

Measuring Perceptions of Diarrhoeal Disease Risk in a Climate Sensitive Environment

Mumuni Abu*

Regional Institute for Population Studies, University of Ghana, Legon

abumus2000@yahoo.com

Measurement of people's risk perceptions is very important in many disciplines and in recent climate change studies; there is however, no compromise about the finest measure. This study examined three measures of household risk of diarrhoeal disease as a result of flooding by assessing their demographic, social, economic and environmental risk characteristics. The aim of the study is to explore the relevance of households risk perceptions of diarrhoeal disease as a result of flooding and how populations differ based on the relative importance placed on each of the three measures. Using cross-sectional data from two poor urban neighbourhoods in Accra, Ghana, a total of 401 households involved in the study were asked to rate the chance of a member suffering from diarrhoeal disease in the last twelve months on a 0-100% numerical scale, a verbal scale with five descriptive categories, and a comparative scale with five categories. Each risk perception measure was significantly associated with other measures ($r \geq 0.27$) and slightly correlated with a measure of diarrhoeal disease worry ($r \geq 0.29$), but less correlated with household members experiencing diarrhoeal disease in the last twelve months ($r \geq 0.18$). The numeric scale had the strongest correlation with experience of diarrhoeal disease by household members ($r=0.58$). The numeric and comparative measures showed the highest sensitivity (0.47 and 0.28) and specificity (0.27 and 0.45) for identifying households at risk of diarrhoeal disease. These measures also helped in identifying households at low risk of diarrhoeal disease – numeric measure had highest sensitivity (0.52) while comparative measure had highest specificity (0.67). Households in rich and richest wealth quintile had numeric expression of risk while those in poor and poorest quintile had comparative expression. Policy targeting population in poor places should be segmented since expression of risk perceptions is not the same for all.

Key Words: Latent class models, Shapiro-Wilks test, convergent validity, construct validity