

The use of the health belief model to assess predictors of caregiver's intent to vaccinate themselves and their children against measles, mumps, and rubella (MMR)

Yibo Liu, Jeremy Williams, Nancy Muturi

Kansas State University, Manhattan, KS 66506

INTRODUCTION

Measles, mumps and rubella (MMR) are three different diseases that threaten people's health with thousands of cases of each reported each year in the United States (CDC, 2019). The MMR vaccine contains the live attenuated virus of measles, mumps, and rubella and also contains other materials to promote the effectiveness of the vaccine. According to the CDC, "One dose of MMR vaccine is 93% effective against measles, 78% effective against mumps, and 97% effective against rubella." The CDC recommends people receive two doses of the MMR vaccine in order to reduce the risk of contracting one of these viruses (CDC, 2018). Vaccines help the human body produce antibodies specifically equipped to fight off certain pathogens by introducing an inactivate strain of the infection to the body's immune system. The CDC states that, "Vaccination is one of the best ways parents can protect infants, children, and teens from 16 potentially harmful diseases." (2018) This study is trying to understand what factors influence caregivers' intentions to give MMR vaccination to themselves and their children by using the Health Belief Model (HBM).

HYPOTHESES AND METHOD

Informed by the Health Belief Model the study had five hypothesis:

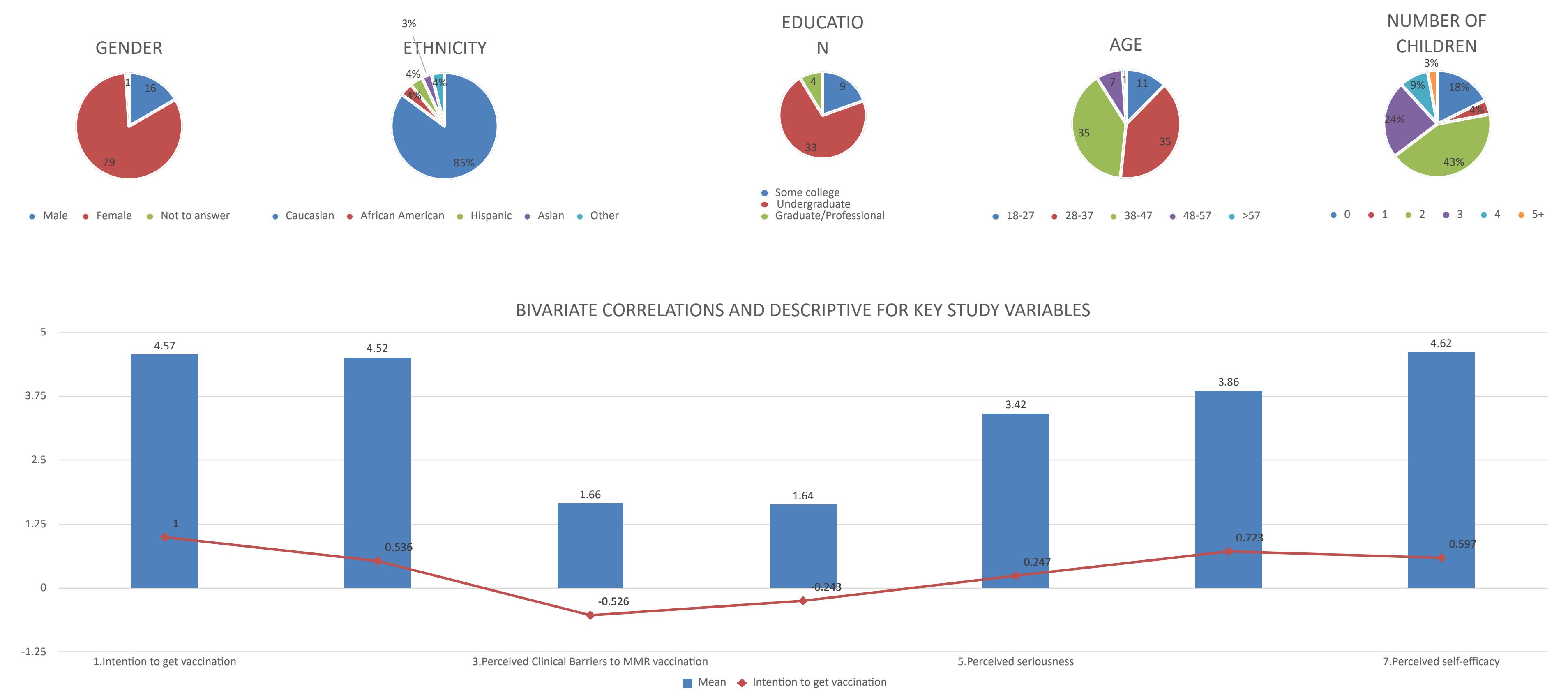
- H1: Increased perceived benefits of MMR vaccination will be positively correlated with intention to vaccinate.
- H2: Increased perceived barriers to MMR vaccination will be negatively correlated with intention to vaccinate.
- H3: Perceived threat will be correlated with intentions to vaccinate.
- H4: Perceived self-efficacy will be positively correlated to intention to vaccinate.
- RQ1: What communicative channels (mediated vs. interpersonal) are information-seeking caregivers using to access information about vaccine preventable diseases (measles, mumps, and/or rubella) and the MMR vaccination?

A cross-sectional online survey (n=96) that was administered to parents and soon-to-be-parents affiliated with a large mid-western university.

RESULTS

Results indicate that the key HBM constructs (perceived benefits, barriers, threats) are significantly correlated with intention to vaccinate. Interestingly, younger, less-educated caregivers had lower perceptions of the severity of vaccine-preventable disease as well as lower perceived susceptibility to vaccine-preventable disease. Also, younger and less-educated participants reported lower levels of self-efficacy and perceived more barriers to access to care than those who are older or more highly educated. Furthermore, while a large percentage of participants are exposed to vaccine-related information online, they continue to seek counsel from healthcare professionals as they make choices about vaccination.

These findings illustrate the need for public health professionals and healthcare practitioners to foster interpersonal relationships with young caregivers and encourage them toward vaccine adoption. Focusing on perceptions of susceptibility, severity of vaccine-preventable diseases, self-efficacy and decreasing perceptions of barriers to vaccination are crucial in MMR vaccine promotion.



FUTURE PLAN

We are currently conducting a campaign to inform individuals about the benefits of MMR vaccination through an educational program overseen by the Manhattan Sunset Zoo. The campaign includes an MMR vaccination board game and educational posters with a goal to increase people's motivation to get MMR vaccinated. Our future goals also include distributing flyers about MMR vaccination to the public, inviting a healthcare provider to give a speech on campus about why people should receive the MMR vaccination, and helping to remove the barriers to getting MMR vaccination, such as vaccination fees. Also, according to the results of our research, the next step is to evaluate healthcare providers' perception of MMR vaccination. That way we will be able to collect more data about how the perspective of healthcare providers can influence patients' intentions of receiving the MMR vaccine. If needed, we will recommend the training for healthcare providers include instruction on how to increase the positive perceptions of the MMR vaccine among patients.

ACKNOWLEDGEMENTS



We would like to thank Kansas State University (KSU) College of Veterinary Medicine for a Travel Award. The research was supported by KSU College of Veterinary. This study was approved by the Committee on Research Involving Human Subjects/ Institutional Review Board (IRB) of KSU.