Disparities in Adherence to COVID-19 Public Health Recommendations

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As the coronavirus 2019 (COVID-19) pandemic continues, there has been much discussion about the need for, and the public's adherence to, public health recommendations for minimizing spread of the infection. Although infectious disease experts recommend social distancing and wearing masks in public, many people do not wear masks and some politicians even want to ban mask requirements (Bogel-Burroughs & Robertson, 2020).

Thus, it is timely that *HLRP: Health Literacy Research and Practice* contains reports of two national surveys about the public's awareness of and intent to comply with those public health recommendations. The surveys used different methods, studied different populations, and have specific methodological limitations. Nonetheless, they have important findings—notably marked differences among respondents to the two surveys in their awareness of and intent to comply with those public health recommendations.

One survey, by Lennon et al. (2020), collected data from more than 5,000 largely White respondents in communities across the United States and found that 86% to 90% of respondents *most certainly* intended to comply with recommendations about hand washing and social distancing. The other survey, by Block et al. (2020), was focused exclusively on African Americans and found that only 67% to 72% of respondents reported *always* following those recommendations.

Readers could easily make the mistake of concluding that the differences in reported compliance with public health recommendations between the two studies are due to the racial/ethnic differences in the two surveyed populations, one largely White and the other exclusively African American. In reality, however, the different levels of compliance with public health recommendations are far more likely due to differences in education and income levels between the respondents in the two surveys.

In the Lennon et al. (2020) study of largely White people, 81% of respondents had attained a college or graduate/professional degree. In the Block et al. (2020) study of African Americans, only 27% had attained a college or graduate/professional degree. A recent report from the Pew Research Center (2020) confirms that higher levels of education are associated with higher rates of compliance with public health recommendations among people of all racial/ethnic groups. In addition, their data show that overall, African American adults are more likely to wear masks than White respondents (Igielnik, 2020).

Higher education levels are also strongly associated with higher income levels (Wolla & Sullivan, 2017), and income is another major factor in whether people comply

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with protective behaviors during the pandemic. People in the highest income quintile (mean $233,895) are up to 54% more likely to comply than those in the lowest quintile (mean $13,775) (Papageorge et al., 2020).

The reasons for the relationship between income and compliance are easily illustrated in one of the key public health recommendations—social distancing. Social distancing, in many ways, is a "privilege" dependent on financial resources. People with higher levels of education and thus higher incomes, such as those in the Lennon et al. (2020) study, tend to reside in less-crowded living situations, making it easier for them to comply with social distancing. People with lower levels of education and thus lower incomes, such as in the Block et al. (2020) study, likely live in more crowded housing situations that make social distancing more difficult.

Based on the above factors, it is reasonable to conclude that the differences in compliance with public health recommendations between the largely White respondents and the exclusive African American respondents were not due to any inherent racial/ethnic characteristics. Rather, they reflect different sampling methods that led to enrollment of two survey populations with remarkably different education levels.

There are likely other forces also at play that influence adherence to COVID-19 mitigation strategies. They include mistrust of public health messages, politicization of science, and health literacy.

Mistrust of the health care system has been shown to vary by race, with African Americans having higher rates of mistrust (Arnett et al., 2016). Health messaging about COVID-19 has been extremely confusing, rapidly changing, and politically charged. People who mistrust the health care system may be less likely to adhere to recommendations when those recommendations come from sources they do not trust, particularly if those recommendations are unclear and inconsistent. In a recent *HLRP: Health Literacy Research and Practice* article, Muvuka et al. (2020) discuss how discriminatory practices and a paucity of appropriate and culturally targeted health information have limited African Americans access to health information that is understandable and trustworthy.

Politicization of the science surrounding how to stop the spread of the pandemic is another factor. There appears to be a massive surge of mistrust in public health recommendations and in science more generally, and these phenomena are playing out along the lines of political partisanship. Indeed, last month as the pandemic continued to grow, the majority (61%) of Republicans and those who tend to side with Republicans believed the pandemic was on a decline, whereas 87% of Democrats and those who side with Democrats felt the worst was yet to come (Pew Research Center, 2020).

Finally, it is important to note that neither study included any measures of health literacy. Yet, in a journal that focuses on health literacy, it would be an oversight not to question whether lower health literacy among respondents in the Block et al. (2020) study may be a contributing reason why respondents were less likely to report adhering to guidelines than among those in the Lennon et al. (2020) study, which had an extremely highly educated cohort.

Without easy access to accurate health information and faced with information presented in difficult-to-understand formats, it should not be surprising if understanding and intent to follow public health recommendations is lower than optimal. Indeed, sections of the Centers for Disease Control and Prevention webpage with frequently asked questions about COVID-19 are written in text with complexity as high as the 15th grade reading level (Centers for Disease Control and Prevention, 2020), potentially making it inaccessible to those with limited education and reading skills.

Clearly, the reasons why the coronavirus pandemic continues to spread, and the reasons why people do not follow public health recommendations are complex and multifactorial. Crowded city areas make social distancing challenging. Access to health care with timely testing and masks for all segments of the population is critical. Social determinants of health that undergird racial and economic disparities are proving to be strong determinants of who will suffer in the pandemic.

But we also should not forget one of the basic principles of health literacy—the need to provide easy-to-understand information to everyone. With apparent widespread degradation of the role and importance of public health and science in shaping public opinion, the stakes are large. People are more apt to understand the implications of the pandemic and follow public heath recommendations if they can easily find and understand them.

REFERENCES

Arnett, M. J., Thorpe, R. J., Jr., Gaskin, D. J., Bowie, J. V., & LaVeist, T. A. (2016). Race, medical mistrust, and segregation in primary care as usual source of care: Findings from the Exploring Health Disparities in Integrated Communities Study. *Journal of Urban Health, 93*, 456-467. https://doi.org/10.1007/s11524-016-0054-9 PMID:27193595

Block, R., Jr., Berg, A., Lennon, R. P., Miller, E. L., & Nunez-Smith, M. (2020). African American adherence to COVID-19 public health recommendations. *HLRP: Health Literacy Research and Practice*, *4*(3), 166-170. doi:10.3928/24748307-20200707-01

Bogel-Burroughs, N., & Robertson, C. (2020, July 17). While virus surges, Georgia governor sues Atlanta Mayor to block mask rules. *New York Times.* https://www.nytimes.com/2020/07/17/us/brian-kemp-georgia-keisha-lance-bottoms-atlanta.html

Centers for Disease Control and Prevention. (2020, July 15). *Coronavi-*

rus disease 2019 (COVID-19). Frequently-asked questions. https://www.cdc.gov/coronavirus/2019-ncov/faq.html

Igielnik, R. (2020, June 23). *Most Americans say they regularly wore a mask in stores in the past month; fewer see others doing it*. Pew Research Center. https://www.pewresearch.org/fact-tank/2020/06/23/most-americans-say-they-regularly-wore-a-mask-in-stores-in-the-past-month-fewer-see-others-doing-it/

Lennon R. P., Sakya S. M., Miller E. L., Snyder B., Yaman T., Zgierska A. E., Ruffin M. T., Van Scoy, L. J. (2020). Public intent to comply with COVID-19 public health recommendations. *HLRP: Health Literacy Research and Practice*, 4(3), 160-165. doi:10.3928/24748307-20200708-01

Muvuka, B., Combs, R. M., Ayangeakaa, S. D., Ali, N. M., Wendel, M. L., & Jackson, T. (2020). Health literacy in African-American communities: Barriers and strategies. *HLRP: Health Literacy Research and Practice, 4*(3), e138-e143. https://doi.org/10.3928/24748307-20200617-01 PMID:32674161

Papageorge, N. W., Zahn, M. V., Belot, M., van den Broek-Altenburg, E., Choi, S., Jamison, J. C., & Tripodi, E. Socio-demographic factors associated with self-protecting behavior during the COVID-19 pandemic. National Bureau of Economic Research. https://www.nber.org/papers/w27378.pdf

Pew Research Center. (2020, June 25). *Republicans, Democrats move even further apart in coronavirus concerns*. https://www.pewresearch.org/politics/2020/06/25/republicans-democrats-move-even-further-apart-in-coronavirus-concerns/

Wolla, S. A., & Sullivan, J. *Education, income, and wealth*. (2017) Economic Research – Federal Reserve Bank of St Louis. https://research.stlouisfed.org/publications/page1-econ/2017/01/03/education-income-and-wealth/