Unifying the Behavioral Sciences in Practice

How Behavior Centered Design was used for formative research, program design, and evaluation for a sanitation behavior change program in Lusaka Zambia

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Problem: Designing Behavior Change Programs

• Programs from around the globe producing new results every day
• Many different theories and approaches to choose from
• New disciplines making contributions
Problem: Poor Peri-Urban Sanitation

- About 900 million people live in peri-urban areas, increasing to 2 billion by 2030
- Health outcomes worse than urban or rural areas
- Shared sanitation increasing in Sub-Saharan Africa
  - 204 million (40%) in 1990 to 465 million (47%) in 2015
- Motivating behavior change more difficult in landlord-tenant context
ABCDE Design Process

A B C D E

Assess  Build  Create  Deliver  Evaluate
Assess: Improving Peri-Urban Sanitation

- A few trials have encouraged discussion or provided behavior change messages and buckets

- None have examined improving structural quality
BCD Behavioral Determinants

Neocortex
(thinking, planning, deciding)

Mammalian
(motivation, reward)

Reptilian
(instincts, habits)
Assess: Synthesizing insights from other contexts

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>Executive Brain</td>
<td>Health Knowledge (?)</td>
</tr>
<tr>
<td>Motivated Brain</td>
<td>Comfort, Status, Fear, Disgust, Affiliation</td>
</tr>
<tr>
<td>Reactive Brain</td>
<td>Cleaning habits</td>
</tr>
<tr>
<td>Body</td>
<td>Physical ability (access/strain)</td>
</tr>
<tr>
<td>Social Environment</td>
<td>Collective efficacy, Peer influence</td>
</tr>
<tr>
<td>Physical Environment</td>
<td>Security of land tenure, Access to Water</td>
</tr>
<tr>
<td>Biological Environment</td>
<td>Pathogens/Epidemics</td>
</tr>
</tbody>
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Build: Formative Research Tools
Build: Existing Toilet Quality

10%

50%

35%

5%
Build: Problematic Behaviors

- Cleaning systems are hard to follow and challenging to enforce
- Tenants fail to express demand for better toilets to landlords
- Toilets are built or repaired only when existing ones are damaged
- Mechanisms for plot improvement funding are not used for toilets (not an “investment”)
How does behavior change?
How does behavior change

stimulus → Surprise → Revaluation → Performance → outcome
Create: Designing a Program

- Provided brief to creative agency
- Revised and refined their ideas
- Process not deterministic, but works like our brain works

The house isn’t all that, and the rent’s a bit much, but at least the toilet’s clean.
Deliver and Evaluate

- Evaluation based directly on theories of change (Overall program)

**Intervention:**
Series of Landlord Meetings

**Surprise**
- Videos providing "secret insights"

**Revaluation**
- Emo-demos and games with discussion designed to revalue target behavior

**Performance**
- Skills practice
- Planning
- Accountability to tenants and each other

Better Sanitation
Deliver and Evaluate

- Evaluation based directly on theories of change (Behavior-specific)

Secret #4: Flushing Toilet
"A wise landlord invests in his plot's sanitation"

Surprise
- Your are losing out on income because of your poor quality toilet

Revaluation
- Wise investor game - investing in a toilet gives more income faster than building a room

Performance
- Instructions on available toilet technology options and costs
  - Facilitating behavior through formation of savings groups

State-of-the-world:
Higher quality toilets
Advantages and Disadvantages of BCD

• Advantages
  • Synthesizes and shows gaps in literature
  • Focuses formative research
  • Guides design and evaluation process

• Limitations
  • Determinants aren’t exhaustive descriptions and processes aren’t entirely explicit

But, roots other approaches in human biology with strong theoretical links to other disciplines
For more information

• BCD guides, papers, and resources:
  http://www.lshtm.ac.uk/bcd/

• Sanitation Demand Intervention:
  http://bentidwell.com/sandem/

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