks that come with obesity causes and the economic weight of the condition and its treatment to the taxpayer. Although, one such media article highlights that the condition would cost taxpayers billions of Euros yearly (Brun et al., 2015). Also, no obesity clinics and facilities exist in Ireland to tackle the pressure for obesity treatment services. It is not because the country has no money; the reason is the lack of seriousness in managing the obesity epidemic. However, from a positive perspective, the media article cited that pharmaceutical manufacturers were the most to gain from this problem of obesity because they introduce drugs that could suppress their appetites, attempt to lower the cholesterol level of patients, and so forth (Brun et al., 2015).

Fourthly, we have the social consequences of obesity that are related to society and workplace environments (Brun et al., 2015). However, negative consequences for trade industries commonly affecting the employees, and there was an insistent depiction in the media of an obese staff member who was referred to as a liability to the company. This negative stereotype is a result of obesity-related diseases that cause them to miss work often and exert low energy at work, and obese employees are more likely to destroy the company's businesses (Brun et al., 2015).

Research Gaps

However, authors Couch et al. (2016), Armentia and Marin (2018), and Islam and Fitzgerald (2016) all agree that the consequence frame has been exhausted in mass media research. Thirdly, According to the Ministry of Health (2013), In Kenya, the researcher has observed numerous studies concentrating on the statistical representations and prevalence of obesity. However, the statistics that relate to media framing and obesity among 35-55 years University female academic staff in Kenya are fewer.

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 (*Slimpossible* 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:

$$n = \frac{1.962(0.5x0.5)}{(0.05)^2}$$

= 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 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.	Interval/Ratio	Regression Analysis, Pearson's correlation, KMO test

Regression Model

Ho_2: Consequences frame has no significant cause and effect on the perception of obesity among 35-55 years University female academic staff in Nairobi County, Kenya.

$$\mathbf{Y = ß_0 + ß_2 x_2 + è}$$

Whereby;

Y= perception of obesity

$\mathbf{ß_0}$= Constant

$\mathbf{ß_2}$=Coefficients of determination

$\mathbf{x_2}$= Consequences frame

è= 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 establishing the cause and effect of media framing on 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

Descriptive statistics summarizes the observations made after data analysis.

Table 4: Average Scores for Consequence Frame

		Pre-test			Post-test		
		Agree	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**
1	Physical fatigue is a physical consequence of obesity affecting 35-55 years University female academic staff.	146 65.8%	59 26.6%	17 7.7%	152 64%	70 31.5%	0 0.0%
2	Feelings of isolation are a physical consequence of obesity affecting 35-55 years University female academic staff.	158 71.2%	48 21.6%	16 7.2%	147 66.2%	46 20.7%	29 13.1%
3	Shortness of breath is a physical consequence of obesity affecting 35-55 years University female academic staff.	147 66.2%	48 21.6%	27 12.2%	164 73.9%	46 20.7%	12 5.4%
4	Obesity-related diseases, e.g diabetes, cancer are some of the physical consequence of obesity affecting 35-55 years University female academic staff	178 80.2%	44 19.8%	0 0.0%	164 73.9%	58 26.1%	0 0.0%
5	Overindulgence in food and alcohol is a physical consequence of obesity affecting 35-55 years University female academic staff.	65 29.3%	21 9.5%	136 61.2%	69 31.1%	68 30.6%	85 38.3%
6	Depression is a psychological consequence of obesity affecting 35-55 years University female academic staff.	142 64%	50 22.5%	30 13.5%	159 71.6%	63 28.4%	0 0.0%
7	Low self-esteem is a psychological consequence of obesity affecting 35-55 years University female academic staff.	144 64.9%	48 21.6%	30 13.5%	176 79.3%	46 20.7%	0 0.0%
8	Body dissatisfaction is a psychological consequence of obesity affecting 35-55 years University female academic staff.	132 59.5%	45 20.3%	45 20.3%	176 79.3%	24 10.8%	22 9.9%
9	Unhealthy dieting/Restrictive dieting is a psychological consequence of obesity affecting 35-55 years University female academic staff.	131 59%	78 35.1%	13 5.9%	164 73.9%	58 26.1%	0 0.0%

		Agree	Neutral	Disagree	Agree	Neutral	Disagree
10	Anxiety is a psychological consequence of obesity affecting 35-55 years University female academic staff.	117 52.7%	92 41.4%	13 5.9%	159 71.6%	63 28.4%	0 0.0%
11	High treatment financial costs for obesity related ailments, like diabetes, cancer are economic consequences of obesity affecting 35-55 years University female academic staff.	141 63.5%	67 30.2%	14 6.3%	147 66.2%	63 28.4%	12 5.4%
12	Loss of job and/or income is an economic consequence of obesity affecting 35-55 years University female academic staff.	115 51.8%	64 28.8%	43 19.4%	147 66.2%	75 33.8%	0 0.0%
13	Indirect costs, like spending more on expensive custom-made clothes are economic consequences of obesity affecting 35-55 years University female academic staff.	134 60.4%	61 27.5%	27 12.2%	152 68.5%	58 26.1%	12 5.4%
14	Ill-treatment at work/in social settings is a social consequence of obesity affecting 35-55 years University female academic staff.	112 50.5%	84 37.8%	26 11.7%	155 69.8%	67 30.2%	0 0.0%
15	Open public ridicule is a social consequence of obesity affecting 35-55 years University female academic staff.	161 72.5%	48 21.6%	13 5.9%	176 79.3%	46 20.7%	0 0.0%
16	Sexual bullying is a social consequence of obesity affecting 35-55 years University female academic staff.	145 65.3%	50 22.5%	27 12.2%	147 66.2%	63 28.4%	12 5.4%
17	Lower quality of life is a social consequence of obesity affecting 35-55 years University female academic staff.	96 43.2%	70 31.5%	56 25.2%	114 51.4%	96 43.2%	12 5.4%
18	Social exclusion from participating in certain events is a social consequence of obesity affecting 35-55 years university female academic staff.	131 59%	58 26.1%	33 14.9%	171 77%	29 13.1%	22 9.9%

From the table above, we make the following observations: Generally, a high proportion of respondents agree with most of the statements about obesity based on the consequence frame. However, the following statements on obesity rated highly: "*Feelings of isolation are a physical consequence of obesity affecting 35-55 years University female academic staff*"

with **71.2%** and **66.2%** for pre-test and post-test respectively. *"Obesity-related diseases, for instance, diabetes, cancer are some of the physical consequences of obesity affecting 35-55 years University female academic staff*," with **80.2%** and 73.**9%** for pre-test and post-test respectively. The findings are supported by Armentia and Marin (2018). Some of the physical consequences mention include; heart disease, diabetes, hypertension, and some forms of cancer such as colon, throat, pancreas, and much more. *"Open public ridicule is a social consequence of obesity affecting 35-55 years University female academic staff."* with **72.5%** and **79.3%** for pre-test and post-test, respectively. Brun et al. (2015) agree with this finding because there exist several consequences of obesity. The consequences include physical, psychological, economic, and social consequences.

A high proportion of respondents disagree with the following statements on obesity: "Overindulgence in food and alcohol is a physical consequence of obesity affecting 35-55 years University female academic staff," with **61.2%** and **38.3%** for pre-test and post-test, respectively. "Body dissatisfaction is a psychological consequence of obesity affecting 35-55 years University female academic staff." with **20.3%** and **9.9%** for pre-test and post-test, respectively. These results compare to Brun et al. (2015) mention some of the psychological consequences of obesity framed in the media as depression and low self-esteem. These psychological consequences have undoubtedly gotten more media coverage compared to the psychological causes of obesity. "Lower quality of life is a social consequence of obesity affecting 35-55 years University female academic staff." with **25.2%** and **5.4%** for pre-test and post-test, respectively. Similarly, Brun et al. (2015) support the findings on the psychological consequences of obesity. Media mention these to include depression or low self-esteem. Depression was linked to the problem of moving about with excessive weight and the negative perception that obese people experience. The authors establish that the psychological consequences of obesity were usually mentioned in media articles. It has been related to the cause of dementia disease, characterized by progressive memory loss and learning disabilities.

A high proportion of respondents neither agree nor disagree with the following statements on obesity: "Unhealthy dieting/Restrictive dieting is a psychological consequence of obesity affecting 35-55 years University female academic staff." **35.1%** and **26.1%** for pre-test and post-test, respectively. "Anxiety is a psychological consequence of obesity affecting 35-55 years University female academic staff." with **41.4%** and **28.4%** for pre-test and post-test, respectively. "Ill-treatment at work/in social settings is a social consequence of obesity affecting 35-55 years University female academic staff," with **37.8%** and **30.2%** for pre-test and post-test, respectively. "Lower quality of life is a social consequence of obesity affecting 35-55 years University female academic staff" with **31.5%** and **43.2%** for pre-test and post-test, respectively. Brun et al. (2015) echo the findings by mentioning the social consequences of obesity and how they affect females at work and in their social settings. The middle-aged obese female might experience challenges interacting with others due to constant ridicule from friends, family

members, or colleagues. They suffer extreme judgment because of their physical appearance. Despite that, the media fuels this negative perception by applying suggestive and unsympathetic language.

Analysis of Sample Paired Statistics

Table 5: Paired Sample Statistics and Corresponding T-tests

		Pre-test		Post-test		Test	
		Mean	SD	Mean	SD	t-stat.	p-value
1	Physical fatigue is a physical consequence of obesity affecting 35-55 years University female academic staff.	3.64	0.709	3.74	0.55	-1.843	0.067
2	Feelings of isolation are a physical consequence of obesity affecting 35-55 years University female academic staff.	3.64	0.62	3.59	0.784	1.058	0.291
3	Shortness of breath is a physical consequence of obesity affecting 35-55 years University female academic staff.	3.56	0.727	3.84	0.743	-4.680*	0
4	Obesity-related diseases, e.g diabetes, cancer are some of the physical consequence of obesity affecting 35-55 years University female academic staff	3.96	0.597	4	0.721	-0.762	0.447
5	Overindulgence in food and alcohol is a physical consequence of obesity affecting 35-55 years University female academic staff.	2.55	1.066	2.93	1.009	-5.119*	0
6	Depression is a psychological consequence of obesity affecting 35-55 years University female academic staff.	3.57	0.803	3.82	0.602	-3.978*	0
7	Low self-esteem is a psychological consequence of obesity affecting 35-55 years University female academic staff.	3.52	0.735	3.9	0.554	-6.314*	0
8	Body dissatisfaction is a psychological consequence of obesity affecting 35-55 years University female academic staff.	3.4	0.81	3.75	0.705	-5.338*	0
9	Unhealthy dieting/Restrictive dieting is a psychological consequence of obesity affecting 35-55 years University female academic staff.	3.68	0.792	3.9	0.64	-3.839*	0
10	Anxiety is a psychological consequence of obesity affecting 35-55 years University female academic staff.	3.54	0.709	3.82	0.602	-4.875*	0
11	High treatment financial costs for obesity related ailments, like diabetes, cancer are economic consequences of obesity affecting 35-55 years University female academic staff.	3.76	0.826	3.77	0.782	-0.217	0.829
12	Loss of job and/or income is an economic consequence of obesity affecting 35-55 years University female academic staff.	3.33	0.794	3.77	0.628	-6.733*	0

		Mean	SD	mean	SD	t-stat.	p-value
13	Indirect costs, like spending more on expensive custom-made clothes are economic consequences of obesity affecting 35-55 years University female academic staff.	3.64	0.886	3.86	0.835	-3.210*	0.002
14	Ill-treatment at work/in social settings is a social consequence of obesity affecting 35-55 years University female academic staff.	3.54	0.89	3.85	0.659	-4.802*	0
15	Open public ridicule is a social consequence of obesity affecting 35-55 years University female academic staff.	3.77	0.71	4.02	0.662	-4.189*	0
16	Sexual bullying is a social consequence of obesity affecting 35-55 years University female academic staff.	3.78	0.96	4.02	0.956	-3.159*	0.002
17	Lower quality of life is a social consequence of obesity affecting 35-55 years University female academic staff.	3.27	0.947	3.61	0.809	-5.405*	0
18	Social exclusion from participating in certain events is a social consequence of obesity affecting 35-55 years university female academic staff.	3.59	0.921	3.82	0.808	-3.089*	0.002

From the mean and standard deviation table, we make the following observations: Generally, all variables registered means above average in both the pretest and post-test scores. High means are registered across the groups in the following variables: "*Obesity-related diseases, e.g., diabetes, cancer are some of the physical consequence of obesity affecting 35-55 years University female academic staff "*; **3.96** and **4.00** for pretest and post-test, respectively. *"Open public ridicule is a social consequence of obesity affecting 35-55 years University female academic staff*": **3.77** and **4.02** for the pretest and post-test, respectively. "*Sexual bullying is a social consequence of obesity affecting 35-55 years University female academic staff"*; **3.78** and **4.02** for the pretest and post-test, respectively. The study findings are consistent with Brun et al. (2015), which indicated the social consequences of obesity as being related to society and workplace environments. However, negative consequences for trade industries commonly affecting the employees, and a media article shows an obese member of staff being referred to as a liability to the company.

A relatively low mean is registered across the groups in the variable below: "*Overindulgence in food and alcohol is a physical consequence of obesity affecting 35-55 years University female academic staff"*; **2.55** and **2.93** for pretest and post-test, respectively. The t-test results show that the pretest and post-test results are significantly different at a 5% level of significance in most of the variables except the following: *Physical fatigue is a physical consequence of obesity affecting 35-55 years University, female academic staff; Feelings of isolation are a physical consequence of obesity affecting 35-55 years University female academic staff; Obesity-related diseases, i.e., diabetes, cancer are some of the physical consequence of obesity affecting 35-55 years University female academic staff; High treatment financial costs for obesity-related ailments,*

like diabetes, cancer are economic consequences of obesity affecting 35-55 years University female academic staff. Further, Armentia and Marin (2018) presented some of the physical consequences of obesity, including heart disease, diabetes, hypertension, some forms of cancer such as colon cancer, throat cancer, pancreas cancer, and much more, which was in support of these findings.

Factor Analysis

The factor analysis successfully extracted four independent components about the consequence frame. The Keiser-Meyer –Olkin (KMO) test of adequacy (KMO=0.442; Chi-square=13198.8, d.f =153, p=0.000) was significant, implying factor analysis using the principal component method was appropriate. The four components cumulatively explain 78.93 % of the total variability.

Inferential Statistics for Consequences Frame

Research Hypothesis 2:

Consequences frame has no significant cause and effect on the perception of obesity among 35-55 years University female academic staff in Nairobi County, Kenya.

Correlation between Consequence Frame and Perception

Table 1.7: Correlations between Perception and Extracted Factors of Consequence Frame

	Perception	Psychological consequence	Social consequence	Economic consequence	Physical consequence
Perception	1				
Psychological consequence	.368**	1			
Social consequence	.215**	0	1		
Economic consequence	-0.058	0	0	1	
Physical consequence	.308**	0	0	0	1

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

The table shows that the selected variables of the consequence frame were all significantly correlated with the perception of obesity among 35-55 years University female academic staff at a 1% level of significance except the *economic consequence*, which had no significant cause and effect about the perception of obesity. However, they were uncorrelated among themselves. These were the test for the hypothesis, which means that the null hypothesis was rejected because there was a significant correlation between the three factors under the consequence frame and the perception of obesity among 35-55 years University female academic staff in Nairobi County. However, their economic consequence had no significant cause and effect on the perception of obesity; thus, this finding does not resonant with Armentia and Marin (2018) and

Brun et al. (2015), who attribute economic consequence as a major factor affecting the rise of obesity in the developed countries such as Ireland.

Regression Analysis

Fitting all extracted variables and the response in the logistic regression model, the results were as shown in table below:

Table 1.8: Parameter Estimates and Their Standard Errors

Parameter	Estimate, β	std. error	Wald	df	sig.	exp(β)
constant(least negative)	-0.565	0.117	23.485	1	0.00	0.568
constant(moderate)	1.616	0.134	146.05	1	0.00	5.033
Psychological consequence	1.175	0.129	82.404*	1	0.00	3.238
Social consequence	0.495	0.095	26.885*	1	0.00	1.64
Economic consequence	0.125	0.098	1.619	1	0.203	1.133
Physical consequence	0.617	0.104	35.246*	1	0.00	1.853

Link function: Logit.

The model fits well. Both Pearson (**1888.2**) and Deviance (**798.8**) chi-square statistics for goodness of fit are significant (p-value=**0.00**). The results indicate that all consequence frame factors, i.e., *psychological consequences; social consequences; physical consequences* are statistically significant at a 1% significance level except the *economic consequence factor*. The interpretations of the factors were as follows: - Factor 1 was *Psychological consequences*, whereby the estimated odds ratio was **3.24**. Therefore for every one unit increase in the psychological consequence, a person was 3.24 times more likely to have a lower level of negative perception towards middle-aged obese females as opposed to higher levels of negative perceptions.

Factor 2 was *Social consequences,* whereby the estimated odds ratio was **1.64**. Therefore for every one unit increase in social consequence, a person is 64% more likely to have a lower negative perception towards middle-aged obese females than higher negative perceptions. Factor 3 was *Physical consequence*s, whereby the estimated odds ratio was **1.85**. Therefore for every one unit increase in the physical consequence, a person was 85% more likely to have a lower negative perception towards middle-aged obese females than higher negative perceptions.

Table 10: Factor Analysis Results

	Psychological consequence	Social consequence	Economic consequence	Physical consequence
Low self-esteem is a psychological consequence of obesity affecting 35-55 years University female academic staff.	.869*	0.282	0.197	0.283
Depression is a psychological consequence of obesity affecting 35-55 years University female academic staff.	.806*	0.368	-0.017	0.398
Body dissatisfaction is a psychological consequence of obesity affecting 35-55 years University female academic staff.	.737*	0.182	0.548	0.13
Open public ridicule is a social consequence of obesity affecting 35-55 years University female academic staff.	.651*	0.206	0.487	0.212
Anxiety is a psychological consequence of obesity affecting 35-55 years University female academic staff.	.650*	0.593	0.238	0.161
Lower quality of life is a social consequence of obesity affecting 35-55 years University female academic staff.	0.15	.756*	0.56	0.036
High treatment financial costs for obesity related ailments, like diabetes, cancer are economic consequences of obesity affecting 35-55 years University female academic staff.	0.163	.740*	-0.039	0.408
Ill-treatment at work/in social settings is a social consequence of obesity affecting 35-55 years University female academic staff.	0.401	.694*	0.361	0.155
Social exclusion from participating in certain events is a social consequence of obesity affecting 35-55 years university female academic staff.	0.544	.637*	0.349	-0.007
Loss of job and/or income is an economic consequence of obesity affecting 35-55 years University female academic staff.	0.564	.616*	0.097	0.287
Overindulgence in food and alcohol is a physical consequence of obesity affecting 35-55 years University female academic staff.	0.241	.559*	0.174	0.474
Indirect costs, like spending more on expensive custom-made clothes are economic consequences of obesity affecting 35-55 years University female academic staff.	0.179	0.284	.760*	0.26
Obesity-related diseases, e.g diabetes, cancer are some of the physical consequence of obesity affecting 35-55 years University female academic staff	0.081	0.074	.757*	0.505
Unhealthy dieting/Restrictive dieting is a psychological consequence of obesity affecting 35-55 years University female academic staff.	0.488	0.201	.735*	0.242
Shortness of breath is a physical consequence of obesity affecting 35-55 years University female academic staff.	0.069	0.111	0.243	.803*
Feelings of isolation are a physical consequence of obesity affecting 35-55 years University female academic staff.	0.164	0.343	0.16	.690*
Physical fatigue is a physical consequence of obesity affecting 35-55 years University female academic staff.	0.393	0.065	0.176	.668*
Sexual bullying is a social consequence of obesity affecting 35-55 years University female academic staff.	0.378	0.205	0.356	.576*

Factor 1 describes how low self-esteem, depression, body dissatisfaction, open public ridicule, and anxiety influence obesity affecting 35-55 years University female academic staff. This factor could be referred to as *a psychological consequence*.

Factor 2 measured mostly social consequences such as low quality of life, ill-treatment at work and social settings, social exclusion from participating in certain events, and loss of jobs. Therefore, it could be referred to as *a social consequence*. Factor 3 has high loadings on indirect costs, like spending more on expensive custom-made clothes. Hence it could be referred to as *an economic consequence*. The findings on economic consequences consisted of Armentia and Marin (2018), where a newspaper article titled The El Pais brought up the issue of the cost of obesity being immensely high; managing it requires financial investment from both the person affected and public health institutions. Factor 4 addressed the factors/aspects of physical consequences, majorly the shortness of breath, feelings of isolation, and physical fatigue. Therefore factor 4 could be referred to as *a physical consequence*.

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