



Analysis of User Intention for Cookstove Adoption

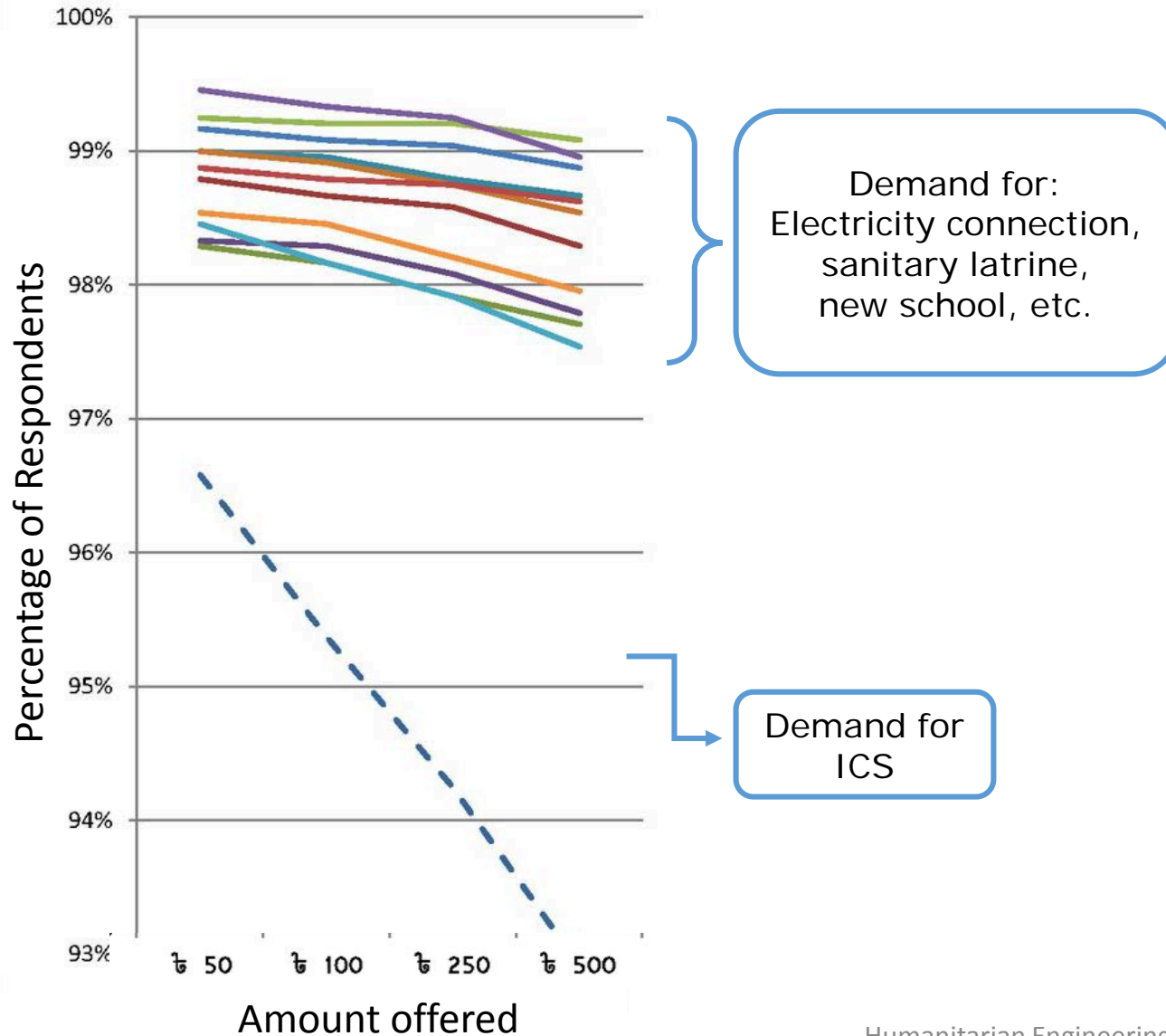
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The Challenge of Adoption



Design with features that users value could help to alleviate low adoption rates (Mobarak et al., 2012).

Both the technology and promotion messages must improve so users perceive benefits of ICS to improve adoption in north India (Jeuland et al., 2015).

Low stove valuation by users prevented adoption and improvements in health or firewood consumption (Hanna, Duflo, and Greenstone, 2016).

Understanding User Behavior

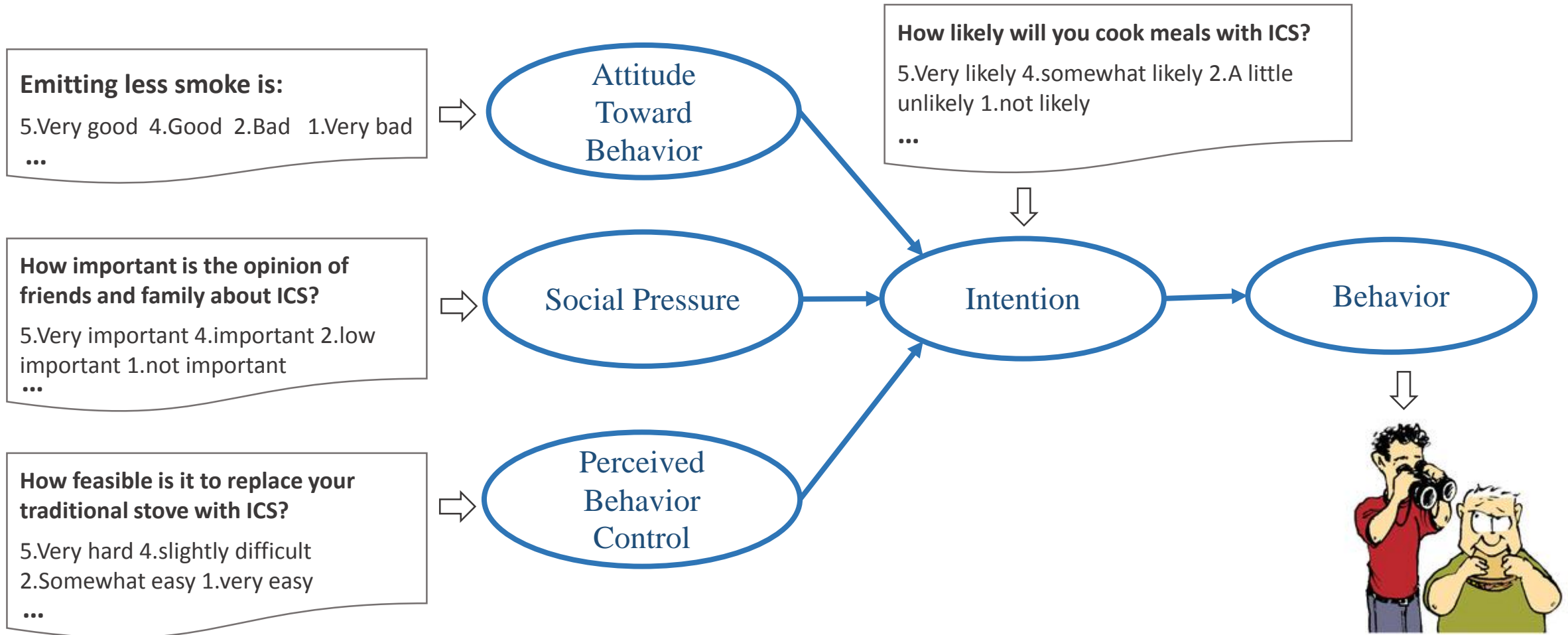


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What characteristics are required for a suitable method?

- Environmental – Health related behavior
- Quantitative results
- Comprehensive in capturing influential attributes
- Minimal data required for significant results
- Well-established and practiced throughout literature

Theory of Planned Behavior (TPB)



TPB Implementation



- Pilot Study → Eliciting dominant local beliefs
- Survey Development → Avoiding biases, translation, theory based, timing, etc.
- Data Collection → Educating field staff, pen and paper vs. mobile (Magpi data collection)
- Analysis → Data cleaning, reliability measures, model verifications, etc.

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C3 - aromeme ame itwero yee kede onyo itwero kwero kede kopi: Abino tic kede keno rwomere tye malo tyeno apol ka tye acil aneno ber. [How much do you agree or disagree with the following sentence: I will use an improved cookstove more, if it looks beautiful.]

Akwero atek [Strongly disagree]

Akwero [disagree]

Pe Angeo [Neither agree or disagree]

Aye [agree]

Aye atek [Strongly agree]

Example of  magpi

Data Collection

- Honduras
 - 380 households
 - Pilot, baseline, follow-up
 - ICS: Ecocina
 - Paper and pencil surveying

Two months trial:

11% time saving

85-93% less reported health impacts

90% kept using Ecocina

85% stated Ecocina as primary stove

37% less firewood consumption



Data Collection



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- Uganda
 - 110 households
 - Pilot, baseline, follow-up (in progress)
 - ICS: ILF rural woodstove
 - Mobile surveying using Magpi®

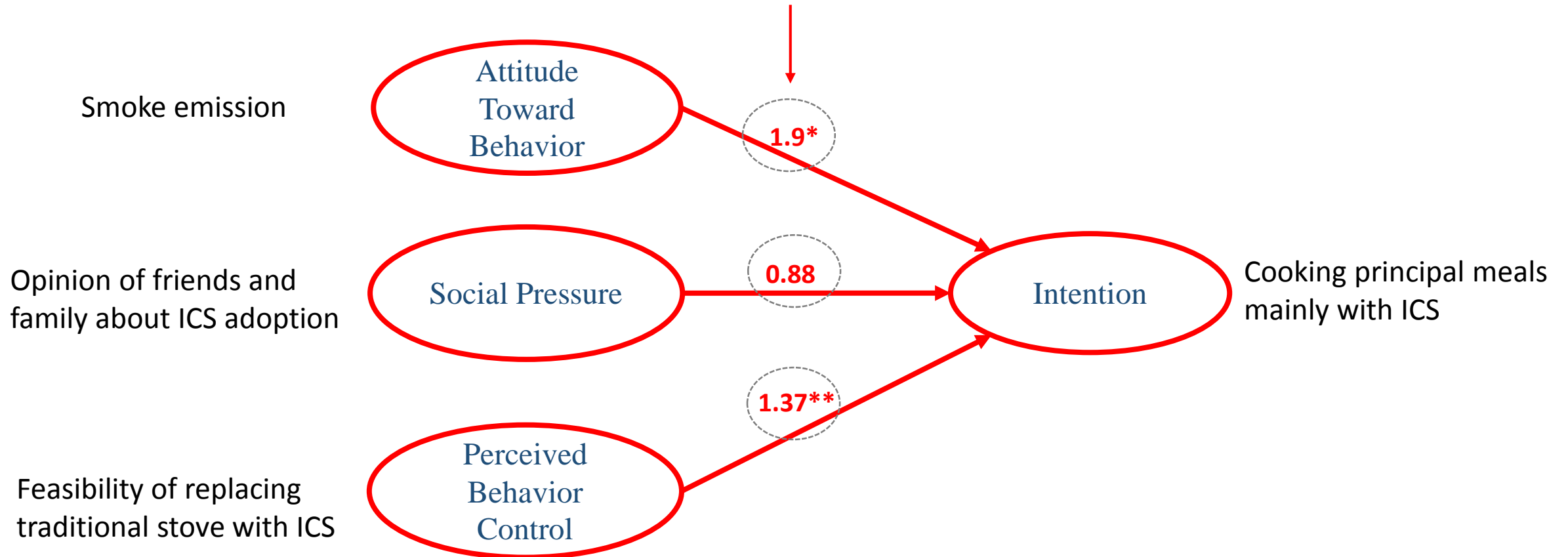


International Lifeline Fund

TPB Results, Honduras



Odds ratios from **baseline**



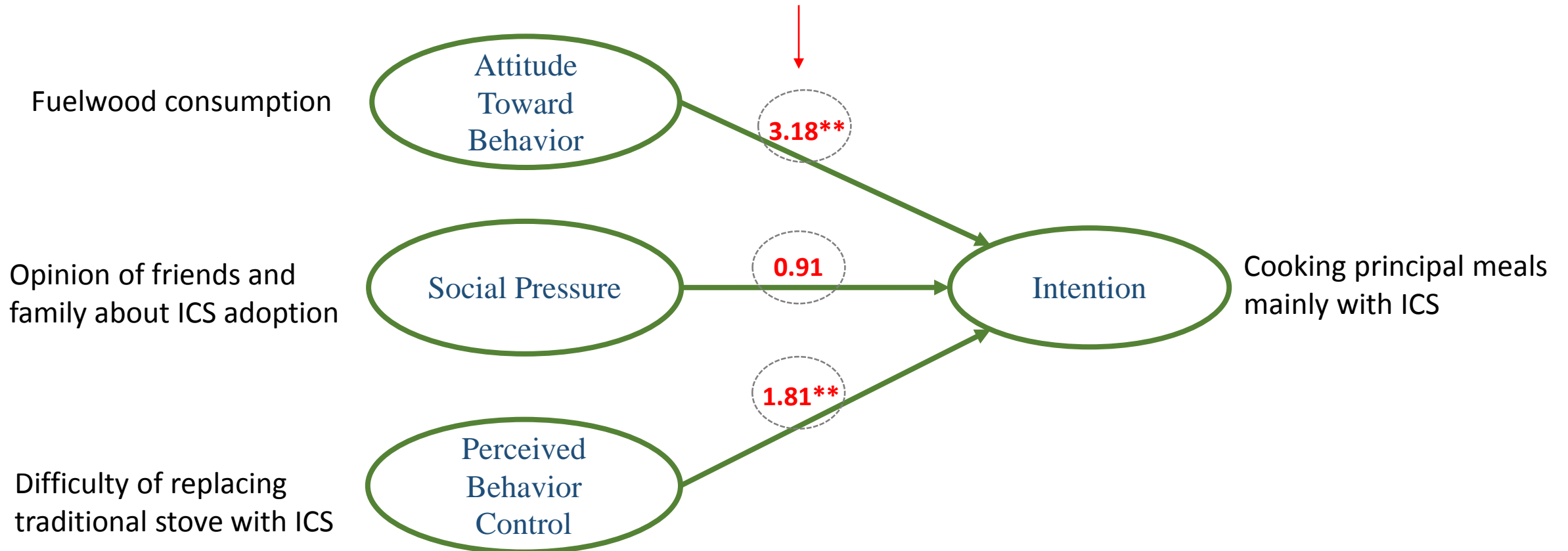
* p-value < .10

** p-value < .05

TPB Results, Uganda



Odds ratios from **baseline**



* p-value < .10

** p-value < .05



Future Work

- Linking intention to actual behavior through sensor based measurement → FUEL system
- Test – retest reliability evaluation → Baseline, follow-up
- Improving survey quality and avoid biases → Learning by doing



Conclusion

- Social pressure is not significant in either context
- Individuals' attitudes in Uganda are likely to be more influential on their intentions than perceived behavioral control
- Surveying techniques and data analysis are really important in validity of results



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**Thank you for
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