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AT CHICAGO NURSING

Social Stressors, Inflammation and Preterm Birth in African American women

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Disclosure

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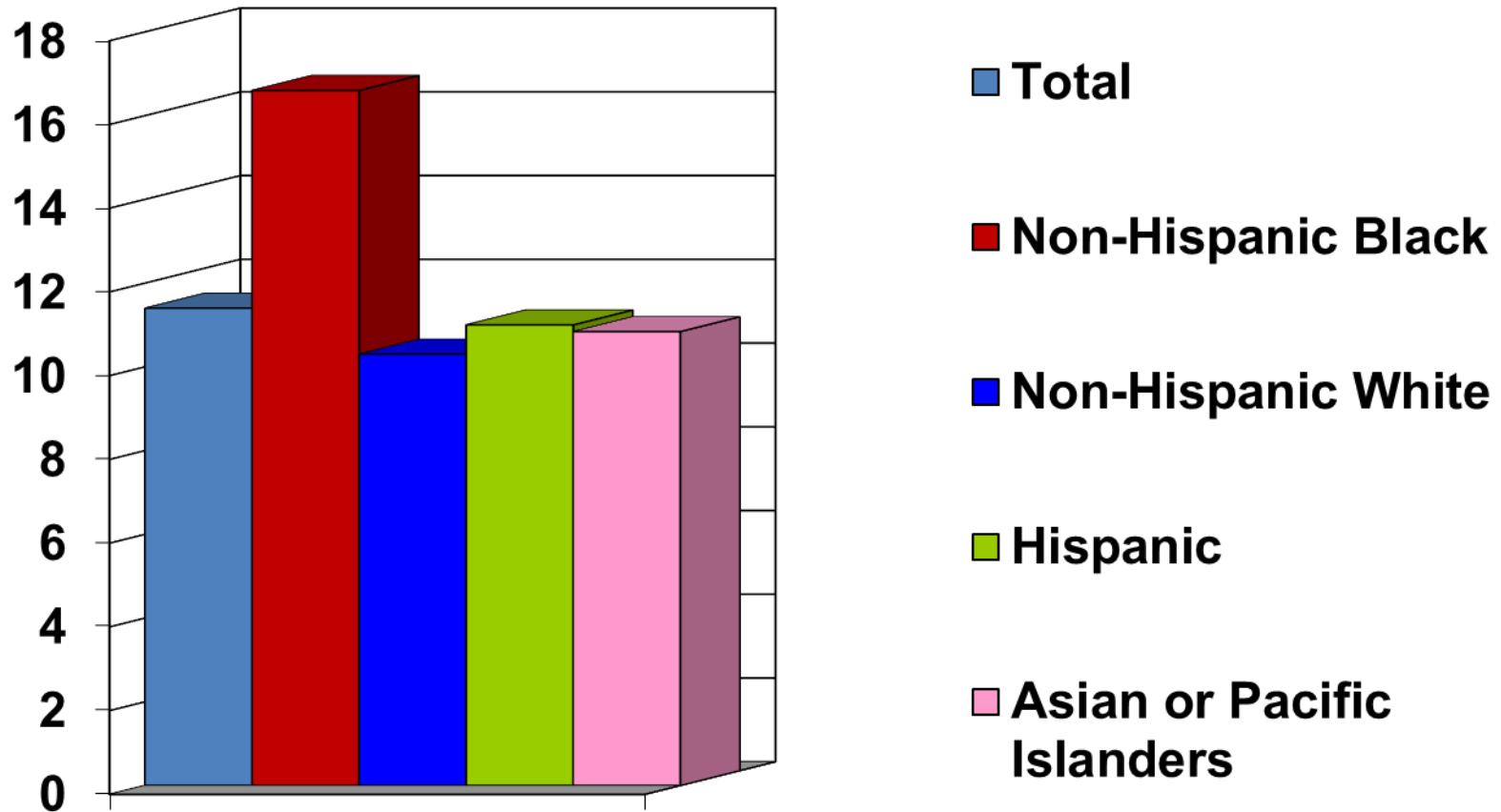
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Preterm Birth

- Preterm birth (<37 completed weeks gestation)
- Prematurity
 - leading factor of neonatal mortality
 - major cause of long-term health problems
- Cost
 - \$75,000 per infant
 - \$26 billion for society



Rates Preterm Birth in the US in 2013



Psychological Stress and Preterm Birth

Preterm Birth related to:

- Psychological stress
 - Psychological distress
 - Anxiety
 - Depressive symptoms
- Physiological stress responses
 - Cortisol
 - Inflammation



Social Stressors and Preterm Birth

Preterm birth related to:

- Disadvantaged neighborhoods
 - Socio-economic status (i.e., poverty)
 - Disorder (i.e., abandoned buildings, litter)
 - Crime
- Experiences of racial discrimination



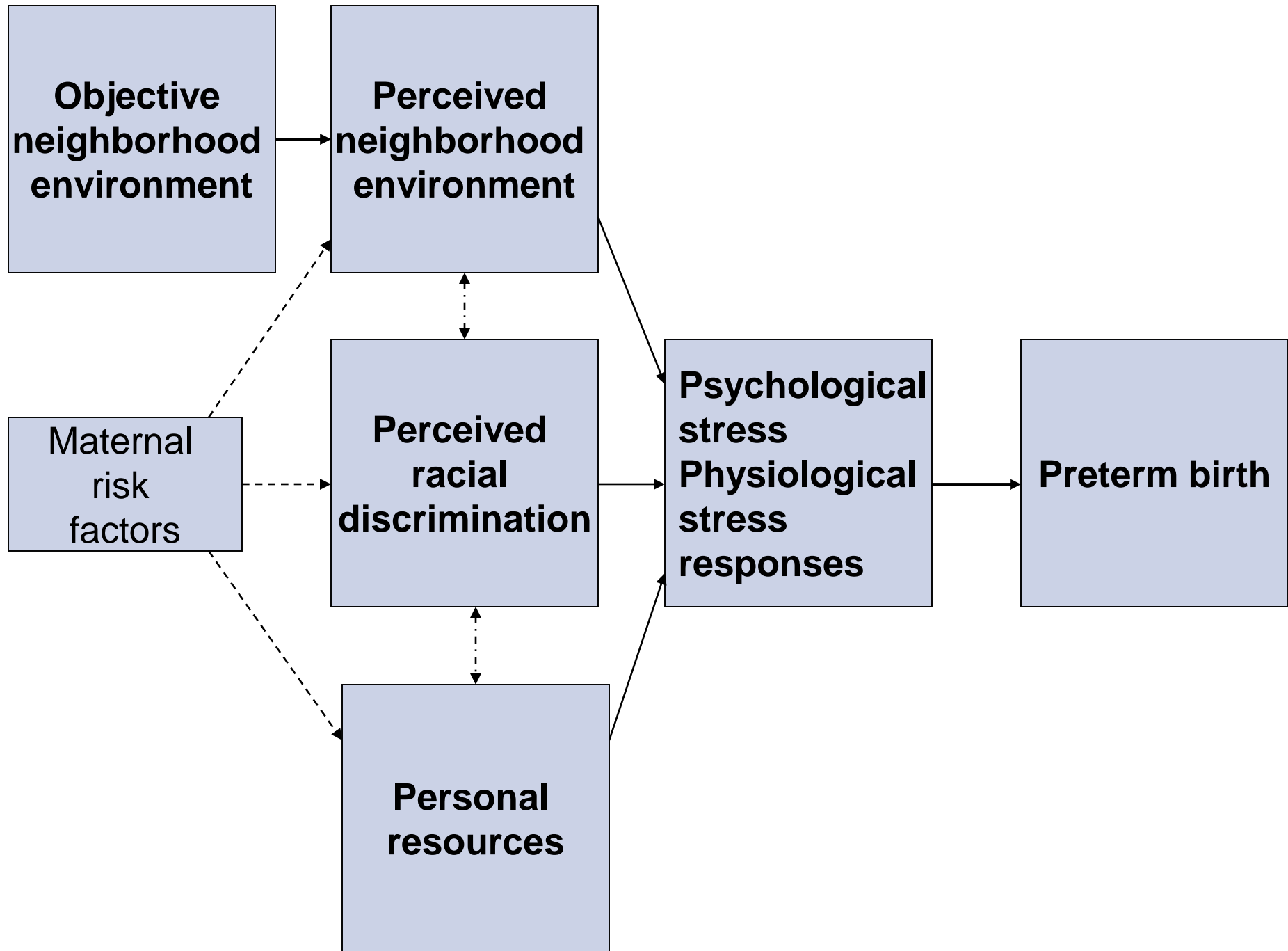
Purpose

- To examine the relationships among neighborhood environment, racial discrimination, psychological stress (distress, anxiety, depressive symptoms), personal resources (coping, social support), inflammation (pro- and anti-inflammatory cytokines) and preterm birth.

Theoretical framework

Person and environment in a “dynamic, mutually reciprocal, bi-directional relationship”

- Stress: events within the person or situation
- Appraisal: result of stressful person-environment
- Coping:
 - mediator
 - emotion- and problem-focused
- Consequences:
 - positive and negative feelings
 - somatic changes



Methods

- Longitudinal design
- N=114 pregnant African American women
 - Age: 24 ± 5 years
 - Marital Status: 83% single
 - Education: 30% some college
 - Employment: 52% unemployed
 - Income: 50% less than \$10,000
 - Public assistance: 82%



Methods

- Data collected three times
 - T1 16-22 weeks (M=19.5± 2.5)
 - T2 26-32 weeks (M=29 ± 2.7)
 - T3 @ birth (M=38 ± 2.7; 8.4% preterm birth)
- Questionnaire packet
- Blood draw by venipuncture
- Medical records



Results

- Women who lived in neighborhoods with higher physical disorder and crime within ½ mile from residence reported:
 - Higher levels of anxiety
 - Lower levels of social support
- Women who reported higher levels of perceived disorder and crime had:
 - Higher levels of psychological distress and depressive symptoms
 - Higher use of avoidance coping
 - Lower levels of social support



Results

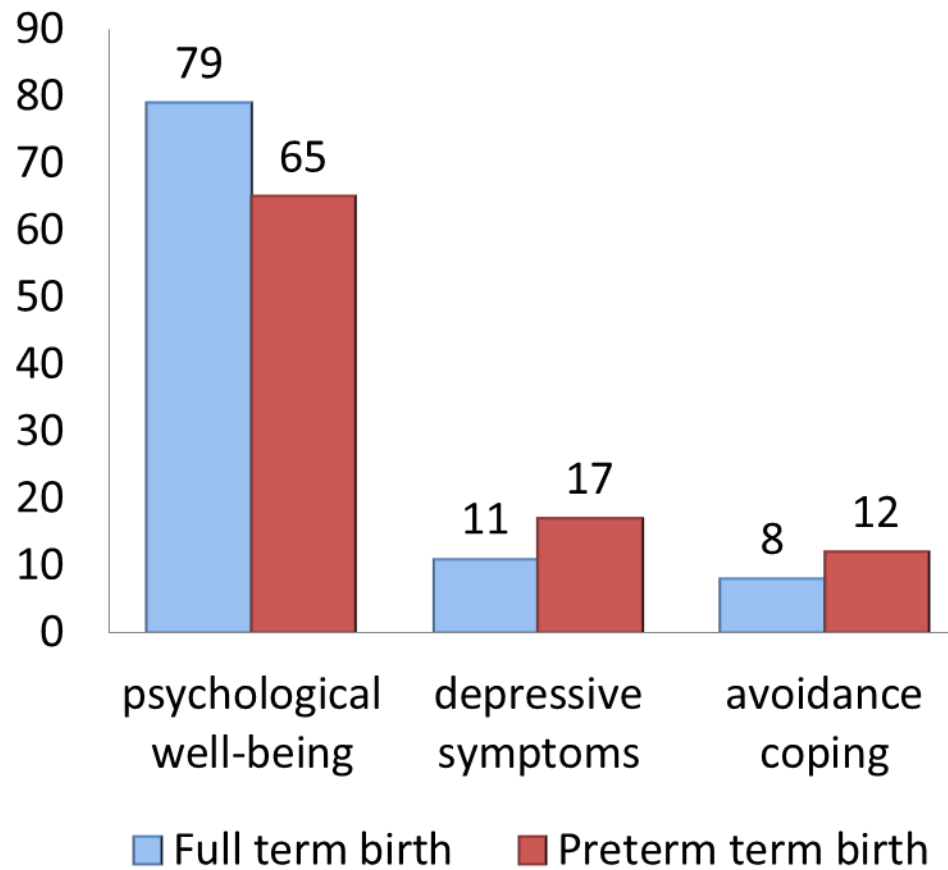
- Social support and avoidance coping mediated the effects of disadvantaged neighborhoods on depressive symptoms.
- Psychological distress mediated the effects of neighborhood disorder and crime on preterm birth.



Results

- Women who reported higher levels of racial discrimination had:
 - Higher levels of psychological distress, anxiety and depressive symptoms
 - Higher use of avoidance coping
 - Higher levels of inflammation (IL-2, IL-6, IL-8)
 - Lower levels of social support
- Women who reported higher levels of psychological distress and depressive symptoms had higher levels of inflammation (IL-2, IL-6, IL-8).

Results



Summary

- Pregnant African American women reported living in disadvantaged neighborhoods and experiencing racial discrimination.
- Social stressors were related to higher levels of psychological stress and inflammation.
- Psychological stress was related to greater systemic inflammation.
- Women with preterm birth had higher levels of psychological stress.
- Psychological stress mediated the effects of disadvantaged neighborhoods on preterm birth.





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