MIND OVER MATTER?
Neighborhood Structural & Perceptual Factors – their Relative Importance to Activity Level in Older Adults

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Study Purpose

Research question 1: "Mind"

Are perceptions of neighborhood factors associated with activity level in older adults?
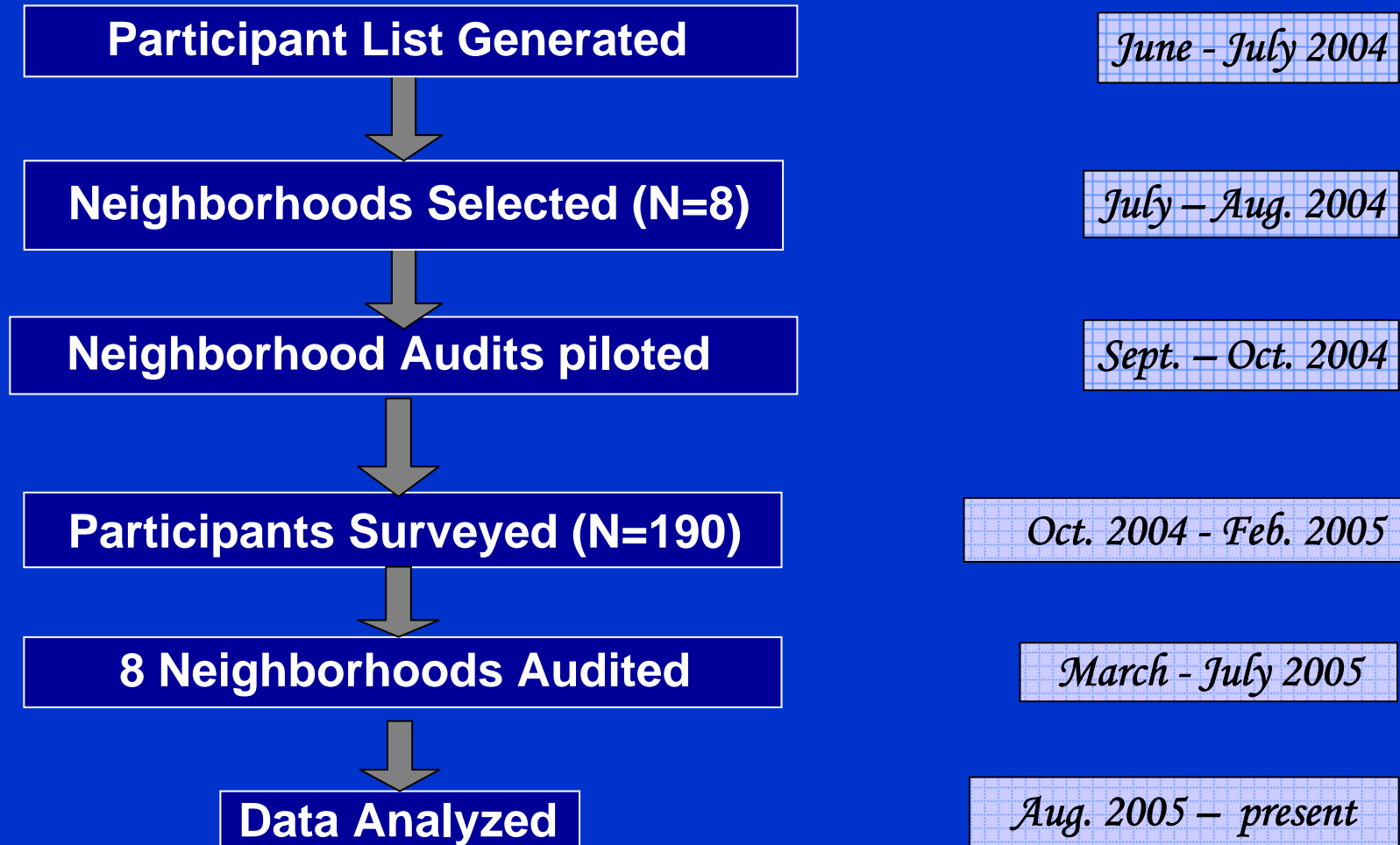
Research Question 2: "Matter"

Which components of the built environment predict activity level in older adults?

Research Question 3:

What is the relative importance of perceptions & objective features of neighborhoods to older adult activity?

Study Flow

Participant List Generated	*June - July 2004*
↓	
Neighborhoods Selected (N=8)	*July – Aug. 2004*
↓	
Neighborhood Audits piloted	*Sept. – Oct. 2004*
↓	
Participants Surveyed (N=190)	*Oct. 2004 - Feb. 2005*
↓	
8 Neighborhoods Audited	*March - July 2005*
↓	
Data Analyzed	*Aug. 2005 – present*

Dependent Variables

FACTORS	SOURCE
	Mailed Surveys
Activity Level **(CHAMPS)**	**Weekly Frequency of Walking for errands** **Weekly energy expended in total PA**

Independent Variables

PARTICIPANT VARIABLES
Electronic Medical Records   Chronic Disease Score
Survey Data (Mailed)   •Sociodemographics   •Destinations   •Neighborhood Perceptions   NEWS: access to resources; traffic & crime safety;   Collective Efficacy: social cohesion

NEIGHBORHOOD VARIABLES
Reported Data   Census (piton.org);   Crime (CO Dept of Safety)
Walking Audit Data   •**Walkability**   (pedestrian infrastructure)   •**Aesthetics**   •**Land-Use**   (housing; retail; recreation)   •**Social Capital**   (public courtesies; incivilities)

Results

Participant Characteristics

Demographic Variables	N=190 (unless specified)	p
Sex (% Male)	43%	NS
Education (% < HS Diploma)	8% (neigh. range: 0 – 27%)	NS
Race/Ethnic (% Non-White)	15% (neigh. range: 0 – 94%)	**
Income (% < 30K) n=186	44% (neigh. range: 20 – 77%)	**
Mean Age (SD)	74 (5.81) (neigh range: 72 – 77 yrs)	**
Mean Years at Address (SD)	21 (16.47) (neigh. range: 11 – 42 yrs)	**

unadjusted univariate analyses using chi-square or ANOVA as appropriate.
** Between-neighborhood variances were significant, $p<.01$

Results for question 1: "Mind"?

Are perceptions of neighborhood factors associated with activity level in older adults?

Weekly Activity	Access to Resources	Safe from Traffic	Safe from Crime	Social Cohesion
Frequency of Walking for Errands	.19**	.02	.04	-.04
Total PA (weekly calories expended)	-.03	.04	.20**	.14*

Pearson coefficients, adjusted for age, sex, income, chronic disease score; *p<.05; **p<.01

Regression Modeling: Mind

DEPENDANT VARIABLES	Model	R		β	SE	p
Walk for Errands	Access to Resources	.19**		.54	.21	*
Total PA	Safe from Crime	.20**		1159.5	358.36	**
	Social Cohesion	.14*		-	-	NS

Adjusted for age, sex, income, chronic disease score
*p<.01; **p<.01

Where do Seniors Walk?
Walking for Errands

	Visit at least 1/week			
	N=190		Distance < 1 mi	Walk
	n	%	%	%
Bank	44	.23	.35	.20**
Barber	16	.08	.31	.25*
Church	84	.44	.18	.17
Drugstore	33	.17	.36	.33
Grocery	**158**	**.83**	**.40**	**.24***
Gym	**54**	**.28**	**.43**	**.50***
Library	22	.12	.36	.41

Between Neighborhood variance using ANOVA
*$p<.05$; **$p<.01$; ***$p<.001$

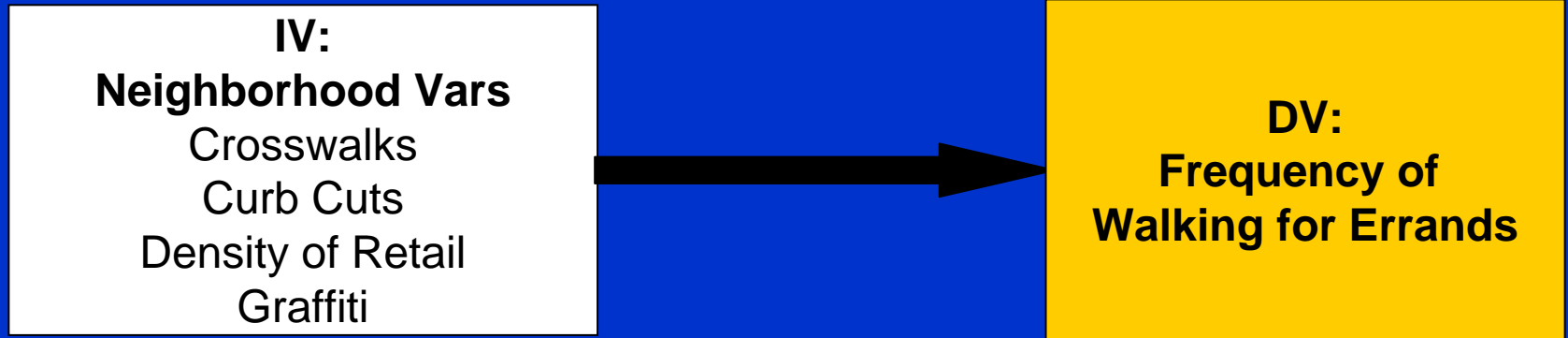# Research Question 2: "Matter"

Which components of the built environment predict activity level in older adults?

Weekly Frequency Walk for Errands
$(p<.01)$

Weekly Frequency Walk for Errands

IV:
Neighborhood Vars
Crosswalks
Curb Cuts
Density of Retail
Graffiti
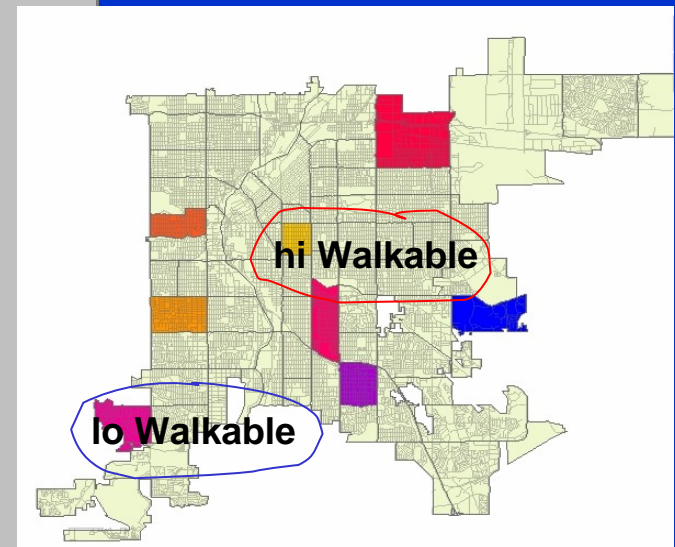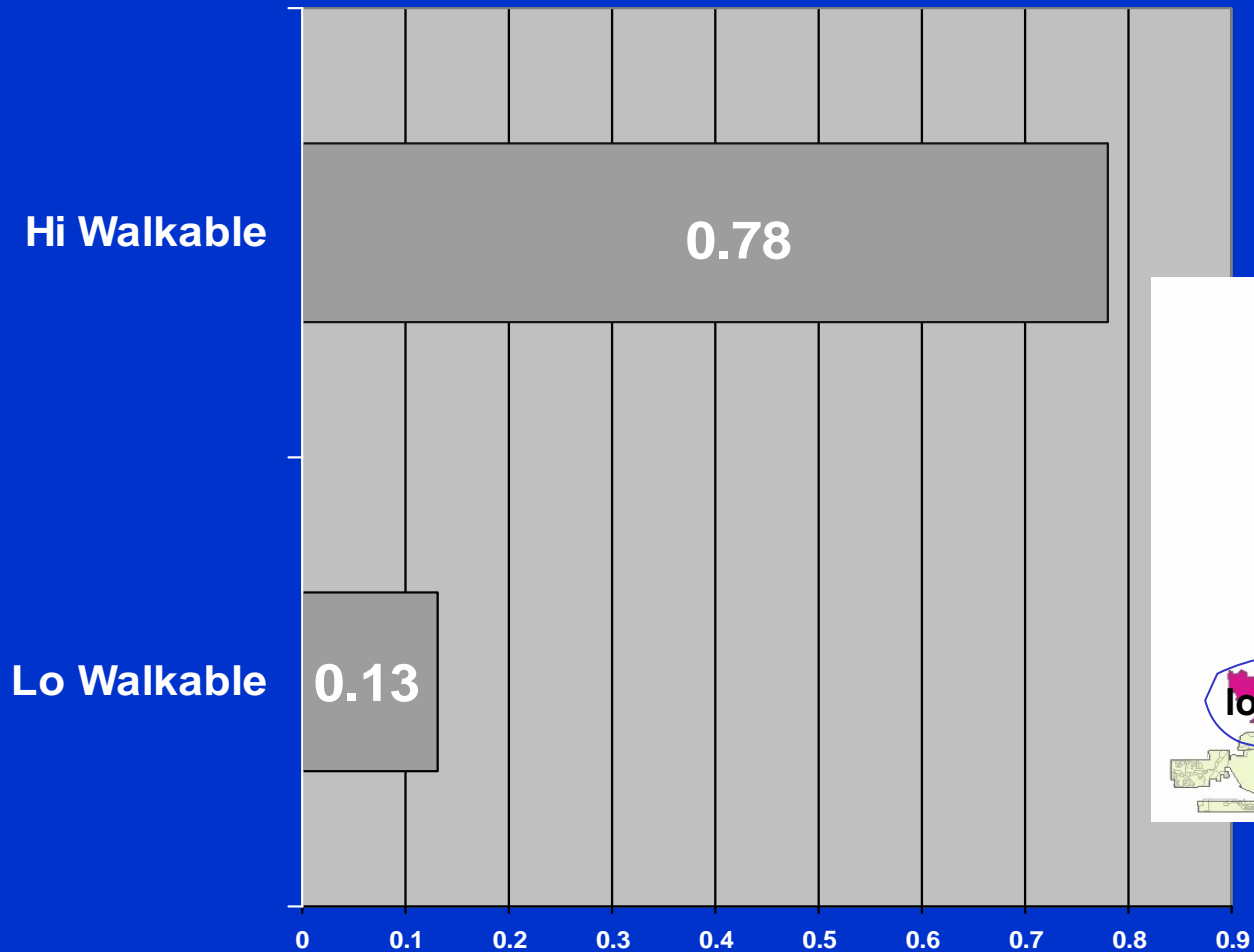
DV:
**Frequency of
Walking for Errands**

CONSTRUCTS	VARIABLES	*R*		β	SE	*p*
Walkability	Crosswalks	.28**		1.01	.33	**
	Curbcuts	.26**		2.86	.70	***
Land Use	Density of Retail	.19**		.05	.02	*
Social Cap	Graffiti	-.21**		-.75	.33	*

Total Physical Activity (PA) Level
weekly calories expended ($p < .05$)

Total Physical Activity
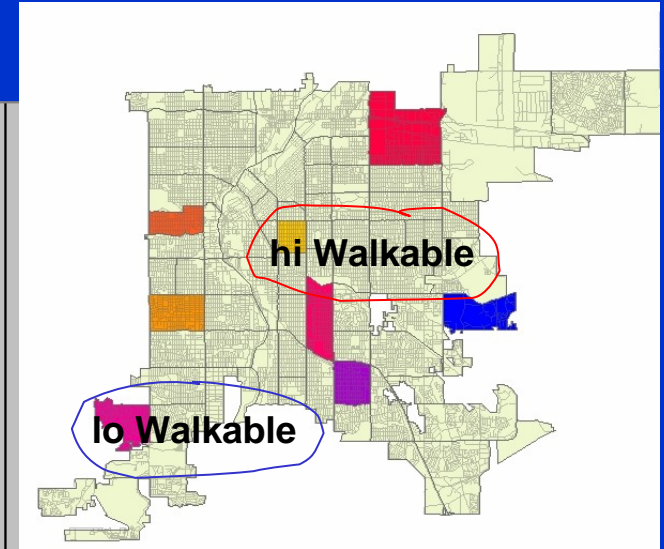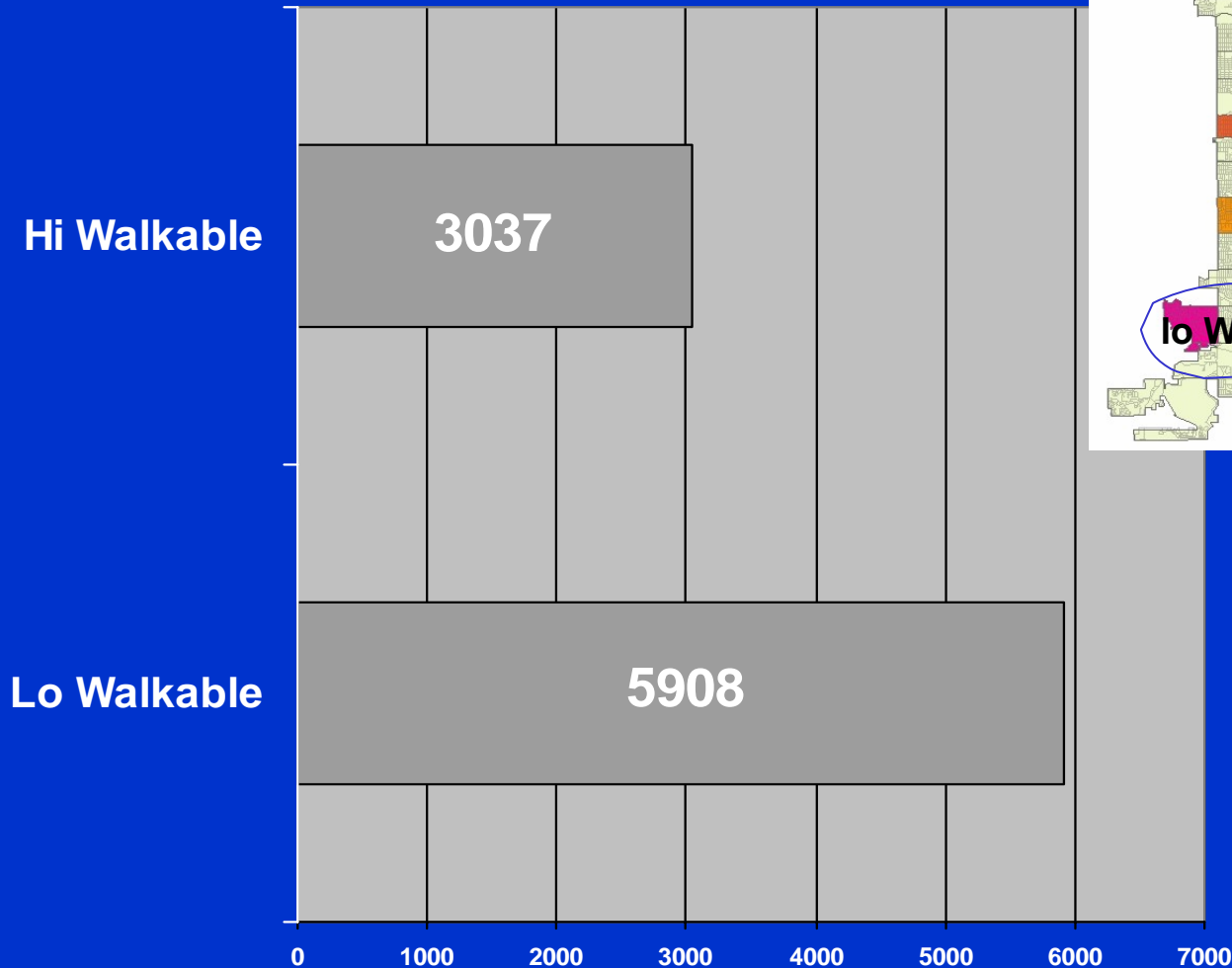
| IV: Neighborhood Vars Window Bars Neighborhood Watch Incivilities | → | DV: Total Physical Activity |
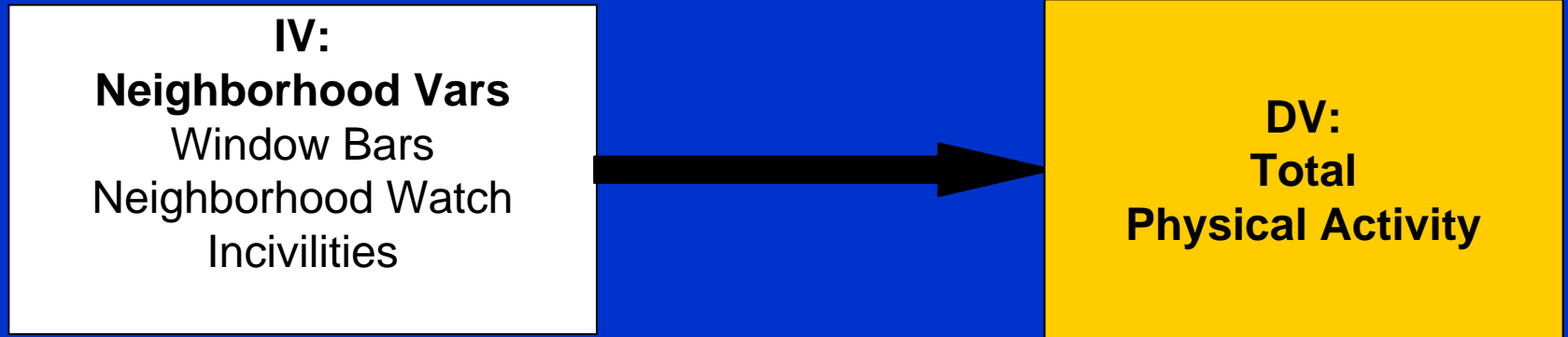
CONSTRUCTS	VARIABLES	R	β	SE	p
Social Capital	Window Bars	-.18*	-1248.5	581.5	*
	Neigh Watch	.14*	4349.2	2421.9	.07
	Incivilities	-.22**	-.920.2	425.3	*

Total Physical Activity

IV:
Neighborhood Vars
Window Bars
Neighborhood Watch
Incivilities

p<.05

DV:
Total
Physical Activity

Mediating Variable:
Safe from Crime

p<.01

p<.01

IV:
SOCIAL CAPITAL

(NS)

DV:
Total
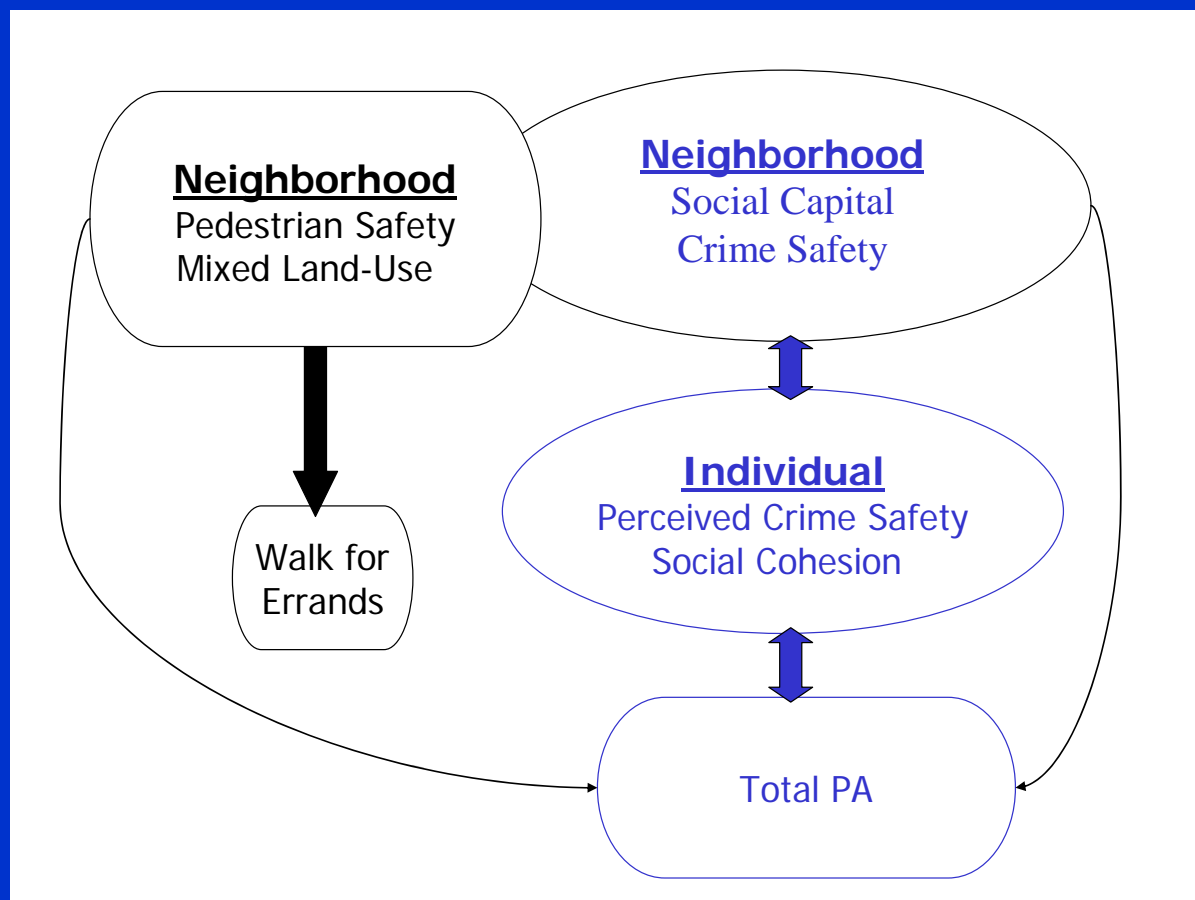**Physical Activity**
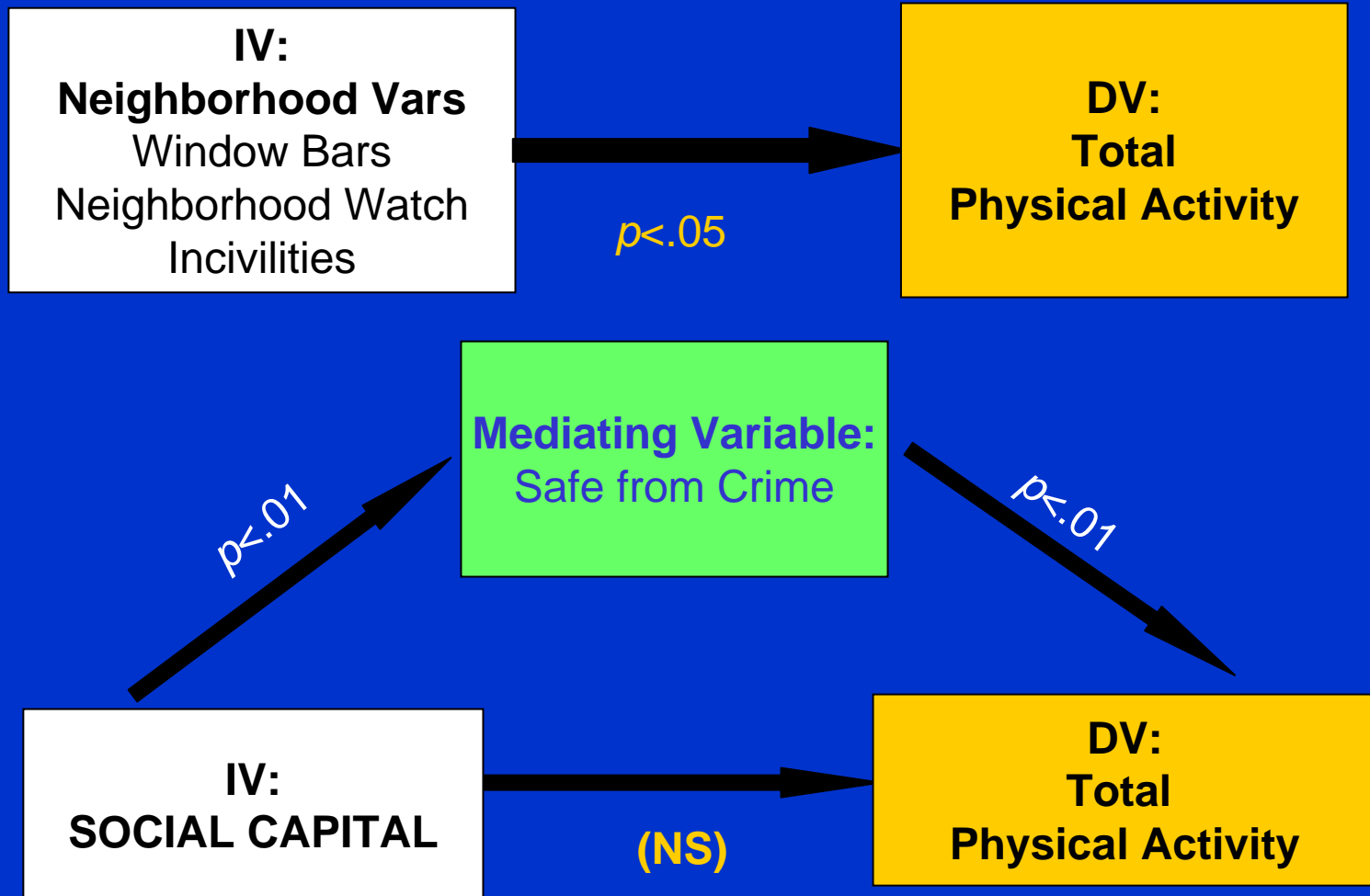
Research Question 3:

What is the relative importance of perceptions & objective features to older adult activity?

Answer: It Depends on Outcome of interest!

- **Built environment associated with walking for errands,**

  HOWEVER . . .

- **Perceived safety from crime** may be more important when it comes to overall activity levels For older adults.

Limitations and Future Directions

- **Limitations**
  - Restriction of range for both participants and neighborhoods
  - Disentangling contextual effects from compositional effects difficult
  - Cross-sectional, cannot determine causality

- **Future Directions**
  - Expand spatial analyses
  - Develop & test interventions that ⬆ interaction among neighbors to ⬆ social cohesion & perceptions of safety
  - Prospective studies

Thank You!

We don't stop playing because we grow old;

we grow old because we stop playing.

--George Bernard Shaw