

Erasmus School of
Social and
Behavioural Sciences

Physical Distancing and Social Media Use in Emerging Adults and Adults During COVID-19

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National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

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MOVEZ
NETWORK



UNIVERSITEIT
VAN AMSTERDAM

Erasmus

Background



- Starting in the first weeks of the pandemic
- RIVM starts large scale survey
- GGD panel

<https://www.rivm.nl/gedragsonderzoek>



- Extra concern for young people adherence
- And the role of social media



Emerging Adults?! (Arnett, 2000)

“Emerging adulthood is proposed as a new conception of development for the period from the late teens through the twenties, with a focus on ages 18-25.”

“The time from the end of adolescence to the young-adult responsibilities...”

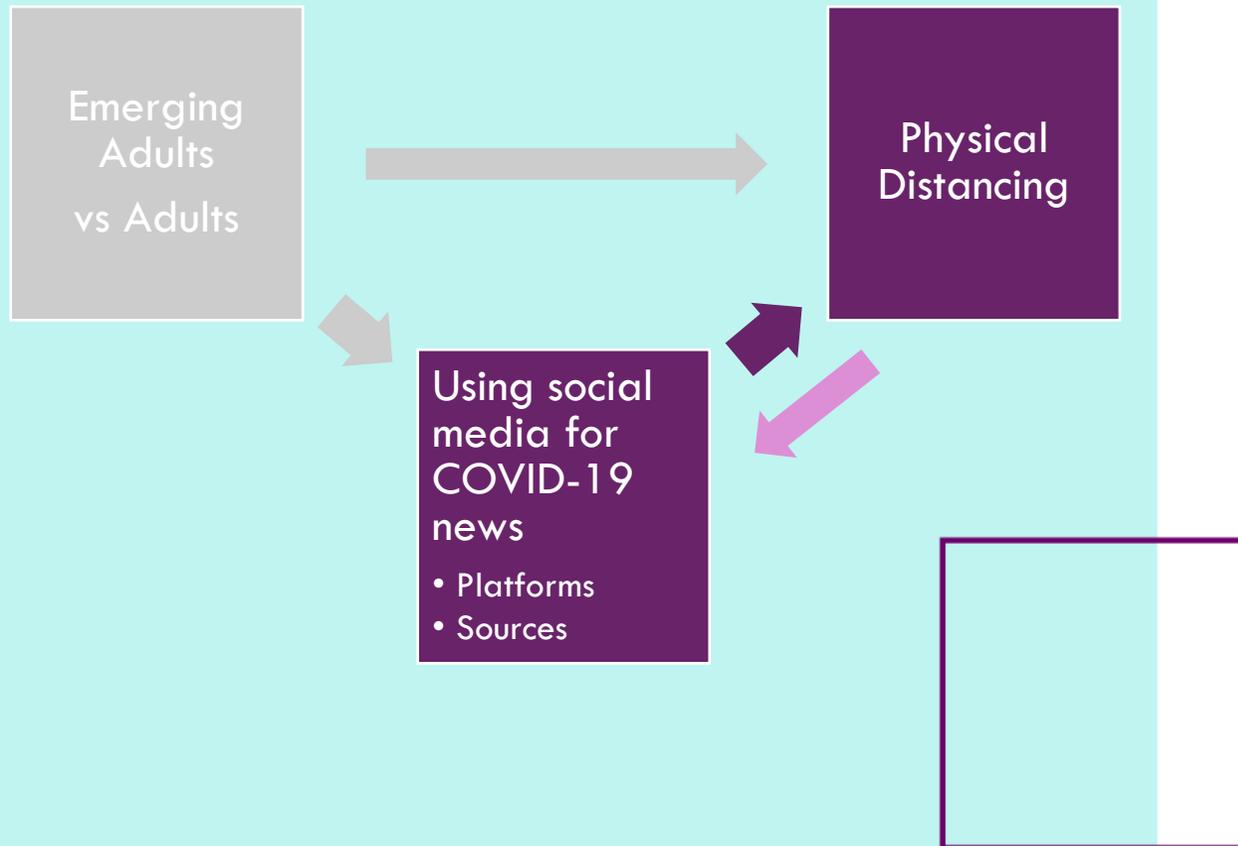
Independence of parents + Identity explorations

Conceptual model



- Difference in physical distancing between emerging adults and adults
- Mediating role of using social media for COVID-19 news and information

Conceptual model



- Difference in physical distancing between emerging adults and adults
- Mediating role of using social media for COVID-19 news and information
- Explorations:
 - Directionality?
 - Platforms?
 - Sources?

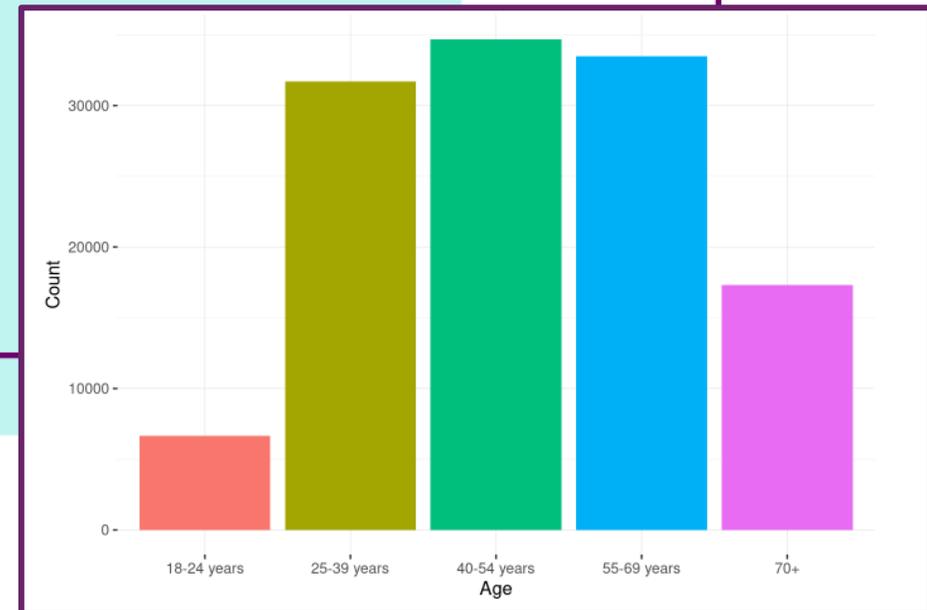
Sample

N = 123,848 (34% male)

- 6648 < 25 y/o

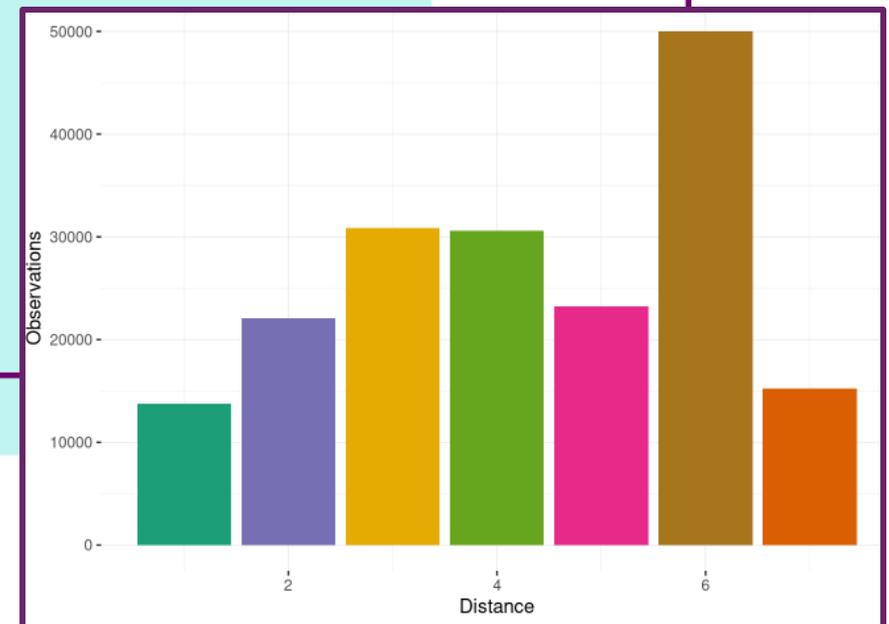
8 waves

- 17 Apr 2020 - 15 Nov 2020
- Single wave ($n = 47,708$, 38.5%)
- Multiple waves ($n = 76,140$, 61.5%)



Physical distancing

- “In the past 7 days, how often were you successful in always keeping a physical distance of 1.5 meters from these people”
- $M_{\text{grand}} = 4.34, SD_{\text{grand}} = 1.58$)



Social Media

“In the past 7 days, which of these sources did you use to get information and news about the coronavirus?”

Social Media

30% of the participants used social media for COVID-19 news and information

Social Media: Platforms and Sources

“In the past 7 days, which of these sources did you use to get information and news about the coronavirus?”

Social Media

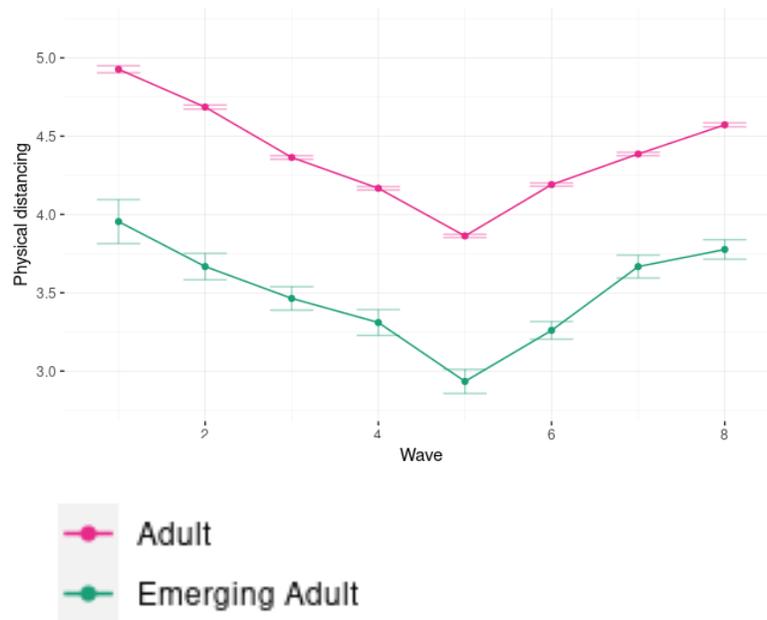
*Number of days
per week*

Subset ($n = 18,047$):

Platforms: Facebook, Twitter, Instagram, YouTube, and LinkedIn

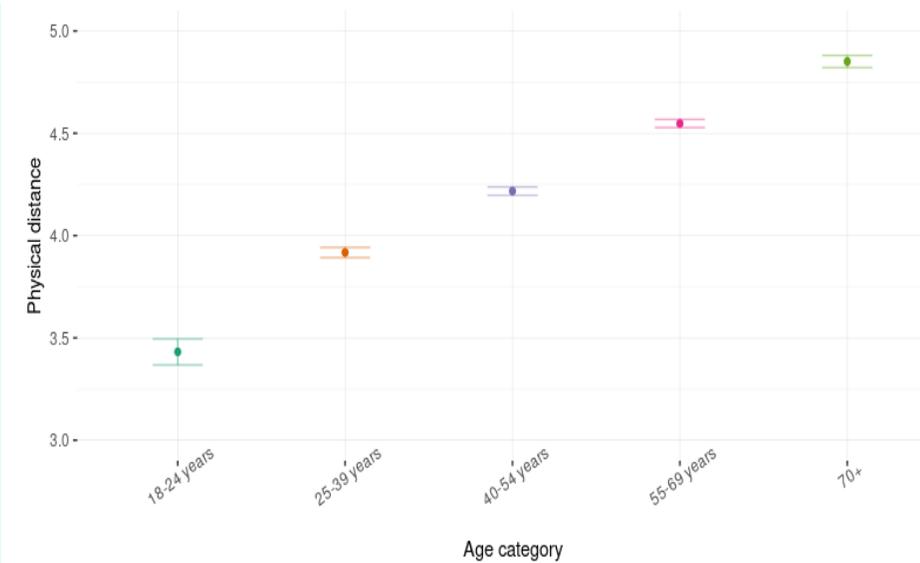
Sources: Government, national/regional news, personal, or other

Results



Emerging adults keep
least often a physical
distance from others
than adults.

($\beta = -.08, t = -26.79, p < .001$)



Results

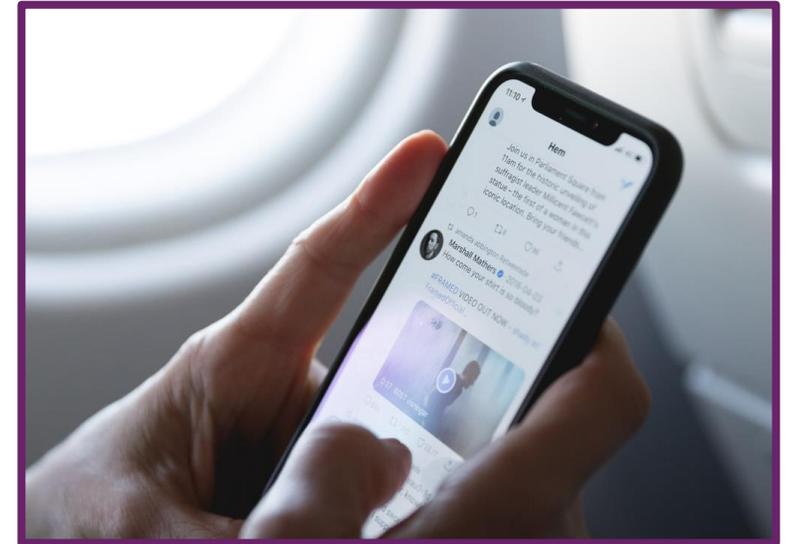


Emerging adults 12 times more likely to use social media for COVID-19 news

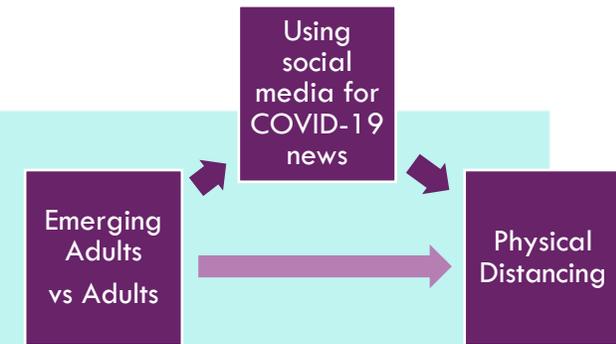
$$(\beta = 2.48, SE = .11, Wald = 23.66, p = <.001)$$

Those who used social media [...] showed slightly less physical distancing behavior

$$(\beta = -.08, t = -26.79, p <.001)$$



Mixed-effects mediation model



Total effect

$(\beta = -0.91, 95\% \text{ CI} = [-1.06; -0.77], p < .001)$

Direct effect

$(\beta = -0.88, 95\% \text{ CI} = [-1.04; -0.74], p < .001)$

Very small indirect effect

$(\beta = -0.03, 95\% \text{ CI} = [-0.04; -0.02], p < .001)$

There is a partial, but limited, mediating path of using social media for COVID-19 news and information

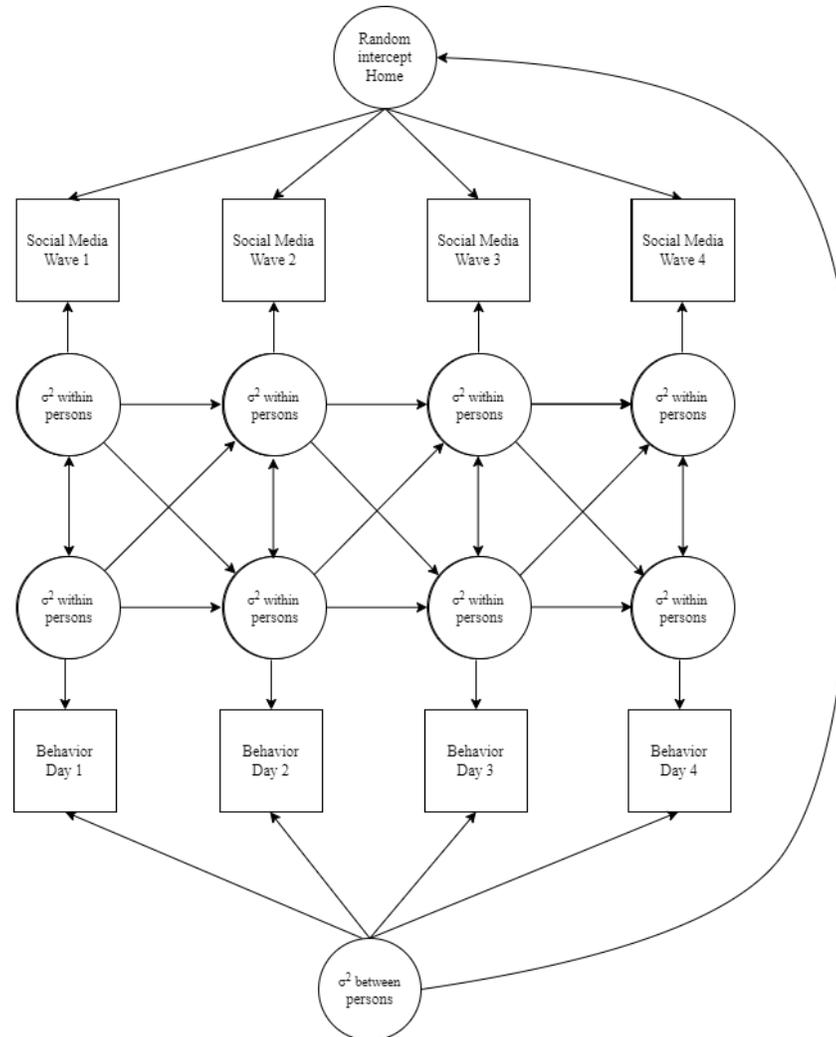
Determining Directionality

Subset with 4 consecutive waves ($n = 7,325$):

Random Intercept Cross-Lagged Panel Model of Physical Distancing and Social Media.

Parameters	B	95% CI for B		SE	β	z	p
		LL	UL				
W5 correlation	-0.01	-0.02	0.00	0.01	-0.03	-2.10	0.036
Distance \rightarrow Social media	-0.01	-0.01	0.00	0.00	-0.02 to -0.02	-2.52	0.012
Social media \rightarrow Distance	-0.07	-0.15	0.01	0.04	-0.02 to -0.03	-1.65	0.099
Distance \rightarrow Distance	0.12	0.10	0.15	0.01	0.12 to 0.12	11.00	<0.001
Social media \rightarrow Social media	0.12	0.10	0.14	0.01	0.11 to 0.12	10.33	<0.001
Correlated change W6-8	0.00	-0.01	0.01	0.00	0.00	0.01	0.989
Between-person correlation	-0.03	-0.04	-0.02	0.01	-0.09	-5.27	<0.001

Note. $N = 7,325$. CI = confidence interval; LL = lower limit; UL = upper limit.



Random Intercept Cross-Lagged Panel Model

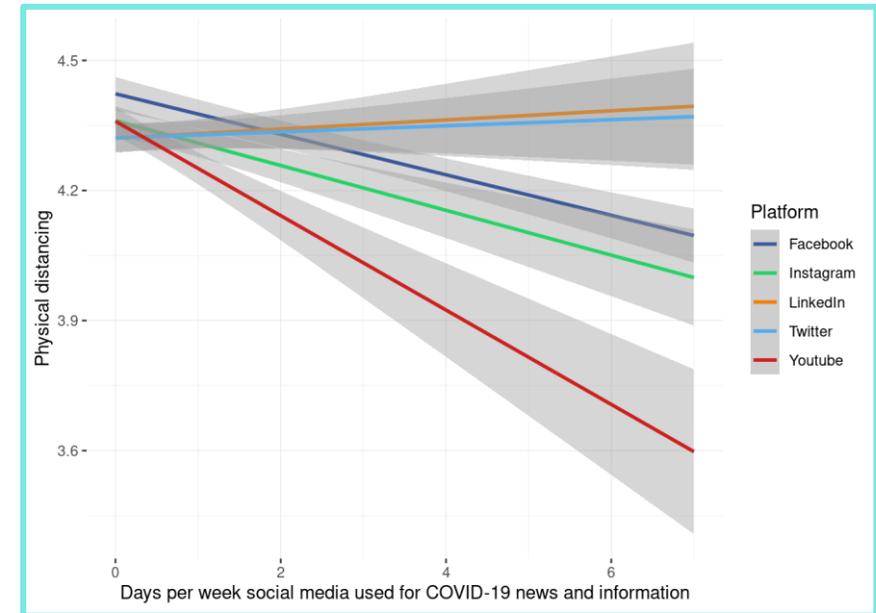
- Association between physical distancing and subsequent social media use.
- Not reversed
- But again, very small effects

Platforms

Variable	<i>B</i>	95% CI for <i>B</i>		SE	β	<i>df</i>	<i>t</i>	<i>p</i>
		<i>LL</i>	<i>UL</i>					
Intercept	4.01	3.88	4.15	0.07	0.00	9734.55	57.72	<0.001
Facebook	-0.04	-0.05	-0.03	0.01	-0.06	11930.58	-6.06	<0.001
Twitter	0.02	0.00	0.04	0.01	0.02	11380.53	2.17	0.030
Instagram	-0.02	-0.04	0.00	0.01	-0.02	12429.39	-2.38	0.017
YouTube	-0.09	-0.12	-0.07	0.01	-0.06	12443.79	-6.36	<0.001
LinkedIn	0.04	0.01	0.06	0.01	0.03	12262.32	2.94	0.003
Sex [male]	0.12	0.05	0.19	0.04	0.03	9871.87	3.43	<0.001
Wave	-0.57	-0.62	-0.52	0.03	-0.16	6389.34	-20.88	<0.001
Emerging adult	-1.00	-1.27	-0.73	0.14	-0.07	9631.78	-7.36	<0.001

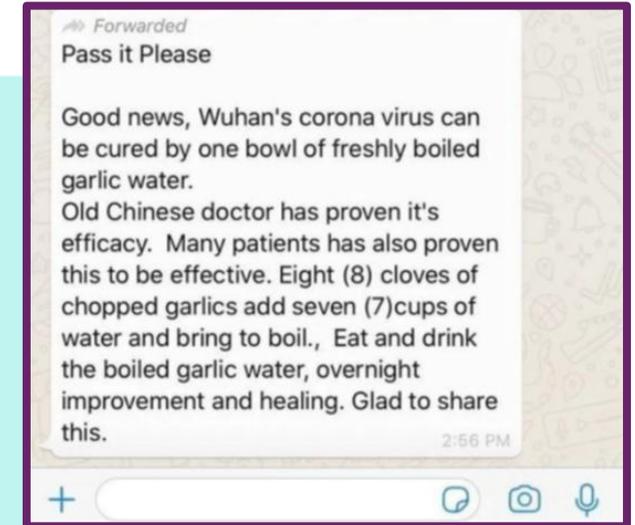
Platform: it's not all down hill

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Instagram	-0.02	-0.04	0.00	0.01	-0.02	12429.39	-2.38	0.017
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Same for social media sources

Variable	B	95% CI for B		SE	β	df	t	p
		LL	UL					
Intercept	3.85	3.68	4.01	0.08	0.00	5994.70	46.39	<0.001
Government	0.10	0.05	0.16	0.03	0.05	7178.46	3.68	<0.001
National News	-0.05	-0.11	0.01	0.03	-0.02	7106.50	-1.73	0.083
Regional News	-0.04	-0.11	0.03	0.03	-0.01	7077.41	-1.14	0.253
Personal Com.	-0.08	-0.13	-0.04	0.02	-0.05	7162.97	-3.86	<0.001
Other	-0.10	-0.18	-0.03	0.04	-0.03	7085.96	-2.74	0.006
Sex [male]	0.05	-0.05	0.14	0.05	0.01	5862.23	0.96	0.336
Wave	-0.59	-0.66	-0.52	0.04	-0.16	3694.48	-16.35	<0.001
Emerging Adult	-1.05	-1.35	-0.75	0.15	-0.09	5691.54	-6.93	<0.001



What to conclude?

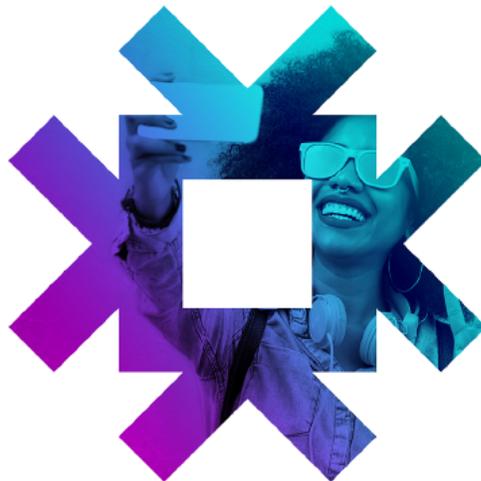
- Physical distancing behavior is lower in emerging adults compared to adults.
 - incremental age category.
- Social media is a limited explanation
 - no evidence for social media → physical distancing
- Direction of association depends on platform and sources
 - Added value of government's social media presence

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