



Associations between social support and depression, stress, and fruit and vegetable consumption among African American adults in Houston

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Background

Social support is the perception that someone is cared for and has access to help from other individuals. Lack of social support has been associated with increased risk for psychological distress, such as depression, stress and other diseases. Recent studies have shown that patterns of social support vary depending on race/ethnicity.

Lower socioeconomic status and institutional discrimination are a few of the stressors contributing to the high prevalence of depressive symptoms and stress in African Americans. Having quality appraisal support, belonging support, and tangible support may decrease the high prevalence of depression and stress in AA adults.

Research Objective

This study seeks to explore the relationship between social support and depression, stress, and fruit and vegetable consumption among African American adults.

Methodology

- Participants of this study are from a church-based cohort of 1,827 African Americans recruited between 2008-2013.
- Descriptive statistics were used to describe participant characteristics, including frequencies (%) for categorical variables, means and corresponding standard deviations (SDs) for continuous variables.
- We performed multiple linear regressions to investigate the relationships between predictor (social support, treated as continuous), and outcomes (depression, perceived stress, fruit and vegetable consumption, treated as continuous)
- All analyses were done using SAS 9.4
- Controlled covariates: age, gender, education, household income, current smoking, heavy alcohol consumption, chronic condition, marital status, and employment status.

Hypothesis

1. Examine the association between social support and depression.
 - a. Hypothesis: Increased social support will be associated with lower depression.
2. Examine the association between social support and stress.
 - a. Hypothesis: Increased quality of social support will be associated with fewer depressive symptoms and stress.
3. Examine the association between social support and fruit and vegetable consumption.
 - a. Hypothesis: Increased social support will be associated with fruit and vegetable consumption.

Results

Greater social support was associated with lower scores of depressive symptoms (B= -0.29, SE=0.02, p-value<.0001). Greater social support was also associated with lower scores of perceived stress (B= -0.15, SE=0.01, p-value< .001). There was no significant association found between social support and fruit and vegetable consumption (B= 0.02, SE= 0.01, p-value=0.063).

Variables	Mean(SD) / n(%)
Covariates	
Age	45.2 (12.9)
Gender	
Male	372 (25.4)
Female	1,095 (74.6)
Education	
<BS	756 (51.6)
BS	432 (29.5)
>=MS	278 (19.0)
Household income	
<40K	359 (25.3)
40-79.9K	559 (39.4)
>=80K	500 (35.3)
Current smoker	
No	1,322 (91.1)
Yes	129 (8.9)
Heavy alcohol consumption	
No	1,391 (94.9)
Yes	74 (5.1)
Chronic conditions	
No	555 (38.2)
Yes	898 (61.8)
Marital status	
No	827 (56.5)
Yes	638 (43.5)
Employment status	
No	382 (26.1)
Yes	1,083 (73.9)
Predictor	
Social support (overall score)	41.1 (6.2)
Outcomes	
Depression (score)	5.8 (5.0)
Perceived stress (score)	4.6 (3.0)
Fruit & vegetable consumption (eating times per week)	3.1 (2.6)

Table 1. Participants Characteristics

On average, participants were 45 years old, majority were female (74.6%), and 43.5% were married or living with partner. Two third of participants were employed (73.9%), half reported at least a Bachelor's Degree (51.6%), and 39.4% had an annual household income of at least \$80,000. Only 8.9% were current smokers and 5.1% were at-risk alcohol users, and 61.8% of participants reported at least one chronic condition

Participants Eligibility

- Be 18 years old and above
- Read and write English
- Live in the Houston metro area
- Have a viable (working) telephone number and home address

Parameter	Estimate	StdErr	tValue	P-value
Social support	-0.15	0.01	-11.96	0.000
Age	-0.05	0.01	-7.68	0.000
Gender (Male)	-0.59	0.18	-3.24	0.001
Education (Reference: >=MS)				
<BS	0.38	0.22	1.76	0.078
BS	-0.05	0.22	-0.21	0.831
Household income (Reference: >=80K)				
<40K	0.73	0.24	3.08	0.002
40-79.9K	0.22	0.18	1.19	0.235
Marital status (No)	-0.43	0.17	-2.52	0.012
Employment status (No)	0.00	0.18	-0.02	0.982
Current smoker (No)	-0.48	0.28	-1.72	0.085
Heavy drink consumption (No)	-0.56	0.36	-1.57	0.116
Chronic conditions (No)	-0.52	0.17	-3.07	0.002

Table 3: Relationship between social support and perceived stress

Table 2. Relationship between social support and depression

Parameter	Estimate	StdErr	tValue	P-value
Social support	-0.29	0.02	-13.91	<0.001
Age	-0.06	0.01	-5.06	<0.001
Gender (Male)	-0.90	0.30	-3.02	0.003
Education (Reference: >=MS)				
<BS	0.63	0.35	1.78	0.076
BS	-0.38	0.36	-1.05	0.295
Household income (Reference: >=80K)				
<40K	1.01	0.39	2.60	0.009
40-79.9K	-0.01	0.30	-0.02	0.986
Marital status (No)	-0.07	0.28	-0.24	0.807
Employment status (No)	0.60	0.30	2.00	0.046
Current smoker (No)	-0.98	0.45	-2.17	0.030
Heavy drink consumption (No)	-0.85	0.58	-1.45	0.148
Chronic conditions (No)	-0.84	0.28	-3.03	0.002

Table 4. Relationship between social support and fruit and vegetable consumption, controlling for covariates

Parameter	Estimate	StdErr	tValue	P-value
Social support	0.02	0.01	1.86	0.063
Age	0.01	0.01	1.66	0.097
Gender (Male)	-0.36	0.16	-2.17	0.030
Education (Reference: >=MS)				
<BS	-0.26	0.19	-1.36	0.174
BS	-0.07	0.20	-0.33	0.740
Household income (Reference: >=80K)				
<40K	-0.23	0.21	-1.08	0.281
40-79.9K	-0.06	0.17	-0.38	0.707
Marital status (No)	-0.05	0.15	-0.30	0.762
Employment status (No)	0.57	0.17	3.40	0.001
Current smoker (No)	0.39	0.25	1.55	0.120
Heavy drink consumption (No)	-0.12	0.32	-0.36	0.721
Chronic conditions (No)	0.02	0.15	0.16	0.874

Table 4: Relationship between social support and fruit and vegetable consumption

Conclusion

- There is a pattern in AA adults concerning higher rates of psychological distress compared to other racial/ethnic groups.
- AA stressors (Low SES, discrimination, bias, etc.) may be a contribution to poor health outcomes, including increase cancer risk, but that social support can help. Race is frequently perceived and studied as a category instead of an experience that affects people's mental, emotional, and physical health.

Future Studies

- Establishing farmers markets in predominantly black communities could create a social support network to encourage higher rates of fruit and vegetable consumption.

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