

Discrimination, Inflammation & Purpose in Life

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Background

- Social stratification drives the distribution of social stressors and coping resources
- Certain stressors that disproportionately affect racial minorities and women
- Psychosocial resources may buffer or mediate the effects of discrimination

Current Study

Study Aims, Key Variables & Data Analyses

Study Aim

- Study aim
 - Investigate competing models for the role of coping resources (i.e., purpose in life)
- Health & Retirement Study (HRS)
 - 2006 & 2008 Biomarker Assessment
 - Hybrid analytic sample: $n = 11,935$

Key Variables

- Everyday Discrimination (Kessler et al., 1999)
- Lifetime Discrimination (Williams et al., 1997)
- Purpose in Life (Ryff et al., 1995)
- C-reactive protein (Log transformed)

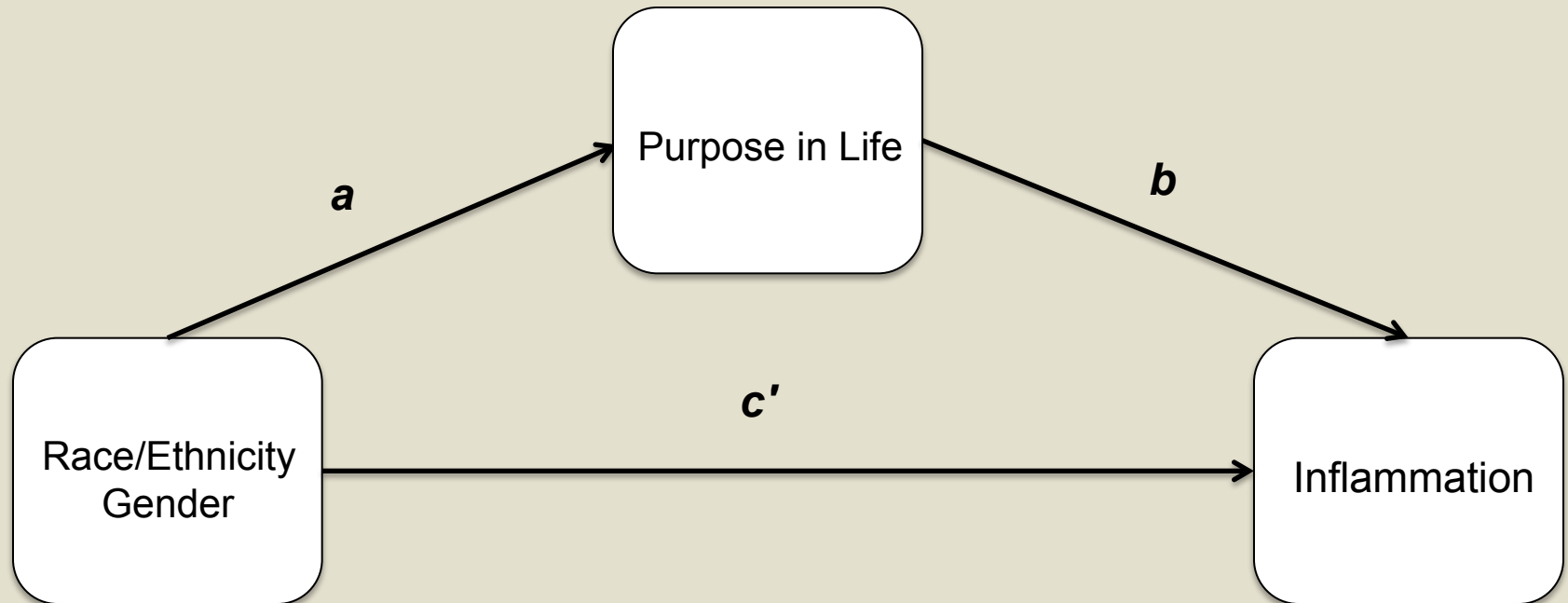
Data Analysis - 1

- Moderation analysis
 - Product interaction terms
 - Controls for health behaviors, depressive symptoms, marital status, employment, year of data collection

- Mediation analysis with structural equation model (SEM)
 - Model fit: CFI = 1.00, TLI = 1.00, RMSEA < 0.005

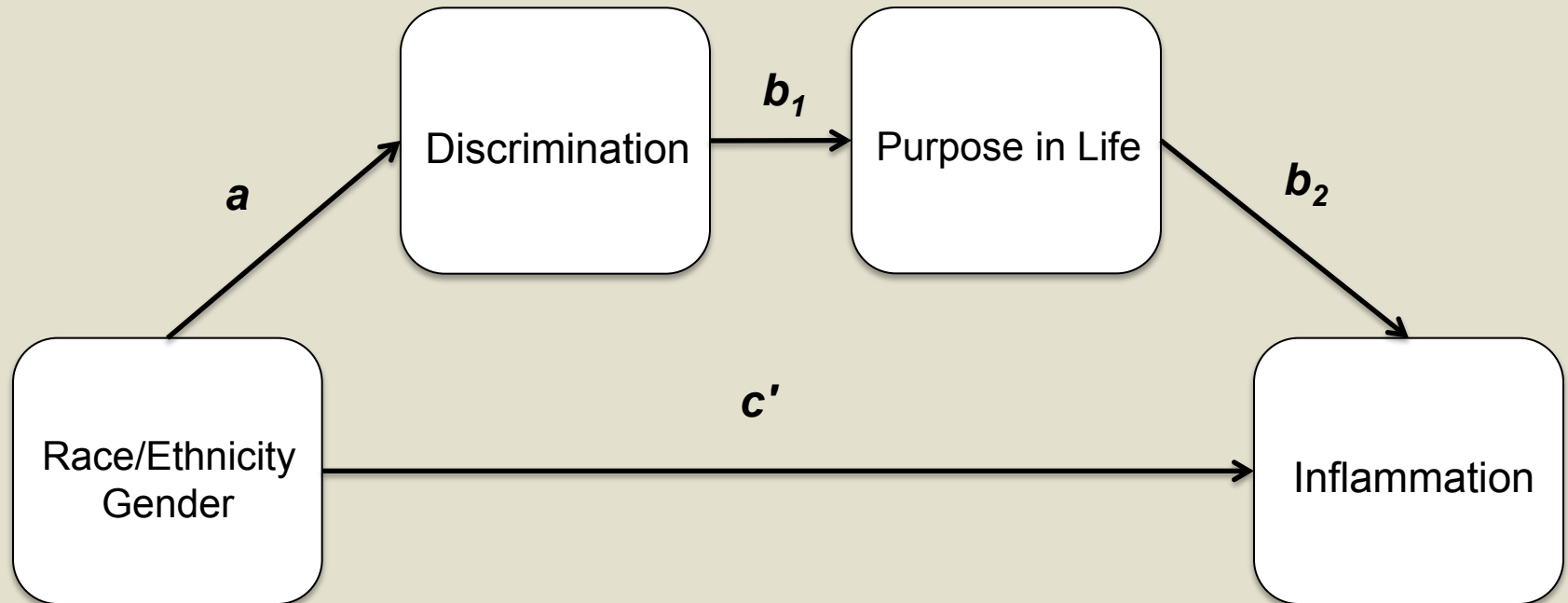
Data Analysis - 2

➤ Single-Mediator Model



Data Analysis - 3

➤ Two-mediator Model



Results

Regression & Path Analysis

Table 1 - Select Characteristics of the Sample (n=11,935)

	<u>Mean (SD) or %</u>
Race (%)	
Non-Hispanic white	77.6
African American	13.1
Hispanic	8.3
Gender (%)	
Male	41.6
Female	58.4
Age (years)	69.2 (9.6)
Education (years)	
Household income (\$, thousands)	62.7 (162.6)
Waist Circumference (inches)	39.3 (6.0)
Lifetime Discrimination (range: 0-6)	0.5 (0.9)
Everyday Discrimination (range: 0-5)	0.6 (0.7)
Purpose in Life (range: 0-5)	3.6 (1.1)

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Table 2 – Regression of Inflammation on Discrimination, Purpose in Life & Select Variables (n=11,935), Weighted

	Model 1	Model 2	Model 3	Model 4
Race/Ethnicity (ref. = NH White)				
African American	0.39***	0.127***	0.128***	0.128***
Hispanic	0.15***	-0.027	-0.027	-0.027
Gender (ref. = Male)	0.23***	0.426***	0.426***	0.426***
Everyday Discrimination		-0.023	-0.023	-0.025
Lifetime Discrimination		0.057**	0.057**	0.057**
Age (years)		-0.002	-0.002	-0.002
Education (ref. <high school)		-0.024***	-0.024***	-0.024***
Household income (\$, thousands)		0.005	0.005	0.004
Waist Circumference (inches)		0.065***	0.065***	0.065***
Purpose		-0.035*	-0.035*	-0.034*
Purpose-x-Lifetime			-0.002	
Purpose-x-Everyday				-0.009

*p < 0.05, **p < 0.01, ***p < 0.001

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Gender (ref. = Male)	0.23***	0.426***	0.426***	0.426***
Everyday Discrimination		-0.023	-0.023	-0.025
Lifetime Discrimination		0.057**	0.057**	0.057**
Age (years)		-0.002	-0.002	-0.002
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Table 3 - Unstandardized Indirect, Direct and Total Effects of Race on Inflammation: African Americans and Non-Hispanic Whites

	1 st Mediator	2 nd Mediator	Indirect Effect	
			b	SE
(1)	Lifetime Discrimination	---	0.023**	0.007
(2)	Education	---	0.027***	0.005
(3)	Purpose in Life	---	-0.013*	0.006
(4)	Income	Purpose in Life	0.001*	0.0004

*p < 0.05, **p < 0.01, ***p < 0.001

Table 4 - Unstandardized Indirect, Direct and Total Effects of Gender on Inflammation: **Women and Men**

	<u>1st Mediator</u>	<u>2nd Mediator</u>	<u>Indirect Effect</u>	
			b	SE
(1)	Lifetime Discrimination	---	-0.014**	0.004
(2)	Waist Circumference	---	-0.224***	0.012
(3)	Everyday Discrimination	Waist Circumference	-0.007***	0.001
(4)	Everyday Discrimination	Purpose in Life	-0.002*	0.001
(5)	Lifetime Discrimination	Waist Circumference	-0.003*	0.001

*p < 0.05, **p < 0.01, ***p < 0.001

Discussion

Conclusions, Limitations & Strengths

Discussion - 1

➤ Major Findings:

- Stress of discrimination explains, in part, racial and gender differences in CRP
- The depletion of resources beneficial for mitigating the effects of discrimination is relevant for gender differences in CRP

Discussion - 2

- Limitation
 - Cross-sectional; temporal ordering not established
 - Subjectivity in building SEM

- Strengths
 - Large, nationally representative probability sample
 - Formal test of mediation

- Implications
 - Formidable role of discrimination in health



Thank You

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Figure 1 - Simplified Structural Equation Model Depicted Direct and Indirect Paths between Race/Ethnicity and Inflammation and Gender and Inflammation

