

DEVELOPMENT AND VALIDATION OF AN INFLUENZA ASSESSMENT:  
EXPLORING THE IMPACT OF KNOWLEDGE AND SOCIAL ENVIRONMENT  
ON HEALTH BEHAVIORS

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ABSTRACT

Assessments of knowledge and perceptions about influenza were developed for high school students, and used to determine how knowledge, perceptions, and demographic variables relate to students taking precautions and their odds of getting sick.

Assessments were piloted and validated using the Rasch model ( $n = 205$ ). The 2-parameter logistic model and the k-means clustering algorithm were used for scoring of final participants ( $n = 410$ ). Kendall-tau correlations were evaluated at the  $\alpha = 0.05$  level, multinomial logistic regression was used to identify the best predictors and to test for interactions, and neural networks were used to test how well precautions and illness can be predicted using the significant correlates. Knowledge was positively correlated to compliance with vaccination, hand washing frequency, and respiratory etiquette, and negatively correlated with hand sanitizer use. Perceived risk was positively correlated to compliance with flu vaccination; perceived complications to personal distancing and staying home when sick. Perceived risk and complications increased with reported illness severity. Perceived barriers decreased compliance with vaccination, hand washing, and respiratory etiquette. Factors such as gender, ethnicity, and school, had effects on more than one precaution. Hand washing quality and frequency could be predicted moderately well. Implications for future uses of the instruments and development of interventions regarding influenza in high schools are discussed.