Theory of Reasoned Action

William R. Brieger, MPH, CHES, DrPh
Johns Hopkins University
Section A

Theory of Reasoned Action
Theory of Reasoned Action

Or Planned Behavior

- Behavioral intentions comprised of
  - Attitude toward the behavior
    - Outcome expectancies
    - Value expectancies
  - Perceived social norms
    - Awareness of expected behavior from different reference groups
    - Willingness to comply with those expectations

Continued
Theory of Reasoned Action

Or Planned Behavior

- “External” context
  - Personality
  - Demographics
  - Reference groups
Exclusive Breast Feeding

External Factors
- Demographic
- Reference groups
- Personality

Attitude Toward EBF Behavior
- Expect
  - Child hungry, mother drained
- Value
  - Low evaluation of perceived impact

Subjective Norms
- Others not approve of EBF
- Desire to comply with others = opinions

Behavior
- Likely continue supplement with water, herbs, etc.

Low intention to EBF
Using Bed Nets

Attitude Toward Bed Nets
- Expect - beauty, warmth, keep out insects, clean bed
- Value - appreciate beauty,
  - but not warmth in dry season
  - may not consider benefits worth cost

Subjective Norms
- May not be aware of others' opinions, or others may see nets as a status symbol
- No particular pressure to comply or not

Moderate intention to buy net

Behavior
- Likely to buy a net, but maybe not re-treat.
Attitude Toward contraceptive use
a) prevent pregnancy, but make one sterile later; fear condoms may tear, stay inside
b) value prevent if young, but not if near marriage, not value sterility

External Factors
• demographic: age, gender, education
• reference groups - peers and parents
• personality - passive, or assertive

Subjective Norms
a) partner may not like; family may think immoral
b) motivated to comply with these

Low intention to use

BEHAVIOR: rare or intermittent use of contraceptives

TRA for female youth using contraceptives
Filtering Water

Attitude Toward Filtering Behavior
- Expect
  - remove debris, not prevent disease
- Value
  - somewhat useful but not necessary

Behavior
likely to filter some of the time if it is free and one not too tired

Subjective Norms
- Others may think filtering is foolish but not sanction the
- No special pressure to comply or not

External Factors
Demographic
Female, low education
Reference groups
Family members, health workers
Personality
Generally passive within family setting
TRA Lessons

- Even if have positive attitude toward condoms viz protection
  - May fear social disapproval from partner, parents, etc.
  - Therefore, social norms predominate and intention to negotiate use likely to be low
TRA Lessons

- Negative attitude toward EBF as won’t satisfy baby and may harm mother
  - And grandmothers, husband not likely to approve
  - Therefore, attitude and perceived norms together reinforce low intention

Continued
TRA Lessons

 Moderately positive toward filtering, but not because of social pressure
   - Individuals judge on own perceived benefits or not
Section B

Comparisons
Behavioral-Influencing Variables

- HBM: Concept of threat
- SLT: Self efficacy or perceived confidence
- TRA: Intentions and balancing of attitudes
Comparisons of Filtering

- HBM contributes
  - Notion of threat and role of knowledge
  - Perceptions of benefits tip the balance
Comparisons of Filtering

- SLT shows
  - Self-efficacy not doubted, some observe others
  - But low value/outcome expectancies low
Comparisons of Filtering

- TRA
  - Attitude toward filtering same as HBM, SLT
  - Norms not a major factor
- HBM may offer best explanation for filtering
Comparison: EBF

- TRA contributes
  - Attitude toward behavior negative reinforced by
  - Perceived social disapproval
  - Predicts low intention
Comparison: EBF

- **SLT**
  - Outcome expectations negative—negatively valued
  - No role models to observe
  - Perceived efficacy for BF generally, but not every time—EBF

- Both models help explain
Comparison: Bed Nets

- HBM—malaria not a threat—a minor indisposition
  - See intrinsic benefits benefits of nets (warmth, better sleep, beauty, but
  - Consider cost and no connection with malaria which is caused by sun, heat, overwork, and dust

Continued
Comparison: Bed Nets

TRA

- Major factor is attitude toward behavior—same as benefits/constraints of HBM
- If some see nets as status symbol, may think others would approve
Comparison: Bed Nets

- SLT—few others to observe using
  - Positive valuation, use efficacy not in question
  - But cost—a factor of individual income and general community economic status (environment)
Statistical Tests: EBF Variables Operationalized

- Attitude toward EBF
  - What do you think would be the effect of EBF on a mother? (Code: good effect, bad effect, uncertain)
  - What do you think would be the effect of EBF on the child? (Code: good effect, bad effect, uncertain)
Statistical Tests: EBF Variables Operationalized

- Intention
  - Do you intend to practice EBF with your next child?
Perceived social support for EBF

- For each person mentioned below, please say whether you think that they would think that your practicing EBF would be a good idea, a bad idea, or whether you are uncertain what they would think

- Husband, own mother, mother-in-law, senior sisters, friends, neighbors
Regression

**EBF Intention = Attitude + Perceived Approval**

Correlation coefficient:  
\[ r^2 = 0.51 \quad ra^2 = 0.50 \]

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2</td>
<td>619.6389</td>
<td>309.8194</td>
<td>203.63</td>
</tr>
<tr>
<td>Residuals</td>
<td>397</td>
<td>604.0386</td>
<td>1.5215</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>399</td>
<td>1223.6775</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>coefficient</th>
<th>95% confidence</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTEBF</td>
<td>3.2100</td>
<td>0.2210223</td>
<td>0.120610 - 0.321435</td>
<td>0.051075 - 18.7266</td>
</tr>
<tr>
<td>SUPPORT</td>
<td>3.7700</td>
<td>0.2516687</td>
<td>0.220732 - 0.282605</td>
<td>0.015736 - 255.7921</td>
</tr>
<tr>
<td>Y-Intercept</td>
<td>1.3992273</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Drinking and Driving by Motorcycle Taxi Drivers

- 75 of 266 reported stopping to take a beer or other alcoholic drink while working
- 65.3% of 75 who drank during break reported an “accident”—i.e., having fallen from their motorcycle compared to
  - 46.1% of the 191 who did not drink
- Fisher’s exact p value = 0.006; OR = 2.206, 95% CI: 1.267-3.840
# Regression—Who Drinks and Drives?

**Motorcycle Taxi Drivers:**
Factors Associated with Drinking Alcohol on the Job

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4</td>
<td>7.591</td>
<td>1.898</td>
<td>10.82</td>
</tr>
<tr>
<td>Residuals</td>
<td>257</td>
<td>45.069</td>
<td>0.175</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>261</td>
<td>52.660</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>B Coefficient</th>
<th>95% Confidence</th>
<th>Std Error</th>
<th>Partial F test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety self-efficacy score</td>
<td>28.2</td>
<td>-0.039</td>
<td>-0.053</td>
<td>-0.024</td>
<td>28.224</td>
</tr>
<tr>
<td>Safety opinion score</td>
<td>33.3</td>
<td>-0.013</td>
<td>-0.025</td>
<td>-0.001</td>
<td>4.645</td>
</tr>
<tr>
<td>Years driving</td>
<td>8.9</td>
<td>0.021</td>
<td>0.010</td>
<td>0.032</td>
<td>13.945</td>
</tr>
<tr>
<td>Yes/No if Own motorcycle</td>
<td>0.4</td>
<td>-0.141</td>
<td>-0.260</td>
<td>-0.021</td>
<td>5.385</td>
</tr>
<tr>
<td>Y-intercept</td>
<td>1.687</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Intention to Follow High-Folate Diet: *Kloeblen & Batish, H Ed Res 14(3):327*

<table>
<thead>
<tr>
<th>Variables</th>
<th>B co-efficients</th>
<th>Partial F</th>
<th>p value</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Susceptibility</td>
<td>0.0018</td>
<td>0.001</td>
<td>NS</td>
<td>0.00</td>
</tr>
<tr>
<td>Perceived Severity</td>
<td>-0.0617</td>
<td>0.709</td>
<td>NS</td>
<td>0.00</td>
</tr>
<tr>
<td>Perceived Benefits</td>
<td>0.4969</td>
<td>38.318</td>
<td>&lt;0.01</td>
<td>0.09</td>
</tr>
<tr>
<td>Perceived Barriers</td>
<td>-0.2576</td>
<td>11.019</td>
<td>&lt;0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>0.2060</td>
<td>7.358</td>
<td>&lt;0.01</td>
<td>0.02</td>
</tr>
</tbody>
</table>

**Total regression: R²=0.45, R=0.67, F[5,242]=39.93, p<0.01**