

Associations of Urbanicity and Sociodemographic Characteristics with Protective Health Behaviors and Reasons for Leaving the Home during COVID-19



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BACKGROUND

- Movement restrictions (i.e., “stay-at-home” or “shelter-in-place” orders) were implemented between March 19-April 7, 2020
- Few data exist on the characteristics of U.S. adults’ compliance with movement restrictions and protective health behaviors during the COVID-19 pandemic

PURPOSE

To evaluate the associations of urbanicity and sociodemographic characteristics with 1) reasons for leaving home and 2) protective health behaviors during the COVID-19 movement restrictions among a sample of U.S. adults

METHODS

- A convenience sample of U.S. adults (N=2,441) completed a 15-minute self-report online questionnaire.
- Exclusion criteria included: 1) missing ZIP; 2) currently sick with COVID-19; 3) difficulty with errands; and 4) “essential service” employment
- Online survey was conducted between April and June 2020

Measures

- **Reasons for Leaving the Home**
- Participants were asked to *check all that apply* to the question, “For what reasons have you left your home during the “stay in place” order?” Responses included: 1) work, 2) grocery shopping, 3) other essential shopping, 4) exercise, and 5) walking dog
- **Protective Health Behaviors**
- Participants were asked to *check all that apply* to the question, “If you leave your home for any reason, what do you do to protect yourself when out in public?” Responses included: 1) physical/social distancing, 2) protective mask, 3) wearing gloves, 4) using hand sanitizer, 5) using disinfectant wipes, and 6) washing hands frequently
- Second, participants were asked, “On average, how many hours per day (out of 24-hours) have you remained at home during the coronavirus outbreak?”

PARTICIPANTS

- N = 1,374 adults; M age = 42.7; 71.1% female; 78.8% non-Hispanic white; 40% living with one or more comorbidities; 20% living with moderate to severe depression

RESULTS

Table 1. Adjusted odds for protective health behaviors during COVID-19 pandemic movement restriction orders

	Protective Health Behaviors						
	Physical/ social distancing	Washing hands frequently	Using hand sanitizer	Protective mask	Spending at least 23 hours inside the home	Using disinfectant wipes	Wearing gloves
N = 1374	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
Urbanicity (Referent = Urban)							
Suburban	0.71 (0.32, 1.60)	0.99 (0.61, 1.62)	1.12 (0.81, 1.56)	0.91 (0.67, 1.23)	1.45 (1.08, 1.94)	1.28 (0.97, 1.69)	0.82 (0.60, 1.12)
Rural	1.11 (0.43, 3.24)	1.05 (0.61, 1.86)	1.20 (0.83, 1.75)	0.60 (0.43, 0.83)	1.32 (0.96, 1.82)	0.95 (0.70, 1.29)	0.60 (0.41, 0.88)
Sex (Referent = Male)							
Female	2.34 (1.12, 4.85)	1.72 (1.11, 2.66)	1.48 (1.09, 2.00)	1.58 (1.20, 2.08)	1.17 (0.89, 1.54)	1.82 (1.40, 2.36)	1.18 (0.87, 1.61)
Age (Referent = 18-34 years)							
35-49 years	0.76 (0.30, 1.97)	0.67 (0.38, 1.17)	0.97 (0.67, 1.41)	1.25 (0.91, 1.72)	0.90 (0.65, 1.24)	1.03 (0.76, 1.40)	1.33 (0.92, 1.94)
50 years and older	0.99 (0.35, 2.82)	0.81 (0.45, 1.46)	0.65 (0.45, 0.95)	2.02 (1.42, 2.91)	0.70 (0.50, 0.98)	1.46 (1.06, 2.02)	2.63 (1.81, 3.85)
Education (Referent = College graduate or more)							
Not a college graduate	0.41 (0.18, 0.98)	1.11 (0.62, 2.13)	1.16 (0.78, 1.76)	0.88 (0.61, 1.27)	0.94 (0.66, 1.34)	1.24 (0.88, 1.74)	1.23 (0.83, 1.79)
Household Income (Referent = <\$50,000)							
\$50,000-\$100,000	0.81 (0.17, 2.99)	1.22 (0.60, 2.69)	1.29 (0.77, 2.13)	1.19 (0.74, 1.89)	1.27 (0.81, 1.99)	1.01 (0.65, 1.57)	1.67 (0.96, 3.02)
\$100,000-\$150,000	0.83 (0.16, 3.32)	1.45 (0.55, 2.58)	1.04 (0.62, 1.73)	1.22 (0.75, 1.98)	1.24 (0.77, 1.97)	1.09 (0.69, 1.71)	1.70 (0.96, 3.12)
Over \$150,000	0.57 (0.12, 2.07)	1.45 (0.66, 3.06)	1.56 (0.92, 2.60)	0.98 (0.60, 1.56)	1.51 (0.95, 2.39)	1.32 (0.84, 2.06)	1.51 (0.86, 2.75)
Children (Referent = No)							
Yes	1.32 (0.59, 3.02)	1.50 (0.92, 2.48)	1.33 (0.96, 1.86)	0.84 (0.63, 1.13)	1.08 (0.81, 1.44)	1.43 (1.09, 1.88)	1.03 (0.75, 1.42)
Depressive Symptom Severity (Referent = None/Mild)							
Moderate to Severe	0.37 (0.17, 0.84)	0.82 (0.50, 1.38)	0.76 (0.54, 1.08)	1.08 (0.79, 1.49)	1.24 (0.91, 1.71)	0.88 (0.65, 1.18)	1.12 (0.79, 1.58)
Comorbidity (Referent = None)							
1 or More	1.87 (0.87, 4.31)	0.94 (0.61, 1.46)	1.39 (1.03, 1.88)	1.19 (0.91, 1.55)	1.16 (0.99, 1.50)	1.04 (0.81, 1.32)	1.01 (0.77, 1.35)

CI confidence interval; OR odds ratio
^aAdjusted models are mutually adjusted for all other variables
^bBoldface indicates statistical significance (p<0.05)

RESULTS

Table 2. Adjusted odds for reasons for leaving home during COVID-19 pandemic movement restriction orders

	Reasons for Leaving Home				
	Grocery Shopping	Exercise	Walking Dog	Other Essential Shopping	Work
N = 1374	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
Urbanicity (Referent = Urban)					
Suburban	0.99 (0.65, 1.53)	1.06 (0.79, 1.43)	0.89 (0.68, 1.17)	0.76 (0.57, 1.00)	0.70 (0.42, 1.15)
Rural	0.89 (0.56, 1.46)	0.77 (0.56, 1.07)	0.78 (0.57, 1.06)	0.95 (0.70, 1.30)	1.64 (1.03, 2.61)
Sex (Referent = Male)					
Female	0.51 (0.31, 0.80)	0.85 (0.64, 1.13)	1.14 (0.88, 1.48)	0.68 (0.52, 0.88)	0.56 (0.38, 0.85)
Age (Referent = 18-34 years)					
35-49 years	1.52 (0.96, 2.40)	0.79 (0.56, 1.09)	1.12 (0.83, 1.53)	1.04 (0.76, 1.42)	1.90 (1.14, 3.20)
50 years and older	2.07 (1.25, 3.48)	0.77 (0.54, 1.09)	1.08 (0.78, 1.49)	1.31 (0.94, 1.81)	1.14 (0.64, 2.03)
Education (Referent = College graduate or more)					
Not a college graduate	0.53 (0.33, 0.87)	0.69 (0.49, 0.98)	0.80 (0.56, 1.13)	1.17 (0.83, 1.63)	0.84 (0.46, 1.46)
Household Income (Referent = <\$50,000)					
\$50,000-\$100,000	0.54 (0.23, 1.13)	1.48 (0.94, 2.33)	1.44 (0.90, 2.35)	0.94 (0.60, 1.49)	1.25 (0.61, 2.71)
\$100,000-\$150,000	0.50 (0.21, 1.06)	1.30 (0.81, 2.06)	2.40 (1.49, 3.94)	1.01 (0.64, 1.61)	0.97 (0.46, 2.18)
Over \$150,000	0.38 (0.16, 0.79)	1.69 (1.06, 2.67)	2.33 (1.46, 3.80)	0.98 (0.62, 1.55)	0.79 (0.38, 1.79)
Children (Referent = No)					
Yes	1.05 (0.69, 1.62)	1.25 (0.93, 1.67)	0.94 (0.71, 1.23)	1.16 (0.88, 1.53)	0.86 (0.55, 1.35)
Depressive Symptom Severity (Referent = None/Mild)					
Moderate to Severe	1.30 (0.83, 2.09)	0.77 (0.57, 1.04)	0.97 (0.72, 1.31)	0.95 (0.70, 1.28)	1.08 (0.53, 1.21)
Comorbidity (Referent = None)					
1 or More	0.65 (0.45, 0.96)	0.61 (0.47, 0.79)	1.13 (0.89, 1.45)	1.18 (0.92, 1.52)	0.80 (0.56, 1.14)

CI confidence interval; OR odds ratio
^aAdjusted models are mutually adjusted for all other variables
^bBoldface indicates statistical significance (p<0.05)

CONCLUSION

- In this sample of U.S. adults, those who were **male, younger, living without comorbidities, and residing in rural areas** had higher odds of leaving the home and lower odds of enacting various protective health behaviors
- As one of the first national surveys conducted on COVID-19 and individuals’ behavior, these findings underlay **the need for federal-, state-, and community-level leadership to continue encouraging protective behaviors and promote use/provide access to protective masks particularly among vulnerable populations such as rural communities and younger individuals.**



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