



**Audrey P. Miller, PhD, MSN Ed, ARNP, PPCNP-BC**

Clinical Assistant Professor

**Gabriella M. Riccio, BSN, RN**

Graduate Nursing Student

**Chanadra T. Young-Whiting, EdD, MPH/HSA, BS, MT**

Clinical Assistant Professor



Nicole Wertheim  
College of Nursing  
& Health Sciences

FLORIDA INTERNATIONAL UNIVERSITY

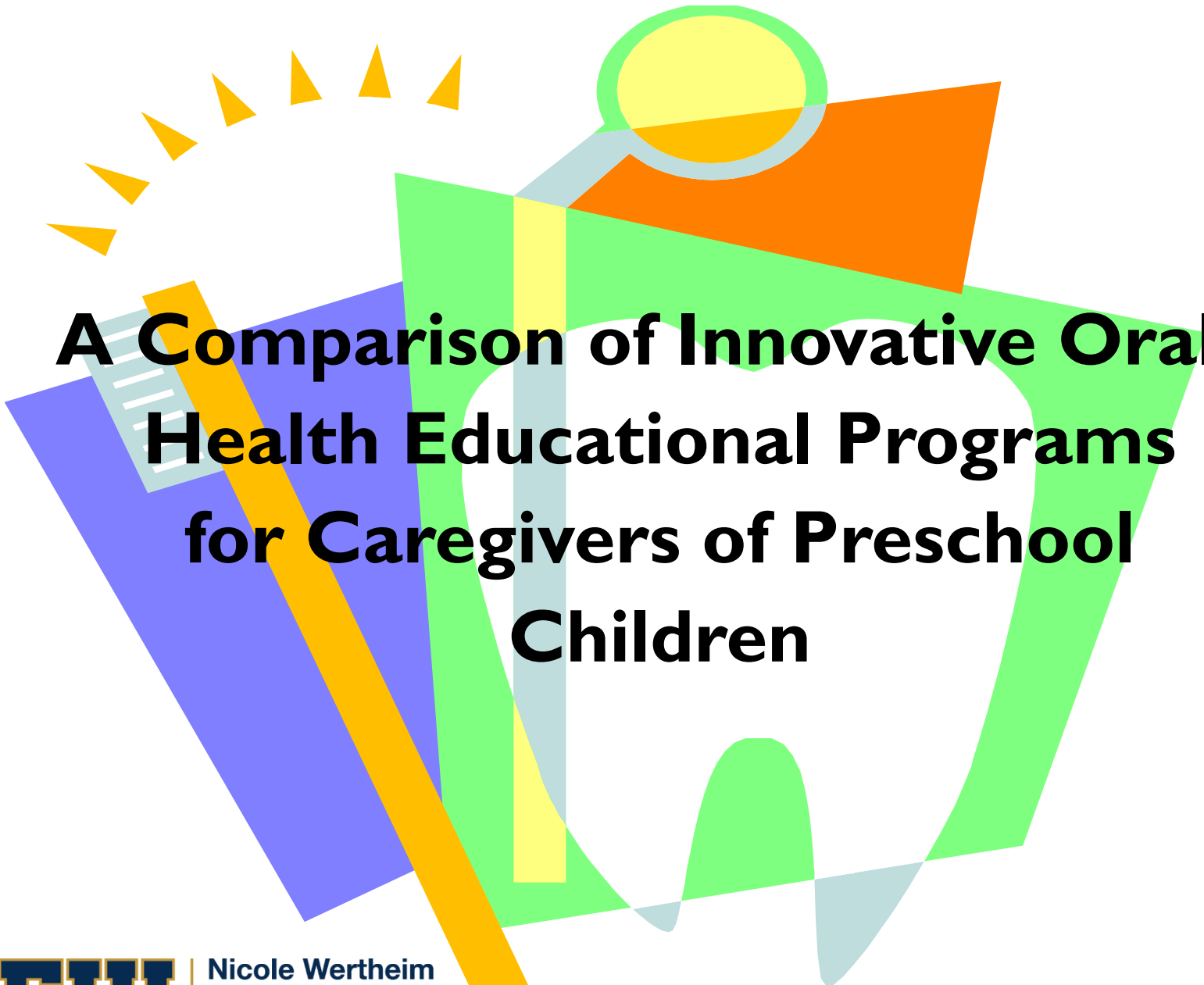


## Disclosure Slide

**Authors:** Audrey P. Miller, PhD, MSN Ed, ARNP, PPCNP-BC  
Gabriella M. Riccio, BSN, RN  
Chanadra T. Young-Whiting, EdD, MPH/HSA, BS, MT

**Learning Objectives:** By the end of this educational presentation, the participant will be able to (1) discuss the difference between good and bad oral health; (2) identify oral health promoting behaviors; and (3) compare and contrast the efficacy of innovative health promoting oral health programs and interventions.


**Conflict of Interest:** There is no conflict of interest, sponsorship, and/or commercial support given to the authors.

A stylized graphic of a smiling face. The face is composed of various geometric shapes: a yellow circle with a green outline for the eyes, a yellow circle with a green outline for the mouth, and a yellow circle with a green outline for the nose. The face is set against a background of overlapping geometric shapes in shades of green, orange, blue, and yellow. A sun with yellow rays is positioned above the face. The title text is overlaid on the face.

# **A Comparison of Innovative Oral Health Educational Programs for Caregivers of Preschool Children**

# Acknowledgements

- Dr. Pender – HPM
- Dr. Morowatisharifabad – DOHB Tool
- Dr. Lawrence – OHKT Tool
- SFHS – Permission to access population
- ADI/DentaQuest – Oral health gift items
- Absolute Graphics – Graphics, printing, and gift bags



# Oral Health Educational Program (OHEP)

**FIU**

Nicole Wertheim  
College of Nursing  
& Health Sciences

FLORIDA INTERNATIONAL UNIVERSITY

# Background

- Dental caries in children are five times more common than Asthma and seven times more common than Hay Fever.
- Infants from families of low socioeconomic status, whose mothers have low education level, and who consume sugary foods, are 32 times more likely to have caries at the age of three than children in whom those risk factors are not present.

(Allukian, M. (2000). The neglected epidemic and the surgeon general's report: A call to action for better oral health. *American Journal of Public Health*, 90(6), 843-845.)

# Background

- Oral health care is the primary preventive method of tooth decay (caries or cavities) and infection in children below the age of five.
- Nonetheless, many children still suffer with multiple infectious tooth decay, unnecessary sedative extractions, and tooth loss; resulting in pain, nutritional concerns, and speech delays.

(DHHS. (Department of Health and Human Services). (2000b). *Oral health in America: A report of the surgeon general*. Rockville, MD: HHS, National Institutes of Health, National Institute of Dental and Craniofacial Research.)

# Background

- These outcomes can lead to speech delays and impairments, growth and developmental delays, and eventually negative systemic effects. Compounding the problem for this population is the possibility of emotional problems due to poor appearance and low self-esteem.
- The gap in the literature as it relates to caregiver knowledge towards oral health for their young children and the effects that preventive oral health care can contribute to a child's healthy lifestyle are deficient.

(DHHS. (Department of Health and Human Services). (2000b). *Oral health in America: A report of the surgeon general*. Rockville, MD: HHS, National Institutes of Health, National Institute of Dental and Craniofacial Research.)



# Background

- Head Start- Federally funded social program
- Community Action Agency umbrella
  - 2011 memorandum sent by the Mayor Carlos Gimenez, declared the operational merger of the Community Action Agency, the Department of Human Services, and the Office of Human Rights and Fair Employment Practices in a countywide reorganization
  - Community Action and Human Services

# Background

Head Start- Federally funded social program

- HS: 2 to 5 year-olds
- Early Head Start: 8weeks to 3 year-olds
- Services
  - Health
  - Nutrition
  - Disability
  - Mental health
  - Social/Family Services

# Background

Head Start- Federally funded social program

- County line to Florida City
- Sweetwater to the Beaches
- 10 RN's – Quality Assurance
- PE, Immunizations, PPD, Lab, Dental
  - Dental: Yearly exam and restoration if needed
  - Barriers

# Background

Florida International University – Public research university (RI Carnegie classification)

- Enrollment – 54,000+
- Nicole Wertheim College of Nursing & Health Sciences – 2,400+ students and 70+ full-time faculty



# Statement of the Problem

- The problem is that not all two to five year-old children in South Florida Head Start programs receive routine preventive oral health care; therefore, they possess poor oral health.

# Purpose of the Study

- The purpose of this study was to:
  - explore the effects of an oral health educational program (OHEP) on knowledge and behavior-specific cognitions and effect in caregivers of preschool children.
  - promote good oral health (OH) behaviors among caregivers of preschool children.
  - improve OH outcomes, and compare the innovative health-promoting interventions.

# Theoretical Framework

- The Health Promotion Model (HPM) is a theoretical perspective that explores the factors and relationships contributing to health-promoting behavior and therefore to the enhancement of health and quality of life.

(Pender, N. J., Murdaugh, C. L., & Parsons, M.A. (2006). *Health promotion in nursing practice*. (5<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Prentice Hall.)



# Theoretical Framework

- The HPM is a guide for exploration of the complex biopsychological (the body and mind) processes that motivate individuals to engage in healthy behaviors directed toward the enhancement of health.

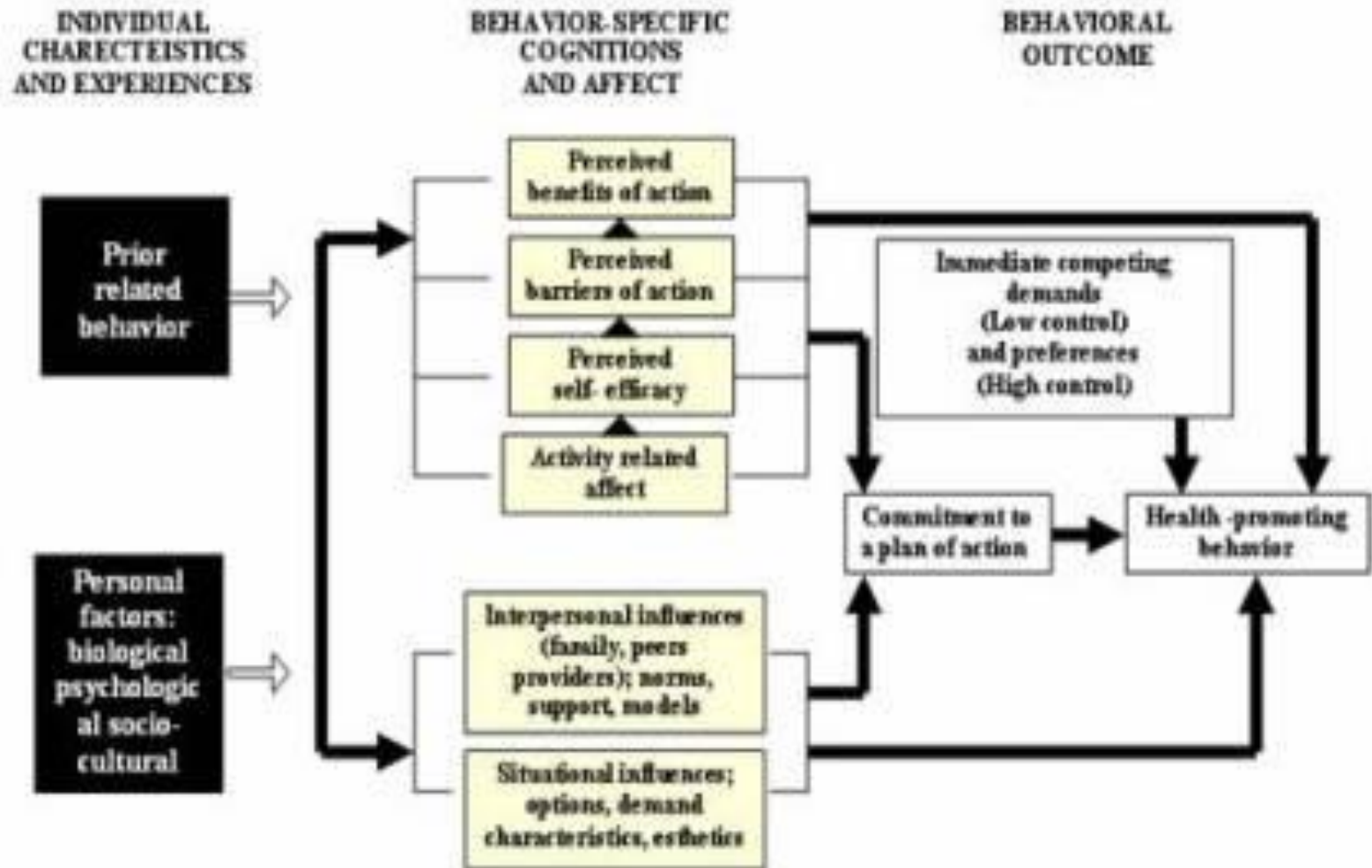
(Pender, N. J., Murdaugh, C. L., & Parsons, M.A. (2006). *Health promotion in nursing practice*. (5<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Prentice Hall.)

# Theoretical Framework

- HPM is an attempt to depict the multidimensional nature of a person's interacting with their interpersonal and physical environments as they pursue health.

(Pender, N. J., Murdaugh, C. L., & Parsons, M.A. (2006). *Health promotion in nursing practice*. (5<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Prentice Hall.)

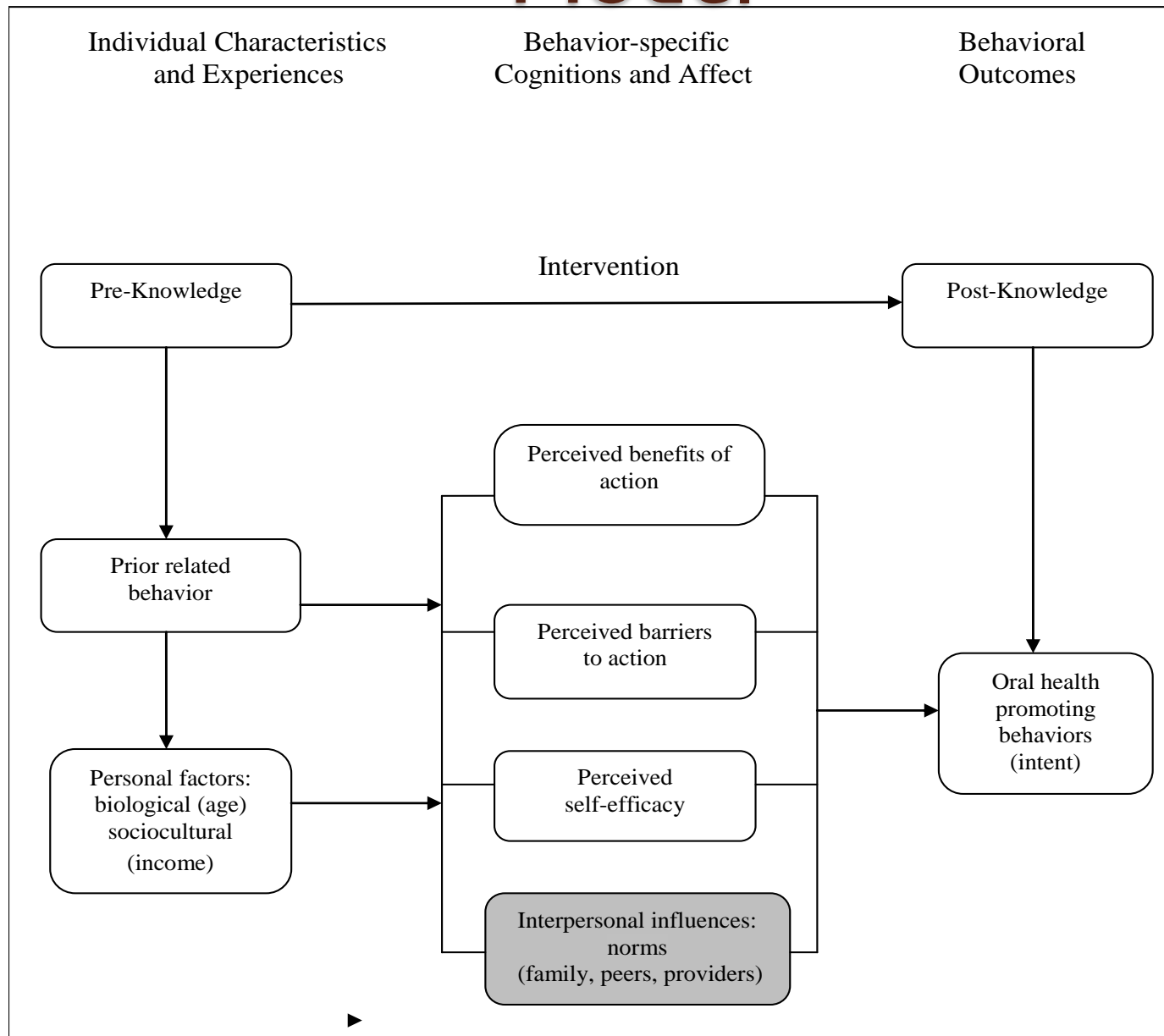
# Model



# Theoretical Concepts

- Individual characteristics and experiences
  - Prior related behavior
  - Personal factors
- Behavior-specific cognitions and affect
  - Perceived benefits
  - Perceived barriers
  - Perceived self-efficacy
- Behavioral outcomes
  - Oral health promoting behaviors and intent

# Model



# Literature Review: Synthesis

## Contribution to Nursing Science:

- Develop, Evaluate, Test, and Promote OHC educational programs
- Increase caregiver's knowledge in OHC
- Increase caregiver's OHC behavior
- Encourage caregiver's self-efficacy
- Promote OHC for children 2 to 5 years old
- Promote OHC and prevent oral disease

# Protection of Human Subjects

- IRB Approval from Head Start and FIU
- South Florida Head Start Access Approval
- Recruitment
- Voluntary Participation
- Cover Letter
- Anonymity
- OHEP presentation
- Oral Health gift bag





# Methodology

- Research Design
  - Descriptive
  - Quasi-experimental
  - Pre-post test
- Variables
  - Independent: Oral Health Educational Program - 16 minute compact disc (CD) on “Dr. Rabbit and the Legend of Tooth Kingdom,” which was developed by Colgate Bright Smiles, Bright Futures<sup>®</sup> (BSBF); and an 8-minute powerpoint-style musical video via hosted by YouTube.
  - Dependent: Prior related behavior, Personal factors, Behavior-specific Cognitions and Affect, Knowledge, and Intent

# Methodology

- Setting
    - South Florida Head Start Program
  - Study Participants
    - Caregivers\* of Head Start and FIU children between the age of two and five
- \*Caregivers= mom, dad, sibling, aunt, uncle, grandparent, foster parent, guardian*
- Sample
    - Convenience sample
  - Sample Size
    - 400 Head Start and 27 FIU participants

# Methodology

## Research Instruments

- A researcher designed demographic questionnaire
- The Determinants of Oral Health Behaviors (DOHB)
- Oral Health Knowledge Test (OHKT)

# Methodology

## Data Analysis

- Preliminary data analysis
  - Frequencies, measures of central tendencies, descriptive
- Hypotheses testing
  - Pearson's  $r$  Correlation (#1,3, 4)
  - Multiple Regression (#2)
  - $t$ -test for dependent variables (#5)
  - (#1)

# Data Collection

## Head Start

- 7 SFHS sites were visited
- 18 educational programs were offered
- Attendance ranging from 8 to 50 persons per educational session
- 425 surveys were distributed, 425 were returned, and 400 provided complete data
- 100% return on surveys

## FIU

- FIU students, faculty and staff were recruited from both campuses via flyer and email listserve
- SurveyMonkey® was utilized to obtain consent, demographical information, and pre-post tests; and the musical video link to YouTube
- 27 consents, 25 completed demographics, 19 complete pre-test, 17 completed first post-test, 14 completed second and third post-test

# Data Collection





**Attention FIU Families!**

**A research study  
is being done on  
Oral Health Care for Children.**

Are you 18 years of age or older, an FIU student, faculty or staff who is a caregiver for a child that is 2 to 5 years old, and able to speak and read fluent English?

We need your knowledge and experiences. Your information will be kept confidential.

- You will be asked to partake in a 10-minute video on oral health care for children.
- You will be asked to take five minutes to read the consent form in order to participate in this study and provide your FIU e-mail address so that the questionnaires can be distributed to you.
- You will be asked to complete a demographic questionnaire which will take about 5 minutes, and one questionnaire before and after the video which will take about 10 minutes.
- You will be asked to complete the same questionnaire after 2 weeks, and then again after 4 weeks from the initial one.
- The total time requested of you for this study will be no more than 1 hour.

A minimum of 54 volunteers and a maximum of 60 will be needed.

At the end of the educational program and completion of the questionnaires, you will receive an oral health gift pack filled with many items and information that can be used for your children.

The study is entitled “An Oral Health Educational Program on Knowledge in Caregivers of Preschool Children,” and is being conducted by Gabriella Riccio, an undergraduate nursing student at Florida International University.

Faculty Advisor  
Dr. Audrey P. Miller, RN  
305-348-4570

Institutional Review Board  
Mrs. Maria Melendez-Vargas  
305-348-2494

If you would like to volunteer, please log onto the following website for instructions:

<http://www.surveymonkey.com/s/TRC9FWJ>

**IRB approved by Florida International University: IRB approval number 121112-01**

**Step 1: Consent form** - Please proceed to this link <http://www.surveymonkey.com/s/TRC9FWJ>

**Step 2: Demographic questionnaire** - Please proceed to this link <http://www.surveymonkey.com/s/VBRBCZL>

**Step 3: Pre-test** - Please proceed to this link <http://www.surveymonkey.com/s/HD6RCFX>

**Step 4: Oral Health Educational Program video** - Please proceed to this link <http://youtu.be/UU8XBjlt8qQ>

**Step 5: Post-test** - Please proceed to this link <http://www.surveymonkey.com/s/VGQKCS6>

\*\*\*A reminder will be sent to your FIU e-mail address provided in the consent form for the second and third post-test, at two weeks and four weeks, respectively\*\*\*

- Head Start OHEP Colgate video

<https://search.yahoo.com/yhs/search?p=colgate+mr.rabbit+video&ei=UTF-8&hspart=mozilla&hsimp=yhs-002>

- FIU OHEP YouTube video

<https://www.youtube.com/watch?v=JnanfXOSG8Q>



# Data Analysis

- IBM SPSS version 19.0 Grad Pack
- Descriptive
- Simple Pearson's  $r$  Correlation
- Multiple Pearson's  $r$  Correlation (Multiple Regression)
- $t$ -test for dependent variables



# Results- Demographic

## Head Start

- Sample ( $n = 400$ ) consisted of men ( $n = 92, 23\%$ ) and women ( $n = 308, 77\%$ )
- Ages of 18 and 67 years ( $M = 27.25, SD = 7.65$ )
- Majority were Black ( $n = 379, 94.8\%$ ) with the remainder being Hispanic ( $n = 21, 5.2\%$ )

## FIU

- Sample ( $n = 25$ ) consisted of women ( $n = 23, 92\%$ ) and men ( $n = 2, 8\%$ )
- Ages of 19 and 69 years ( $M = 33$ )
- Majority were Hispanic ( $n = 12, 48\%$ ), 24% ( $n = 6$ ) White, 16% ( $n = 4$ ) Black, 8% ( $n = 2$ ) Asian, and 4% ( $n = 1$ ) “other”

# Quantitative Grid – Head Start

Research Question	Hypotheses	Instrument	Statistical Test	Results
1. Among caregivers for children between the ages of two and five, do the caregivers' behavior of providing oral hygiene for the children prior to an educational intervention correlate with their behavior-specific cognitions and affect related to providing such care (benefits, barriers, and self-efficacy)?	1. Among caregivers of children between the ages of two and five, there is a positive correlation between the caregivers' behavior of providing oral hygiene for the children prior to an educational intervention and their behavior-specific cognitions and affect related to providing such care (benefits, barriers, and self-efficacy).	Determinants of Oral Health Behaviors (DOHB) 46 items	Pearson's <i>r</i> simple correlation, $p < .05$	$r = .43, p < .01$ (two-tailed). Significant relationship between scores for prior behavior and the behavior-specific cognitions and affect. Effect size was medium.
2. Among caregivers for children between the ages of two and five, do the caregivers' personal factors of age and income correlate with their behavior-specific cognitions and affect related to providing oral hygiene care for the children (benefits, barriers, and self-efficacy)?	2. Among caregivers for children between the ages of two and five, there is a positive predictive relationship between caregivers' personal factors of age and income and their behavior-specific cognitions and affect related to providing oral hygiene care for the children (benefits, barriers, and self-efficacy).	DOHB and Demographic Survey (DS) 56 items	Pearson's <i>r</i> multiple correlation, $p < .05$ (Multiple regression)	$F(2, 397) = .80, p = .49$ . No significant relationship between the predictor variables of age and income to the outcome variable behavior-specific cognitions and affect related to providing oral health care for children.
3. Among caregivers for children between the ages of two and five, is there a positive correlation between caregivers' knowledge of oral hygiene prior to an educational intervention and their behavior of providing oral hygiene	3. Among caregivers for children between the ages of two and five, there is a positive correlation between caregivers' knowledge of oral hygiene prior to an educational intervention and their behavior of providing oral hygiene	DOHB, DS, and Oral Health Knowledge Test (OHKT) 80 items	Pearson's <i>r</i> simple correlation, $p < .05$	$r = .16, p < .01$ (two-tailed). Significant relationship between the scores for caregivers' knowledge prior to the educational intervention and their prior related

# Quantitative Grid – Head Start

Research Question	Hypotheses	Instrument	Statistical Test	Results
4. Among caregivers for children between the ages of two and five, is there a positive correlation between caregivers' post-intervention knowledge of oral hygiene and their intention to provide oral hygiene to the children following the intervention?	4. Among caregivers for children between the ages of two and five, there is a positive correlation between post-intervention scores for knowledge of oral hygiene and their intention to provide oral hygiene to the children.	OHKT and Intent 39 items	Pearson's <i>r</i> simple correlation, $p < .05$	$r = .27, p < .01$ (two-tailed). Significant relationship between the post-intervention scores for knowledge and caregivers' intent to provide oral health care for their children. Effect size was small.
5. Is an educational intervention effective in increasing the knowledge regarding providing oral hygiene care to children for a group of caregivers of children between the ages of two and five?	5. There is a significant difference between the pre-intervention scores and the post-intervention scores for knowledge of oral hygiene among a group of caregivers of children between the ages of two and five.	OHKT (pre) and OHKT (post) 48 items	<i>t</i> -test for dependent variables, $p < .05$	( $M = 60.57, SE = .30$ ), ( $M = 59.03, SE = .26$ ), $t(399) = -6.35, p < .01, r = .30$ ). Caregivers scored significantly higher on post-test for knowledge than they did for pre-test knowledge. Effect size was small.

# Quantitative Grid - FIU

Research Question	Hypotheses	Instrument	Statistical Test	Results
1. Is an oral health educational program (OHEP) effective in increasing knowledge on oral health in caregivers of preschool children?	1. There is a significant difference between pre-educational program scores and post-educational program scores for knowledge on oral health care in caregivers of preschool children.	OHKT (pre) and OHKT (post), 34 items.	t- test for dependent variables, $p < .05$	<p><math>M = 43.52</math> (<math>sd = 3.72</math>),  <math>M = 44.05</math> (<math>sd = 3.79</math>),  <math>t(16) = -.376</math>, <math>p &gt; .05</math>,  <math>r = .71</math>.</p> <p>No significant difference between pre- and post OHEP scores.</p> <p><math>M = 42.71</math> (<math>sd = 3.26</math>),  <math>t(13) = .485</math>, <math>p &gt; .05</math>,  <math>r = .63</math></p> <p><math>M = 44.07</math> (<math>sd = 3.04</math>),  <math>t(13) = -.770</math>, <math>p &gt; .05</math>,  <math>r = .45</math>.</p> <p>No significant difference between pre- and post OHEP #2 or #3 scores.</p>

# Limitations of the Study

- Sample from SFHS Program
- Only English-speaking participants
- Generalizability- Convenience Sample
- Length of questionnaire
- Questionnaires self-reported
- Unable to repeat post-test to determine knowledge retention and/or intent in Head Start OHEP
- Poor response from SurveyMonkey's post 2 & 3 survey in FIU OHEP

# Conclusions

- Effective oral health educational programs  
Increase health promoting behaviors and intent in caregivers
- The Health Promotion Model  
Significant foundation  
Utilize educational promotion techniques  
Guidance for health promotion
- Quantitative studies to explore  
Additional variables  
Populations



# Conclusions

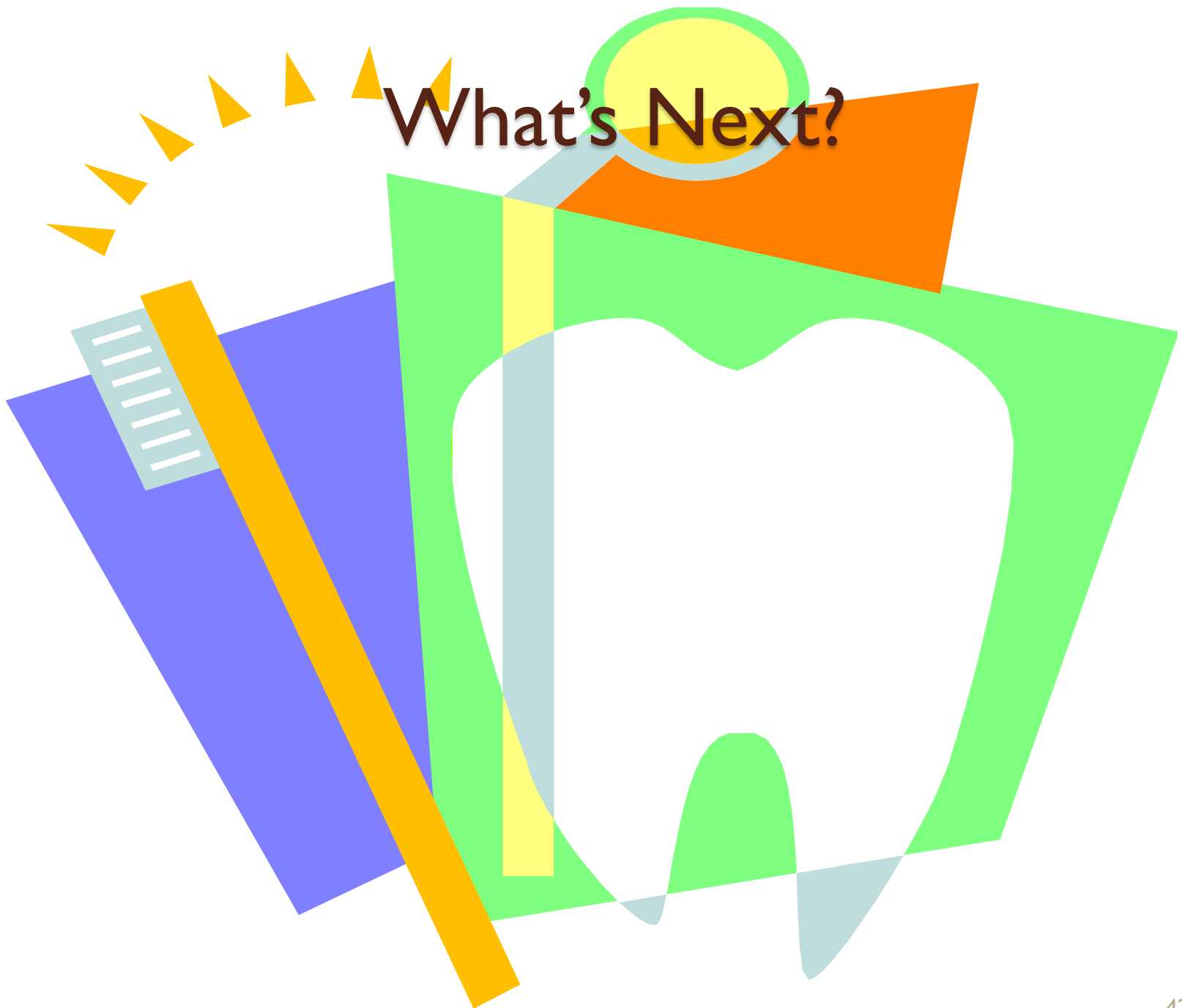
- Increased caregiver knowledge, oral health promoting behaviors, and oral health for their children
- Innovative OHEP
- OHEP classrooms gather more participants, but poor followup  
OHEP musical powerpoint on YouTube innovative but  
poor response rate

Significant improvement in Head Start families

No significant change in FIU families

- Healthy People 2020  
Decrease disparities in low income children and their families  
Increase access to oral health services  
Increase pediatric dental providers  
Decrease oral disease

# What's Next?



# Oral Health Educational Program Agenda

- Increase and expand research breath/depth
- Prevention, Education, Intervention Program
- Children
  - Ages 2-5
  - Oral Health Educational Program on prevention
- Adolescents
  - Ages 12-17
  - Oral Health Educational Program on oral infections, disease, cancer
- Chronic Disease
  - Transplant, CP, SCD, DM, HIV/AIDS, Asthma



# Questions?

- Thank You

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