Theory of Reasoned Action and Planned Behavior

TRA/TPB and HBM

- Both focus on rational, cognitive decision-making processes
- TRA/TPB adds the social context to the basic ideas of the HBM

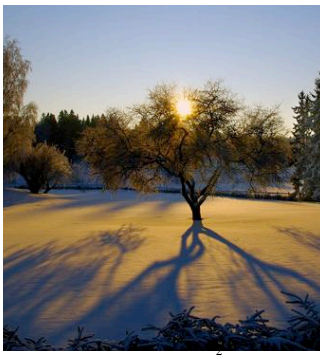
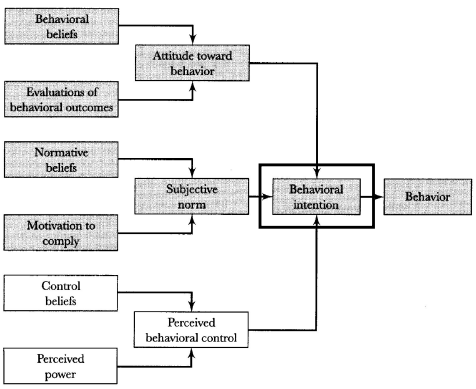


FIGURE 4.1. THEORY OF REASONED ACTION AND THEORY OF PLANNED BEHAVIOR.

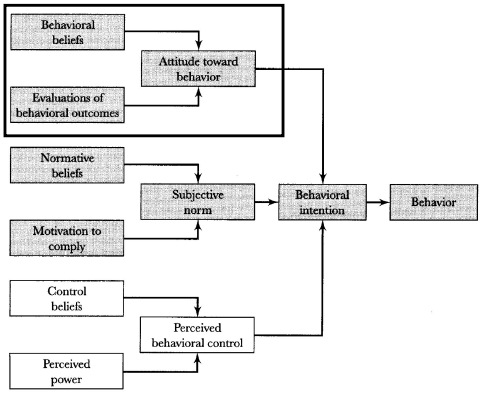


Note: Upper shaded section shows the Theory of Reasoned Action; the entire figure shows the Theory of Planned Behavior.

TRA: Constructs

- Behavioral Intention
  - Perceived (subjective) likelihood of performing the behavior
  - The *most important* determinant of a person's behavior
  - Behavioral Intention = Attitude + Subjective Norm

FIGURE 4.1. THEORY OF REASONED ACTION AND THEORY OF PLANNED BEHAVIOR.



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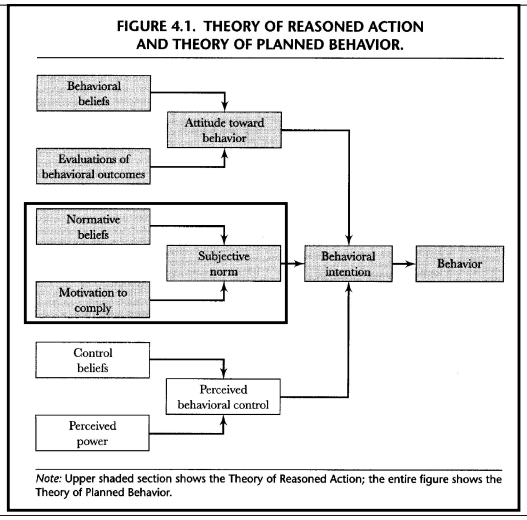
TRA: Constructs

Attitude = Belief + Evaluation

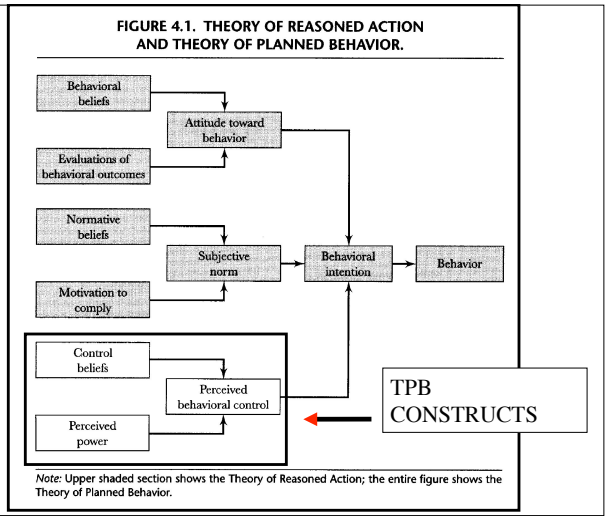
- Attitude: What are the possible outcomes, how good or bad are they, and how likely are they to occur?
- Behavioral Belief: A belief about what will happen if he or she performs the target behavior
- Evaluation: Is this expected outcome good or bad?



TRA: Constructs

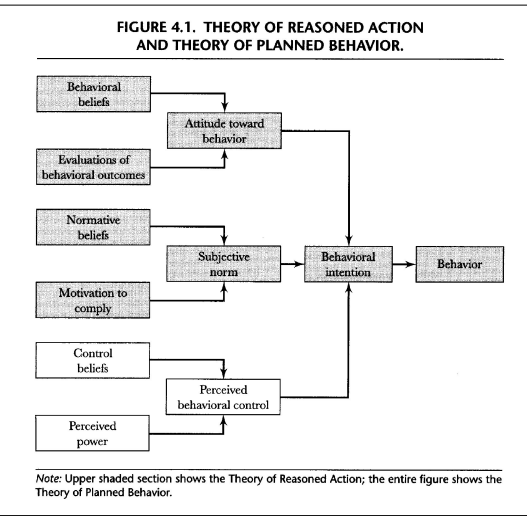
Subjective Norm = Normative Belief + Motivation to Comply

- Normative Belief: belief about whether each referent (person) approves or disapproves of the behavior
- Motivation to Comply: Motivation to do what each referent (person) thinks is okay



TRA + TPB: Constructs

- Perceived Behavioral Control = Control Belief + Perceived Power
  - Overall measure of perceived control over the behavior
  - Control Belief: Perceived likelihood of the occurrence of each facilitating or constraining condition
  - Perceived Power: Perceived effect of each condition in making doing the behavior hard or easy



TRA Assumptions

- Causal chain of events leading to a given behavior:

Behavioral Beliefs + Normative Beliefs

↓

Behavioral Intention

↓

Behavior

TPB Chain of Reason

- IF Jane has a positive attitude toward getting a mammogram....
- IF either her friends think it's a good idea OR she doesn't really care what they think...
- AND if she thinks she can get off work and get a ride and afford the mammogram,
- THEN the likelihood that she'll do it is high
  - Edberg 2007 p. 40

TRA Assumptions

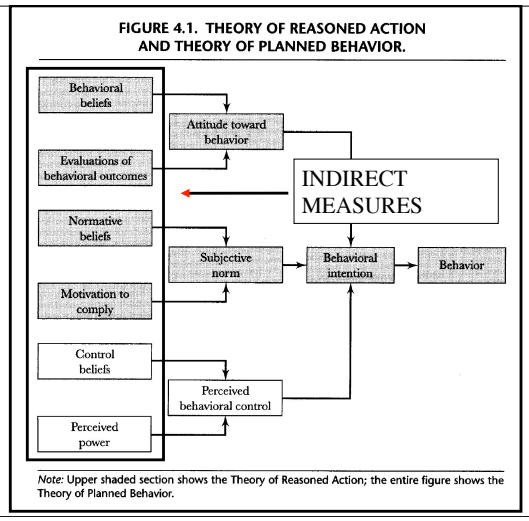
- Individuals are rational actors
  - They process information and are motivated to act on it
  - There are underlying reasons for motivation and behavior

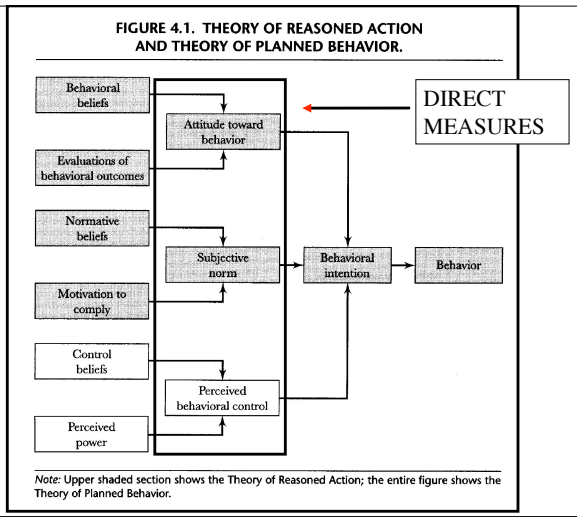
TRA Techniques

- Start with qualitative research
- This can be focus groups, interviews, and/or questionnaires (see textbook)
- This ensures that behavioral, normative, and control beliefs are relevant to the population

TRA Techniques

- Questionnaires
  - 5 to 7 point scales
    - Behavioral beliefs range from unlikely to likely to perform
    - Evaluations of outcome range from good to bad
  - Double negatives are avoided by adjusting sign at each end of the ranges





TRA Techniques

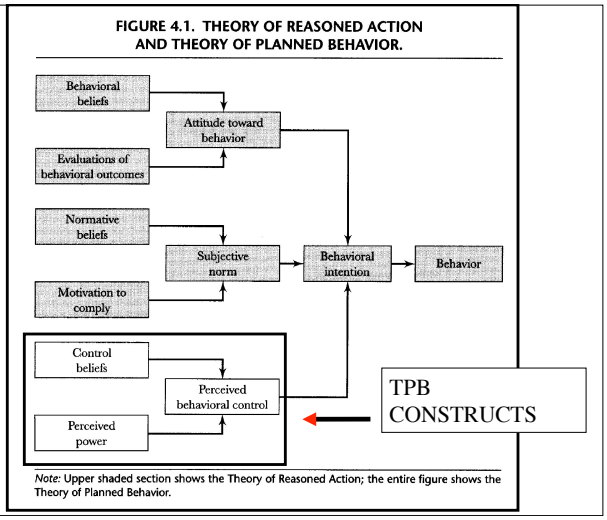
- Direct measures
  - Usually more strongly associated with intention and behavior than indirect measures
  - They help validate the indirect measures
- Indirect measures (expectancy + value)
  - Provide more specific information about what's motivating a person to behave a certain way

TRA Techniques

- Prospective Study Design
  - First assess attitudes, norms and intention
  - Then, at a later date, measure behavior
- Multiple Regression Analysis
  - Allows consideration of the relative strength of each construct in determining intention and behavior

Theory of Planned Behavior

- The pathway from intention to behavior is mediated by the extent to which the behavior is *under volitional control*
- HIGH VC: TRA is a good predictor of behavior
- REDUCED VC: Less predictive



Theory of Planned Behavior

- New Construct: Perceived Behavioral Control
  - Adds to the effort a person will apply to a behavior
  - An independent variable that determines behavior as Attitude and Subjective Norm remain constant

Theory of Planned Behavior

- Perceived Behavioral Control: Components
  - Control Beliefs
    - Presence or absence of facilitators and barriers
  - Perceived Power
    - Of each factor to help or hinder the behavior

Theory of Planned Behavior

Perceived Behavioral Control

vs.

Self-Efficacy

- SE addresses individual's judgments of efficacy in doing behavior *in the face of barriers*
- PBC is concerned with characteristics of an individual *or the environment* that *help or hinder* performance of the behavior

TRA/TPB Applications

- Condom Use (textbook)
  - Seattle Study: 4 at-risk groups
    - 2 interviews 3 months apart
    - Measured all constructs as well as behavior
    - Intention:Behavior correlation was .55
    - Focus of study: what leads to the intention?

TRA/TPB Applications

- Seattle Condom Study (textbook)
  - Ethnic differences in relative importance of constructs leading to behavior
  - Partner norm was more important than subjective norms

TRA/TPB Applications

- Seattle Marijuana Study
- Morrison, Golder, Keller, & Gillmore
  - 2002, *Psychology of Addictive Behaviors 16*, 212-224
- Measured TRA constructs to predict marijuana use in pregnant teenage girls
- Goal: consider a wide range of consequences of smoking behavior beyond negative health effects
  - Interpersonal
  - Hedonistic

TRA/TPB Applications

- Seattle Marijuana Study
- Added the concept of prior behavior as a possible determinant of future behavior
- N = 170 unmarried pregnant adolescents
- Followed for up to 48 months postpartum
- Questionnaires given in 90-minute interviews

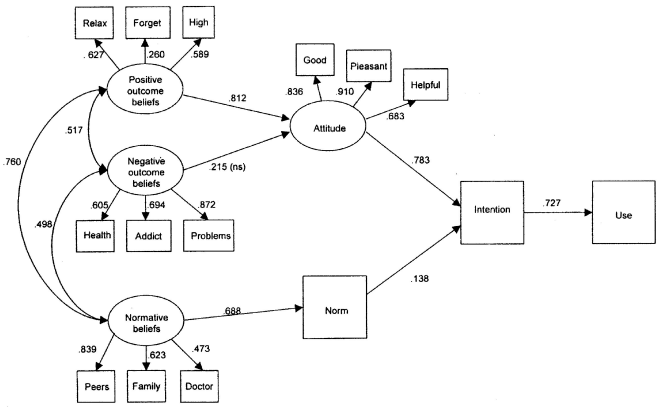


Figure 1. Theory of reasoned action model of marijuana intentions and use, with indicators of each construct and standardized path coefficients. All paths except that from Negative outcome beliefs to Attitude are significant ($p < .05$). Intention = behavioral intention to use marijuana; Norm = perceived social norm.

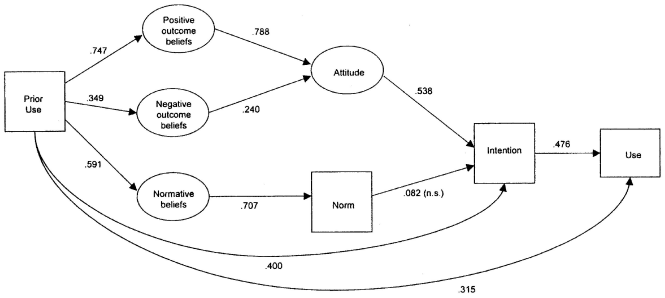


Figure 2. Theory of reasoned action model of marijuana intentions and use, with the addition of prior use as a predictor. All paths except that from Norm to Intention are significant ($p < .05$). Prior Use = prior marijuana use; Intention = behavioral intention to use marijuana; Norm = perceived social norm.

TPB intervention to reduce speeding (Sead et al., 2005)

- Scottish study using a mass media campaign to reduce speeding
- Based on attitude, subjective norms, and perceived behavioral control from TPB
- 4-year longitudinal cohort

Model design

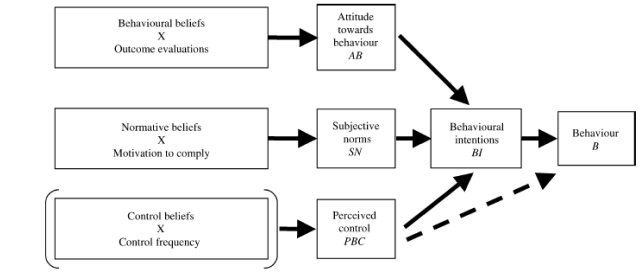


Fig. 1. The TPB [adapted from (Conner and Sparks, 1995)].

Study design

- Counteract speeders' measured cognitions
  - illusory sense of control over their driving abilities
  - perception that the adverse consequences of speeding are less likely to occur and less undesirable than in other people
  - perception of more benefits to speeding
    - getting there quicker
    - having more fun doing it

Foolsspeed campaign

- 3 different ads designed to address each aspect of TPD
  - One ad addresses the dangers of speeding
  - The second addresses social perceptions of speeders
  - The third ad addresses the driver's sense of control over speeding behaviors

Foolsspeed campaign

Respondents were asked to make judgments about their own views and behaviour in the scenario below:

> *You are driving in your car or van down a road in town. There are some shops and parked cars. It is about 2 o'clock on a fine dry afternoon. There are no other cars driving on the road. The speed limit is 30 m.p.h.* [Adapted from (Parker *et al.*, 1992)]

- *Behavioural intentions* were measured using three statements: 'I would probably drive faster than 30 m.p.h. myself in this situation', 'I would never drive faster than 30 m.p.h. in this situation' and 'In this situation I would want to drive faster than 30 m.p.h.'. Reliability analysis showed that these items were highly consistent (α = 0.81).
- Eight *behavioural beliefs* about the consequences (both good and bad) of driving at 40 m.p.h. in the scenario were used. These were identified from formative research, questionnaire piloting and from other studies [e.g. (Parker *et al.*, 1996; Stradling and Parker, 1996; Lawton *et al.*, 1997)]. Respondents were asked to indicate how likely or unlikely they judged each of the consequences (e.g. 'If I drove down this road at 40 m.p.h. I would find it difficult to stop in an emergency'). Reliability for these items was relatively high (α = 0.71).

Foolsspeed campaign

- *Outcome evaluations* were measured using eight statements corresponding to the behavioural beliefs. Respondents were invited to indicate how desirable or undesirable each outcome would be. These two sets of items were summed using the TPB formula to produce a composite *attitude towards the behaviour*. Reliability for these items was adequate ($\alpha = 0.60$).
- *Normative beliefs* were measured with 11 items in which respondents were asked to indicate how much various significant others (or 'salient referents') would approve or disapprove of their speeding (i.e. driving at 40 m.p.h.) in the scenario described. Again, these salient referents were identified from the piloting exercise and from previous studies [e.g. (Parker *et al.*, 1992)].
- *Motivation to comply* was assessed by asking respondents to indicate the extent to which they generally liked to drive in a manner of which each referent would approve. These two sets of items were summed using the TPB formula to produce a composite *subjective norm score*. Reliabilities for the two sets of items were high (normative beliefs: $\alpha = 0.70$, motivation to comply: $\alpha = 0.85$).

Foolsspeed campaign

- *Perceived behavioural control* was measured by asking respondents whether, in eight different circumstances, they would be more or less likely to speed (e.g. 'if you were running late for an appointment?'). A corresponding set of eight items asked respondents how often they found themselves in such circumstances when driving. These two sets of items, *control beliefs* and *control frequency*, were summed to produced a composite *perceived behavioural control*. Reliability was high for the control beliefs ($\alpha = 0.88$) but low for the control frequencies ($\alpha = 0.31$). An alternative simpler measure of perceived behavioural control was also obtained, using two items, 'I would find it frustrating/I would find it easy to stick to 30 m.p.h. in this situation'. The different measures were used because there appears limited consensus on how control should be operationalized within the TPB. Reliability for the alternative measure of perceived behavioural control was high ($\alpha = 0.80$).

Foolsspeed campaign

- *Positive affective beliefs (PABs)* and *negative affective beliefs (NABs)*. These were measured with three items for each (e.g. positive: 'Driving down this road at 40 m.p.h. would give me a feeling of pleasure'; negative: 'If I drove down this road at 40 m.p.h. I would feel that I was driving foolishly'). A corresponding outcome evaluation statement was added for each item. Reliability for the PABs was 0.59 (0.70 for the corresponding outcome evaluations). Reliability for the NABs was 0.70 (0.63 for the corresponding outcome evaluations).
- *Reported behaviour* was measured by asking respondents how often, in the past 12 months, they had driven over the speed limit in three different circumstances: on a 30 m.p.h. road, late at night or early in the morning, and on a motorway.

A seven-point response scale (e.g. Never–Almost all the time; Very likely–Very unlikely) was used for all measures.

Results

- TPB was able to predict about 50% of the variance in intentions to speed
  - PBC was most powerful independent variable associated with intentions to speed
- TPB predicted about 35% of reported speeding behavior

Respondents were categorized at baseline into three groups on the basis of self-reported frequency of speeding in three circumstances:

- Late at night or early in the morning
- On a motorway
- On a road with a 30 m.p.h. limit

For each circumstance respondents indicated the frequency with which they carried out each speeding behaviour, in the last 12 months, on a scale of 1 to 7 (1 = Never, 7 = Almost all the time). 'Frequent speeders' refers to those who, in the last 12 months, almost always or very frequently drove above the speed limit (i.e. across the three circumstances had a mean score greater than 5.5), 'infrequent speeders' refers to those who 'never or almost never' sped (i.e. mean score less than 2.5) and 'occasional speeders' refers to those whose mean score fell between 2.5 and 5.5 inclusive. A fifth of the baseline sample were categorized as 'frequent speeders', while the majority (58%) were categorized as 'occasional speeders' and more than a fifth (22%) as 'infrequent speeders'.

Base: all respondents	Baseline sample	Second survey	Third survey	Fourth survey
	(*N* = 550)	(*N* = 388)	(*N* = 367)	(*N* = 287)
Frequent speeders (mean 5.5–7.0)	20%	17%	16%	12%
Occasional speeders (mean 2.5–5.5)	58%	60%	62%	64%
Infrequent speeders (mean 1.0—2.5)	22%	23%	22%	24%

The second, third and fourth survey columns indicate the distribution of respondents at each survey stage according to baseline speeding frequency (i.e. at the second survey, 17% of the sample had been in the frequent speeders category at the baseline and at the fourth survey 12% of the sample had been in the frequent speeders category at the baseline). The distribution changed over the survey stages in the direction of under-representation of frequent speeders at each follow-up stage, and over-representation of occasional and infrequent speeders.

TRA/TPB Strengths

- Provides clear guidance for qualitative research
- Has successfully predicted a variety of health behaviors
- Questionnaire research gives specific guidance for designing interventions
- Model has flexibility

TRA/TPB Strengths

- Accounts for a wide range of behavior consequences, beyond the health-related
  - Interpersonal
  - Hedonistic
- Specifically takes social influence into consideration

TRA/TPB Weaknesses

- Attitude is a unidimensional construct
  - Good vs... Bad
- But many attitudes are multidimensional
  - Affective
  - Cognitive
  - Conative: the aspect of mental processes or behavior directed toward action or change
    - Impulse, desire, volition, striving

TRA/TPB Weaknesses

- Doesn't take prior behavior into consideration
  - Morrison et al., 2002
  - This explains significant variance in prediction of intentions and behavior
- Attitudes sometimes work directly on behavior, without the intentional step
  - "knee-jerk reactions"

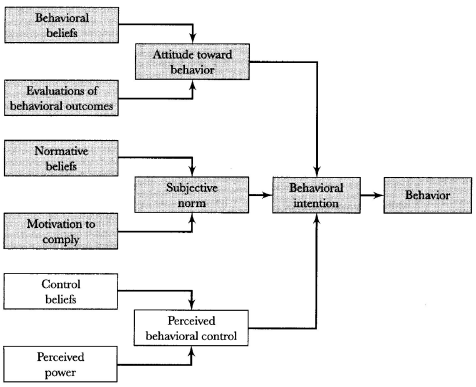
References

- Morrison, D. M., Golder, S., Keller, T. E., & Gillmore, M. R. (2002). The theory of reasoned action as a model of marijuana use: Tests of implicit assumptions and applicability to high-risk young women. *Psychology of Addictive Behaviors, 16,* 212-224.
- Armitage, C. J. (2005). Can the Theory of Planned Behavior predict the maintenance of physical activity? *Health Psychology, 24*, 235-245.

Theory Mapping

- Apply TPB to your behavioral change project
- Begin with blank diagram of the theory...

FIGURE 4.1. THEORY OF REASONED ACTION AND THEORY OF PLANNED BEHAVIOR.



Note: Upper shaded section shows the Theory of Reasoned Action; the entire figure shows the Theory of Planned Behavior.

- What will happen if you perform your desired health behavior? List 3 or 4 things
- For each one, write down whether this is good or bad, and how much from 1-5, 0 being neutral
- For “bad,” use negative numbers
- For “good,” use positive numbers
- Add up the numbers for a score on attitude towards the behavior

- Make a list of 3 to 5 people in your life with whom you have a lot of contact
- For each person, write down whether they will approve or disapprove of your proposed health behavior
- For each person, score 0-5, how important this person’s opinion is to you
- Give each score a polarity depending on the person’s approval or disapproval & sum the values for subjective norm score

- Make a list of things in your life that will facilitate or constrain your desired behavior
- Rate each thing on the amount of power it has over whether or not you will accomplish your desired behavior using 1-5 scale
- Use negative numbers for constraining factors and positive numbers for facilitating factors
- Add them together to get your perceived behavioral control score

Intention Score

- Add the three numbers together to get your intention score
- Is it negative?
- Is it positive?
- File this away for later to assess TBP’s ability to predict your behavior...