Martin Fishbein’s Legacy: The Reasoned Action Approach

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Expectancy-Value Model of Attitude (Summation Model)

\[ A \propto \Sigma b_i e_i \]
**Expectancy-Value Model: Research Example (Fishbein, 1963)**

<table>
<thead>
<tr>
<th>Salient belief about black people</th>
<th>Mean belief strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>dark skin</td>
<td>2.66</td>
</tr>
<tr>
<td>curly hair</td>
<td>2.43</td>
</tr>
<tr>
<td>musical</td>
<td>1.92</td>
</tr>
<tr>
<td>athletic</td>
<td>2.24</td>
</tr>
<tr>
<td>friendly</td>
<td>1.20</td>
</tr>
<tr>
<td>tall</td>
<td>1.02</td>
</tr>
<tr>
<td>uneducated</td>
<td>.97</td>
</tr>
<tr>
<td>unintelligent</td>
<td>.30</td>
</tr>
<tr>
<td>hard workers</td>
<td>.57</td>
</tr>
<tr>
<td>lazy</td>
<td>.50</td>
</tr>
</tbody>
</table>

\[ A \propto \sum b_i e_i \quad r = .80 \]
### EV Model: Anti-Abortion Beliefs & Attitudes
**(Petkova, Ajzen, & Driver, 1995)**

<table>
<thead>
<tr>
<th>Accessible outcomes (12)</th>
<th>Belief strength (b)</th>
<th>Outcome evaluation (e)</th>
<th>b x e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventing women from using abortion as a method of birth control</td>
<td>−0.59</td>
<td>0.80</td>
<td>.26</td>
</tr>
<tr>
<td>Giving birth to unwanted children</td>
<td>1.74</td>
<td>−1.55</td>
<td>.25</td>
</tr>
<tr>
<td>Holding people responsible for the consequences of their actions</td>
<td>1.06</td>
<td>1.45</td>
<td>.56</td>
</tr>
<tr>
<td>Reviving the idea of life as a precious gift</td>
<td>−0.39</td>
<td>1.41</td>
<td>.49</td>
</tr>
<tr>
<td>Women seeking &quot;back alley&quot; abortions</td>
<td>2.43</td>
<td>−2.86</td>
<td>.57</td>
</tr>
<tr>
<td>Making more babies available for adoption</td>
<td>1.05</td>
<td>1.68</td>
<td>.31</td>
</tr>
<tr>
<td>Saving the lives of defenseless unborn babies</td>
<td>0.90</td>
<td>0.93</td>
<td>.61</td>
</tr>
</tbody>
</table>

\[ A \propto \sum b_i e_i \quad r = .77 \]
Attitude vs. Behavior: Rejection of Chinese Couple (LaPiere, 1934)
**Attitudes Toward Blacks and Signing Releases of Photographs With A Black Person** (Linn, 1965)

<table>
<thead>
<tr>
<th>Attitude</th>
<th>No. signed agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High (6-7)</td>
</tr>
<tr>
<td>Low prejudice (+)</td>
<td>7</td>
</tr>
<tr>
<td>High prejudice (−)</td>
<td>1</td>
</tr>
</tbody>
</table>

\[X^2 = 3.79, \text{n.s.}\]
Wicker’s Narrative Review of over 50 studies on the Attitude-Behavior Relation

- "Taken as a whole, these studies suggest that it is considerably more likely that attitudes will be unrelated or only slightly related to overt behaviors than that attitudes will be closely related to actions. Product–moment correlation coefficients relating the two kinds of responses are rarely above .30, and often are near zero."

- "The present review provides little evidence to support the postulated existence of stable, underlying attitudes within the individual which influence both his verbal expressions and his action."

Alan Wicker (1969)
Recent Meta-Analysis of Attitude-Behavior Relation (Greenwald, Poehlman, Uhlmann, & Banaji, 2009)

All Behavioral Domains
Explicit attitude measures \((k = 156)\): Mean \(r = .36\)
Implicit attitude measures \((k = 184)\): Mean \(r = .27\)

Prejudice and Discrimination
Explicit attitude measures \((k = 28)\): Mean \(r = .12\)
Implicit attitude measures \((k = 32)\): Mean \(r = .24\)
Dulany’s (1968) Theory of Propositional Control

BI $\rightarrow$ B

$\text{RHd} = \text{Hypothesis of the distribution of reinforcement.}$

$\text{RSv} = \text{Subjective value of the reinforcer.}$

$\text{BH} = \text{Behavioral hypothesis.}$

$\text{MC} = \text{Motivation to comply.}$

$\text{BI} = (\text{RHd}) (\text{RSv}) + (\text{BH}) (\text{MC})$
Multiple Outcomes and Referents: The Theory of Reasoned Action

Attitude toward a behavior:  \( A_B \propto \Sigma b_i e_i \)

Subjective Norm:  \( SN \propto \Sigma n_i m_i \)

- Behavioral beliefs
- Attitude toward a behavior
- Normative beliefs
- Subjective norm
- Intention
Principle of Compatibility

- **Predictor**
  - Target
  - Action
  - Context
  - Time

- **Behavior**
  - Target
  - Action
  - Context
  - Time
Compatibility of Religious Attitudes and Behavior: Effect of Aggregation (Fishbein & Ajzen, 1974)

A - B Correlation

Single-act: 0.15
Multiple-act: 0.71
Compatibility of Action Elements
(Ajzen & Fishbein, 1970; 1980)

Cooperating

Voting

Behavior

Correlation

Attitude toward target

Attitude toward action

0.21

0.66

0.51

0.85

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Attitude-Behavior Relations as a Function of Compatibility (N=142) (Ajzen & Fishbein, 1974)

% Correlations > .40

Compatibility of Target and Action Elements

- Incompatible: 3
- Partly Compatible: 14
- Fully Compatible: 100

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Background Factors

Individual
Personality
Values
Mood/emotion

Social
Education
Age/gender
Ethnicity
Religion

Information
Knowledge
Media
Intervention

Behavioral Beliefs
Attitude toward the Behavior
Subjective Norm
Intention
Behavior

Normative Beliefs

Control Beliefs
Perceived Behavioral Control

Actual Behavioral Control

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# Theory of Planned Behavior: Sample Applications

<table>
<thead>
<tr>
<th>Health-Related</th>
<th>Physician referrals</th>
<th>Job-search behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant sugar intake</td>
<td>Medical checkup</td>
<td>Academic performance</td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>Using dental floss</td>
<td>Choice of travel mode</td>
</tr>
<tr>
<td>Condom use</td>
<td>Skin protection</td>
<td>Shoplifting</td>
</tr>
<tr>
<td>Food choice</td>
<td>Taking hormone replacements</td>
<td>Taking physics classes</td>
</tr>
<tr>
<td>Living kidney donation</td>
<td></td>
<td>Extramarital relations</td>
</tr>
<tr>
<td>Physical activity</td>
<td></td>
<td>Voting</td>
</tr>
<tr>
<td>Testicular self-examination</td>
<td>Playing basketball</td>
<td>Anti-nuclear activism</td>
</tr>
<tr>
<td>Using illegal drugs</td>
<td>Investment decisions</td>
<td>Attending church</td>
</tr>
<tr>
<td>Donating blood</td>
<td>Playing video games</td>
<td>Recycling</td>
</tr>
<tr>
<td>Medical decisions</td>
<td>Seeking redress</td>
<td>Applying for promotion</td>
</tr>
<tr>
<td>Dental hygiene</td>
<td>Volunteering behavior</td>
<td>Employment decisions</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>Political participation</td>
<td>Conserving water</td>
</tr>
<tr>
<td>Drinking alcohol</td>
<td>Employment turnover</td>
<td>Studying for an exam</td>
</tr>
<tr>
<td>Eating low-fat diet</td>
<td>Driving violations</td>
<td>Technology acceptance</td>
</tr>
<tr>
<td>Weight loss</td>
<td>Using infant seats</td>
<td>Gift-giving</td>
</tr>
<tr>
<td>Eating fruit and vegetables</td>
<td>Purchase decisions</td>
<td>Using safety helmets</td>
</tr>
<tr>
<td>Medical compliance</td>
<td>Motorcycle safety</td>
<td>Hunting</td>
</tr>
<tr>
<td>Dieting</td>
<td>Environmental protection</td>
<td>Leisure behavior</td>
</tr>
</tbody>
</table>

List of references on the Web:
http://www.people.umass.edu/aizen/tpbrefs.html
Intention → Behavior

Correlation (k = 422) – (Sheeran, 2002)

- Mean $r = .53$

Intention & Behavior Change (k = 47) – (Webb & Sheeran, 2006)

- Δ Intention: Mean $d = .66$
- Δ Behavior: Mean $d = .36$
Causal Effect of PBC on Behavior: Empirical Evidence

Experimental manipulation of self-efficacy (PBC) (Bandura & Locke, 2003)

- Perseverance at intellectual puzzles
- Handling snakes
- Pain tolerance
- Physical endurance
Consuming Soft Drinks (Kassem & Lee, 2004)

R = .78

- Attitude toward the Behavior
- Subjective Norm
- Perceived Behavioral Control
- Intention

Correlations: .52, .19, .28
Using Ecstasy (Orbell et al., 2001)

R = .88

- Attitude toward the Behavior
- Subjective Norm
- Perceived Behavioral Control

Intention

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Applying for Promotion
(Giles & Larmour, 2000)

Attitude toward the Behavior

Subjective Norm

Perceived Behavioral Control

Intention

R = .90

.15

.16

.70

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Driving After Drinking
(Armitage, Norman, & Conner, 2002)

R = .82

- Attitude toward the Behavior
- Subjective Norm
- Perceived Behavioral Control

Intention

0.34
0.41
0.23
Meta Analysis (Mean Correlations, N = 185) (Armitage & Conner, 2001)

- Attitude Toward the Behavior
- R = .62
- Subjective Norm
- R = .52
- Perceived Behavioral Control
- Intention
- Behavior

Correlations:
- Attitude Toward the Behavior: .49
- Subjective Norm: .34
- Perceived Behavioral Control: .43
- Intention: .47
- Behavior: .37

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Behavior Change Interventions: Uses of the Reasoned Action Approach

- Motivating people to engage in a behavior
  - Influencing intentions.

- Helping people implement their intentions
  - Overcoming obstacles to performance of the behavior.

- Evaluating the success or failure of the intervention
  - Tracing the effects of the intervention as mediated by the theory’s predictor variables.
Testicular Self-Examination
(Brubaker & Fowler, 1990)

- **Population:** College students
- **Behavior:** Self-reported TSE 1 week and 4 weeks following intervention
- **Intervention**
  - *TPB-based:* 10-minute audiotaped message providing information about TSE and focusing on outcomes of TSE
  - *No-message control*
### Testicular Self-Examination: Intervention Outcomes (Brubaker & Fowler, 1990)

<table>
<thead>
<tr>
<th></th>
<th>No Message</th>
<th>TPB Message</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude</strong></td>
<td>15.73</td>
<td>20.05*</td>
</tr>
<tr>
<td><strong>Subjective norm</strong></td>
<td>0.30</td>
<td>1.85*</td>
</tr>
<tr>
<td><strong>Perceived control</strong></td>
<td>4.32</td>
<td>6.05*</td>
</tr>
<tr>
<td><strong>Intention</strong></td>
<td>–0.85</td>
<td>1.73*</td>
</tr>
<tr>
<td><strong>TSE – 1 week (N = 97)</strong></td>
<td>12%</td>
<td>23%*</td>
</tr>
<tr>
<td><strong>TSE – 4 weeks (N = 89)</strong></td>
<td>13%</td>
<td>31%*</td>
</tr>
</tbody>
</table>

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Testicular Self-Examination
(Brubaker & Fowler, 1990)

- Behavioral Beliefs
- Attitude Toward the Behavior
- Subjective Norm
- Intention
- Behavior

Intervention

Control Beliefs

Perceived Behavioral Control

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Taking the Bus to Campus (Bamberg, Ajzen, & Schmidt, 2003)

- Attitude Toward the Behavior
- Subjective Norm
- Perceived Behavioral Control
- Intention
- Behavior

R = 0.70
R = 0.69

*Not significant
Taking the Bus to Campus: Intervention

- Population: College students at the University of Giessen, Germany
- Behavior: Self-reported bus use to get to the campus
- Intervention: Prepaid semester bus ticket, accompanied by an extensive informational campaign.
Taking the Bus to Campus: Intervention Outcomes

<table>
<thead>
<tr>
<th></th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>2.31</td>
<td>2.60*</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>2.24</td>
<td>2.46*</td>
</tr>
<tr>
<td>Perceived Behavioral Control</td>
<td>2.57</td>
<td>2.99*</td>
</tr>
<tr>
<td>Intention</td>
<td>1.65</td>
<td>2.11*</td>
</tr>
<tr>
<td>Behavior (%)</td>
<td>.15</td>
<td>.30*</td>
</tr>
</tbody>
</table>
Purpose: to increase consistent condom use to prevent AIDS.

Brief or enhanced counseling to change either attitudes, subjective norms, or perceived control with respect to the behaviors.

General education control group.

Follow-ups over 12 months.
Project RESPECT: Selected Results (Kamb, Dillon, Fishbein, & Willis, 1996)

➢ Consistent condom use with main partner:

- Control condition 51%
- Brief counseling 56%
- Enhanced counseling 60%
Conclusions

Marty’s work has had a profound and lasting impact on our understanding of…

- attitude formation and change.
- attitude measurement.
- the attitude-behavior relation.
- prediction and explanation of behavior.
- behavior-change interventions.