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Investigating the Motivational Differences for Healthy Eating in Men and Women

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Abstract

The study aimed to measure the differing levels of intrinsic and extrinsic motivation for healthy eating behaviors in men and women. Through social media outreach, a sample of 57 participants ($n=57$), aged 18-69, living across the United States, primarily in the midwestern area, completed an online survey. The Motivation for Healthy Eating Scale (MHES) assessed different subgroups of internal and external motivation for healthy eating. Five of the six subgroups were used in the online survey sent to participants (intrinsic motivation, integrated regulation, identified regulation, introjected regulation, and external regulation). Results indicated no statistical significance between gender in four of the five MHES subgroups: intrinsic motivation ($p = .163$), integrated regulation ($p = .866$), identified regulation ($p = .309$), and introjected regulation ($p = .151$). Extrinsic regulation was the only subgroup with significant results ($p = .035$). A paired samples t-test was also performed to evaluate the MHES results within men and women separately. Both tests indicated no statistical significance between the differing types of motivation in men and women ($p = .122$, $p = .140$, respectively). The results of the present study suggest that men differ significantly from women in most domains of motivation for healthy eating.

1. Introduction

A healthy diet is encouraged for people of all ages. It is considered to be helpful in attaining proper physical health as individuals age. Throughout much of history, however, a healthy diet has also been known for being effective in achieving a certain, desirable physique. Such motivations can differ from person to person. Research investigating these differences has

recently emerged to address some of the difficulties that today's adults have with their diet. Some of the difficulties that have forwarded this topic of motivational research include the increased national obesity rate and social media exposure. Studies assessing trends in obesity found that its prevalence has increased in both adults and children of all ages (Chooi et al., 2019). An increased exposure to social media outlets has also had an influence on how and why individuals decide to pursue a healthy diet, with both positive and negative outcomes (Chung et al., 2017).

The two motivational types focused on in this study are intrinsic and extrinsic motivation, which are used to understand an individual's reason for engaging in a healthy diet. Intrinsic motivation refers to doing something because it is inherently interesting or enjoyable whereas extrinsic motivation is doing something because it leads to a separable outcome (Ryan & Deci, 2000). In this study, motivational differences will be assessed in both men and women. The purpose of this study is to begin an examination of gender differences of healthy eating motivation. Such findings can provide insight into which individuals are more motivated to turn to a healthy diet for overall beneficial reasons.

A popular scale used to measure the scale of intrinsic and extrinsic motivation is the Motivation for Healthy Eating Scale (MHES). Results from studies analyzing this scale show the MHES is a valid tool for measuring different types of behavioral regulations of healthy eating as well as indicative of other acceptable psychometric properties (Román et al., 2020). Cronbach's alpha coefficient ranges from .72 to .84 over the six-factor scale structure (Kato et al., 2013).

So far, the studies conducted on this topic have found significant differences between men and women's motivational styles for healthy eating. A recent meta-analysis by Román and colleagues (2020) provided evidence from the accumulation of such studies to confirm results on

differing types of motivation in men and women. Specifically, studies show that women are more intrinsically motivated than men to eat healthy, reporting a higher score for eating-related self-determined motivation (Leblanc et al., 2014).

However, when considering the determinants of healthy eating behavior for both males and females, results show general similarities regarding their motivational types (Orji et al., 2013). Both appear to be more intrinsically than extrinsically motivated to eat healthy. Results from a study conducted with both male and female participants from the UK and the Czech Republic provide support of significant impacts of intrinsic motivation and psychological barriers when predicting both intention and healthy eating behavior (Michaelidou et al., 2011). Lastly, when studying specific healthy eating strategies, intrinsic motivation and self-efficacy are relevant for two-thirds of the measures in both men and women, while the external physical opportunity to eat healthy accounts for only one third of the measures (Verain et al., 2022).

It appears as though intrinsic motivation is a more prominent factor than extrinsic motivation in determining healthy eating behavior. Considering only the young adult population, however, more extrinsic motivational factors come into account such as social media. A cross-sectional online survey of men of 18-25 years of age revealed that the second highest motivator (52.3%) for eating healthy was for the sake of desirable body image (Ashton et al., 2016). Social media interaction has the potential to increase levels of extrinsic motivation in this study. This could most likely be due to the age of the sample of participants and it may also be even more prevalent in females of the same age group.

Another factor to consider, especially in the young female adult population, is the influence of extrinsic motivation on unhealthy eating behaviors and mindsets when striving to attain a desirable physique. Reactive, extrinsic motivators are significantly related to specific

eating behaviors in females (Ruhl et al., 2016). Such reactive factors provide a higher likelihood for unhealthy associations between weight and food choice. A 2021 study showed that in a population group of 480 women of ages 25-39, extrinsic motivation related to weight, body shape, and eating less were among the predictors of low BMI levels (Yazarloo et al., 2021). Such motivational factors can turn into an extreme, especially in young women today who are regularly exposed to images of unrealistic female body standards.

The goal of this study was to further investigate healthy eating intrinsic and extrinsic motivational differences in young men and women. It was performed as both a between-subjects and within-subjects analysis, specifically analyzing the extent to which an individual's primary form of motivation predicts the likelihood they are pursuing a proper diet for a healthy reason.

The hypotheses for this study were:

H1: Women will be more extrinsically motivated than men to eat healthy

H2: Men will be more intrinsically motivated than women to eat healthy

H3: Women will be more extrinsically than intrinsically motivated to eat healthy

2. Methods

2.1 Participants

The present study was conducted among a sample of 57 participants: 40 females and 17 males, aged between 18 and 69 years old. Participants were from scattered states across the country, but most specifically from states in the Midwest. Approximately 82% of the sample was college students.

2.2 Design

The researcher employed a univariate design with between-subjects comparisons contrasting males and females, in addition to within-subjects analyses focused on females.

2.3 Procedure

Participants were recruited through social media outreach. An online survey link was posted on three different social media sites to reach a variety of individuals. Subjects provided informed consent and then completed a confidential survey via the link provided. This study was approved by the university's Institutional Review Board.

2.4 Measures

Intrinsic and extrinsic motivation were measured through the Motivation for Healthy Eating Scale. The MHES is a statistically significantly reliable and valid scale consisting of 31 questions divided into six subgroups labeled as: *intrinsic motivation*, *integrated regulation*, *identified regulation*, *introjected regulation*, *external regulation*, and *amotivation*. *Amotivation* was not included in the online survey of this study due to its lack of relevance to the overall question of the study. Each subgroup has questions scored on a 7-point Likert Scale (1- *does not identify with at all*, 7- *strongly identifies with*).

Intrinsic motivation was measured by the sum of scores from the *intrinsic motivation*, *integrated regulation*, *identified regulation*, and *introjected regulation* subscales. Extrinsic motivation was measured by the sum of scores from the *external regulation* subscale. Demographic questions (age, gender, highest form of education) were included to gather additional information regarding individual participants.

3. Results

To compare differences between male and female intrinsic and extrinsic motivation, an independent samples t-test was performed. A dependent samples t-test was performed to assess the female intrinsic and extrinsic scores. Descriptive statistics for the independent samples t-tests are below in Table 1 and descriptive statistics for the paired samples t-test are in Table 2. The independent samples t-test is shown in Table 3 and paired samples t-test is shown in Table 4.

	Group	N	Mean	Median	SD	SE
intrinsic_total	Female	40	26.5	26.5	6.02	0.951
	Male	17	23.8	25.0	7.86	1.91
integrated_total	Female	40	23.9	25.0	7.10	1.122
	Male	17	23.5	28.0	10.00	2.43
identified_total	Female	40	30.0	30.0	4.18	0.661
	Male	17	28.4	30.0	7.25	1.76
introjected_total	Female	40	18.4	19.0	5.83	0.922
	Male	17	15.6	14.0	8.05	1.95
extrinsic_total	Female	40	10.8	10.5	5.40	0.853
	Male	17	14.8	13.0	8.17	1.98

Table 1. Descriptive statistics for both intrinsic and extrinsic independent samples t-test

	N	Mean	Median	SD	SE
intrinsic_scaled	40	0.121	0.117	0.903	0.143
extrinsic_scaled	40	-0.181	-0.227	0.826	0.131

Table 2. Descriptive statistics for female paired samples t-test

3.1 Differences Between Men and Women

The test for extrinsic motivational differences between men and women showed significant differences ($p = .035$, Cohen's $d = -0.6264$), suggesting men had significantly higher levels of extrinsic motivation for healthy eating than women.

A Welch's t-test was conducted to examine gender differences in extrinsic motivation scores because Levene's test indicated unequal variances between males and females, $F(1, 55) = 6.12$, p

= .017. Results revealed no significant difference between males and females on extrinsic motivation, $t(22.2) = -1.84$, $p = .079$, $d = -0.57$. Although not statistically significant, the moderate effect size suggests males tended to have lower extrinsic motivation compared to females in the sample. Levene's test was non-significant for all other comparisons, indicating the equality of variances assumption was met and Student's t test was appropriate.

The test for intrinsic motivational differences, measured through the four subscales of *intrinsic regulation*, *integrated regulation*, *identified regulation*, and *introjected regulation* showed non-significant results ($p = .163$, $p = .866$, $p = .309$, and $p = .151$ respectively).

Results suggest there were no significant differences between male and female intrinsic motivational levels for healthy eating. Descriptive statistics, however, did convey that despite non-significant p-values, intrinsic mean scores for women were consistently higher than the scores for men. Effect sizes for intrinsic subgroups (.4089, .0491, .2971, .4211, respectively) suggest there is a weak relationship between gender and intrinsic motivational levels for healthy eating. The effect size for the extrinsic subgroup (-.6264) suggests there is a moderate relationship between gender and extrinsic motivational levels for healthy eating.

		Statistic	df	p		Effect Size
intrinsic_total	Student's t	1.412	55.0	0.163	Cohen's d	0.4089
integrated_total	Student's t	0.170	55.0	0.866	Cohen's d	0.0491
identified_total	Student's t	1.026	55.0	0.309	Cohen's d	0.2971
introjected_total	Student's t	1.455	55.0	0.151	Cohen's d	0.4211
extrinsic_total	Student's t	-2.163	55.0	0.035	Cohen's d	-0.6264

Table 3. Results from extrinsic and intrinsic motivational differences between men and women examination

3.2 Differences Within Women

The test for intrinsic and extrinsic motivational differences within women showed non-significant results between intrinsic and extrinsic motivational differences ($p = .140$), suggesting there were no statistically significant differences between motivational levels within women. A small effect size value of .238 suggests there is a weak relationship between healthy eating motivational type and females.

			statistic	df	p		Effect size
intrinsic_ scaled	extrinsic_ scaled	Student's t	1.51	39.9	0.140	Cohen's d	0.238

Table 4. Results from extrinsic and intrinsic motivational differences in women examination

4. Discussion

This study further examined the motivational differences between men and women's healthy eating habits. Results from the MHES highlight differing levels of intrinsic and extrinsic motivation between men and women. More specifically, results showed women had consistently higher scores across all the intrinsic subscales. Men were found to have been significantly more impacted by extrinsic factors to eat healthy. Such results further reinforce the ideas gathered from previous studies on this topic, in which women are more intrinsically motivated and men more extrinsically motivated. All three hypotheses were unsupported, however, there was statistical significance in the extrinsic results for men.

The null hypothesis was retained for all hypothesis tests. However, this study provides further evidence suggesting women are more intrinsically driven, and men are more extrinsically driven to eat healthy. Further exploration of this topic should analyze how motivational type in men and women is affected by social media. Another factor to consider in future research on this topic is age, as there might be differences in motivational type between younger and older individuals. Lastly, continued research may also be influential in developing new interventions for individuals who develop an unhealthy relationship with food.

Limitations for this study include a relatively small sample size, which if larger, might have produced significant results for the tests with small or moderate effect sizes. There was also an uneven sample distribution of men and women, with significantly more women than men. Lastly, the sample was not representative of only one age group, which might have given different results if there was a specific age group set at the beginning of the study. Further research on this topic should investigate the influence of social media on healthy eating habits in men and women, specifically in the young adult population. Body image perception and the development of intervention strategies should also be addressed in future studies. Investigating such topics in further studies can lead to potential identification and prediction of unhealthy behaviors displayed in a variety individuals.

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