

A Basic Understanding of Viral Disease and Education Level Influences Disease Risk Perception, Disease Severity Perception, and Mask Wearing Behavior During the COVID-19 Pandemic

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Abstract : To the best of this author's knowledge, no studies have been identified on the connection between a refusal to engage in health-protective behaviors and a basic understanding of viral biology among community college students, faculty, and staff during the COVID-19 pandemic. Lack of scientific knowledge could prevent understanding of why these behaviors are important to prevent the community spread of COVID-19, even when they are not shown to offer much individual protection. In this study, a possible correlation was examined between a basic knowledge level of viral disease that comes from having taken a college biology course and disease perceptions of COVID-19. In particular, disease risk perception, disease severity perception and mask-wearing behaviors were examined as they correlated with having taken an undergraduate biology course. The effect of covariates of age, gender, and education level were investigated along with the main dependent variables. A representative sample of the population included students, faculty, and staff at Paradise Valley Community College (PVCC) in Phoenix, Arizona. Participants were recruited by an email sent to all students, faculty, and staff at PVCC using an all-college email distribution. Disease risk and severity perception were assessed with the Brief Illness Perception Questionnaire 5 (BIP-Q5), which was modified to include questions measuring participant age, education level, and whether they took or ever took a college biology course. Two additional questions measured compliance of willingness to wear a face mask. The results showed an effect of gender on mask-wearing behavior and a correlation between having taken a biology course and disease severity perception. No differences were seen in mask-wearing behavior and disease risk perception as a result of having taken a biology course. These findings suggest that taking an undergraduate biology course leads to a greater awareness of COVID-19 disease severity through an understanding of the basic biological principles of viral disease transmission. The results can be used to modify existing health education strategies. Further research is needed on how to best reach target audiences in all education brackets.

Keywords : COVID-19, education, gender, mask wearing, disease risk perception, disease severity perception

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