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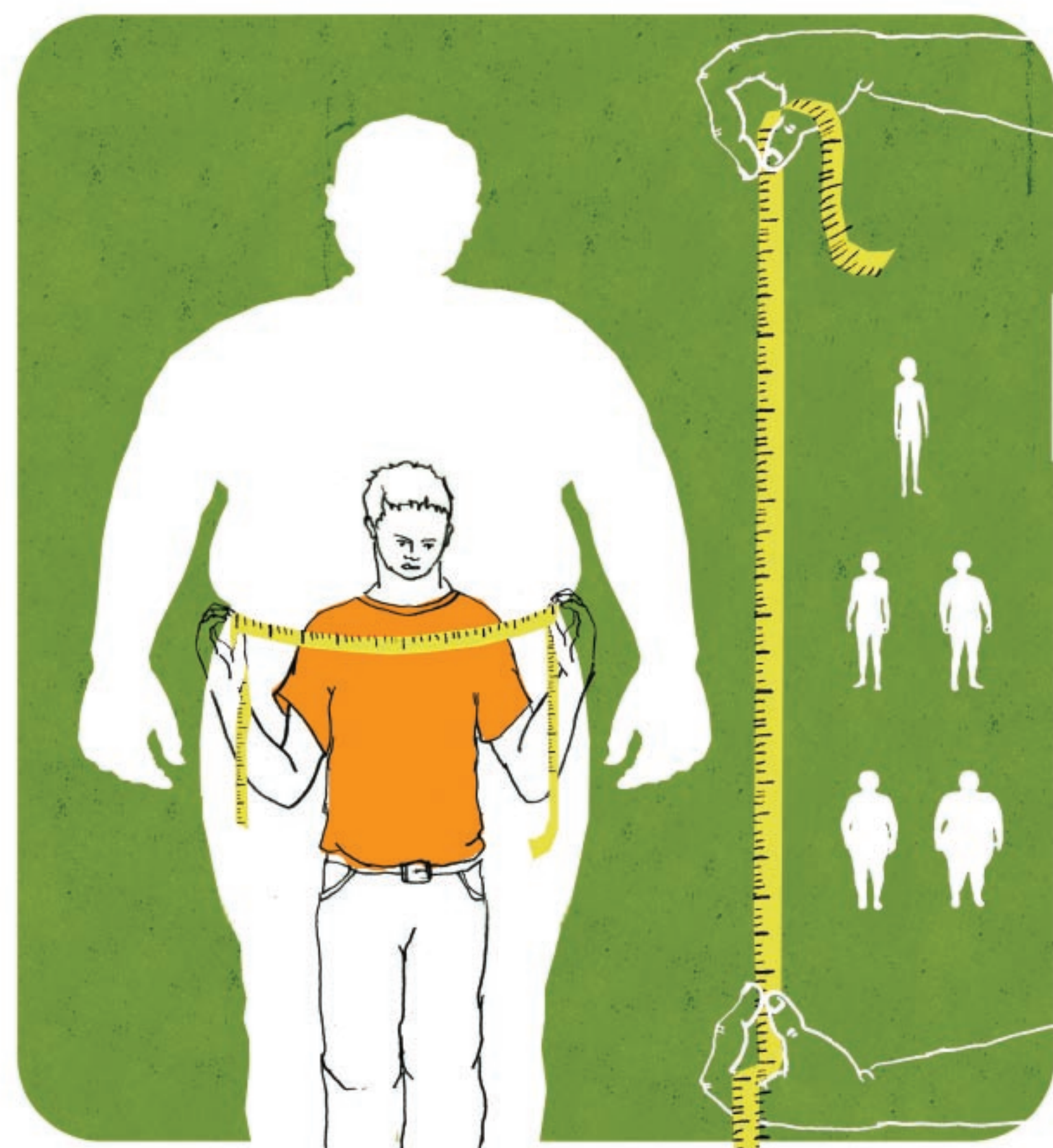
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PROJECT DESCRIPTION

Heart Smart is a Miami Science Museum and University of Miami partnership to (1) develop an exhibition to raise awareness about risk factors associated with cardiovascular disease and provide strategies for improving heart health, (2) use the exhibit as a means to collect data from museum visitors for scientific purposes, and (3) conduct a research study to determine whether a museum-based health exhibit is effective in increasing cardiovascular health knowledge among students in Miami-Dade County Public High Schools.

The main goals of this project are:

- Raise general public awareness about the process and the importance of health-related research
- Raise public awareness of recent research on cardiovascular risk factors, associated diseases, and strategies for improving health
- Investigate the extent to which a museum-based health exhibit functions as an education intervention strategy
- Disseminate the exhibit and complimentary resources to other venues, extending and sustaining the impact of the project



THE EXHIBITION

Heart Smart is a 500-square-foot-bilingual traveling exhibition. Its interactive components will engage visitors in the subject of cardiovascular health by inviting them to take some simple personal measurements (blood pressure, height, weight, waist circumference, self-reported health habits). The exhibit will also inform visitors about the research process and invite them to contribute their health and demographic data – on an anonymous basis – to the University’s research. The exhibit will address the following main theme areas: Nutrition, Exercise, Stress, and Risk Factors.

THE RESEARCH

Museum Visitor Data Collection

Museum visitors who go through the exhibit will be able to anonymously contribute their personal data, for research purposes. The following research question will be addressed: What interrelationships exist between demographic characteristics and indices of cardiovascular risk and health? Posted signage in English and Spanish will explain the research feature of the exhibit. The data collection associated with the museum exhibit involves a waiver of signed consent and an alteration of consent.



High School Health Education Study

The study is designed to determine whether the museum-based health exhibit and its related materials increase cardiovascular health knowledge, readiness for healthy behavior change, and, increase self-efficacy for healthy behavior change among public high school students.

540 students will be randomized to one of three health education conditions requiring parental and student assent:

1. Standard museum experience:
 - Visit and participate in the exhibition.
 - View a planetarium show and explore other exhibit galleries.
2. Enhanced museum experience:
 - Visit and participate in the exhibition.
 - Participate in the *Let’s Talk!* discussion activity.
3. Usual classroom experience:
 - Usual biology classroom experience.
 - Students are given a free pass to visit the Museum after data collection completion.

Self-report data will be collected at baseline, post visit, and 1-month follow-up assessments to assess (1) demographic and health habit information (e.g., exercise, sedentary activity, dietary habits, stress levels); (2) cardiovascular health knowledge; (3) self-efficacy for healthy behaviors; and (4) readiness for healthy behavior change, among public high school students.



PROJECT EVALUATION

Exhibit Evaluation

Front-end evaluation examined high school student and general visitor attitudes, pre-existing knowledge, and interests and misconceptions about cardiovascular health. Formative evaluation tested prototypes of exhibition components to ensure the experiences are engaging for visitors and support the project’s goals. Summative evaluation will examine the impact of the exhibition on visitors immediately after their visit and three months following their visit.

Museum Visitor Data Collection

The museum visitor data represents a large-scale survey. Correlational analyses will be conducted to examine trends in the data as a function of gender, ethnicity, and age. Data will be used to examine the interrelationships among the demographic characteristics and indices of cardiovascular risk and health.

High School Health Education Study Evaluation

General linear mixed models multivariate analyses of variance will be employed to evaluate the impact of health education condition on immediate and on 1 month follow-up changes in health knowledge, readiness for change, and self-efficacy. In addition, changes in health-related behavior will be also examined at follow-up. Significant multivariate condition by time interactions will be followed with univariate tests. Significant univariate contrasts will be explored with contrasts. Conventional adjustments for Type 1 error rate will be applied where appropriate.

Museum-University Collaboration Evaluation

The nature of the collaborative relationship between the University of Miami and the Miami Science Museum has been evaluated by structured interview. Future evaluation will address whether the current model is useful for museum-university collaborations.

