THE ENERGY EFFICIENCY DISCONNECT FOR SOUTHEAST MICHIGAN

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RESEARCH QUESTIONS

What factors shape decision making to adopt energy efficiency for households in SE Michigan?

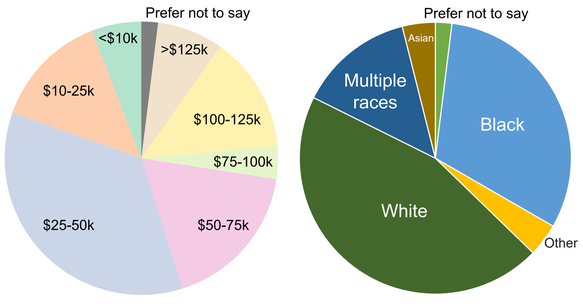
What steps do households take once given access to a energy retrofit recommendations for their home?

REARCH GAPS

- Focus on behaviors that drive consumption, rather than retrofits [1, 2]
- Decision-makers are assumed to be or compared against a rational optimizer [3, 4, 5]
- Behavioral, cognitive limitations, emotional context ignored [6]
- Analysis of systemic barriers and social change outcomes not present [7, 8, 9, 10]

METHODS

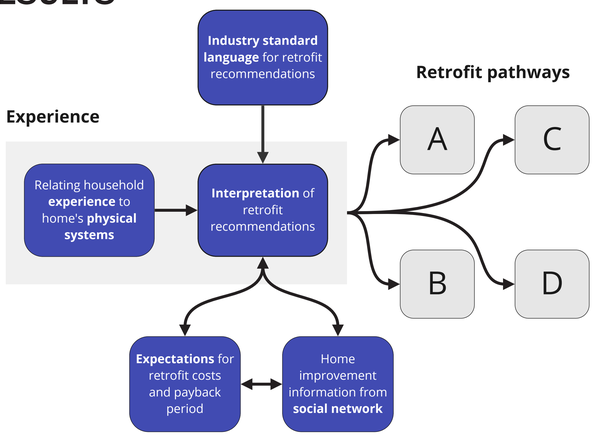
1. Recruit 40 single family households
2. Perform home energy audit with contractor
3. Interview participants 12-18 mos. after audit
4. Transcribe interviews with otter.ai, validate
5. Code transcripts with nVIVO; analyze ICR



Annual income and race distribtution; n = 40

After receiving a **home energy audit**, home energy literacy, access to skilled labor, and social networks **are a catalyst for retrofit pathways.** Income, contractor mistrust, and lack of access to information **inhibit change.**

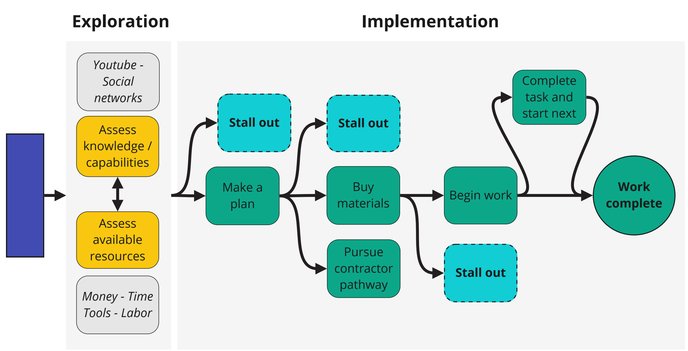
RESULTS



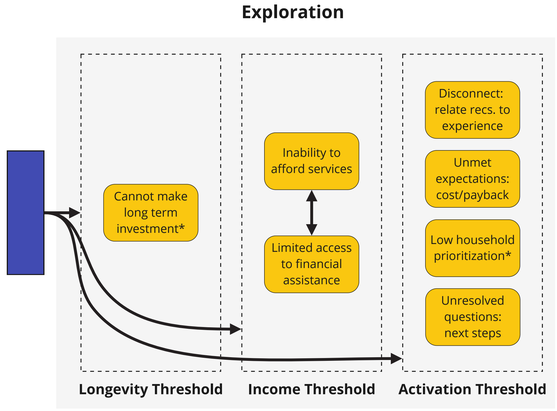
> "Yeah, so you get the $300 rebate, but you still got a kick out like $5000. That's crazy. I mean, what's your incentive to do that? You know -- **if you can afford to do it, this is something that you probably should do**, because it is gonna save you money in the long run. But, you know, if you can't afford to do it, you would probably have to take out a loan…it's just not worth it." - P12

CODE FOR QUOTES & PATHWAY DETAIL

Do-it-yourself Pathway (A)

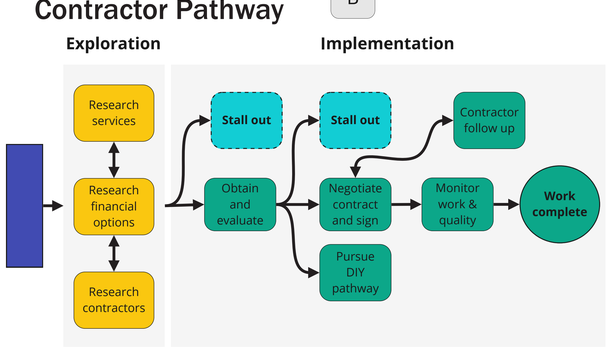


No Retrofit Pathway (C)

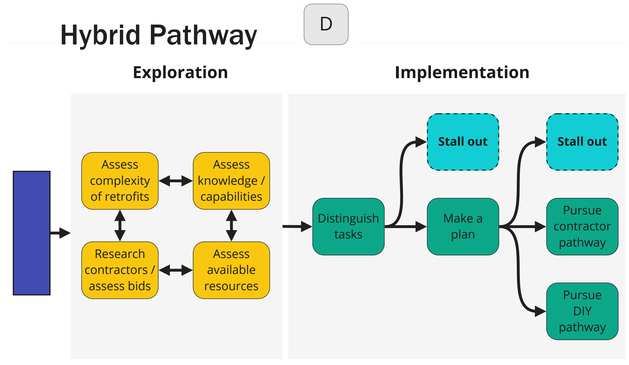


*See *When are retrofits not desired?*

Contractor Pathway (B)



Hybrid Pathway (D)



What makes retrofits feasbile?

> "I would have to either ask my uncle [professional contractor], maybe go on Facebook, community boards and everything and say, Hey, who can suggest some companies. We have a neighborhood Facebook too that I'm part of in the Ypsilanti area." - P11

- Employment / income
- Knowledge of home systems
- Access to skilled labor
- Friend / family / neighborhood networks
- Desired benefits

What stands in the way?

> '[My wife] **lost her job last summer**…that might have actually been part of **why we didn't get the glass block**, I was planning to do the glass block last summer, but then just a number of things happened and it wasn't the time. I will say that I am dreaming and planning to insulate around the exterior walls." - P33

- Access to incentive information
- Employment / income
- First cost affordability
- On going payments
- Contractor mistrust

When are retrofits not desired?

> "I'm hoping I can stay another 10 years at least. But I wonder…how long can I manage the stairs, my partner and I? So I kind of look at that like a 10 year horizon. **How much more money do I want to sink into this house over the next 10 years**?" - P39

- Low household priority (e.g. reroofing or childcare first)
- Cannot make long term investment in home
- Replacement theory - waiting to buy appliances

DISCUSSION

- **Many opportunities to stall out** on completing retrofits, whether pursuing DIY or contractor services
- Not all households operating within the same decision parameters when choosing retrofits, may lead to **lower levels of effectiveness for those in greatnest need**
- High upfront costs, long payback period, the cost of credit and other spending priorities **effectively eliminate the choice to elect retrofits** for some, though could remain in their homes for years with high bills, poor health and comfort outcomes

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