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**The role of social capital in the
relationship between physical constraint
and mental distress in older adults:
a latent interaction model**

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❖ **Agenda for this presentation**

- ❑ Background
- ❑ Theories & Framework
- ❑ Methodology & Analysis
- ❑ Results
- ❑ Conclusions & Implications
- ❑ Limitation and future direction
- ❑ Questions & Answers

10 Worries Older Americans Face

(2015 National Council on Aging Survey)



<http://money.usnews.com/money/blogs/on-retirement/2015/07/20/10-worries-older-americans-face>



10 Worries Older Americans Face

1. Maintaining good health
 2. False confidence
 3. Staying in your current home
 4. Giving up driving
 5. Financial security
 6. Sudden bills
 7. Cutting costs
 8. Social tie
 9. Mental health
 10. Social support
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Purpose of the Study



- To explore the individual variations in the effect of physical health constraints on mental health
- To examine the potential of role of community social capital as a moderator

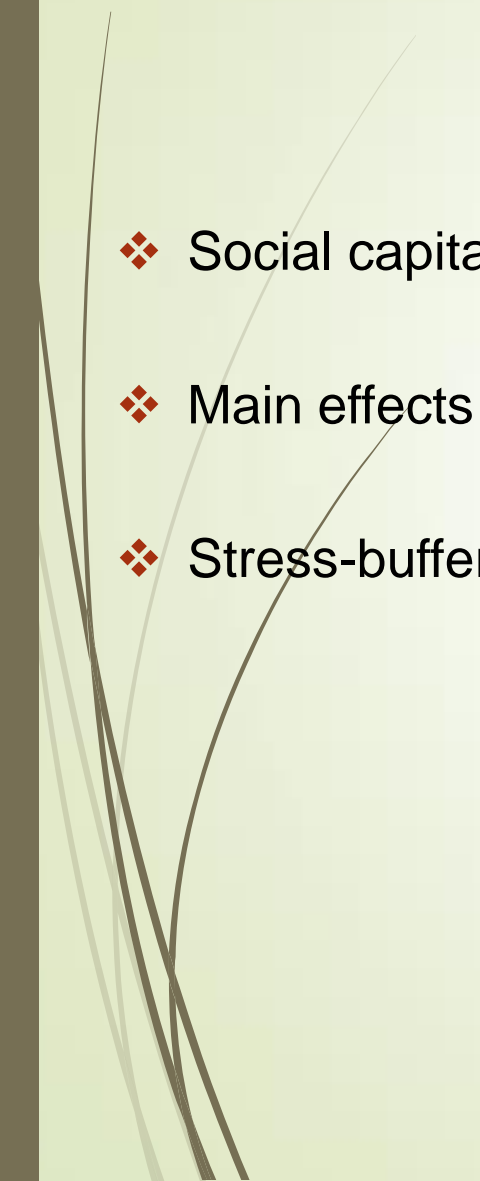


❖ Gaps in current knowledge

- ❑ Positive effects of social support and social network: Social support and network improve older adults' mental health and well-being
- ❑ A few literature about environment and recourses in older adults: better community environment is associated with better well-being
- ❑ Lack of literature on community social capital's moderating effects against physical constraint



Theories

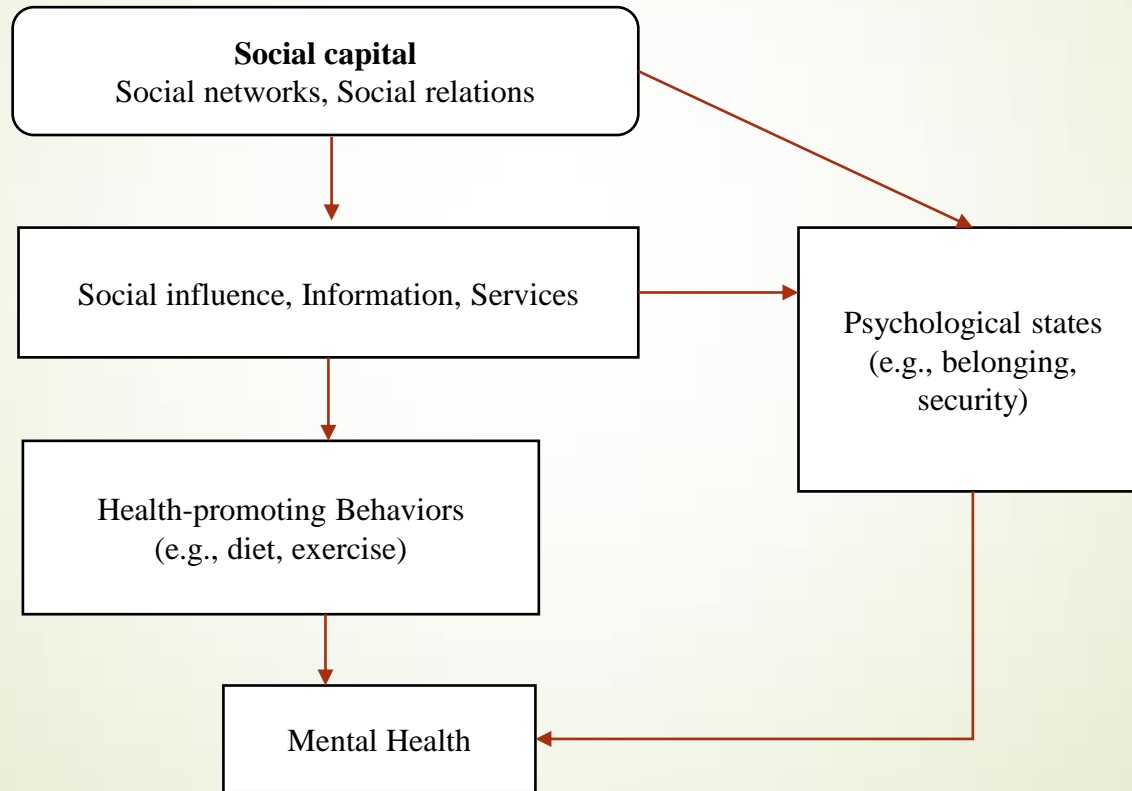
- ❖ Social capital theory
 - ❖ Main effects Model
 - ❖ Stress-buffering Model
- 

Social Capital Theory

- Social capital has a feature of a public good that has collective characteristics because social capital occurs within a social context and it stems from social relations. Individuals benefit when they are members of communities where social capital is available to access and they take advantage of it.
- Community social capital is community-based resources available to individuals in the community.

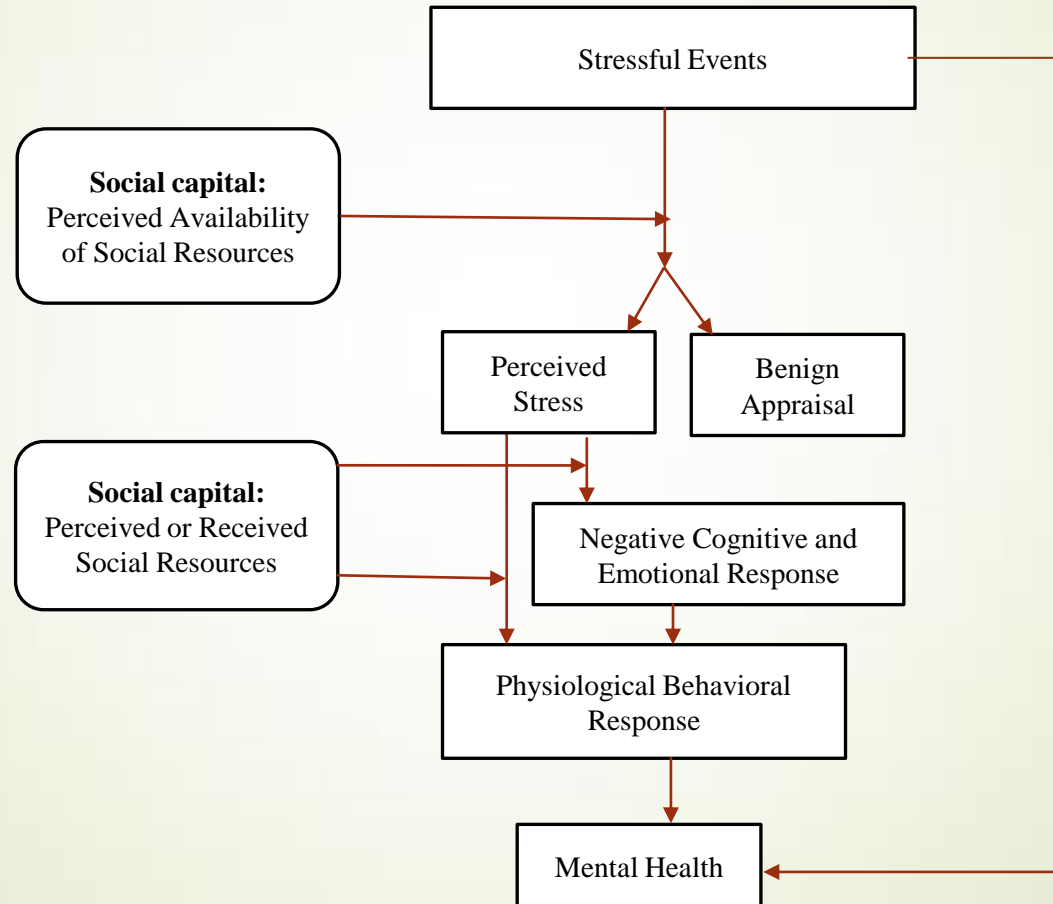
Main effects model

(Cohen, Underwood, & Gottlieb, 2000)

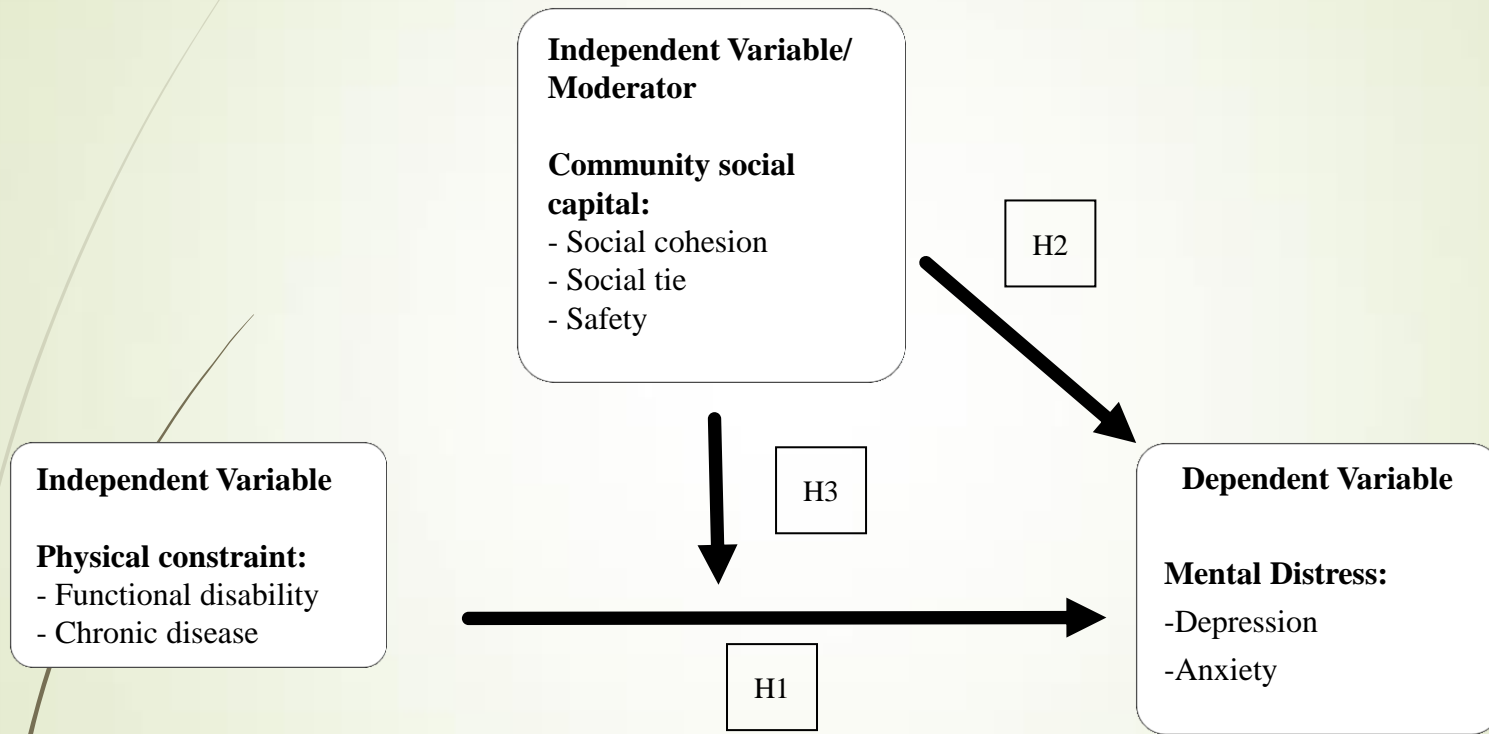


Stress-buffering model

(Cohen, Underwood, & Gottlieb, 2000)



Framework of this study



Control Variable: Demographic factors: Age, gender, race, education, marital status, Family/Friend supports

Hypotheses

- H1: Physical constraint will increase mental distress.
- H2: Community social capital will decrease mental distress.
- H3: Community social capital will modify the impact of physical constraint on mental distress.

Methodology

- Data: The second wave of the National Social Life, Health, and Aging Project (NSHAP, 2010-2012)
- Sample: older adults aged 65 and over (n = 2432)

- Variables

DV : Mental distress: depression, anxiety

IV : Physical constraint: functional disability, chronic disease/
Community social capital: social cohesion, social tie, safety

CV: age, gender, education, race, marital status, family/friend support

Measures

Mental Distress

- Depression: Center for Epidemiological Studies – Depression (CES-D, $\alpha = .78$)
- Anxiety: Hospital Anxiety and Depression Scale (HADS-A, $\alpha = .72$)

Physical Constraint

- Functional disability: Activities of Daily Living (ADL, $\alpha = .82$)
- # of chronic condition

Measures

Community Social Capital

- Social cohesion ($\alpha = .67$) : “This is a close-knit area.”, “People around here are willing to help their neighbors.”, “People in this area can be trusted.”
- Social tie ($\alpha = .75$) : “How often do you and people in this area visit in each other's homes or when you meet on the street?”, “How often do you and other people in this area do favors for each other?”, “How often do you and other people in this area ask each other for advice about personal things?”
- Safety ($\alpha = .80$) : “Many people in this area are afraid to go out at night.”, “There are places in this area where everyone knows “trouble” is expected.”, “You're taking a big chance if you walk in this area alone after dark.”

Analytic Plan

- Descriptive Analysis
- Exploratory Factor Analysis (EFA) :
 - To identify the underlying structure of the latent variables
- Confirmatory Factor Analysis (CFA) :
 - To test the measurement models and confirm structures
- Structural Equation Modeling (SEM)
 - To test the main effect model for H1 and H2
 - To test the latent interaction model for H3




Indices for the CFA & Main Effect Model


- ▶ Chi-square
- ▶ Root Mean Square Error of Approximation (RMSEA) <.08
- ▶ Standardized Root Mean Square Residual (SRMR) <.08
- ▶ Comparative Fit Index (CFI) >.90

Latent Moderation Model

- Creating interaction term (physical constraint x community social capital) by using Xcommand
- LR (Likelihood Ratio) test : comparing log-likelihood between basic model and interaction model



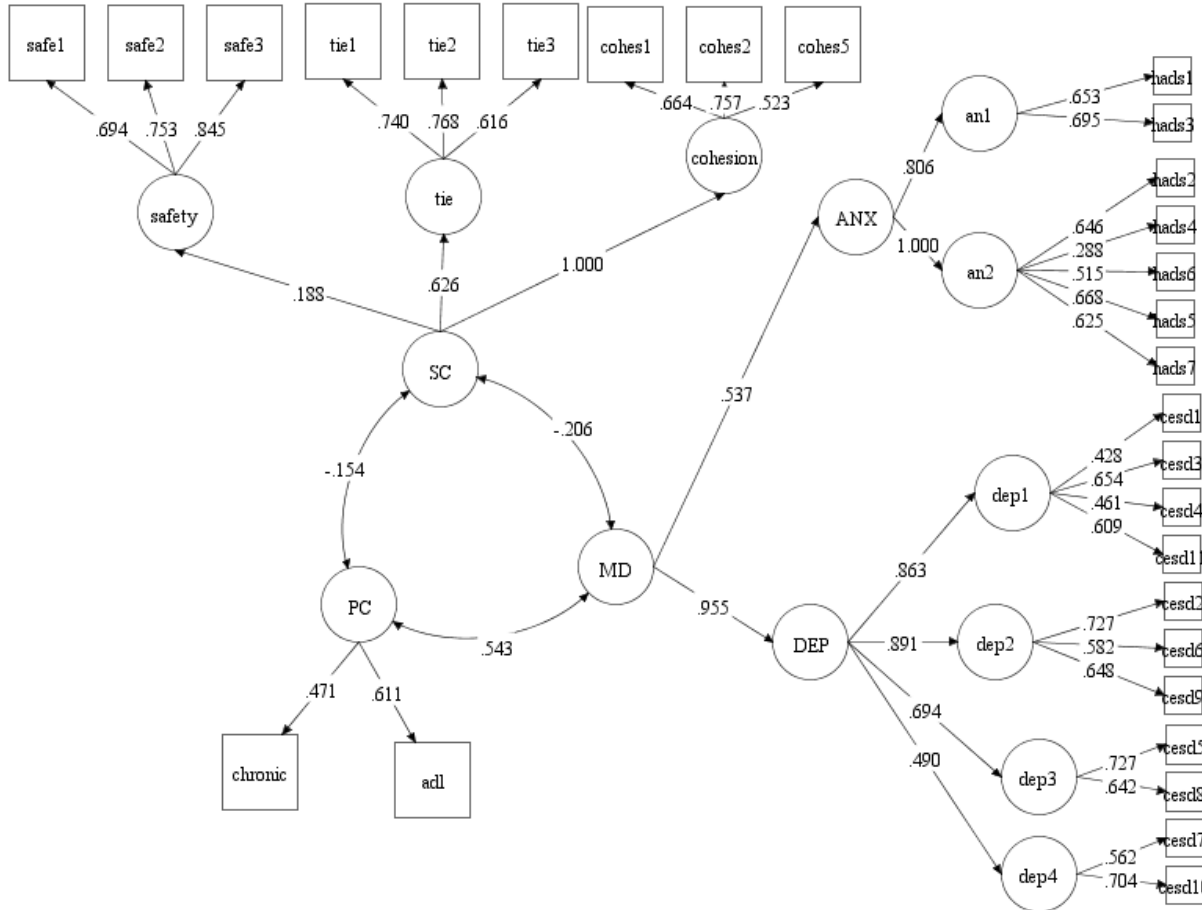
Results



Description of the sample

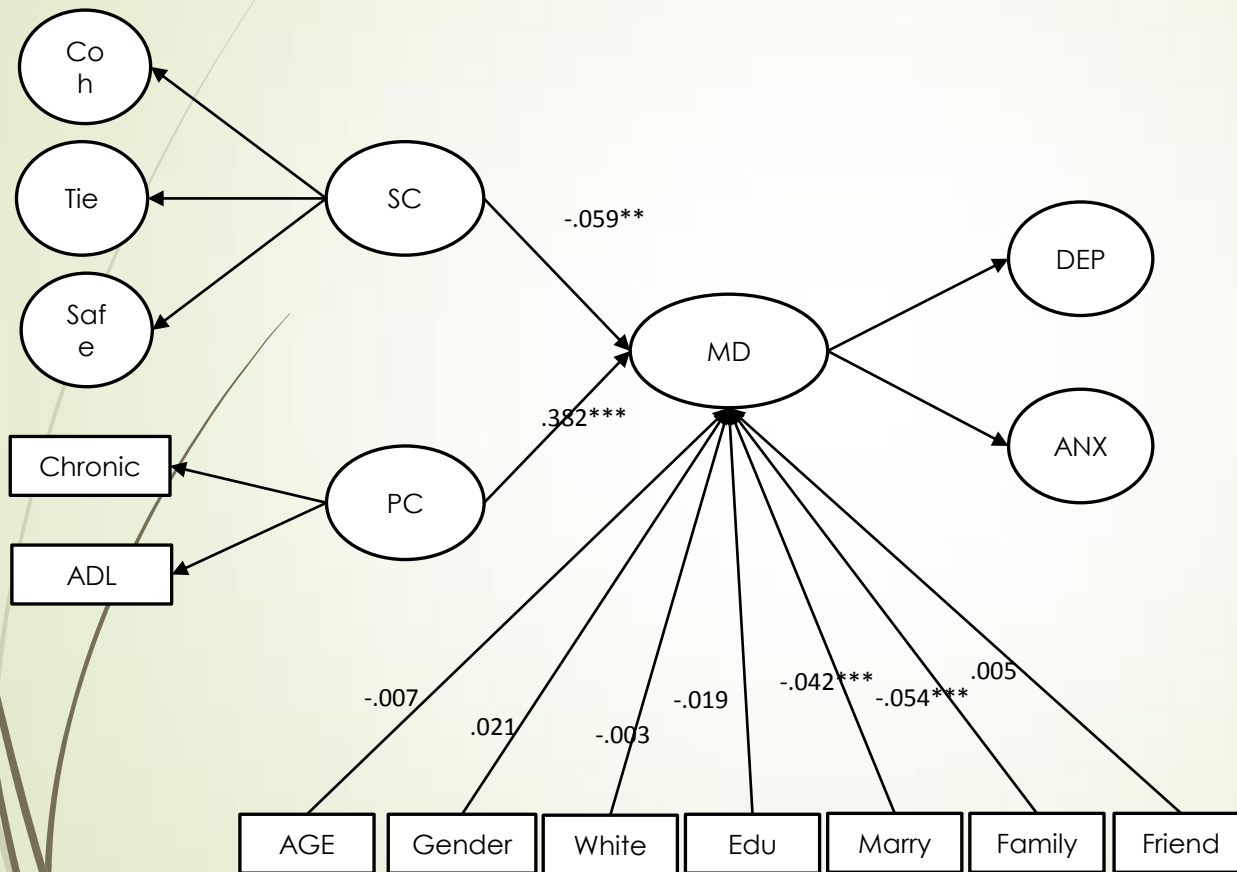
Category	Mean(SD)	%
Age	74.54(6.69)	
Gender		
Male	1,117	47.29
Female	1,245	52.71
Race/Ethnicity		
Minority	592	25.06
White	1,770	74.94
Marital Status		
Not married	788	33.36
Married	1,574	66.64
Level of Education		
<= high school	1,067	45.17
> high school	1,295	54.83
Family support	4.84(1.35)	
Friend support	3.94(1.69)	

Measurement model



$\chi^2 (367) = 1370.725$,
 $p = .000$,
 $CFI = .933$,
 $RMSEA = .034$
 (CI: .032, .036),
 $SRMR = .047$.

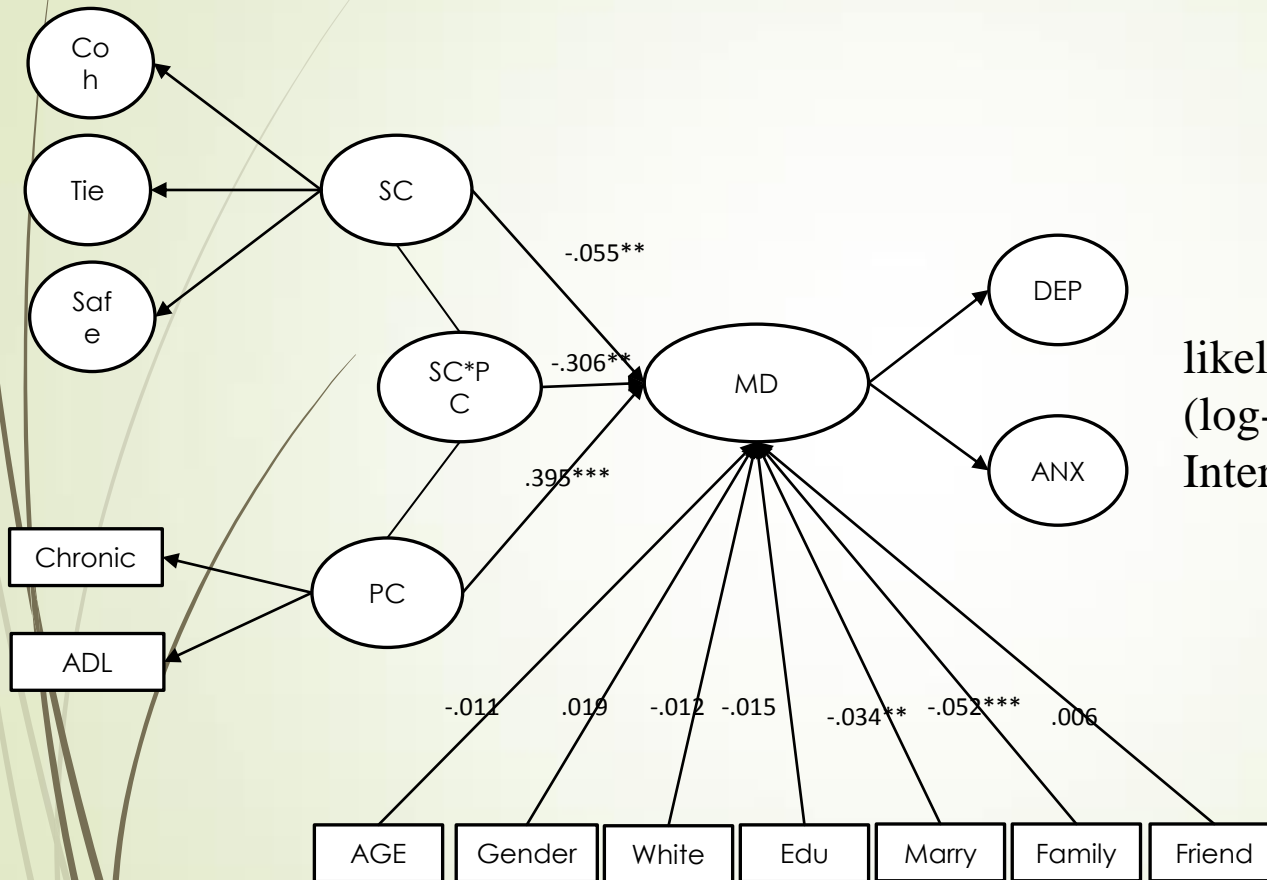
Main Effect Model



$\chi^2(539) = 2161.207$,
 $p = .000$,
CFI = .901,
RMSEA = 0.036
(CI: .034, .037),
SRMR = 0.043.

LR = -111061.670

Stress-Buffering Model



LR = -111032.279

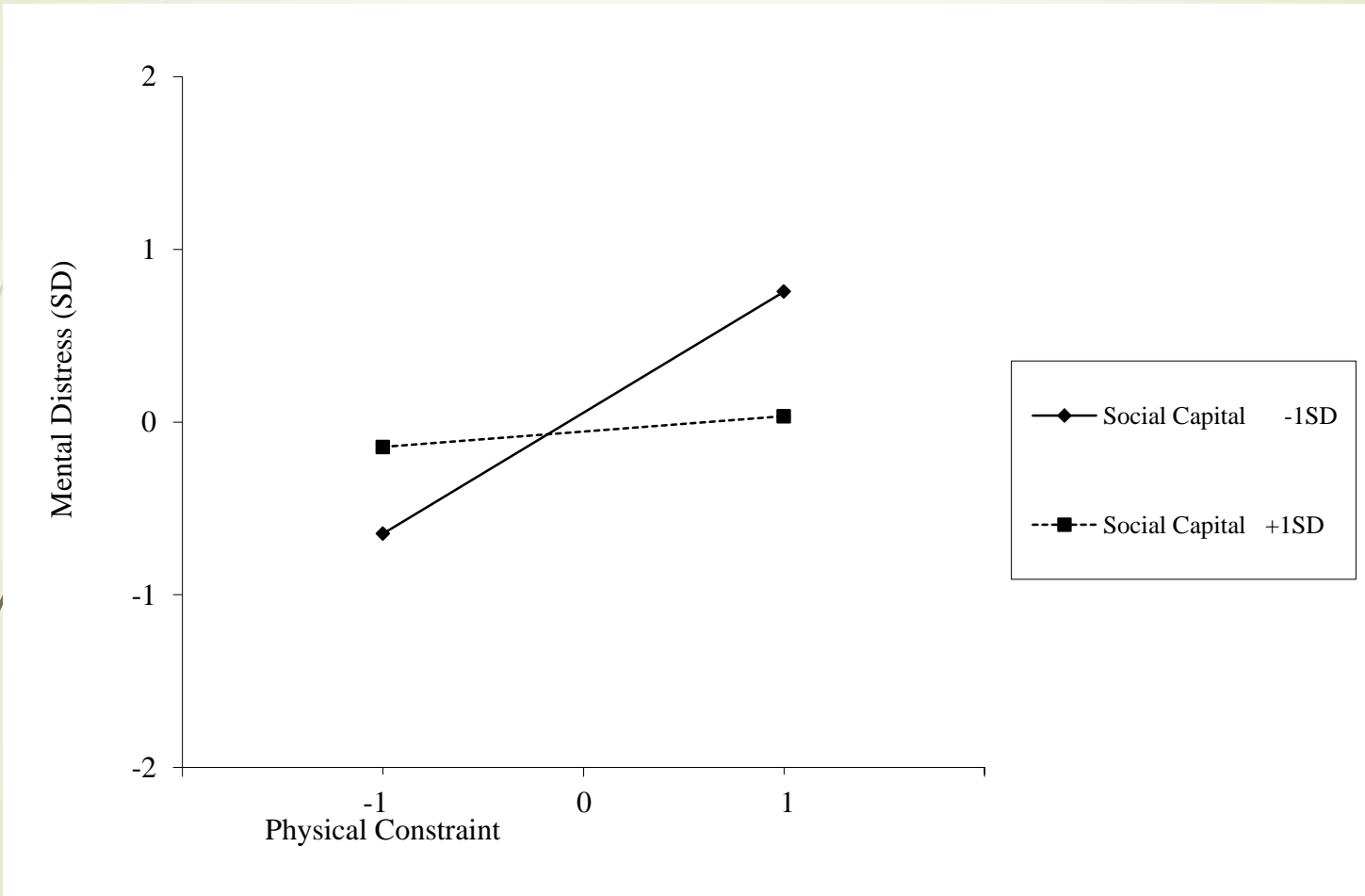
LR test (D) = $-2[(\log\text{-likelihood for Basic Model 0}) - (\log\text{-likelihood for Latent Interaction Model})]$

D = 58.78 (1), $p < .001$

Interaction effect

Physical Constraint	Social Capital	Expected Mental Distress
0	0	0
0	1	-.055
1	0	.306
1	1	.034

Interaction effect



Conclusions

- ❖ Physical constraint increases mental distress in older adults.
 - Socially: limited social activities and interactions /Emotionally: loss of control, loss of independence (require long-term care)
- ❖ Community social capital decreases mental distress in older adults.
 - Socially: geographically available community services, increase social activity / Emotionally: increase feeling of safety, connectedness
- Community social capital buffers the impact of physical constraint on mental distress in older adults.
 - Socially: available of community resources, increased interactions, practical supports from community, health information to meet their needs /Emotionally: less stress, feeling of safety



Implications

Clinical practice:

- ❖ Attention to community based services: providing space, programs, and services.
 - Benefits: health information, professional relationships, social interactions with peers, social activities
 - Effects: Improving social capital for older adults and helping them remain in community
- ❖ Developing programs related to social activities, informational programs, and health programs to improve older adults' physical and mental health status and increase their social networks and activities.

Implications

Education:

- ❖ Educate about social resources and community social capital
- ❖ Need to learn how to assess community social capital and develop community intervention skills: social support, social network, and community social capital
- ❖ Need to prepare students in clinical fields (eg. Social work, community nurse) to work with multidisciplinary professionals who are involved in community based services


Implications

Policy maker:

- ❖ Improve community safety
- ❖ Develop community activities
- ❖ Increase community-based services.



Limitations & Future Direction

- Cross-sectional data
 - Poor measurement of family/friend support
 - No interaction effects of social supports and physical constraint, community social capital
 - No physical health severity
 - Longitudinal data analysis using 2nd and 3rd wave data
 - Pilot project to develop intervention program.
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Thank You!

Any Questions?!

