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The Effect of Occupational Stress on Participant Success in a Worksite Weight Loss Program

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The Effect of Occupational Stress on Participant Success in a Worksite Weight Loss Program

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Learning Objective: The participant will be able to identify the role of supervisor support on employee success in a weight loss program.

Background: Occupational stress has been associated with body mass index and waist circumference, but the role of occupational stress on participant outcomes at a worksite wellness weight loss program has not been examined.

Methods: 16 university faculty and staff members (18.8% faculty, 50% staff, 12.5% administration, 18.8% other) participated in a 16-week weight loss program that consisted of 7 educational sessions on nutrition and physical activity. Participants had weight, height, body mass index (BMI), body fat percentage (BF%), blood pressure (BP), total cholesterol (TC), high density lipoprotein (HDL), triglycerides (TG), and blood glucose (BG) measured before and after the program. A validated job stress survey was completed by participants at the beginning of the program, at week 10, and at the conclusion of the program.

Results: Participants lost 4.3 ± 4.8 kg. Significant improvements were noted in TG (33.3 ± 55.8) and BF% (2.4 ± 2.5). Supervisor support was found to be a significant predictor of weight loss, explaining 32.3% of the weight change variance. Co-worker and family support did not play a factor in weight loss during the program.

Conclusion: Worksite weight loss programs may see improved effectiveness by incorporating strategies designed to reduce occupational stress. Special attention should be placed on improving the employee-supervisor relationship to enhance likelihood of weight loss success.

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The Effect of Occupational Stress on Participant Success in a Worksite Weight Loss Program



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ABSTRACT

Background: Occupational stress has been associated with body mass index and waist circumference, but the role of occupational stress on participant outcomes at a worksite wellness weight loss program has not been examined.

Methods: 16 University faculty and staff members (18.8% faculty, 50.0% staff, 12.5% administration, 18.8% other) participated in a 16-week weight loss program that consisted of 7 educational sessions on nutrition and physical activity. Participants had weight, height, body mass index (BMI), body fat percentage (BF%), blood pressure (BP), total cholesterol (TC), high density lipoprotein (HDL), triglycerides (TG), and blood glucose (BG) measured before and after the program. A validated job stress survey was completed by participants at the beginning of the program, at week 10, and at the conclusion of the program.

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INTRODUCTION

Occupational stress can contribute to obesity and increased body mass index (BMI); consumption of energy dense, high fat, high carbohydrate foods; and decreased physical activity.^{1,2}

The role of occupational stress on participant outcomes at a worksite wellness weight loss program has not been examined.

Research Question: Does occupational stress affect weight loss in individuals attempting to lose weight in a worksite wellness weight loss program?

Hypothesis: Higher levels of occupational stress will have a negative impact on weight loss.

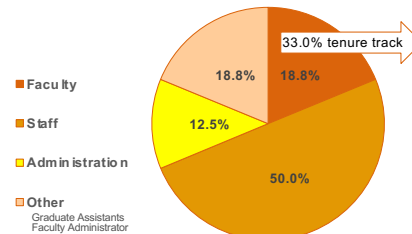


METHODS

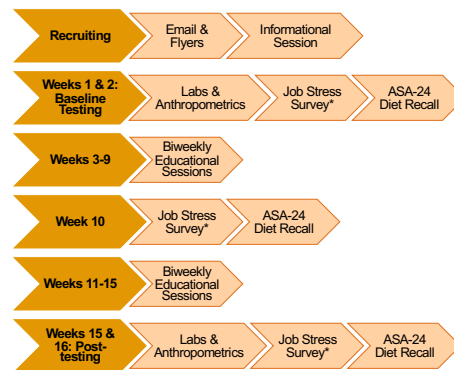
Participant Characteristics

Sex	81.3% female
Race	86.7% white
Occupation Type	50.0% staff

Participant Occupations



Overall Design



*Validated NIOSH Generic Job Stress Questionnaire

METHODS (Cont.)

Educational Sessions

- 1: Portion Control & Individualized Energy Recommendations
- 2: Low-Carb vs. Low-Fat, Which is Best?
- 3: Eating on the Run: Fast Food Pitfalls
- 4: Role of Exercise in Weight Loss Plan
- 5: But the Internet said.... Myths about Weight Loss
- 6: Stress Management and Mindful Eating
- 7: Preventing Weight Loss Plateaus

RESULTS & DISCUSSION

Biochemical & Anthropometric Measures: Pre- & Post-Program

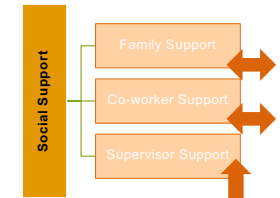
	Pre-Program	Post-Program
Total Cholesterol (mg/dL)	181.1±32.1	190.7±32.7
High-Density Lipoprotein (mg/dL)	47.8±11.8	54.5±15.9
Triglycerides (mg/dL)	142.25±90.3	109.0±70.1
Blood Glucose (mg/dL)	77.69±21.3	90.0±10.4
Systolic Blood Pressure (mmHg)	116.8±11.8	111.7±10.3
Diastolic Blood Pressure (mmHg)	76.9±10.6	73.0±5.4
Weight (kg)	84.7±21.5	80.4±17.5
Body Fat (%)	41.9±6.8	39.5±6.0

Biochemical & Anthropometric Measures: Mean Change

	Mean Change	SD	P-Value
Total Cholesterol (mg/dL)	↑ 9.6	22.0	0.102
High-Density Lipoprotein (mg/dL)	↑ 6.8	7.5	0.003*
Triglycerides (mg/dL)	↓ 33.3	55.8	0.031*
Blood Glucose (mg/dL)	↑ 12.3	20.8	0.032*
Systolic Blood Pressure (mmHg)	↓ 5.1	11.1	0.094
Diastolic Blood Pressure (mmHg)	↓ 3.9	7.6	0.065
Weight (kg)	↓ 4.3	4.7	0.003*
Body Fat (%)	↓ 2.4	2.5	0.002*

RESULTS & DISCUSSION (Cont.)

Predictors of Weight Change



Three forms of social support were evaluated to determine effects on weight loss: family, co-worker, and supervisor support.

- Baseline weight was the best predictor of weight change.
- Supervisor support was the best predictor of baseline weight.
- Supervisor support was significantly better at predicting weight change compared to the mean value of weight change.
- While 32.3% weight change variance was explained by supervisor support, the addition of supervisor support did not significantly improve the ability to predict weight change.
- For every one point improvement in the supervisor support score, participants lost 1.4 kg.

CONCLUSIONS

- This pilot study suggests that the employee-supervisor relationship should be considered in workplace weight loss programs. A larger sample size will help to resolve remaining questions.
- While one session of the program addressed stress management, this advice centered on how to manage overeating while stressed.
- Future participants may benefit from programming that discusses how to deal with difficult people, especially supervisors, in the work place.

REFERENCES

1. Kivimaki M, Head J, Ferrie JE, Shipley MJ, Brunner E, Vahtera J, Marmot MG. Work stress, weight gain and weight loss: evidence for bidirectional effects on job strain on body mass index in the Whitehall II study. *International Journal of Obesity*. 2016;30:982-987.
2. Christaki E, Kokkinos A, Costarelli V, Alexopoulos EC, Chrousos GP, Darviri C. Stress management can facilitate weight loss in Greek overweight and obese women: a pilot study. *J Hum Nutr Diet*. 2013;26(1):132-139.