

**A Toilet or a Mobile Phone?:
Exploring Interactions and Choices That
Influence the Health of Mothers in Kenya
Using Structural Equation Modeling**

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2. Discuss statistical models that can generate new insight
3. Share knowledge on new methodological approaches to address complex areas

Gender Data Gaps



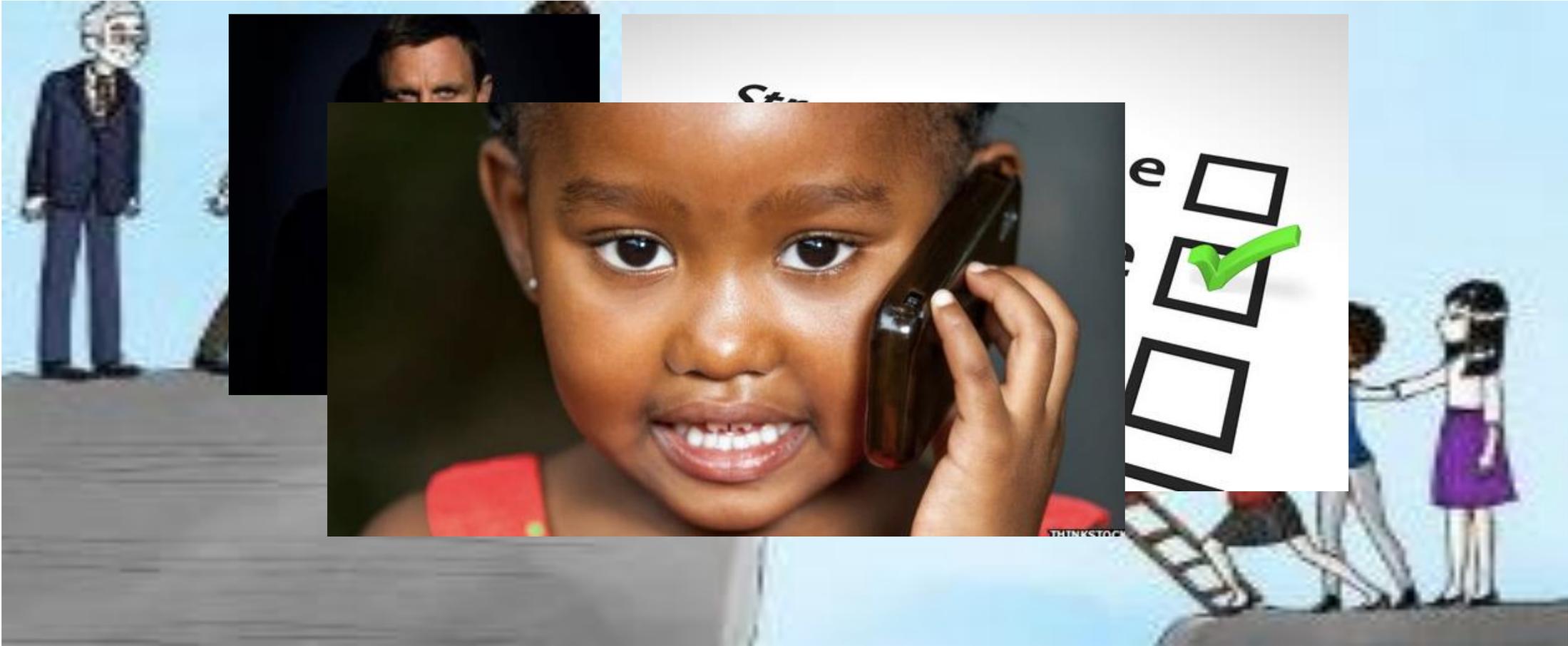
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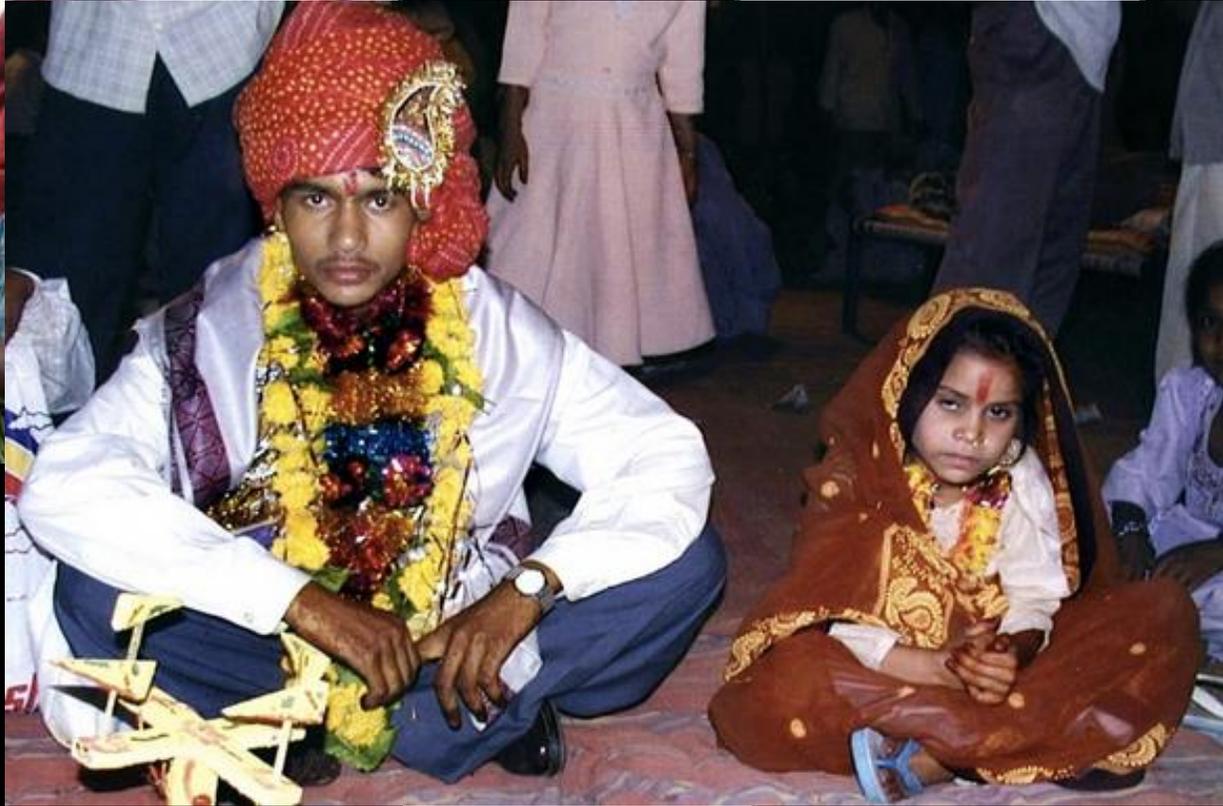
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1. Define and measure priorities to help establish policies promoting gender equality
2. Monitor progress towards achieving goals
3. Inform improved models (ie decision support tools) to help to determine the size and nature of social and economic problems
4. Evaluate efficacy and cost-effectiveness of alternative policies





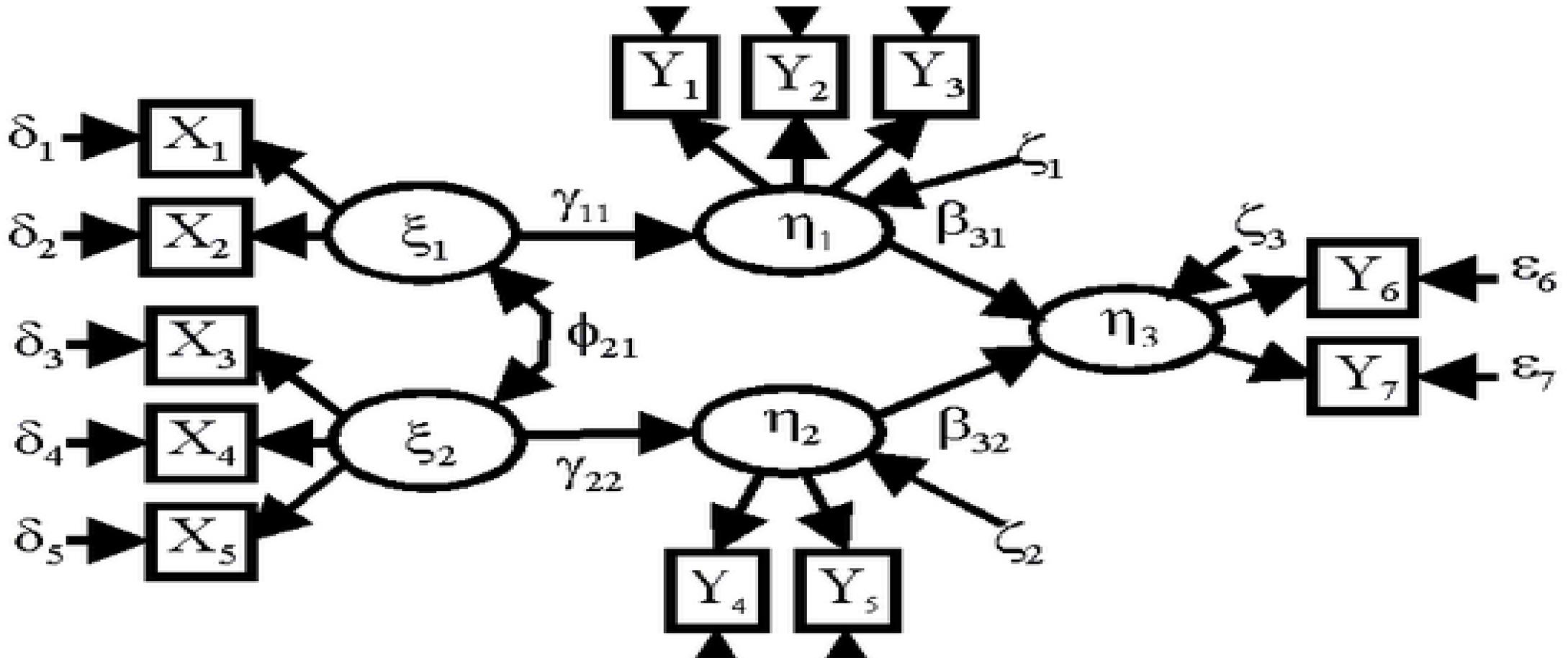




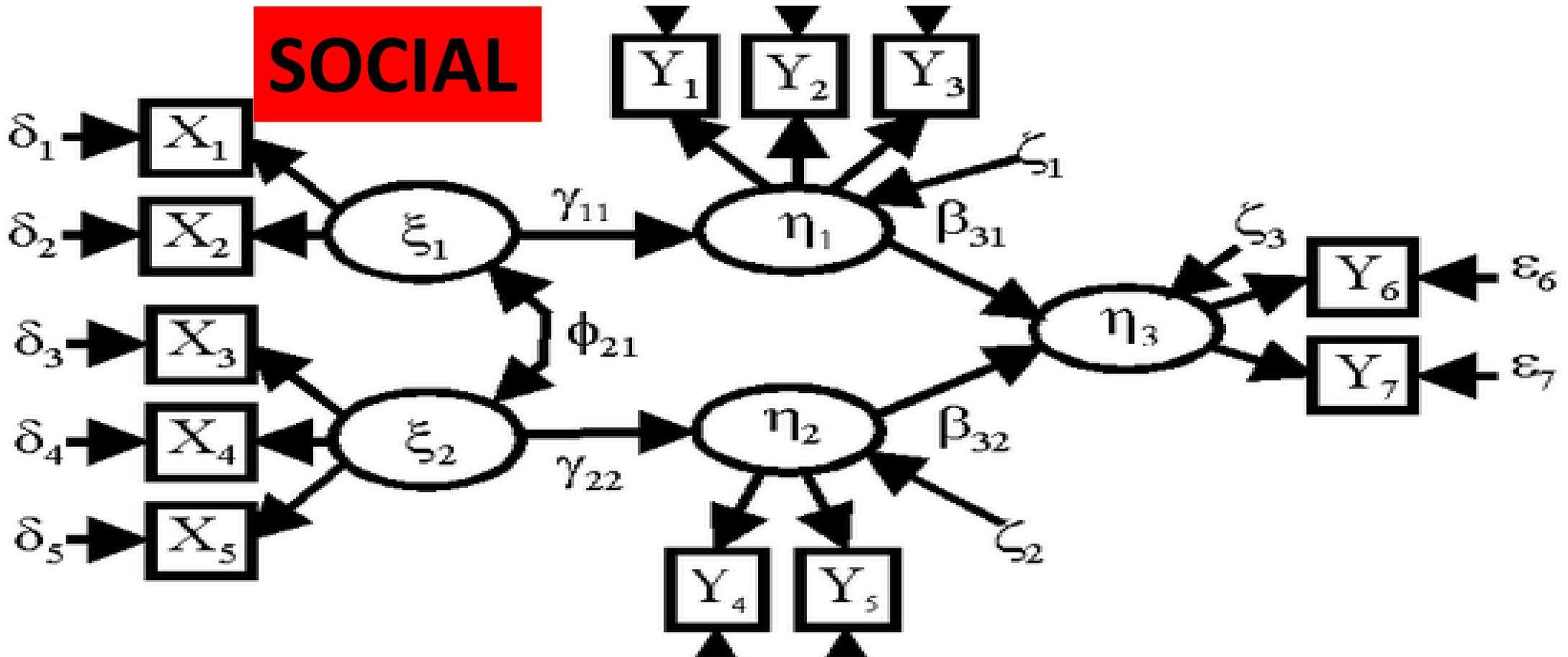
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- By using SEM we can begin to understand the importance of gender inequality as well as evaluate the effectiveness of our early interventions.

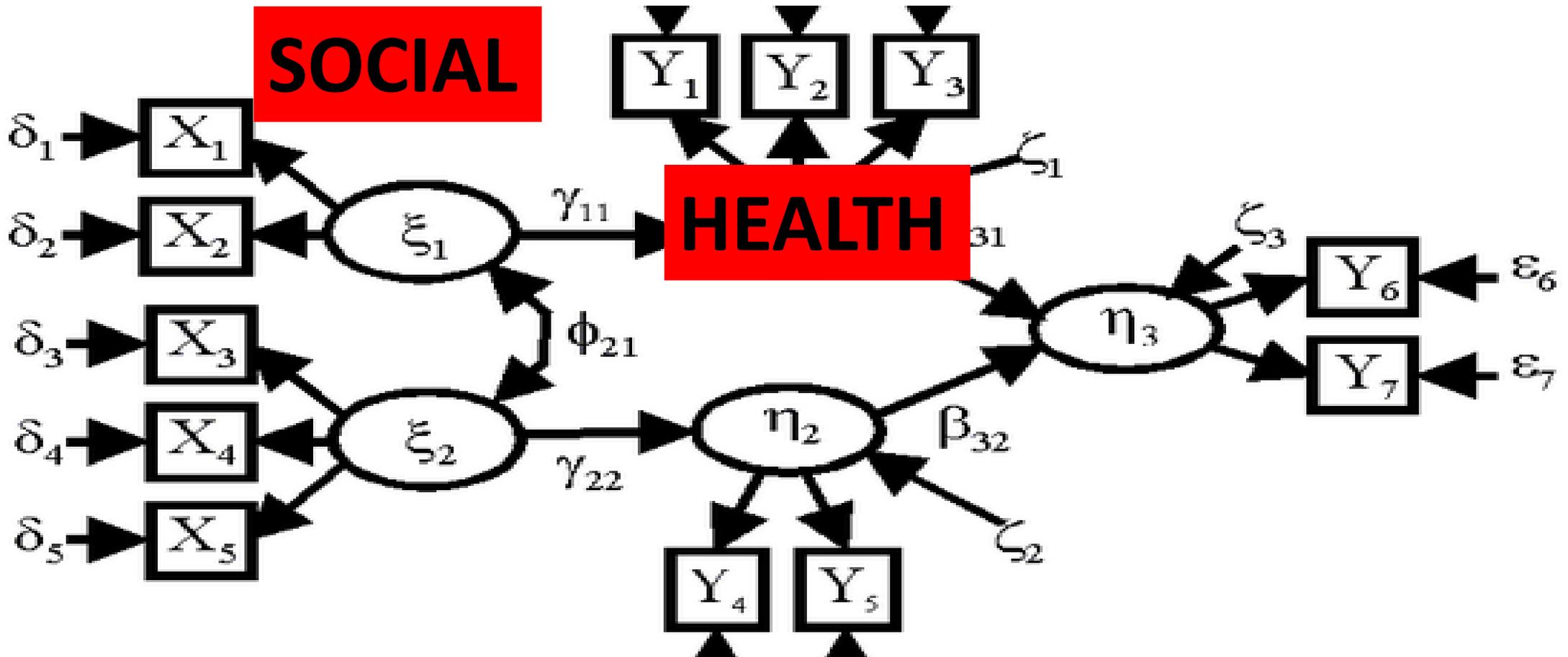
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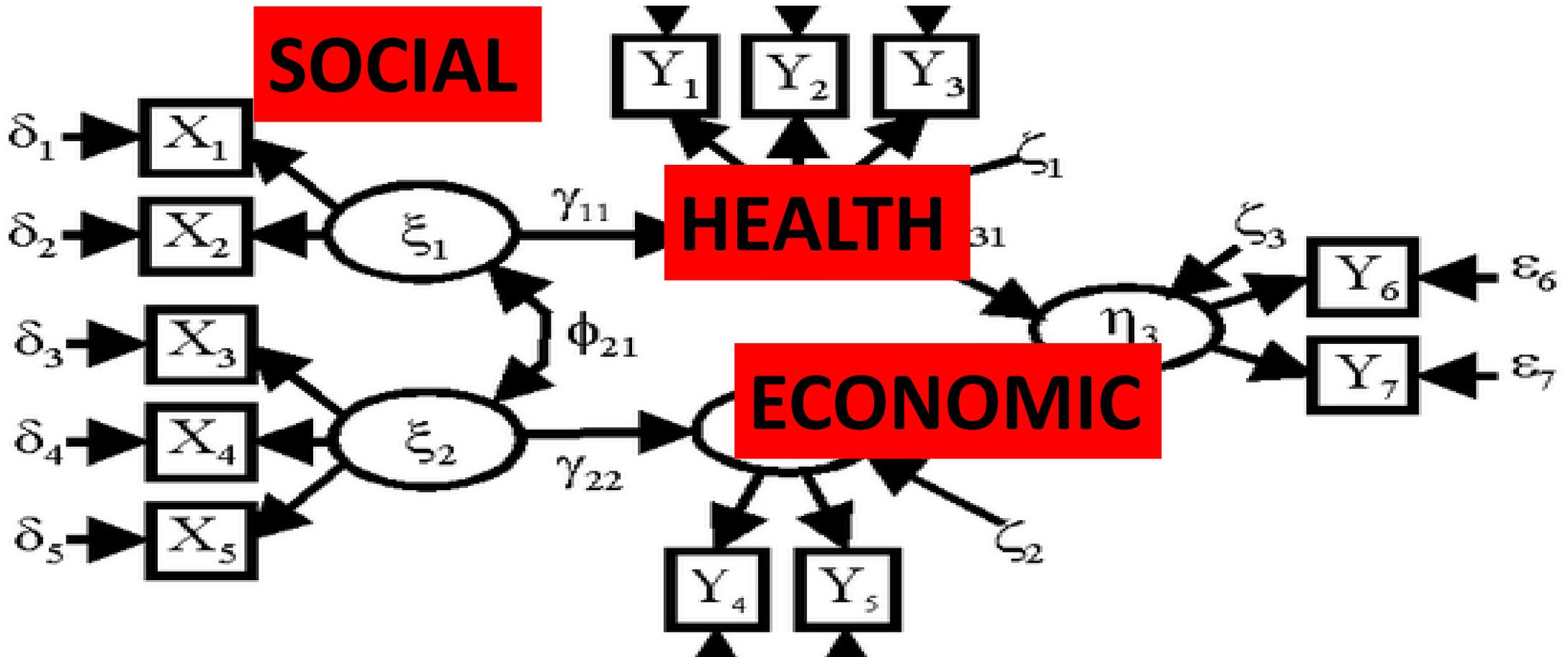
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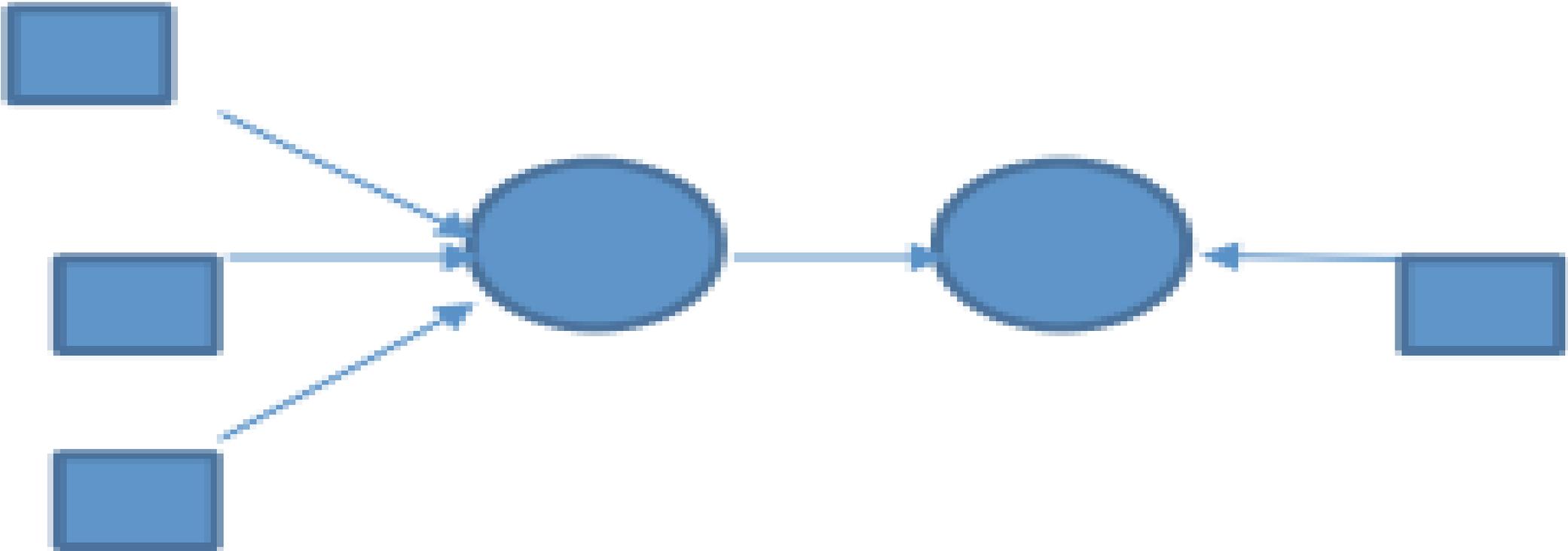
Structural Equation Modeling (SEM)



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Structural Model









- The presence of toilets and mobile phones were regressed on the health of mothers.
- The analysis was performed using Mplus VERSION 7.11.

Figure 1: A model testing the hypothesis that “toilets are the most important intervention to protect health of mothers”.

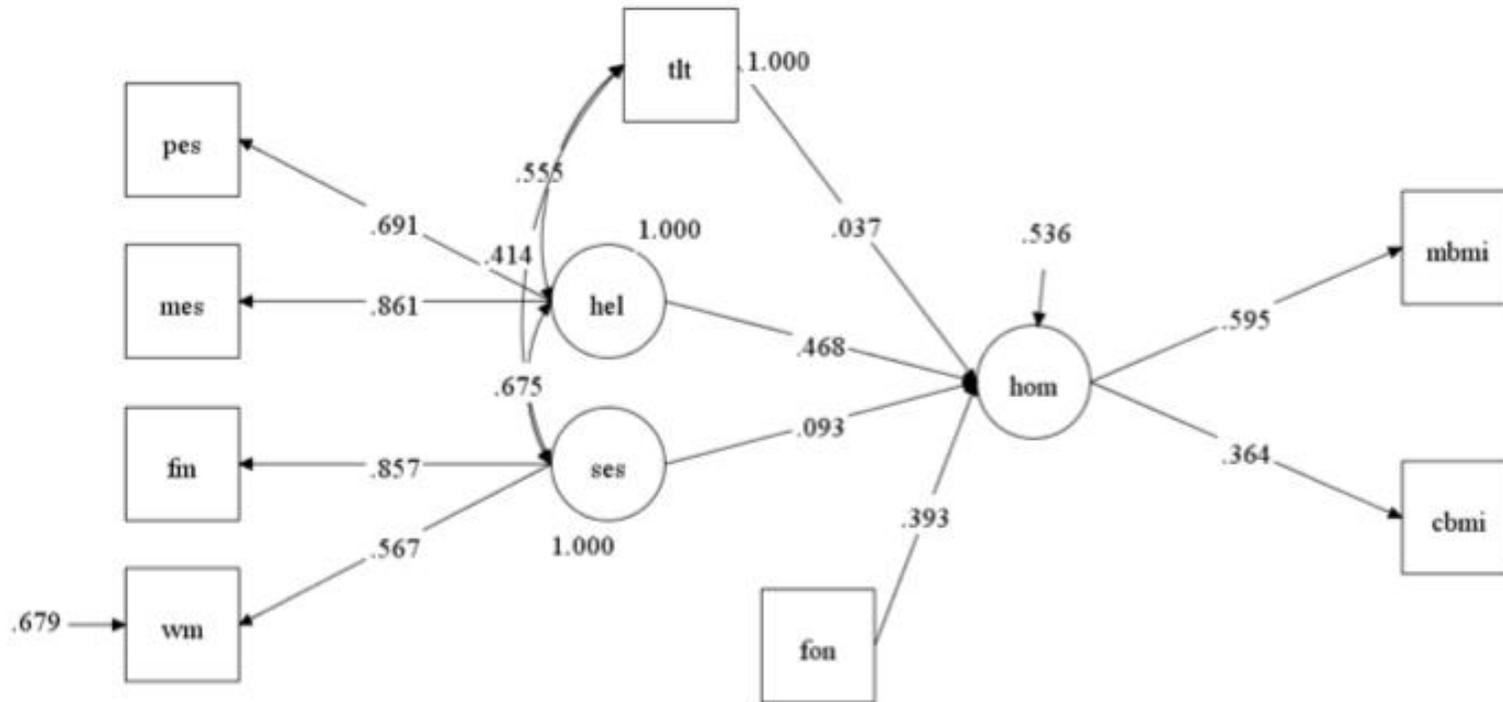


Figure 2: A model testing the hypothesis that mobile phones positively influence both education and socio economic status

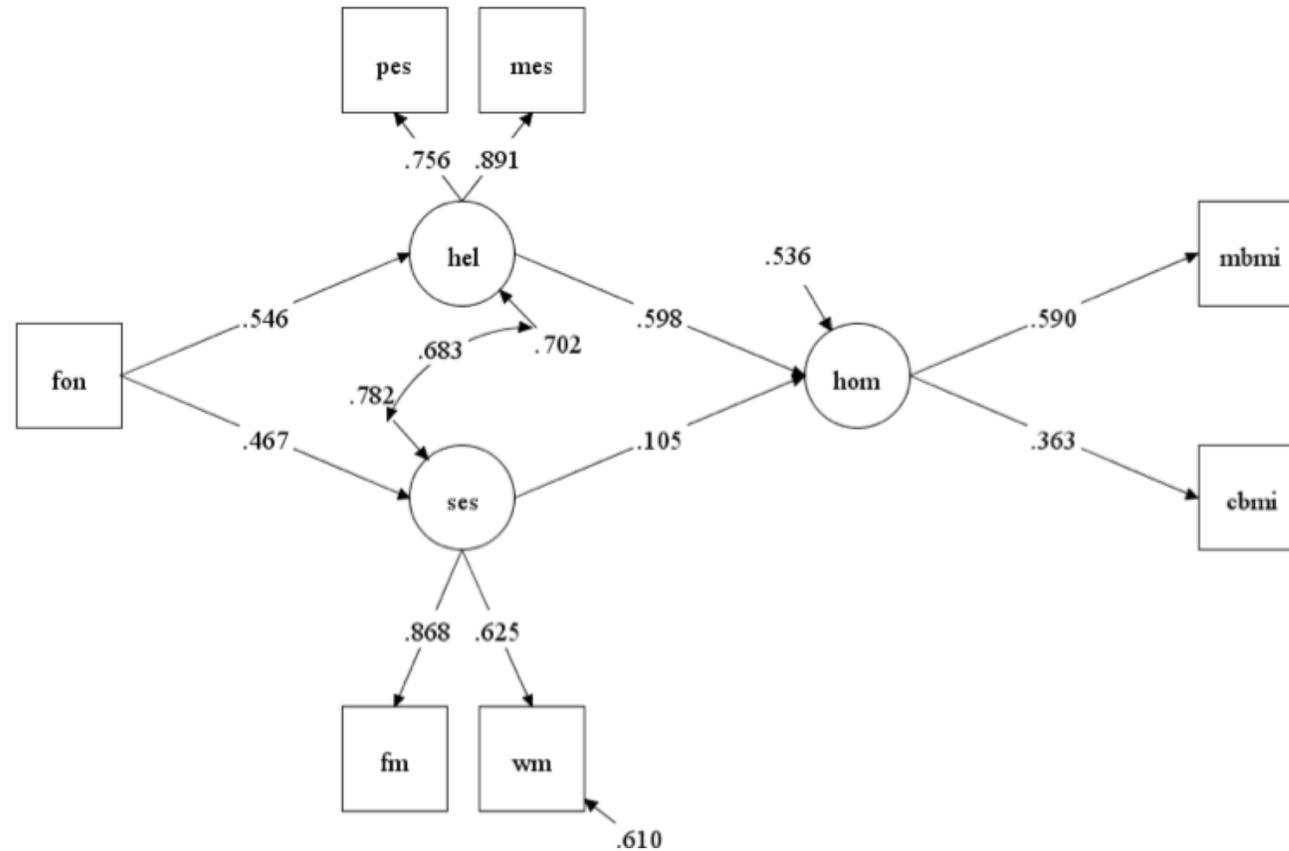
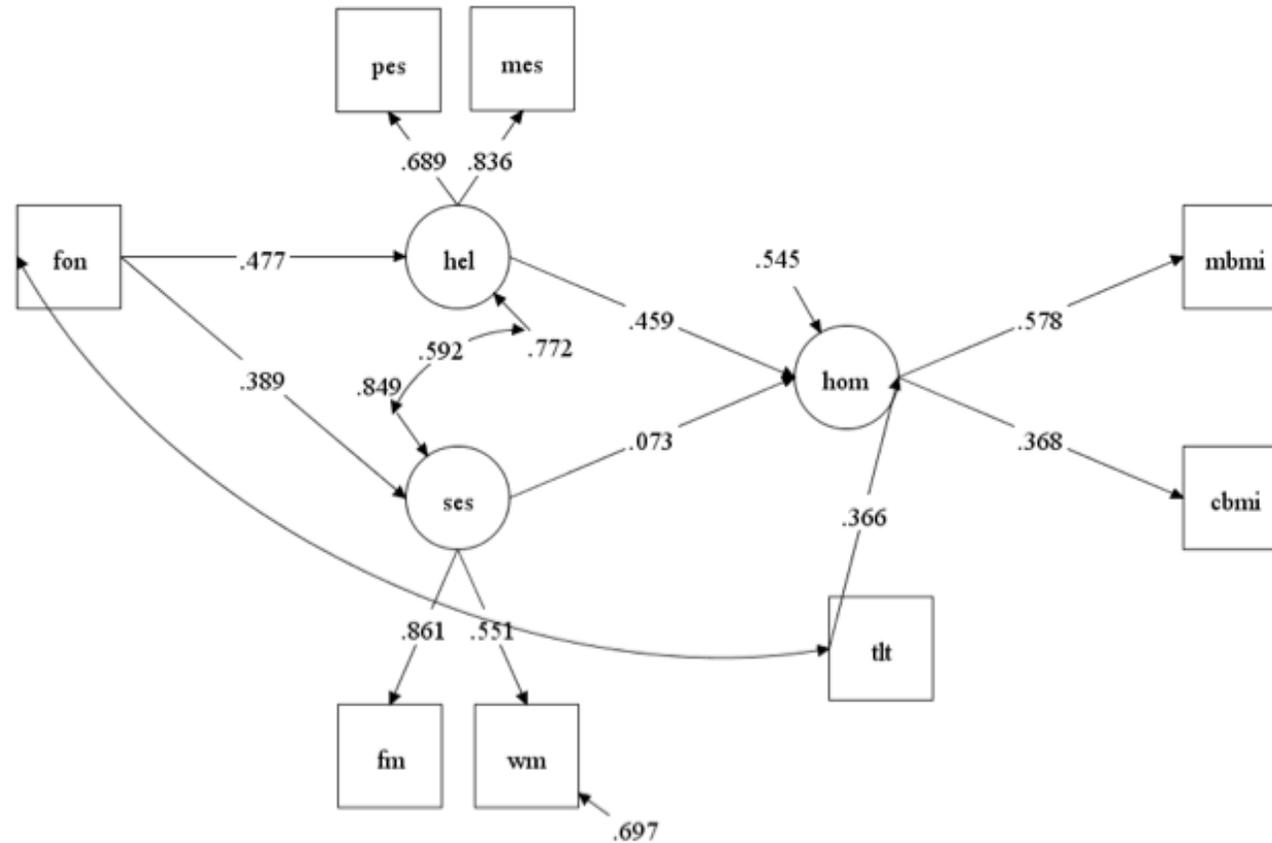


Figure 3: A model testing the hypothesis that the health of mothers is improved when toilets are added as an intervention into a community where mobile phones already exist.



The results of this study contradict campaigns that promote “toilets over cell phones.”



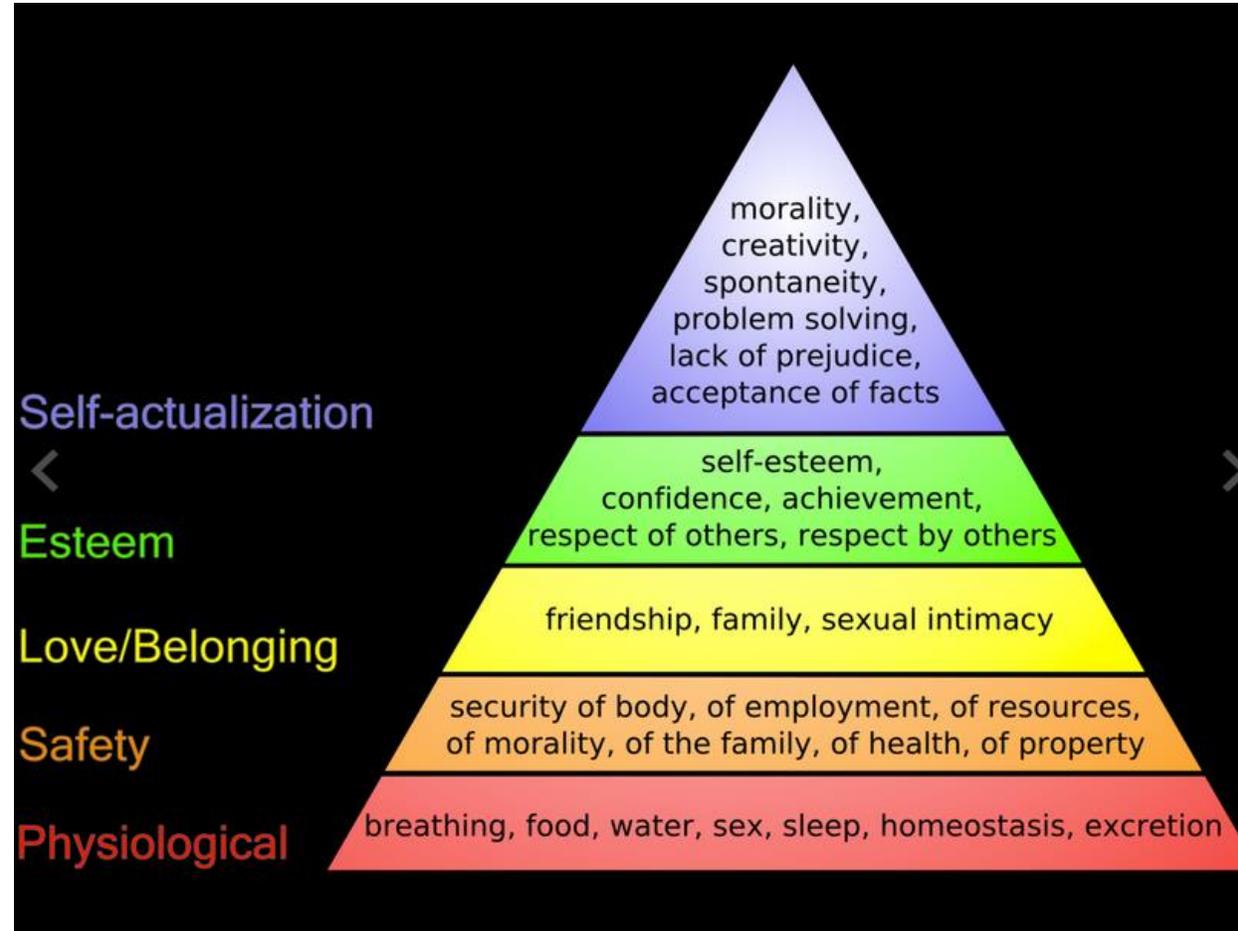
The approach used in this study allows nurse researchers to evaluate the benefits (or detriments) attributed to what is often viewed as a ‘helpful’ intervention (such as investing limited public health funding to install latrines in villages in developing countries).



- **The SEMs do not clarify if the influence of mobile phones is due to household education or household socioeconomic status, and future work should evaluate these alternatives.**



More broadly, the results of this study call into question the fundamental assumptions inherent in a needs based approach to sequential development (sensu Maslow's Hierarchy).



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 - Due in part to its use of latent variables as well as path diagrams, Structural Equation Modeling (SEM) has been shown to be a useful statistical tool to evaluate social, economic, and health data. SEM is effective in estimating correlational relations using limited input data confined to a hypothetical, researcher-specified framework of relationship. The results of this study illustrated how demographics, infrastructure, and practices within the home have a significant effect on the health of mothers in Kenya.

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- The learner will be able to apply the role of the nurse in different international sustainable development situations.
 - The results of this study are expected to inform public health policy decisions regarding future investments in toilets or mobile phone technological interventions, and to empower policy makers to consider the various environmental health factors and household demographics of target populations that policies are designed to impact. It is important for nurses to apply out-of-the-box thinking to create innovative solutions to community health challenges.

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