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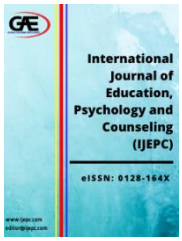


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# THE RELATIONSHIP BETWEEN WEIGHT SELF-STIGMA, EXPERIENTIAL AVOIDANCE, AND BODY MASS INDEX AMONG MALAYSIAN WOMEN WITH OVERWEIGHT

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**Abstract:**

This study examined the relationship between weight self-stigma, experiential avoidance, and body mass index among Malaysian women with overweight. A total of 97 Malaysian women with overweight participated in this study by answering a set of questionnaire which consists of items on weight self-stigma, experiential avoidance, and body mass index. Overall, the findings showed that the participants with overweight were grappling with a high level of weight self-stigma. The correlation analysis showed a positive correlation between weight self-stigma and body mass index, experiential avoidance and body mass index and a strong correlation between weight self-stigma and experiential avoidance. The results of the study align with existing Western-based literature, reinforcing the idea that weight self-stigma and experiential avoidance play a crucial role in body mass index. Thus, targeting these two components in weight loss interventions may have the potential to lower body mass index.

**Keywords:**

Weight Self-Stigma, Experiential Avoidance, Body Mass Index, Overweight, Malaysia

## Introduction

Despite advancement in various aspects of life, such as the economy, career opportunities, environmental sustainability, and education, a significant global challenge persists – the

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escalating prevalence of physical and mental health issues (Hossain et al., 2020). One major concern is the overweight epidemic, which affects individuals of all ages, genders, and races (Jaacks et al., 2019). Overweight is characterized as a persistent health condition marked by an abnormal or excessive accumulation of fat, leading to physical or metabolic complications (Williams et al., 2015). This issue has also reached Asia, with Malaysia experiencing the highest prevalence of overweight adults in Southeast Asia (Chong et al., 2023). The National Health Morbidity Survey (NHMS II, 2020) in Malaysia reveals a threefold increase in the prevalence of overweight and obesity since 1996. In 1996, 16.6% of adults were overweight, but by 2019, this figure had risen sharply to 50.6%. It's noteworthy that there are global gender disparities in overweight, with women being particularly susceptible compared to men. Each year, a significant number of women face the consequences of excess weight, highlighting its adverse impact on their quality of life, physical and mental well-being, and an increased risk of premature death, impaired mobility, and severe mental health conditions (Djalalinia et al., 2015; Kanter & Caballero, 2012).

Extensive research has identified various factors, spanning from biological to sociocultural influences, contributing to weight gain (Levin et al., 2017; Palmeira et al., 2016; Potts, 2018). This particular study places an exclusive focus on psychological factors, highlighting the significant roles of weight self-stigma (WSS) and experiential avoidance (EA) in the context of weight gain, especially among women.

### *Research Objectives and Hypotheses*

In light of the increasing prevalence of overweight cases in Malaysia, it becomes crucial to thoroughly investigate the factors contributing to weight gain. Notably, weight self-stigma and experiential avoidance stand out as pivotal elements, demanding more in-depth research and exploration. Given that existing literature predominantly originates from Western countries and lacks representation in the Malaysian context, this study aims to bridge knowledge gaps by examining the correlation between weight self-stigma, experiential avoidance, and body mass index among Malaysian women with overweight.

H1: There is a correlation between weight self-stigma and body mass index
H2: There is a correlation between experiential avoidance and body mass index
H3: There is a correlation between weight self-stigma and experiential avoidance

## Literature Review

### *Weight Self-Stigma*

Weight self-stigma (WSS) is defined as the "personal experiences of shame, negative self-evaluations, as well as perceived discrimination" (Palmeira et al., 2018, p.785). Individuals facing overweight frequently encounter widespread stigma and discrimination in various aspects of their lives, such as their professional pursuits, health, and education (Fung et al., 2020; Lin et al., 2019). These negative experiences can lead individuals to internalize the biased perspectives they encounter, resulting in the phenomenon of WSS. The Modified Labeling Theory, introduced by Link et al. (1989) to explain the consequences of stigma-related social scenarios, suggests that when individuals with overweight are labeled with derogatory terms such as "disgusting" or "lazy," there is a tendency for them to internalize these societal judgments. This internalization process has a complex impact, leading to immediate consequences of discrimination, rejection, and reduced self-esteem. Elevated levels of WSS not only significantly impact mental well-being but also extend to influence physical health,

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potentially contributing to behaviors like binge eating, which may lead to an increase in body mass index (BMI) (Lillis et al., 2020). A systematic review by Vartanian and Porter (2016) demonstrated a link between heightened WSS and unhealthy eating behaviors, including meal skipping, binge eating, and purging. This review suggested that exposure to stigmatizing content or environments increased the consumption of high-calorie foods among overweight individuals. In the Malaysian context, a study by Ibrahim et al. (2019) found a correlation between weight-based teasing and increased WSS, contributing to the adoption of unfavorable eating behaviors. Similarly, a study by Khodari et al. (2021) highlighted a positive correlation between WSS and BMI. These findings imply that weight self-stigma may play a crucial role in perpetuating weight gain and compromising psychological well-being.

### *Experiential Avoidance*

The next influential factor, experiential avoidance (EA), is defined as the "attempts to avoid thoughts, feelings, memories, physical sensations, and other internal experiences even when doing so creates harm in the long run" (Hayes et al., 1999, p. 36). Essentially, individuals may try to avoid confronting distressing and unbearable emotions, thoughts, and memories, often resorting to engaging in pleasurable behaviors as a means of distracting themselves from these uncomfortable internal experiences (Feldner et al., 2006). Freud's Psychoanalytic Theory of Personality (1923) suggests that EA often occurs unconsciously due to an imbalance among the three constituents of the psyche—id, ego, and superego (Holt, 1989). People might remain unaware of subtle influences impacting them. For example, when an individual faces ridicule or stereotypes related to their weight, it can trigger feelings of self-loathing and stress. In response to distress, an individual's id may drive a strong inclination to indulge in unhealthy eating habits. However, there are instances where the influence of the id overrides the concerns of the superego and ego. In such cases, individuals might succumb to impulsive binge eating, subsequently experiencing feelings of guilt and shame, ultimately leading to a decline in mental well-being (Fonagy, 1999). Despite limited research in this field, a study by Palmeira et al. (2018) found that weight-related EA led to an increase in BMI due to unhealthy eating behaviors as a way of addressing emotional challenges. Similarly, Mullane (2021) reported a significant association between EA and elevated levels of BMI. Notably, there is no research examining the relationship between EA and BMI in the context of Malaysia.

## Research Methods

### *Research Design and Sample*

A cross-sectional online study was carried out among overweight women in Malaysia. The data collection was administered in August 2021. The study was approved by the university's ethics committee. A total of ninety seven Malaysian overweight women with a BMI of 23kg/$m^2$ and over were recruited using purposive sampling. The questionnaire's link was distributed through the researchers' social media networks such as Facebook and Instagram and university email groups. Participants were provided with comprehensive background information about the study, including details of informed consent. This approach enabled them to thoroughly review the context and purpose of the research before expressing their agreement to participate.

### *Measuring Instruments*

The online questionnaire consists of demographic information such as age, race, weight, height, marital status, and two instruments: Weight Self Stigma Questionnaire (WSSQ) and Acceptance and Action Questionnaire for Weight-Related Difficulties Revised (AAQW-R).

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***Weight Self Stigma Questionnaire (WSSQ) (Lillis et al., 2010)***

Weight Self Stigma Questionnaire (WSSQ) is a 12-item instrument that is designed to measure two important domains of weight self-stigma: self-devaluation and fear of enacted stigma. Items 1 – 6 measure self-devaluation subscale and items 7 – 12 is comprised of the fear of enacted stigma subscales and these items are rated on a 5 point Likert scale range from 1 (Completely Disagree) to 5 (Completely Agree). The scores range from 12 to 60 and a higher score on the WSSQ indicates a higher level of weight self-stigma. This instrument displayed a good test-retest reliability of .79 and an acceptable Cronbach's Alpha value of .88 (Fan et al., 2021). The Cronbach's Alpha value for the current study is .92.

***Acceptance and Action Questionnaire for Weight-Related Difficulties Revised (AAQW-R) (Manwaring et al., 2018)***

Acceptance and Action Questionnaire for Weight-Related Difficulties Revised (AAQW-R) is a 10-item instrument that is designed to measure the experiential avoidance of unwanted weight related thoughts, feelings and actions and the degree to which thoughts and feelings interfere with valued action. The AAQW-R was developed based on three subscales that assess different aspects of weight-related experiential avoidance: food as control (3 items), weight as barrier to living (3 items), weight-stigma (4 items). These items are rated on a 7-point Likert scale of 1 (Never True) to 7 (Always True) and the scores range from 22 to 154 where higher scores indicate greater weight-related experiential avoidance and low scores indicate lower levels of experiential avoidance. This instrument showed a good test-retest reliability of .86 with a total Cronbach's alpha value of .88 (Zhang et al., 2014). The Cronbach's Alpha value for the current study is .93.

***Body Mass Index (BMI)***

BMI (kg/m$^2$) was calculated from self-reported height and weight. The Asia-Pacific BMI table (WHO Expert Consultation, 2004) that is meticulously customized to suit the Asian population was utilised to classify participants as overweight. An individual is considered overweight if their BMI is 23 kg/m$^2$ and above.

***Data Analysis***

Statistical analysis for this study was computed using the Statistical Package for the Social Science (SPSS) version 26, to achieve the objectives of this study. Both descriptive and inferential statistics were calculated in this study. The data was analyzed using the Pearson product-moment correlation test to determine if a correlation between WSS, EA and BMI exist. Tests were run separately for WSS and BMI, EA and BMI and WSS and EA with a total of 3 correlation coefficients. The p value threshold used was set to $<0.05$.

**Results**

Ninety-seven female participants between the age range of 20 – 55 years old (mean age = 29.75, SD = 7.96) and with a mean BMI of 30.62 (SD = 5.4) were included in the study. The majority of the participants are Malaysian Indians (43.3%) and are single (67%). The demographic characteristics of the participants are presented in Table 1.

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**Table 1**
**Demographic Characteristics Of The Participants (N = 97)**

| Demographic characteristics | Mean (M) | Standard Deviation (SD) | Frequency (f) | Percentage (%) |
|---|---|---|---|---|
| Age | 29.75 | 7.96 | | |
| Race | | | | |
| Malay | | | 32 | 33.0% |
| Indian | | | 42 | 43.3% |
| Chinese | | | 18 | 18.6% |
| Sikh | | | 1 | 1.0% |
| Others | | | 4 | 4.0% |
| Weight | 78.83 | 14.83 | | |
| Height | 160.06 | 7.84 | | |
| Body mass index | 30.62 | 5.4 | | |
| Marital status | | | | |
| Single | | | 65 | 67.0% |
| Married | | | 28 | 28.9% |
| Separated | | | 3 | 3.1% |
| Divorced | | | 1 | 1.0% |

***Descriptive Analysis of Weight Self-Stigma and Experiential Avoidance***

The overall mean score of WSS is 43.08 (SD = 11.48), which illustrates a high level of WSS in overweight women. Meanwhile, the overall mean score of EA is 49.00 (SD = 15.38). which portrays a moderate level of EA.

***Relationship Between Weight Self-Stigma and Experiential Avoidance***

Table 2 presents the correlation analysis between WSS, EA, and BMI among Malaysian women with overweight. A Pearson product-moment correlation was run to determine the relationship between WSS and EA among Malaysian women with overweight. There was a strong, positive correlation between WSS and EA, which was statistically significant ($r(95) = .882$, $p = .000$). To sum up, as the level of WSS increases, the level of EA increases. Hence, the hypothesis asserting there is a correlation between WSS and EA is accepted.

***Relationship Between Weight Self-Stigma and Body Mass Index***

A Pearson product-moment correlation was computed to determine the relationship between WSS and BMI among Malaysian women with overweight. There was a weak positive correlation between WSS and BMI, which was statistically significant ($r(95) = .225$, $p = .027$) (refer to Table 2). To sum up, as the level of WSS increases, the level of BMI increases. Hence, the hypothesis asserting there is a correlation between WSS and BMI is accepted.

***Relationship Between Experiential Avoidance and Body Mass Index***

A Pearson product-moment correlation was run to determine the relationship between EA and BMI among Malaysian women with overweight. There was a weak positive correlation between EA and BMI, which was statistically significant ($r(95) = .284$, $p = 0.005$) (refer to Table 2). To sum up, as the level of EA increases, the level of BMI increases. Hence, the hypothesis asserting there is a correlation between EA and BMI is accepted.

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**Table 2**
**Correlation Between Weight Self-Stigma, Experiential Avoidance, And Body Mass Index**

| Variable | n | M | SD | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| 1 Body mass index | 97 | 30.62 | 5.4 | - | | |
| 2 Weight self-stigma | 97 | 43.08 | 11.48 | .225 | - | |
| 3 Experiential avoidance | 97 | 49.00 | 15.38 | .284 | .882 | - |

## Discussion

This study aimed to explore the association between weight self-stigma, experiential avoidance, and body mass index in Malaysian women dealing with overweight. A total of ninety-seven participants, with an average BMI of 30.62, were recruited for the research. The findings revealed that a significant majority of participants with overweight were contending with elevated levels of WSS. These results align with earlier studies (Lin et al., 2019; Palmeira et al., 2016) indicating that women with overweight and obesity commonly face heightened psychological challenges related to WSS. The explanation lies in the concept that the more individuals are subjected to ridicule or unfair treatment based on their body size, the more likely they are to internalize and conform to these stigmatizing beliefs. The prevalence of WSS appears to be pronounced among Malaysian women with overweight, possibly attributed to the persisting weight stigma and discrimination against individuals with obesity in Southeast Asia regions (Tham et al., 2022). Consequently, reducing weight stigma in Malaysia could potentially lead to a gradual decrease in WSS among this population.

The results further revealed a positive correlation between WSS and BMI, indicating that an increase in WSS is associated with a higher BMI. This finding aligns with the study conducted by Lin and colleagues (2023), supporting the notion that a positive correlation exists between WSS and BMI. It is posited that individuals grappling with WSS may engage in behaviors that promote obesity, such as emotional eating or avoiding physical activities as a coping mechanism for the distress associated with WSS. These behaviors, in turn, could contribute to an elevation in their BMI. A wealth of data underscores that as long as WSS remains high, it will persist as a predictor of challenges in maintaining weight loss effectively (Lin et al., 2023; Palmeira et al., 2018).

The findings of the study also unveiled a positive correlation between EA and BMI, suggesting that an increase in EA is associated with a higher BMI. This result aligns with the research conducted by Longa (2016), which demonstrated a significant relationship between EA, unhealthy eating expectancies (learned expectations about eating), and binge eating behavior, ultimately contributing to an elevated BMI. Cowdrey and Park (2012) emphasized that EA tends to be higher among individuals dealing with overweight and obesity, as unhealthy eating behavior is frequently chosen as a pleasurable activity in this demographic, leading to weight gain. Unfortunately, some individuals find themselves trapped in an unhealthy cycle of weight-gaining behavior, where they experience distress, engage in binge eating, gain weight, feel guilty and upset about the weight gain, and then cope with these negative feelings by resorting to binge eating again. Consequently, reducing EA holds the potential for promoting healthy

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eating behavior and facilitating weight loss maintenance. This proposition is supported by the study conducted by Wooldridge et al. (2022), which found that veterans with higher EA at pre-test exhibited improved dietary quality after participating in Acceptance and Commitment Therapy, an intervention targeting weight-related EA.

The study also revealed a notable and robust positive correlation between WSS and EA among overweight individuals. This aligns with previous research conducted by Palmeira et al. (2019) and Donahue et al. (2023), which established a strong relationship between WSS and EA. These studies indicated that WSS can result in anxiety, depression, shame, or other unpleasant emotions related to weight, prompting individuals to engage in pleasurable activities, such as unhealthy eating behavior, to avoid confronting these distressing internal experiences. Furthermore, Palmeira et al. (2018) found that EA plays a mediating role between WSS and unhealthy eating behaviors among women with overweight. These collective findings contribute to the existing body of evidence by emphasizing the prevalence of WSS and EA within the Malaysian population. Importantly, they underscore the significance of addressing both EA and WSS as crucial factors in promoting a better quality of life for individuals with overweight.

### *Limitations and Recommendations*

Despite the compelling and relevant findings, this study presents some limitations as well. Firstly, it is crucial to interpret these findings as preliminary signals, as the diminished sample size may impact the generalizability of the results. Therefore, further research involving larger and more diverse samples, including males, is imperative to validate and extend the observed results. Secondly, the participants' responses on the self-reported questionnaire may be influenced by social desirability or the desire for social approval, given the potentially sensitive content of the items related to weight self-stigma and experiential avoidance. Moreover, the impact of confounding factors, such as participants' current emotional state or personality, could introduce biases and potentially lead to inaccurate responses. To address these limitations, it is recommended that future research adopts a mixed methods design to mitigate the shortcomings of self-reported measures and gain a more comprehensive understanding of the subject matter.

## Conclusion

In summary, Malaysian women experiencing overweight demonstrate elevated levels of weight self-stigma and experiential avoidance. Additionally, a key takeaway is the notable correlation observed between weight self-stigma, experiential avoidance, and body mass index. These results underscore the significance of addressing weight-related psychological challenges, which serve as impediments to overall quality of life. Mental health professionals or physical trainers in Malaysia should consider incorporating these findings into tailored interventions to raise awareness and improve the well-being of their clients.

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## Conflicts of interest

The authors declare that they have no conflicts of interest.

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**Ethical Clearance**
This study has been approved by the Universiti Malaya Research Ethics Committee (UM.TNC2/UMREC_1775).

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