

THE GRADUATE COLLEGE OF THE
UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER

ANNOUNCES THE FINAL EXAMINATION OF

Michelle Dennison

FOR THE DEFENSE OF DOCTOR OF PHILOSOPHY
GRADUATE COLLEGE
DEPARTMENT OF NUTRITIONAL SCIENCES



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Allied Health Building, Room 1047

*Obesogenic Behaviors, Depression and Cardio-Metabolic Disease in
American Indian Children*

COMMITTEE IN CHARGE: Susan B. Sisson, Ph.D., Carol Dionne,
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ABSTRACT: **BACKGROUND/PURPOSE:** American Indian (AI) children have higher rates of overweight/obesity and depressive symptoms and are at higher risk of chronic disease development. The purpose of this dissertation was to first identify the behaviors that are associated with obesity development, second identify the obesogenic behaviors that are associated with depressive symptomology, in the general population and the AI population, and third to identify the associations of both obesogenic behaviors and depressive symptomology on the cardio-metabolic risk factors that predict chronic disease development. **METHODS:** This dissertation included three cross-sectional experiments and a narrative literature review. The first of the cross-sectional studies assessed levels of overweight/obesity, sugar-sweetened beverage intake and physical activity in AI children ages 7-13 years. In preparation for the second experiment a narrative literature review outlining the

associations between obesogenic behaviors and depressive symptomology in pre-adolescent children was performed. The second study assessed obesogenic behavior levels to include sugar-sweetened beverage, fruit and vegetable intake, meal intake frequency, physical activity, screen time and depressive symptomology in pre-adolescent American Indian children. The final study in this dissertation built upon the previous study outcomes by including cardio-metabolic risk factors in the analysis. **OUTCOMES:** The study population was found to have higher overweight/obesity rates than previously reported and high engagement in obesogenic behaviors to include high sugar-sweetened beverage consumption low fruit and vegetable intake, low time spent in physical activity and high time spent in screen time. The literature review showed a higher prevalence of associations between screen time and depressive symptomology than those found between physical activity and diet and depressive symptomology. These results were also found in the second study. Outcomes from the third study of this dissertation show significant associations between depressive symptomology and screen time variables and blood glucose variables to include fasting glucose, post-prandial glucose and Hemoglobin A1c. Physical activity was found to be associated with body fat percentage and waist circumference. Associations including dietary variables were not found. **DISCUSSION/CONCLUSION:** The associations between depressive symptomology, obesogenic behaviors and cardio-metabolic risk factors highlight the importance of including emotional health assessment in chronic disease prevention in at-risk children.