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Medicine**

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# **Social Engagement in Older People Living with HIV**

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# Disclosure

We have no commercial relationships to disclose



# Background

- 🚫 With medical and pharmacological advances, the number of people living with human immunodeficiency virus (HIV) in the US is increasing with **53.5% of those aged 50 year and older** <sup>(1)</sup>
- 🚫 Older people living with HIV (PLWH) experience functional deficits, multiple chronic conditions and fragile social structures <sup>(2, 3)</sup> leading to adverse health and psychosocial outcomes

# Background

- 🚫 PLWH are at increased risk for **mental health outcomes** (e.g., depressive symptoms), **frailty**, and experience or perceive **stigma**, which could hinder their participation in social activities and limit their social relationships (5,6,7)
- 🚫 These factors exacerbate **social isolation and loneliness** among PLWH (4,8)

# Background

-  **Social engagement** can be protective against detrimental physical, cognitive, and mental health outcomes, and can help mitigate social isolation
-  Limited evidence on older PLWH social engagement and associated factors in engaging with family, friends and the community

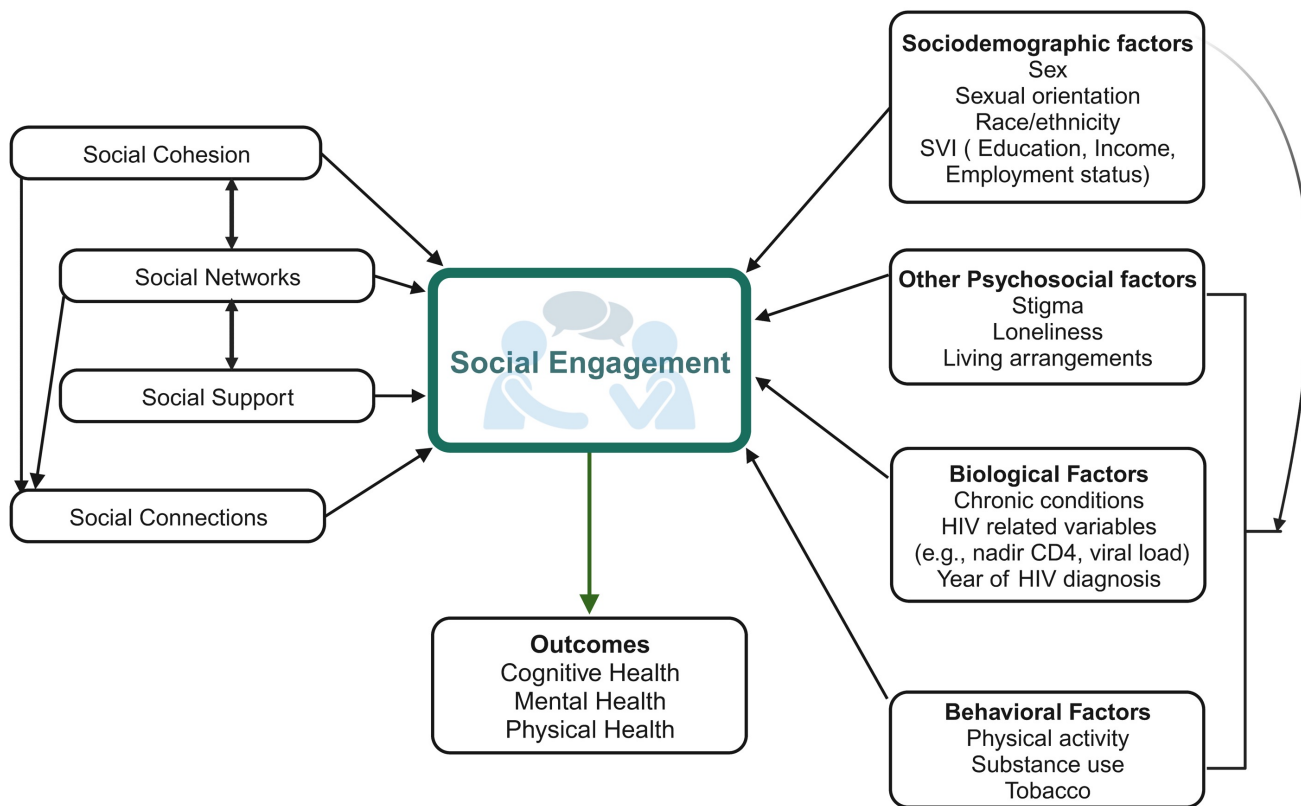
# Conceptual Framework

## Conceptual Framework of Social Engagement for People Living with HIV

Adapted from:

🚫 WHO conceptual framework on social determinants of health (10)

🚫 Lui et al. (2019) social engagement framework (9)



# Study Aims

- 🚫 Characterize **social engagement activities** in PLWH
- 🚫 Examine their **relationships** with AIDS diagnosis, social vulnerability index (SVI), financial strain, loneliness, HIV-related stigma, and depressive symptoms

# Methods

## Dataset

-  **Research on Older Adults with HIV (ROAH 2.0) study at the Weill Cornell Campus in New York City**






## Statistical Analyses

-  **Exploratory and Confirmatory factor analysis**
-  **Regression analysis**




# Methods


## Measures

-  **Social engagement** – 13-item Frequency of Leisure Activities Scale
-  **Social Vulnerability Index (SVI)** – based on participants' zip code
-  **Loneliness** – 13-item UCLA loneliness scale
-  **HIV-related Stigma** – 13-item Sowell stigma scale
-  **Depressive symptoms** – 10-item Center for Epidemiological Studies-Depression (CES-D)

# Results – Participant Characteristics

 N= 349 participants

 Median age 58 years

 32.4% female





Characteristics	Participants n (%) / Mean (SD)	
	(N)	
<b>Age (years)</b>	349	
Range		50-84
Mean (SD)		59.4 (6.47)
Median (IQR)		58 (54, 63)
<b>Sex</b>	342	
Male		231 (67.5%)
Female		111 (32.5%)
<b>Sexual Orientation</b>	340	
Gay/Lesbian		119 (35.0%)
Bisexual		28 (8.2%)
Heterosexual/Straight		150 (44.1%)
Same Gender Loving		19 (5.6%)
Other		24 (7%)
<b>Ethnicity</b>	308	
Hispanic/Latino		96 (31.2%)
Non-Hispanic/Latino		212 (68.8%)
<b>Race</b>	349	
American Indian/Alaska native		11 (3.2%)
Pacific Islander		5 (1.4%)
Black/African American/Caribbean		172 (49.3%)
Asian/Asian American		6 (1.7%)
White/Caucasian		98 (28.1%)
Other		65 (18.6%)

# Results – Participant Characteristics

- Living with HIV for an average of 22.6 years
- Average of 4 chronic conditions in addition to their HIV status

Characteristics	Participants (N)	n (%) / Mean (SD)
<b>Income</b>	335	
No financial strain		100 (29.9%)
Financial strain		235 (70.1%)
<b>Social Vulnerability Index (SVI)</b>	337	
Range		0.028-0.998
Mean (SD)		0.727 (0.270)
Median (IQR)		0.828 (0.538, 0.960)
<b>Viral Load</b>	341	
Less than 20		317 (93.0%)
≥ 20		24 (7.0%)
<b>AIDS Diagnosis</b>	332	
Yes		157 (47.3%)
No		175 (52.7%)
<b>Time since HIV Diagnosis(years)</b>	349	
Range		1-42
Mean (SD)		22.56 (6.74)
Median (IQR)		23.0 (18.0, 27.0)
<b>Live alone</b>	336	
Yes		201 (59.8%)
No		135 (40.2%)
<b>Number of Chronic Conditions</b>	349	
Range		0-12
Mean (SD)		4.37 (2.40)
Median (IQR)		4.0 (3.0, 6.0)


# Results – Psychosocial Indicators

-  Low engagement in activities (Range 0–4)
-  48.7% of participants scored 10 or higher on the CES-D (Range 0–28)
-  41.1% of participants scored above the average loneliness score **24.70** (Range 13–52)
-  36.9% of participants scored above the mean HIV Stigma score **20.84** (Range 13–52)

Characteristics	Participants (N)	n (%) / Mean (SD)
<b>Leisure activity engagement</b>	338	
Mean (SD)		<b>1.79</b> (0.53)
Median (IQR)		1.77 (1.50, 2.05)
Cronbach's Alpha		0.709
<b>Loneliness</b>	336	
Mean (SD)		<b>24.70</b> (9.83)
Median (IQR)		23.0 (16.0, 30.0)
Cronbach's alpha		0.948
<b>HIV-related stigma</b>	346	
Mean (SD)		<b>20.84</b> (8.12)
Median (IQR)		19.0 (15.0, 25.0)
Cronbach's Alpha		0.898
<b>Depressive symptoms</b>	345	
Mean (SD)		<b>9.92</b> (6.38)
Median (IQR)		9.0 (5.0, 14.0)
Cronbach's Alpha		0.831


# Results – Factor Analysis

 3 types of activity identified

 **PLWH less engaged in: social** (Mean=1.31; SD=0.71), **cultural-physical** (Mean=1.55; SD=0.78) than **media-based activities** (Mean=3.09; SD=0.72)

Items	Mean (SD)	Factor 1 – Social Activity	Factor 2 – Cultural-physical Activity	Factor 3 – Entertainment/ Media-based Activity
1. Watch TV, DVD, Videos	3.291 (0.834)	0.195	-0.397	<b>0.704</b>
2. Go to the movies	1.359 (1.289)	<b>0.687</b>	0.071	0.071
3. Go out shopping for pleasure	1.597 (1.071)	<b>0.745</b>	-0.106	0.050
4. Read book	1.794 (1.351)	0.054	<b>0.614</b>	0.060
5. Attend cultural events such as concerts, live theater, exhibitions	1.107 (0.882)	0.348	<b>0.622</b>	0.122
6. Get together with relatives (who do not live with you)	1.303 (1.061)	<b>0.718</b>	0.196	-0.028
7. Get together with friends	1.949 (1.059)	<b>0.501</b>	0.346	0.237
8. Play cards or board games	0.831 (1.163)	<b>0.613</b>	0.303	-0.074
9. Listen to music	3.134 (1.101)	0.128	0.348	<b>0.604</b>
10. Take part in physical activities such as sports, going to the gym, going for a walk)	2.409 (1.397)	0.070	<b>0.569</b>	0.118
11. Attend sporting events as spectator	0.662 (1.027)	<b>0.605</b>	0.404	-0.104
12. Do handicrafts such as quilting, woodwork, painting, etc.	0.821 (1.213)	0.181	<b>0.596</b>	-0.028
13. Spend time on the internet	2.855 (1.386)	-0.216	0.198	<b>0.655</b>
<b>Coefficient Omega</b>		0.716	0.651	0.620

# Results – Social Activity Models

 Having **AIDS**, experiencing **increased HIV-related stigma**, **loneliness**, and **depressive symptoms** were associated with low social activity engagement ( $F(6, 316) = 9.87, p < .001$ ) controlling for sociodemographic factors

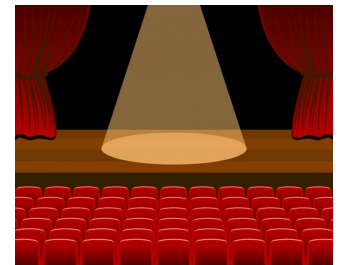
- *Social activity engagement = 1.800 + 0.163\*Sex + 0.238\*Race – 0.093\*Education – 0.157\*AIDS Diagnosis – 0.019\*HIV stigma*
- *Social activity engagement = 1.802 + 0.120\*Sex + 0.234\*Race – 0.103\*Education – 0.178\*AIDS Diagnosis – 0.014\*Loneliness*
- *Social activity engagement = 1.668 + 0.156\*Sex + 0.214\*Race – 0.098\*Education – 0.164\*AIDS Diagnosis – 0.023\*Depressive symptoms*



# Results – Cultural-Physical Activity Models

- 🚫 **High SVI score** and **financial strain** were **negatively** associated with engagement in cultural-physical activities ( $F(5, 317) = 2.61, p < .001$ ) controlling for sociodemographic factors
- 🚫 HIV stigma, loneliness and depressive symptoms were **not significantly associated** with engagement in cultural-physical activities

- *Cultural-Physical activity engagement = 3.131 + 0.241\*Sex – 0.017\*Age at visit + 0.149\*Education + 0.227\*Living Arrangement – 0.340\*SVI – 0.163\*Financial strain*



# Results – Media-based Activity Models

**⚡** Increased depressive symptoms were negatively associated with engagement in media-based activities ( $F(4, 318) = 5.88, p < .001$ ).

- *Media-based activity engagement = 3.960 – 0.001\*Sex - 0.015\*Age at visit + 0.172\*Education – 0.016\*AIDS Depressive symptoms*





# Research Strengths and Limitations

## *Strengths*

- One of the few studies using an adapted social engagement conceptual framework to categorize the different types of activities PLWH are engaged in
- Determined psychosocial factors and HIV-related indicators associated with social engagement in PLWH

## *Limitations*

- Self reports of measures (e.g. depressive symptoms, loneliness) which enhance bias
- Findings might not be generalizable to PLWH nationally, as our sample size is geographically limited

# Research Implications

- 🚫 Our findings show the importance of identifying social engagement activities in PLWH
- 🚫 Given the negative associations of HIV-related stigma, loneliness, and depressive symptoms on social activity engagement, future research need to focus on developing sensible interventions that target social engagement activities, specifically for PLWH with depressive symptoms and perceived loneliness
- 🚫 Future research need to also focus on tailoring social engagement interventions that will fit within PLWH's financial constraints

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Thank you 



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