NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

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Title

Developing a Instrument to Measure Food Choices in Elementary School Children

Priority 1 (Research Category)

Instrument development / psychometrics

Presenters

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Abstract

Context:

Behavioral intention may predict future behavior change, but little is known about assessing children's behavioral intention to eat a healthy diet. KiPOW! TX is a nutrition education program for 2nd graders based on USDA "Serving Up MyPlate: A Yummy Curriculum". We developed a food model-based instrument to measure changes in students' food choices after the KiPOW! program.

Objective:

The study aims to (1) develop a food-model-based instrument to evaluate food quality in student-created meals and (2) establish adequate inter-rater reliability for the instrument.

Study Design and Analysis:

An original scoring instrument was created by the study authors to grade meal plates created from food items from the Nasco Education Deluxe MyPlate Cling Kit. The study team created and photographed 50 unique "meal plates" using the food models. Two graders independently scored the meal plates using the evaluation instrument. Inter-rater reliability was assessed based on a Spearman correlation coefficient using R (R Core Team (2023)).

Dataset:

Dataset included scores of 50 meal plates from 2 independent graders.

Population Studied:

The instrument will be used with about 75 2nd graders in the 2024-25 school year.

Intervention/Instrument:

Study authors categorized 124 food items from the food model kit into the 5 MyPlate food categories (protein, grain, fruit, vegetable, dairy) or in a 6th category, a “sometimes” food (food with added sugar or solid fats) using USDA MyPlate definitions and consensus. Numeric scores were assigned to each food item based on nutritional value. “Sometimes” foods (ex: cookies) were scored “0”. Foods in the 5 MyPlate groups were scored “1” (less healthy) or “2” (most healthy). KiPOW! program goals are for children to choose at least 1 item from each of the 5 food groups, so possible scores range from 0 to 10.

Outcome Measures:

We evaluated the inter-rater reliability of the instrument for the score and number of items of each meal plate using Spearman correlation coefficient.

Results:

Data for plate scores was exactly matched between the two raters ($r = 1$). For the number of items on each plate, inter-rater reliability was 70.2% ($r = 0.702$, $p < 0.001$). Summary statistics such as medians, ranges, were not our main interest since the study uses simulated data.

Conclusions:

Excellent inter-rater reliability was established for the instrument. It is a valuable new tool to measure children’s behavioral intentions towards healthy eating.