Marquette University: Researchers find over 90% of Wisconsin residents in compliance with state mask mandate

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MILWAUKEE — Over 90% of people in Wisconsin are complying with state-issued mask mandates, an increase from 41.5% when masks were encouraged but not mandatory, according to an observational study conducted by researchers in Marquette University's College of Health Science.

Results also show that the odds of mask wearing prior to mandates increased significantly with age and females were 1.5 times more likely to wear masks than males. Additionally, the odds of observing a mask on an urban or suburban shopper were about four times that for rural areas.

Dr. Sandra Hunter, professor of exercise science and director of the Athletic and Human Performance Research Center, was the principal investigator. Findings of the study, "[Who is wearing a mask? Gender-, age-, and location-related differences during the COVID-19 pandemic](#)," were published by PLOS One on Oct. 15.

"Masks are an effective tool in combatting the spread of COVID-19, but some people still resist wearing them," Hunter said. "Through this study, our goal was to understand the demographics of mask wearers and resistors, and the impact of mandates on mask-wearing behavior. Our data indicated that mandates are necessary to ensure mask-wearing compliance among the public meets the minimum threshold to take control of the coronavirus pandemic."

The research team, which include five students, visited 36 different retail locations

across five counties in southeastern Wisconsin and recorded mask compliance across location, gender and age. Initial visits were made from June 3-9, 2020, prior to any store or state mandates in place, collecting 5,517 observations. In total, 9,935 individuals were observed, including additional periods immediately prior to mandates (July 24-31), with store mandates in place (July 22-31), and following state mandates for masks (Aug. 1-3).

Further findings include:

- A rise to 80% mask compliance from the initial period to the days before widespread individual store mandates took place just over six weeks later. The rise continued to 93% when stores enacted mandates and 96% following the implementation of the Wisconsin's mask mandate.
- There was a distinct difference in mask wearing based on age, with 57% of those estimated to be older adults (over 65 years old) observed wearing masks, compared to 41% of middle age adults (30-65) and 37% of those estimated to be "young" (2-30).
- Locations spanned five counties and were classified as urban, suburban and rural, as determined by linear distance from a designated city center located in downtown Milwaukee. Suburban shoppers wore mask at the highest rate: 49%, followed by 47% of urban shoppers, and 20% in rural areas.
  - Five counties were included in the study, with observations carried out in Milwaukee, Ozaukee, Sheboygan, Washington and Waukesha counties. Ozaukee featured the highest rate of mask wearing in June with 52% of 762 shoppers observed wearing masks. In Milwaukee 47% of 2,922 people wore masks, while Waukesha had 39% of 932, Sheboygan 21% of 372, and Washington 13% of 529.

Additional authors on the paper include Michael Haischer, research lab manager in the AHPRC and graduate student; Lauren Opielinski, research technician in the Department of Exercise Science; Toni Uhrich, clinical associate professor of exercise science and director of the Human Performance Assessment Core; and undergraduate researchers Rachel Beilfuss, Meggie Rose Hart, David Wrucke and Gretchen Zirgaitis.

"This was also a unique opportunity to involve undergraduate and graduate research students who were predominantly doing online class from home at the time," Hunter said. "This is one of many studies within the COVID-19 Research Initiative at Marquette. Michael Haischer a graduate student, is first author on the

study and did a very effective job on collating, analyzing and interpreting the data".

PLOS One is a peer-reviewed open access scientific journal published by the Public Library of Science.