# Personal Factors and Environmental Influences within the Family as Predictors of Adolescent Asthma Self-Management

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## Introduction

- Asthma, a leading cause of childhood chronic disease, affects over 2.4 million adolescents and their families in the United States.

- Non-Hispanic black adolescents and adolescents from families with low income have disproportionately higher asthma prevalence and worse asthma morbidity and mortality rates compared with adolescents of other races and ethnicities.

- Effective asthma self-management is essential for the health, quality of life, and economic well-being of adolescents with asthma and their families.

- Most studies about adolescents with asthma have focused on medication adherence, a concept related to self-management, rather than on the specific preventive and relief behaviors involved in asthma self-management.

## Purpose

Conduct a secondary analysis using baseline data from a multi-site adolescent asthma self-management intervention-trial to explore the relationships among selected adolescent personal factors, environmental influences within the family, and adolescent asthma preventive and relief self-management behaviors among subgroups reflecting early, middle, and late adolescence.

## Aims

**Specific Aim 1**
Determine how *asthma self-management preventive and relief behaviors* differ by age subgroups (i.e., early, middle, and late adolescence) in adolescents with persistent asthma.

**Specific Aim 2**
Determine the extent to which adolescent *personal factors* (e.g., sex and asthma self-management self-efficacy) and *environmental influences* (e.g., family history of asthma, family socioeconomic status, and perceived family support) within the family predict *asthma self-management preventive behaviors* across age subgroups (i.e., early, middle, and late adolescence) in adolescents with persistent asthma.

**Specific Aim 3**
Determine the extent to which adolescent *personal factors* (e.g., sex and asthma self-management self-efficacy) and *environmental influences* (e.g., family history of asthma, family socioeconomic status, and perceived family support) within the family predict *asthma self-management relief behaviors* across age subgroups (i.e., early, middle, and late adolescence) in adolescents with persistent asthma.

## Bandura's Social Cognitive Theory: Model of Triadic Reciprocal Causation
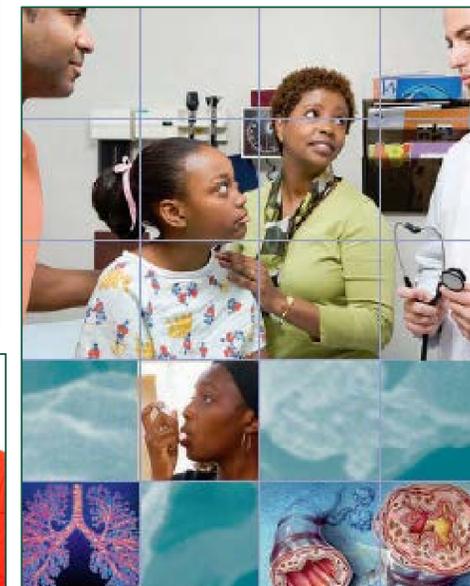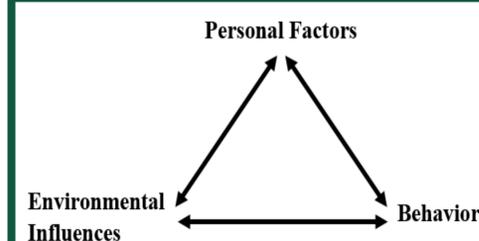


## Conceptual Framework
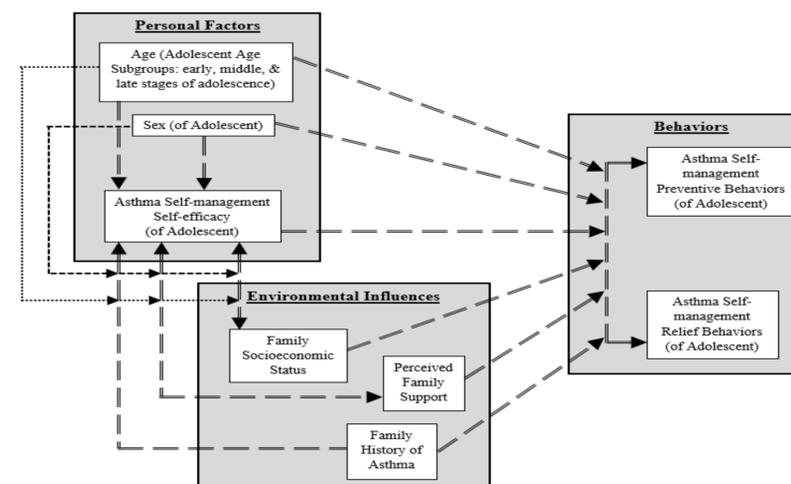


## Methods

**Design:** A secondary analysis of cross-sectional baseline data using a descriptive-correlational design

**Sample:** Convenience sample of 373 predominately (78.6%) non-Hispanic black adolescents (ages 12 – 20 years) with persistent asthma; 50% female

**Setting:** Adolescents with persistent asthma were recruited from clinics, schools, churches, health fairs, and other community locations and events by three urban study sites for the primary study
- Memphis, TN (University of Tennessee Health Science Center)
- Baltimore, MD (Johns Hopkins University)
- Buffalo, NY (University of Buffalo)

**Instruments:**
- Demographic Information Form
- Asthma Information Form
- Asthma Self-management Indices
- Perceived Social Support-Family Measure

**Planned Data Analyses:**
- Descriptive Statistics
- Pearson's or Spearman's Correlation Coefficients
- Multiple Linear Regression

## Results and Discussion

**Findings from this theory-guided study could:**

- Better inform clinical practice and the care of adolescents with asthma and their families, especially those from an understudied population disproportionately affected by asthma and adverse health outcomes

- Be used to design more tailored and developmentally-appropriate asthma self-management interventions for adolescents and their families

- Determine the utility of Social Cognitive Theory in explaining outcomes and informing solutions in this population experiencing significant health disparities

## Acknowledgments