Financial Education Field Studies: Promises and Pitfalls

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Gold Standard of Causal Inference: RCT Study Design
But in the Real World: Many Complications, Especially With Vulnerable Populations

- Implementation problems
  - Fidelity to program model
  - Crossovers
- Not enough time for impacts to accrue
- Attrition
- Valid measures
Why Don’t We Do This More Often? A Few Examples of Completed Studies

- 5-course Financial Course for 4-5th graders & Bank Access
- 5-course Financial Course for low-income women in public housing
- 10 hour online course for credit union employees
- 10 hour online course for public school employees
- Financial Counseling & Bank Access in job training program
- Online planning module and follow-ups for low-income homebuyers

...and starting new project...
Lesson #1 Have to Start with Great Programs

Operations Management

- Well-designed programs
- Well-run programs
- Demonstrated competence
Lesson #2: Say No to Most Evaluation Opportunities

- Generally should **not** evaluate, unless...
  - Sufficient size
  - Replication opportunity
  - Funding available
  - Will have policy implications

- Evaluations should be rare and purposeful
  - Underestimate costs: time, money and opportunity

- **Must be open to no effect/null result as an outcome**
Lesson #3 Don’t Underestimate Human Subjects Approval - IRB, OMB

- Vulnerable populations; data related to finances
- Informed consent—in writing—is the main constraint
- Coercion to participate—anything not fully voluntary
- No information can be collected without cause or approval
- Require risks (always some) and benefits (usually none)
- Parents/guardians and child assent adds to complications

Yes—uphold highest standards...But it can change the nature of projects.
Lesson #4: Getting Consent

1. Welcome to this program: Do you want to enroll? (yes...? Great!)

2. By the way, will you take part in this study?: Will you sign this 2 page small print form listing a number of risks and rights? (yes...? Great!)

3. Oh, and also fill out all these surveys today? (Ok...? Great!) ...and one more in a year. You are totally going to cooperate, right? (yes...? Great!)

Which participants will say: “yes-yes-yes”? External validity problem.

Who seeks consent matters.
Lesson #5: Program Take Up Often Low

- Intent to Treat (ITT) = best measure
  - Assignment to program (treatment) was random; uncorrelated with outcomes (exogenous)

- Treatment on Treated (TOT) = biased measure
  - Take up of program not random; correlated with outcomes (endogenous)
  - Can use assignment to predict take up as one estimate

- Average treatment effects are dampened by nonparticipants
  - Teaspoon in a bathtub.
What if Nobody Comes? Study of School Employees

- 1,369 school employees (27 schools/facilities)
- Randomly offered to online financial education
  - 717 individuals offered treatment (online modules)
  - 121 individuals participated (16.9%)
  - 55 individuals completed all 5 modules
- Survey (no administrative data thanks to IRB) was
  4-wave personalized mail survey, $5 pre-incentive, iPad incentive
- 746 employees responded (52%)
  - 361 individuals from the treatment group
  - 88 who took at least part of online course
Lesson #6: As Sample Size Declines, so do Detectable Effects

Effect Sizes Hampered by Low Power

- Small sample + Noisy measures + Small effects of the intervention (or rare events) + And if you care about sub-group effects = Problem
- Lose 30% due to consent, 30% to attrition, plus partial take up...sample dwindles fast.

Need larger sample than expected.

- Pre-Post design—2 responses per subject (t1 & t2)
- Post only has advantages but cannot observe dropouts
- Longitudinal design (3+ periods) magnifies problem
Small Sample; Big Troubles

- RCT: Financial education for low-income women in subsidized housing
- Incentives = $100 + transport, meals & child care
  - 181 people in program
  - 144 consented to participate: 73 treatment / 71 control
  - Waitlist / cohort design: assigned to 2006 vs. 2007
- Observed assignment, completion, and compliance
  - Attrition & Compliance was not random
  - Correlated with single status, rent $, tenant $ portion, child support
Lesson #6: Good Measures are Hard to Find

- What outcomes matter for low-income/underemployed?
  - Often not technical but basic economic concepts
  - Self reports—subjective vs. objective
  - Administrative Data - accessibility
  - Survey Data - valid & reliable questions
  - Matched Data - more noise

With large error terms expect more null findings (unstable estimates)
Be Careful About What is the ‘Right’ Outcome.

Collins (2013). The impacts of mandatory financial education: Evidence from a randomized field study (JEBO)
Credit Union Employees: Change in Self Reported Behaviors?

<table>
<thead>
<tr>
<th>% change in behavior</th>
<th>Opened an IRA</th>
<th>Established a budget</th>
<th>Drafted a written financial plan</th>
<th>Set aside 3 months' expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8%</td>
<td>6%</td>
<td>5%</td>
<td>5%</td>
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</tbody>
</table>

Collins (2012). Employer based financial education study. Filene Research Institute
High Variance—Estimated Effects: Deposits

Net Deposits by Week - Eau Claire
3-week moving average ($)
Estimated Effects of Counseling Integrated into Job Training

Ideal Financial Education Study?

1. Randomize offer of education with strong incentives to participate
   - Need strong take up and low attrition
2. Longitudinal - short run intentions, longer run behaviors
3. Self report and administrative data
4. Self-assessed knowledge and objective knowledge
   - include ‘don’t know’
5. Validated measures of well-being, stress, confidence
6. Consistent Implementation (perhaps variations in pedagogy or mode)
Randomized Designs vs. Others

RCTs are costly & may not represent generalizable results

- Creative solutions are needed: waitlists, cohorts, variations in treatment, etc. to estimate effects based on what can be observed
- But counterfactual likely biased in unobserved ways
- Often requires larger samples
- Triangulate effect size estimates (and directions)

All approaches have shortcomings. Need a range of high-quality studies.
Researcher Strategies

- Take time for slow and incremental work—from design to measures to analysis

- Visit sites. Talk to clients and staff. Focus groups / interviews.

- Establish relevance with champions

- Focus on fidelity of treatment and document all variations in implementation

- Develop a battery of standardized measures

- Plan ahead on attrition & consent bias
"Questions Before Beginning Field Studies"

1. * Is there a clearly defined, measurable main outcome?
2. * Do you have a strong relationship with sites(s)?
3. * Can the site produce prototype (or current) data?
4. Are you immersed into operations? (no? need process study)

Planning:

- Timeline: IRB, RSP and data collection
- Sample size: Estimate MDE assuming worst case on consent, take-up and drop outs
- Money: (and PI/grad student time/attention)
‘Field’ Has Many New & Exciting Innovations

- Use of technology—convenience, costs, accessibility
- Planning/advice/counseling...from budget to retirement
- Knowledge + focus on behavior and accountability
- Addressing limited attention and self-control issues
- Connected to products: prepaid debit cards, insurance, electronic payments, smartphone wallet, etc
But, Interventions Have Limits: Realistic Expectations
Financial Education Field Studies: Promises and Pitfalls

Lesson #1 Program
Lesson #2 Say No
Lesson #3 $%$! IRB
Lesson #4 Consent
Lesson #5 Take Up
Lesson #6 n=?
Lesson #6 Data

Conclusions

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Education Programs in Context

- Program
- Experience
- Personality
- Knowledge
- Skills
- Attitude
- Behavior

Lesson #1: Program
Lesson #2: Say No
Lesson #3: $%$! IRB
Lesson #4: Consent
Lesson #5: Take Up
Lesson #6: n=?