

# *Attitudes and Behavior*

# *Centrality of the Attitude Construct*

## *Gordon W. Allport (1968)*

- “... attitude is probably the most distinctive and indispensable concept in contemporary social psychology. No other term appears more frequently in experimental and theoretical literature.”
- “This ... concept has been so widely adopted that it has virtually established itself as the keystone in the edifice of American social psychology.”

# *Why People Have Attitudes?*

- **Attitudes are necessary and adaptive for humans.**

They help us adjust to new situations, seeking out those things in our environment that reward us and avoiding those things that punish us. Attitudes can even be a matter of life or death, influencing whether people take health risks or engage in healthy preventive behaviors.

- **Attitudes are mainly used to sort things into “good” and “bad” categories.**

## *Definition*

- An attitude can be defined as a latent disposition or tendency to respond with some degree favorableness or unfavorableness to a psychological object (Ajzen, 2005).

## *Types of attitudes*

- Global attitudes
- Attitudes toward behavior

## *Attitude: Unidimensional Definition*

**Attitude is a hypothetical, latent construct.** It is defined as the readiness to respond to a **psychological object** with some degree of **favorableness** or **unfavorableness**.

The evaluative reaction can range from extremely negative to extremely positive, through the neutral point, on a dimension such as:

“good – bad”      “pleasant – unpleasant”      “in favor – opposed”.



# *Attitude vs. Beliefs*

Attitudes differ from beliefs.

- **Beliefs are pieces of information (facts or opinions) about something.**
- **Attitudes are different evaluations toward some object or issue (e.g., you like or dislike something, you are in favor of or opposed to some position).**

# *Attitude vs. Beliefs*

- If you **think that** a certain person is president or that it is cloudy outside, that's a belief.
- Whether you **like** this person as president, or the clouds, is your attitude.

Logically, attitudes are for choosing, whereas beliefs are for explaining.

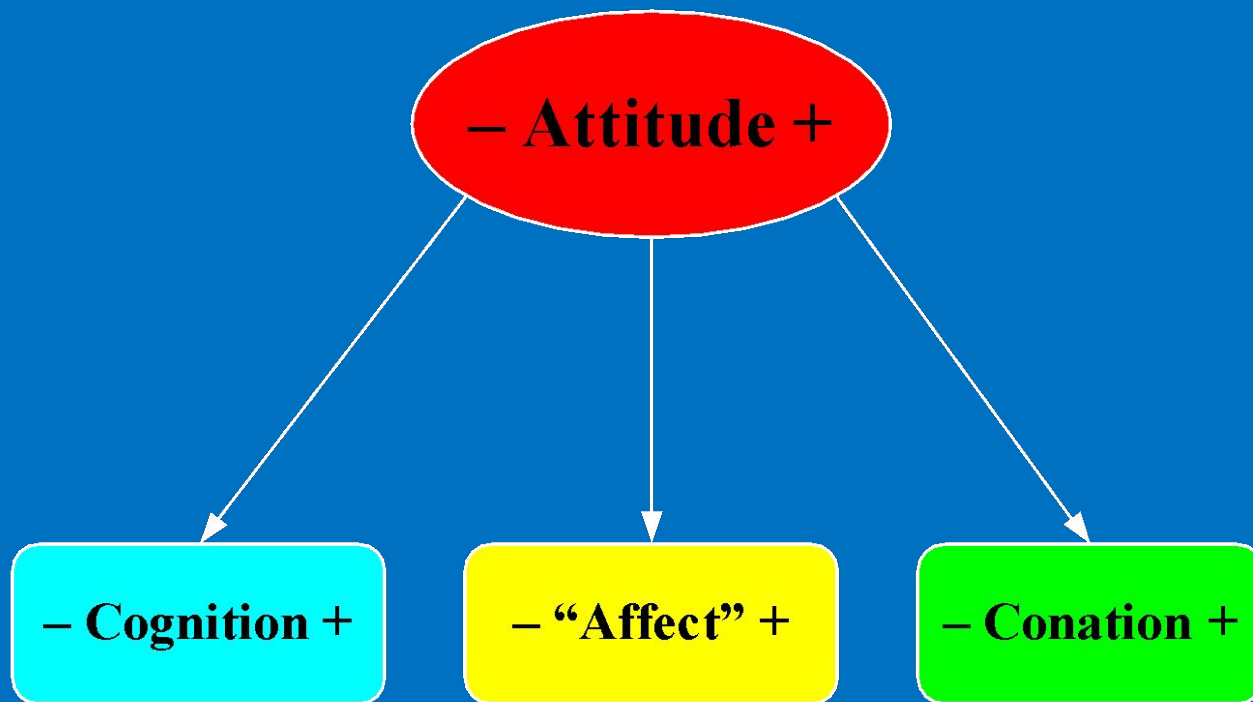
Beliefs and attitudes both serve interpersonal functions. People need to influence how others choose, and people also need to explain things to others.



# *Attitude vs. Affect*

- *Attitude*: Evaluation of a psychological object.
- *Affect*: Somatic system with evaluative dimension and an arousal dimension.

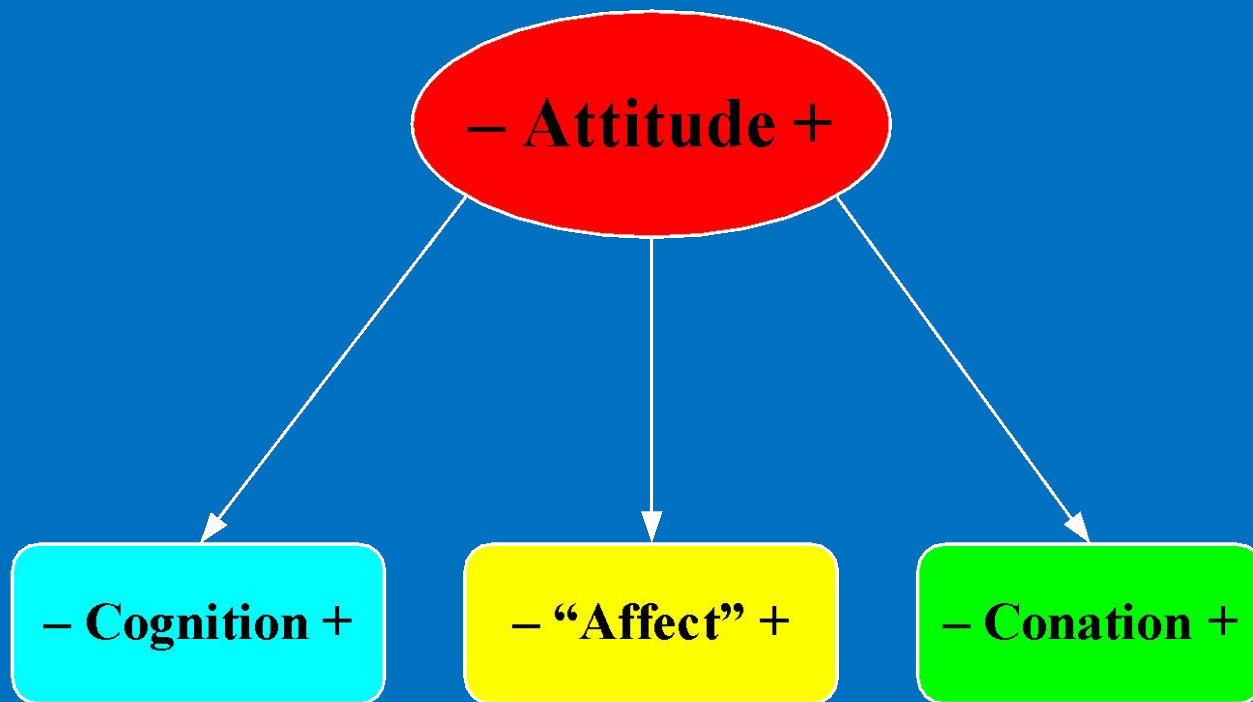
*Tripartite Model of Attitude*  
(Rosenberg & Hovland, 1960)



# *ABC model of attitudes*

- **Affective component:** this involves a person's feelings / emotions about the attitude object. For example: "I am scared of spiders".
- **Behavioral (or conative) component:** the way the attitude we have influences how we act or behave. For example: "I will avoid spiders and scream if I see one".
- **Cognitive component:** this involves a person's belief / knowledge about an attitude object. For example: "I believe spiders are dangerous".

*Tripartite Model of Attitude*  
(Rosenberg & Hovland, 1960)



# *Attitude Measurement*



## *Single-Item Measures: Potential Problems*

- o Clerical errors in responding or coding
- o Momentary distraction
- o In phone survey: tone of voice while item is being read
- o Item wording
- o **Momentary mood**

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Affect, Accessibility of Material in Memory, and Behavior:  
A Cognitive Loop?

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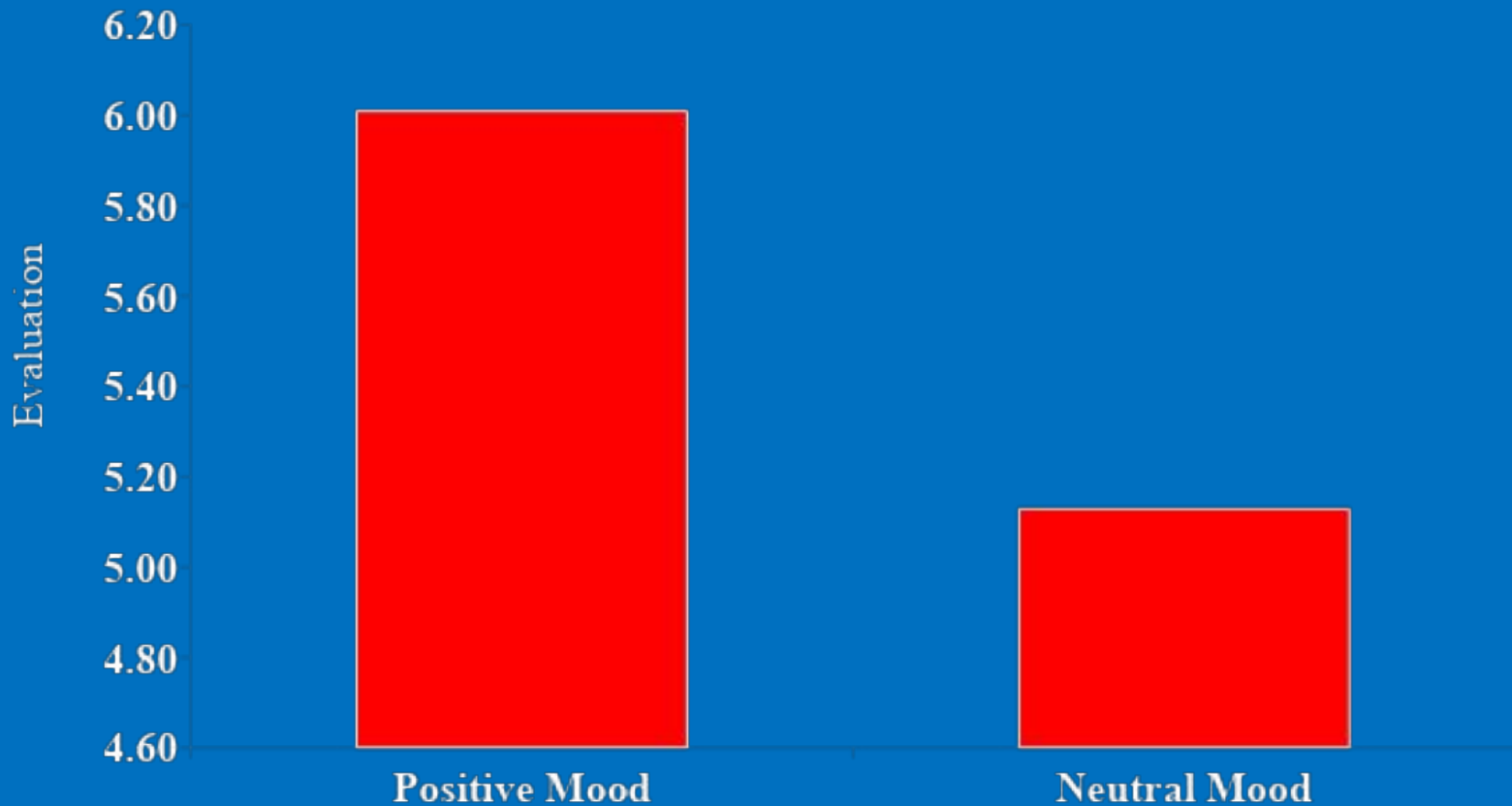
Thomas E. Shalke  
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Two studies investigated the effect of good mood on cognitive processes. In the first study, conducted in a shopping mall, a positive feeling state was induced



*Effect of Mood: positive feeling state was induced by giving subjects a free gift, and good mood, thus induced, was found to improve subjects' evaluations of the performance and service records of products they owned. (Isen, Shalke, Clark, & Karp, 1978)*



# *Direct Evaluations: Multi-Item Measures*

## *Repeated Evaluations With Variations*

### *Rosenberg (1965) Self-Esteem Scale*

1. I feel that I am a person of worth, at least on an equal basis with others.

- \_\_\_\_\_ Strongly agree
- \_\_\_\_\_ Agree
- \_\_\_\_\_ Disagree
- \_\_\_\_\_ Strongly disagree

2. I feel that I have a number of good qualities.

3. All in all, I am inclined to feel that I am a failure.

4. I am able to do things as well as most other people.

5. I feel I do not have much to be proud of.

6. I take a positive attitude toward myself.

7. In the whole, I am satisfied with myself.

8. I wish I could have more respect for myself.

9. I certainly feel useless at times.

10. At times I think I am no good at all.





- The semantic differential technique reveals information on three basic dimensions of attitudes:

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  - **potency (i.e. strength)**
  - **activity**



- **Evaluation** is concerned with whether a person thinks positively or negatively about the attitude topic (e.g. dirty – clean, and ugly - beautiful).
- **Potency** is concerned with how powerful the topic is for the person (e.g. cruel – kind, and strong - weak).
- **Activity** is concerned with whether the topic is seen as active or passive (e.g. active – passive).

# *Semantic Differential: Rotated Factor Loadings*

*(Osgood, Suci, & Tannenbaum, 1957)*

	I	II	III	IV			I	II	III	IV	
1. good-bad	.88		.05	.09	.09		26. wet-dry	.08	.07	-.03	-.14
2. large-small	.06	.62		.34	.04		27. sacred-profane	.81	.02	-.10	.01
3. beautiful-ugly		.86		.09	.01	.26	28. relaxed-tense	.55	.12	-.37	-.11
4. yellow-blue	-.33	-.14		.12	.17		29. brave-cowardly	.66	.44	.12	.03
5. hard-soft	-.48	.55		.16	.21		30. long-short	.20	.34	.13	-.23
6. sweet-sour	.83	-.14		-.09	.02		31. rich-poor	.59	.03	.10	-.16
7. strong-weak	.19	.62		.20	-.03		33. hot-cold	-.04	-.06	.46	.07
8. clean-dirty	.82	-.05		.03	.02		34. thick-thin	-.06	.44	-.06	-.11
9. high-low	.59	.21		.08	.04		35. nice-awful	.87	-.08	.19	.15
10. calm-agitated		.61		.00	-.36	-.05	36. bright-dark	.69	-.13	.26	.00
11. tasty-distasteful		.77		.05	-.11	.00	37. bass-treble	-.33	.47	-.06	.02
12. valuable-worthless		.79		.04	.13	.00	38. angular-rounded	-.17	.08	.43	.12
13. red-green	-.33	-.08		.35	.22		39. fragrant-foul	.84	-.04	-.11	.05
14. young-old	.31	-.30		.32	.01		40. honest-dishonest	.85	.07	-.02	.16
15. kind-cruel	.82	-.10		-.18	.13		41. active-passive	.14	.04	.59	-.02
16. loud-soft	-.39	.44		.23	.22		42. rough-smooth	-.46	.36	.29	.10
17. deep-shallow		.27		.46	.14	-.25	43. fresh-stale	.68	.01	.22	-.11
18. pleasant-unpleasant		.82		-.05	.28	-.12	44. fast-slow	.01	.00	.70	-.12
19. black-white	-.64	.31		.01	-.03		45. fair-unfair	.83	.08	-.07	.11
20. bitter-sweet	.80	.11		.20	.03		46. rugged-delicate	-.42	.60	.26	.27
21. happy-sad	.76	-.11		.00	.03		47. near-far	.41	.13	.11	-.05
22. sharp-dull	.23	.07		.52	-.10		48. pungent-bland	-.30	.12	.26	.05
23. empty-full	-.57	-.26		-.03	.18		49. healthy-sick	.69	.17	.09	.02
24. ferocious-peaceful	-.69	.17		.41	.02		50. wide-narrow	.26	.41	-.07	-.11
25. heavy-light	-.36	.62		-.11	.06						

	I	II	III	IV
% Total Variance	33.78	7.62	6.24	1.52
% Common Variance	<b>68.55</b>	<b>15.46</b>	<b>12.66</b>	3.08

# *Inferential Attitude Measures (Thurstone, Likert, Guttman Scaling)*

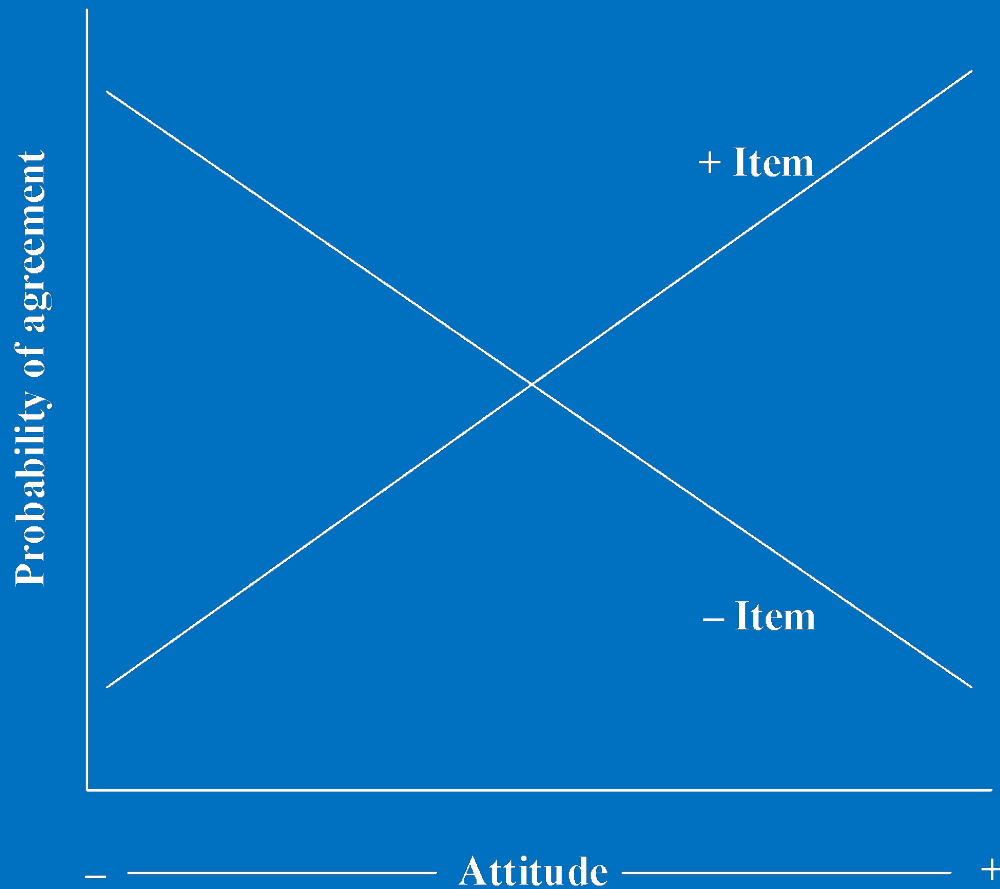
## *Potential Items to Assess Attitudes Toward Abortion*

1. It is better to have an abortion than to give birth to an unwanted child.
2. I have reservations about the easy availability of abortions.
3. Abortion is equivalent to murder.
4. The right of the mother to control her own body is more important than any rights of the unborn fetus.
5. I would be willing to sign a petition to make abortion illegal.
6. The question of abortion involves fundamental human values.
7. The Government should not provide funds for abortion clinics.
8. The decision to have an abortion during early pregnancy should be left up to the mother.
9. Doctors who perform abortions are despicable.
10. If abortion were outlawed, women would obtain abortions with the help of unqualified people, putting their lives in danger.
11. There are valid arguments on both sides of the abortion debate.
12. If I or my wife had an unwanted pregnancy, I would be willing to abort the child.
13. Abortion is justifiable only when the mother's life is in danger.
14. The Constitution of RF amended to guarantee women's right to freedom of choice in matters of abortion.
15. When I think about aborting a tiny fetus, I feel disgusted.

## *Likert Scaling:*

- Construct large number of items.
- Administer questionnaire: 5-point response scale: strongly agree (5), agree (4), undecided (3), disagree (2), strongly disagree (1). Negative items are reverse-scored.
- *Preliminary attitude score* = sum of item scores.
- *Item selection: Criterion of internal consistency.*
  - Retain items with high (pos or neg) item-total correlation.

# *Ideal Operating Characteristic Curves for Positive and Negative Likert Scale Items*



# *Attitudes Toward Illegal Immigrants: Sample Items from a Likert Scale (Ommundsen & Larsen, 1997)*

1. Illegal aliens should not benefit from my tax dollars. (N .68) \*
2. Our taxes should be used to help those residing illegally in the United States. (P .67)
3. There is enough room in this country for everyone. (P .65)
4. Illegal aliens are not infringing on our country's resources. (P .67)
5. Illegal aliens are a nuisance to society. (N .67)
6. There should be open international borders. (P .62)
7. Access to this country is too easy. (N .76)
8. Illegal aliens should receive food stamps. (P .65)
9. Illegal aliens who give birth to children in the United States should be made citizens. (P .65)
10. The United States should accept all political refugees. (P .59)
11. Illegal aliens cost the United States millions of dollars each year. (N .75)
12. Illegal aliens should be eligible for welfare. (P .66)

\*Direction of items: N = negative, P = positive; **item – total correlation.**

# *Attitudes and Behavior*

## *Validation of Attitude Measures: Predictive Validity*

- Primary criterion for validity of attitude measure:
  - *Predictive validity*, i.e., prediction of actual behavior.

### **□ Question:**

- **Do standard (explicit) attitude measures, such as Likert scales or the semantic differential, predict behavior?**



## REPRINTS AND REFLECTIONS

# Attitudes vs Actions

Richard T LaPiere

By definition, a social attitude is a behavior pattern, anticipatory set or tendency, predisposition to specific adjustment to designated social situations, or, more simply, a conditioned response to social stimuli<sup>1</sup>. Terminological usage differs, but students who have concerned themselves with attitudes apparently agree that they are acquired out of social experience and provide the individual organism with some degree of preparation to adjust, in a well-defined way, to certain types of social situations if and when these situations arise. It would seem, therefore, that the totality of the social attitudes of a single individual would include all his socially acquired personality which is involved in the making of adjustments to other human beings.

But by derivation social attitudes are seldom more than a verbal response to a symbolic situation. For the conventional method of measuring social attitudes is to ask questions (usually in writing) which demand a verbal adjustment to an entirely symbolic situation. Because it is easy, cheap, and mechanical, the attitudinal questionnaire is rapidly becoming a major method of sociological and socio-psychological investigation. The technique is simple. Thus from a hundred or a thousand responses to the question "Would

these limitations, the diligent investigator will jump briskly from his factual evidence to the unwarranted conclusion that he has measured the "anticipatory behavior patterns" of non-Armenian males towards Armenian females encountered on street cars. Usually he does not stop here, but proceeds to deduce certain general conclusions regarding the social relationships between Armenians and non-Armenians. Most of us have applied the questionnaire technique with greater caution, but not I fear with any greater certainty of success.

Some years ago I endeavoured to obtain comparative data on the degree of French and English antipathy towards dark-skinned peoples.<sup>2</sup> The informal questionnaire technique was used, but, although the responses so obtained were exceedingly consistent, I supplemented them with what I then considered an index to overt behavior. The hypothesis as then stated *seemed* entirely logical. "Whatever our attitude on the validity of 'verbalization' may be, it must be recognized that any study of attitudes through direct questioning is open to serious objection, both because of the limitations of the sampling method and because in classifying attitudes the inaccuracy of human judgment is an inevitable variable. In this study, however,

# Other Examples of Attitude-Behavior Relations

## □ Corey (1937)

- *Attitude*: Likert scale. Attitude toward cheating.
- *Behavior*: No. items changed on 5 true/false examinations.
- *Attitude-behavior correlation*:  $r = .02$

## □ Weitz & Nuckols (1953)

- *Attitude*: 10-item scale. Attitude toward job.
- *Behavior*: Turnover. Leaving job during subsequent 12-months period.
- *Attitude-behavior correlation*:  $r = .20$

## □ Holman (1956)

- *Attitude*: 12-item scale. Attitude toward football.
- *Behavior*: Attendance of football games over 8 occasions.
- *Attitude-behavior correlation*:  $r = .41$ .

## □ Fischer (1971)

- *Attitude*: Likert scale. Attitude toward helping.
- *Behavior*: Joining a hospital companion program.
- *Attitude-behavior correlation*:  $r = .27$ .

## *Narrative Review of Over 50 Studies of 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 behaviors."
- "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*

## *Attitude – Behavior Relation*

- Wicker's conclusions did not come as a surprise to sociologists who had questioned the importance of personal dispositions and had emphasized instead social context and norms as determinants of human action (De Fleur & Westie, 1958; Deutscher, 1969; LaPiere, 1934).
- It did, however, shatter the complacency of many psychologists who, like Gordon Allport (1968), considered attitude to be “the most distinctive and indispensable concept in contemporary American social psychology” (p. 59).

# *Explanation I: Inadequate Attitude Measurement*

## *Major Critique*

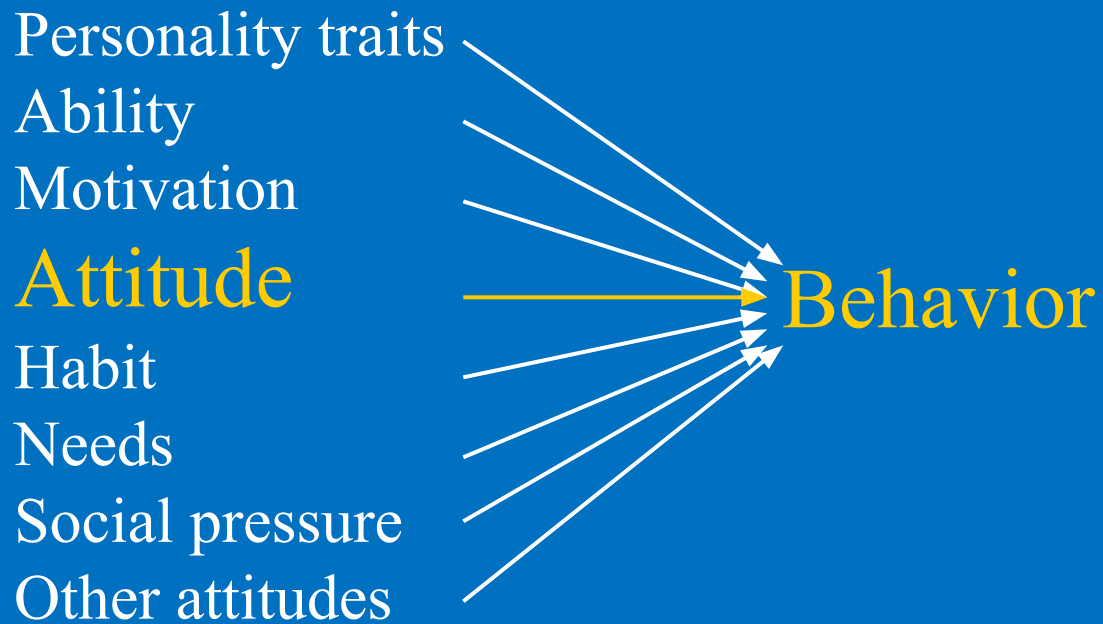
- Attitudes assess only the evaluative (affective) component.
- We must also assess the cognitive and conative components of attitude.

# *Prediction of 8 Behaviors from Attitude Toward the Church (Ostrom, 1969)*

## *Mean Correlations*

- Cognition – Behavior: Mean  $r = .18$
- Affect – Behavior: Mean  $r = .22$
- Conation – Behavior: Mean  $r = .24$

# *Explanation II: Other Additive Factors*



# *Explanation III: Moderating Variables*

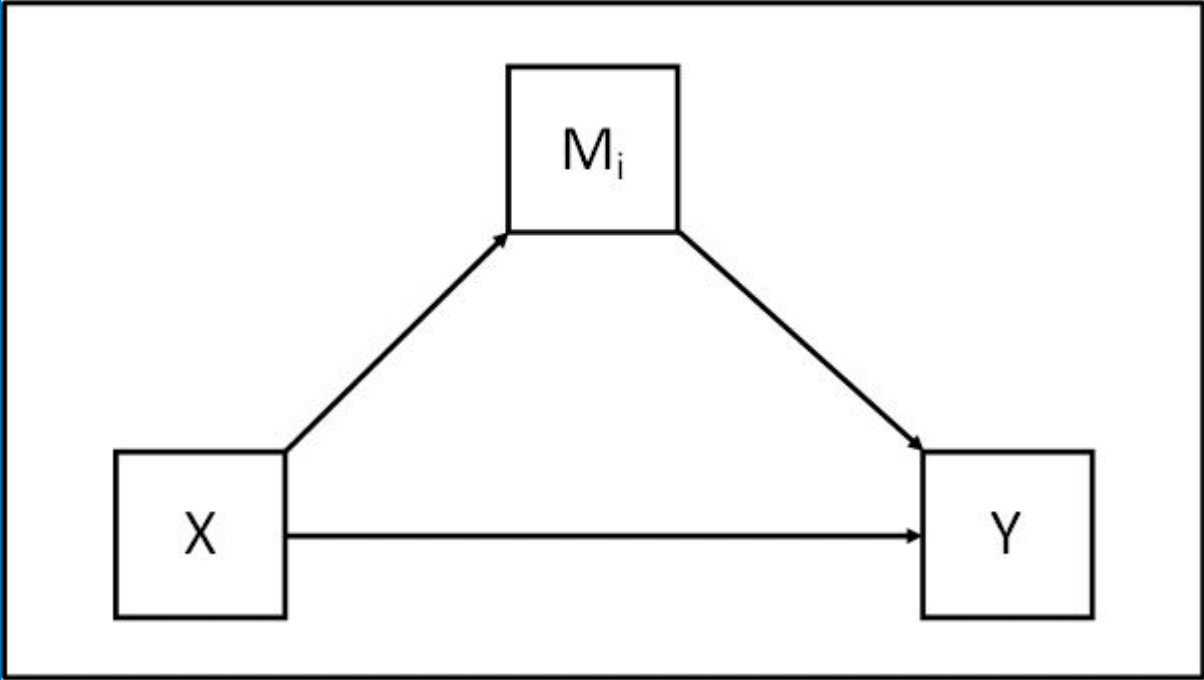
## □ *Personality*

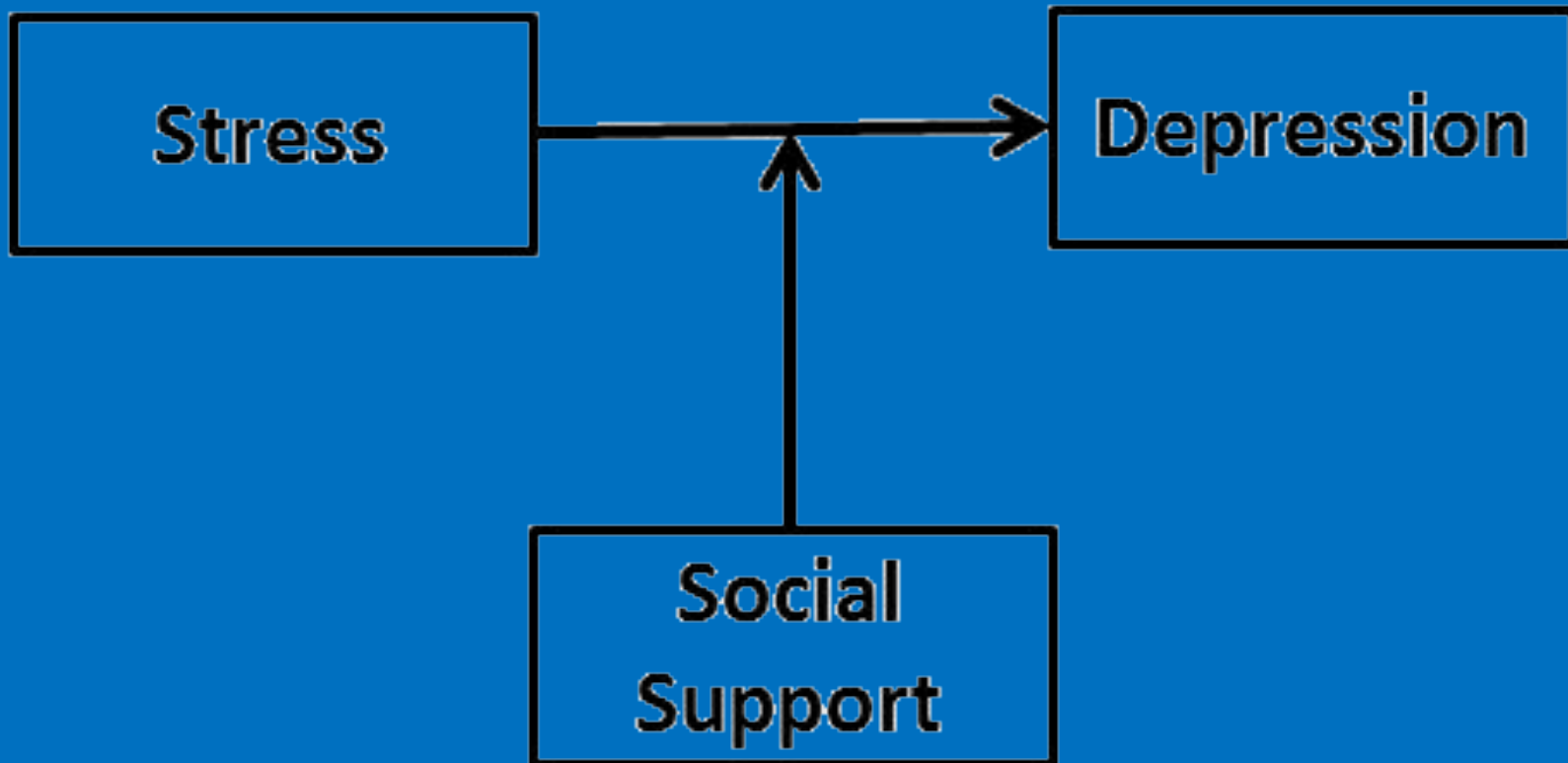
- Self-monitoring (Snyder & Swann, 1976)
- Private self-consciousness (Scheier et al., 1978)
- Need for cognition (Cacioppo et al., 1986)

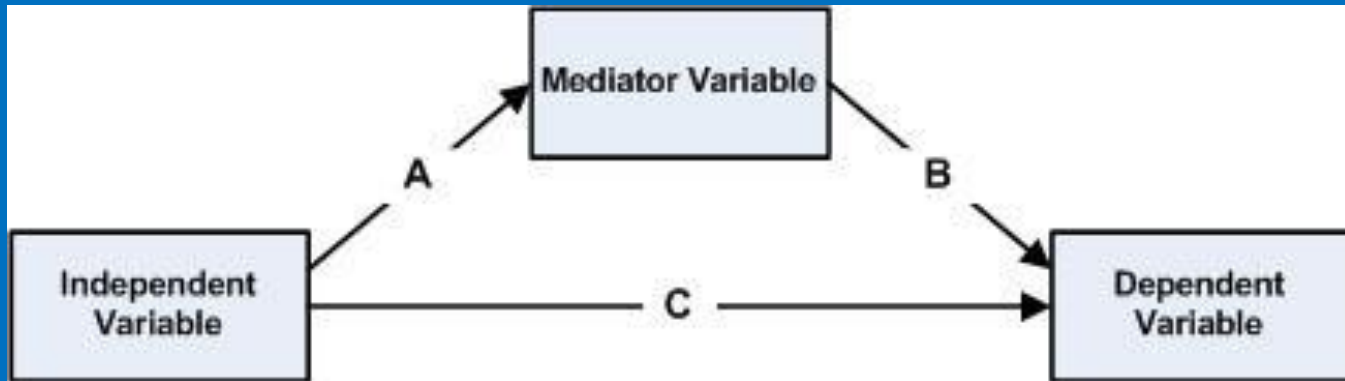
## □ *Attitude Attributes*

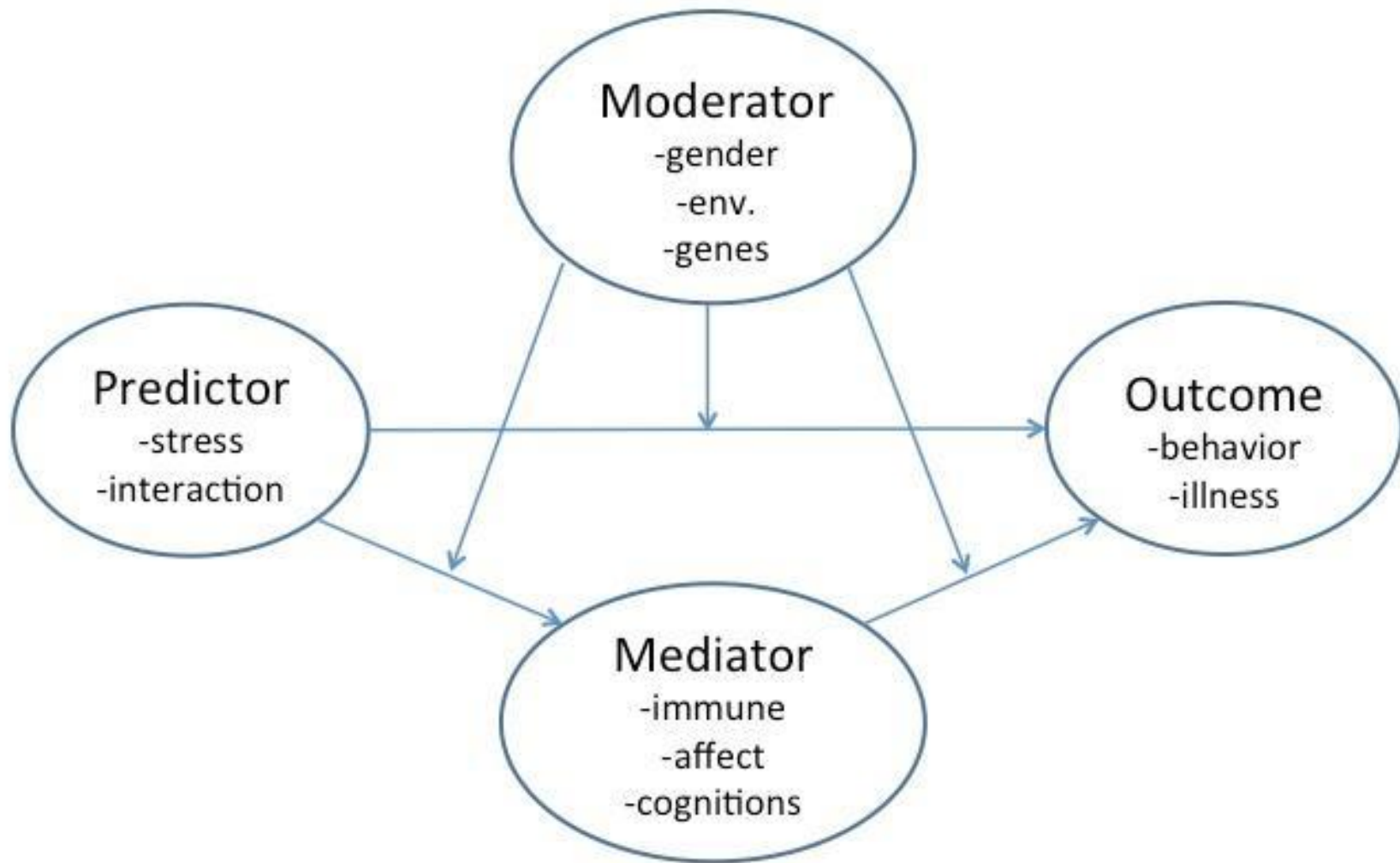
- Cognitive-affective consistency (Norman, 1975)
- Reflection (Snyder & Swann, 1976)
- Involvement (Sivacek & Crano, 1982)
- **Confidence (Warland & Sample, 1973)**
- Direct experience (Regan & Fazio, 1977; Fazio & Zanna, 1978)











## *Explanation III: Moderating Variables*

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# ***Variable in Attitude Measurement<sup>1</sup>***

***Rex H. Warland***

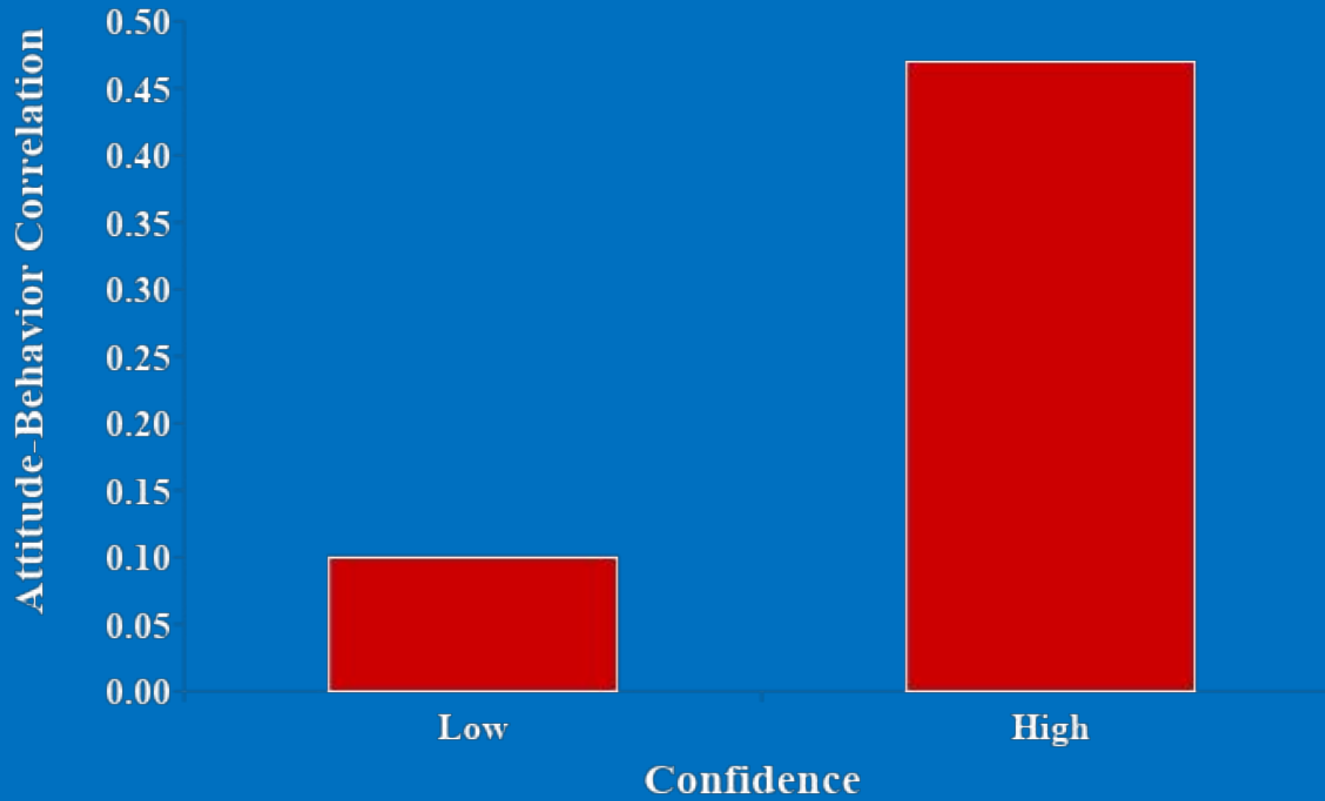
***Department of Agricultural Economics and  
Rural Sociology, The Pennsylvania State University***

***John Sample***

***Department of Psychology, Slippery Rock State College***

**ABSTRACT** A procedure for enhancing validity in attitude measurement is described and tested. A Likert scale containing items about student government was administered after which a certainty rating for each Likert response was ascertained. For those who were confident of their Likert responses, the relationships between attitude and several criterion variables were stronger than for the aggregate sample. For those who were not confident of their responses, correlations between the criterion variables and the attitude measure were considerably weaker than for the entire sample. It is suggested that response certainty is an important moderator variable in attitude measurement and may indicate the degree to which attitude toward an object is developed.

*Effect of Confidence on Attitude-Behavior  
Correlation – Student Government  
(Warland & Sample, 1973)*



# *Problems of Moderating Variables*

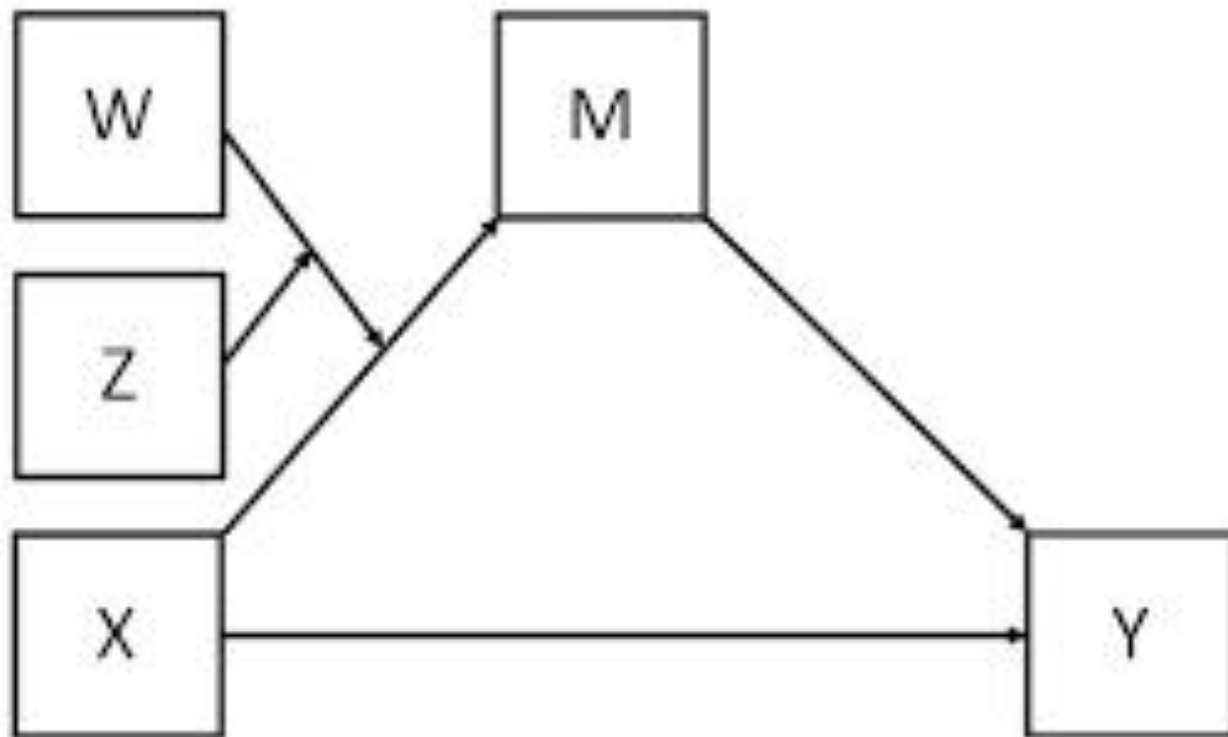
## *Approach*

1. High attitude-behavior correlation only for some people under some conditions.



# *Problems of Moderating Variables Approach*

1. High attitude-behavior correlation only for **some people under some conditions.**
2. Higher-order interactions:
  - “Once we attend to interactions, we enter a hall of mirrors that extends to infinity. However far we carry our analysis — to third order or fifth order or any other — untested interactions of a still higher order can be envisioned” (Cronbach (1975)).



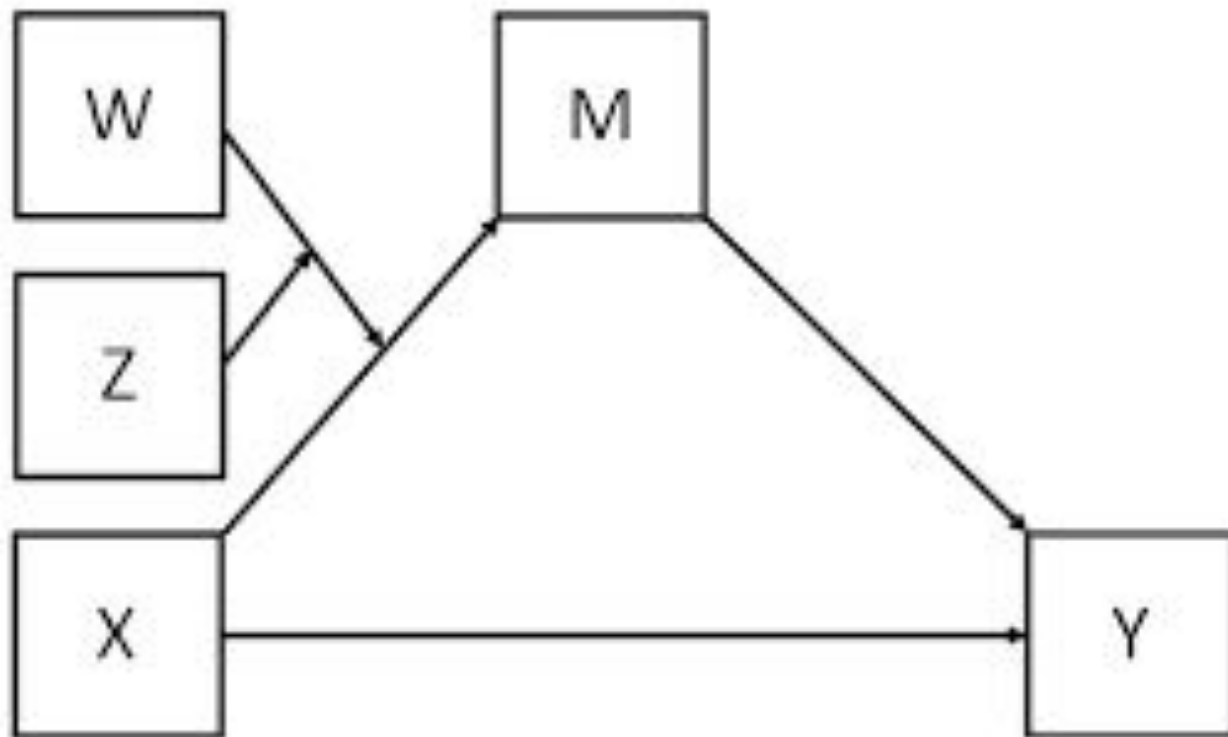
# *Problems of Moderating Variables Approach*

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“Once we attend to interactions, we enter a hall of mirrors that extends to infinity. However far we carry our analysis — to third order or fifth order or any other — untested interactions of a still higher order can be envisioned” (Cronbach (1975).

“Theoretically, any single instance of behavior can be predicted if all the right moderator variables are included. This is no more than to say that behavior is determined, and that if we knew everything that determined it, we could predict it. However, to do so might require the addition of so many moderator variables that they would generate interactions of such complexity as to make the procedure unfeasible and the results uninterpretable” (Epstein, 1983).



## *Response Biases*

- Long before it became evident that attitudes are poor predictors of behavior, investigators were concerned with the validity of verbal attitude measures. It was argued that such measures may be systematically distorted or biased and, thus, may not reflect a person's true attitude.
- social desirability

*The methods available to avoid social desirability bias were of two types:*

- 1) Disguised procedures of a verbal nature, such as Hammond's (1948) error-choice technique or Waly and Cook's (1965) plausibility technique, were **based on the assumption that when the purpose of the instrument is not apparent**, respondents are less likely to distort or falsify their answers to attitudinal inquiries.
- 2) Alternatively, physiological reactions (e.g., galvanic skin response, heart rate) were assumed to prevent bias by assessing involuntary responses over which the individual has little or no control (for a review, see Kidder & Campbell, 1970).

## The significant factors formed by scales of Semantic Differential in answers of

<b>Scales</b>	<b>Factor1 «Cohesion</b>	<b>Factor 2 «Aggression»</b>
Strong	,228318	,924212
Industrious	,919047	,357468
Aggressive	,008920	,990877
Intelligent	,906662	,311232
Religious	,507919	,004725
Cohesive	,935428	-,216566
<b>% Variance</b>	0,60	0,21

**Graphic representation of modalities on the two factor axes of FA  
on the evaluation of different groups (Chechens in Stavropol)**



*Graphic representation of modalities on the two factor axes of  
FA on the evaluation of different groups (Cossacks)*

*Graphic representation of modalities on the two factor axes of FA  
on the evaluation of different groups (Armenians)*

*Graphic representation of modalities on the two factor axes of  
FA on the evaluation of different groups (Dagestans)*

*Graphic representation of modalities on the two factor axes of  
FA on the evaluation of different groups (Russian)*

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- **2) Alternatively, physiological reactions (e.g., galvanic skin response, heart rate) were assumed to prevent bias by assessing involuntary responses over which the individual has little or no control (for a review, see Kidder & Campbell, 1970).**

# *PREDICTING SINGLE BEHAVIORS*

- Investigators are often interested not in a broad **multiple-act index of behavior but with predicting and understanding performance of particular behaviors.**
- Many examples are found in the health domain where investigators have a substantive interest in understanding and influencing such behaviors as cigarette smoking or categories of behavior, such as exercising or eating a low-fat diet. Similarly, in the domain of environmental protection, investigators are concerned with such behaviors as recycling of glass, plastic, and paper; or categories of behavior such as conserving water or reducing the consumption of energy.

## *Principle of Compatibility*

A single behavior can be viewed as involving an *action* directed at a *target*, performed in a given *context*, at a certain point in *time* (Ajzen & Fishbein, 1977, 1980; Fishbein & Ajzen, 1975).

## *Principle of Compatibility*

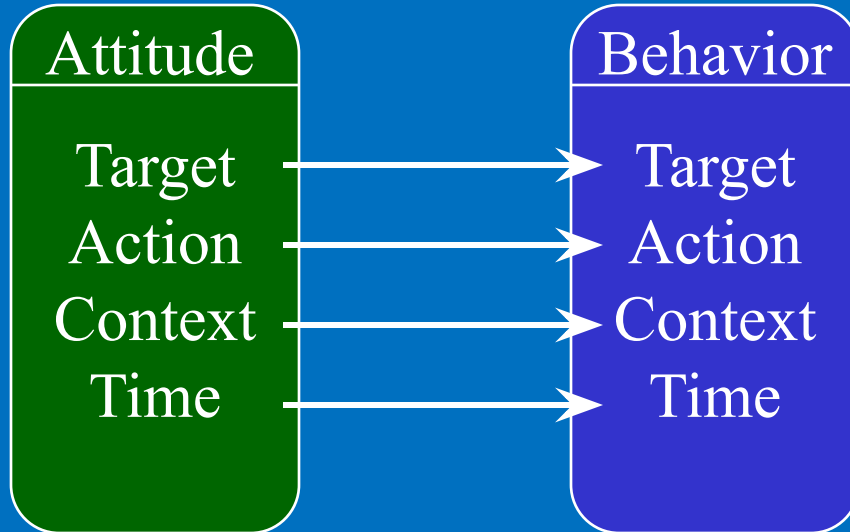
- For example, we may be interested in understanding why people do or do not enroll (*action*) in a special course (*target*) at a master program (*context*) next time when it is offered (*time*).
- In this example, we would have to assess attitude to enroll in a continuing special course at MP the next time it is offered or, in the more general case, to enroll in a continuing education course in the next 2 months.



# *Principle of Compatibility*

- The principle of compatibility (Ajzen, 1988; Ajzen & Fishbein, 1977) requires that measures of attitude and behavior involve exactly the same **action, target, context, and time elements**, whether defined at a very specific or at a more general level.
- To the extent that the indicators used to assess attitude and behavior comply with the principle of compatibility, they should correlate highly with each other.

# *PREDICTING SINGLE BEHAVIORS: Principle of Compatibility*

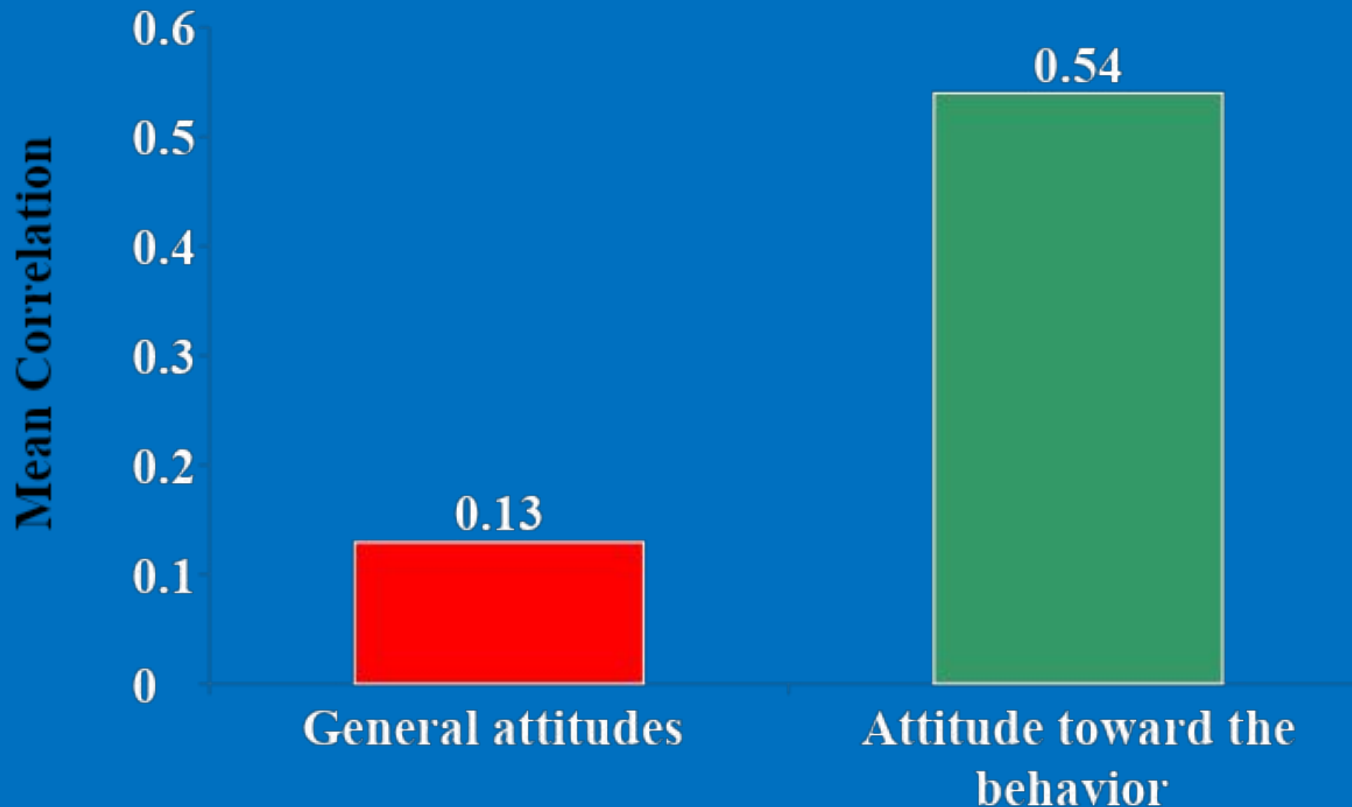


Empirical research has shown that specific behaviors can be predicted quite well from compatible measures of attitude toward the behaviors in question

- Manstead, Proffitt, and Smart (1983) reported a **study on infant feeding practices**. Toward the end of their pregnancies, women completed a questionnaire that assessed, among other things, their attitudes toward breast feeding (as opposed to bottle feeding) their babies. Six weeks following delivery, a questionnaire sent to each woman ascertained their actual feeding practices during the preceding 6 weeks. Attitudes toward the behavior of interest were found to have a correlation of **.67** with the feeding method employed.

- Many studies have examined the relation between attitudes and behavior in the **domain of physical exercise**. For example, Terry and O’Leary (1995) obtained a measure of attitude toward exercising for at least 20 minutes, three times a week for the next fortnight and 2 weeks later, participants indicated whether they had exercised for at least 20 minutes, three times per week during the past fortnight. The attitude–behavior correlation was .53.

In a meta-analysis of 8 studies that manipulated level of compatibility while holding all other variables constant (Kraus, 1995), the prediction of behavior from attitude toward the behavior resulted in a correlation of .54, whereas the correlation between general attitudes and the single behaviors was only .13



# Intention and behaviour

# *Intentions as Predictors of Behavior*

- The previous discussion indicates that, consistent with **the principle of compatibility**, performance of specific behaviors can perhaps be best explained by considering the proximal attitude toward the behavior rather the more distal attitude toward the object at which the behavior is directed.
- Carrying this idea further, a number of theorists have proposed that the intention to perform a behavior, rather than attitude, is the closest cognitive antecedent of actual behavioral performance.
- This implies that we should be able to predict specific behaviors with considerable accuracy from intentions to engage in the behaviors under consideration.

## *Intentions as Predictors of Behavior*

- Many studies have substantiated the predictive validity of behavioral intentions. When appropriately measured, behavioral intentions account for an appreciable proportion of variance in actual behavior.
- Meta-analyses covering diverse behavioral domains have reported mean intention–behavior correlations of 0.45 – 0.62.



The respondents were asked the following question: “Are you thinking about starting your own business within the forthcoming two years?” The options of answers were following: “Yes”, “Maybe” and “No”.

Next, we selected respondents for further analysis.

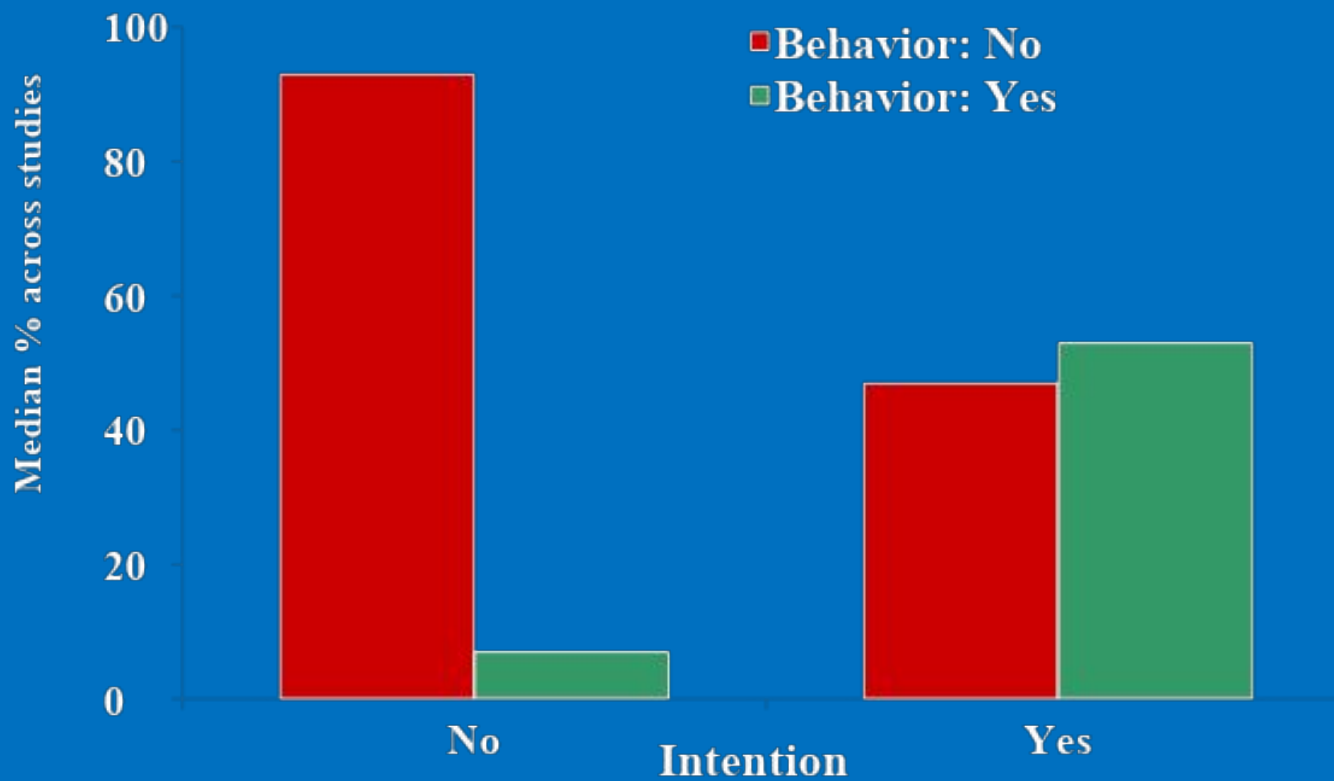
- **269** respondents answered this question either “*Yes*”, or “*Maybe*”.

- One year later, we re-interviewed by telephone the “intenders”. The purpose of this survey was to ascertain whether or not the respondents in fact opened their own business. We asked the respondents who did not open their business the reason for this.
- We managed to locate and re-interview 163 respondents (out of the original 269) - 61% of the “intenders.” **Of these, 38 (23, 3%) opened their own business.** The remaining 106 respondents - 39% of the “intenders” - either changed their contact details or refused to participate in the study a second time.

## *Low Intention–Behavior Relations*

- However, notwithstanding these encouraging findings, there is also considerable variability in the magnitude of observed correlations, and relatively low intention–behavior correlations are sometimes obtained.
- Several factors may be responsible for low relations between intentions and behavior.

## *Intention – Behavior Gap: 6 Studies in Health Domain (Sheeran, 2002)*



# *Reasons for Failure to Carry Out Intention*

- *Low control* (INT-BEH moderated by control).
- *Forgetting* – Failure of “prospective memory.” Motivation can be high.
- *Procrastination* (postpone something)
  - ✓ *Low or moderate motivation.* Fails to exceed threshold needed to overcome inertia or distaste for activity.
  - ✓ *Ambivalent motivation.* Approach-avoidance conflict.
- *Change of mind* – due to new information or re-evaluation of existing information; person no longer motivated to perform the behavior.
  - ✓ *Behavior on single occasion.* New information prior to behavior.
  - ✓ *Repeated behavior.* New information due to feedback.
- *Hypothetical vs. Real* – Different types of information accessible. Motivation high in hypothetical, low in real.

## *Attitudes and Behavior*

Attitudes toward specific behaviors are good predictors of single actions.

General attitudes usually do not provide a good basis for predicting and explaining single behaviors with respect to the attitude object;

Correlations of single behaviors with general attitudes tend to be modest at best.

## *Attitudes and Behavior*

Nevertheless, many investigators continue to be interested in broad attitudinal dispositions and their possible effects on specific behaviors.

- New models of relation between attitude and behavior appeared as a result of more careful study of the relation between them. **These models took into account various other psychological factors and processes which are mediators and moderators of the relation between attitudes and behavior.**

## *From General Attitudes to Specific Behaviors: Automatic and Deliberative Processes (Fazio, 1990)*

- The most direct and sophisticated attempt to deal with the **processes** whereby general attitudes may influence performance of specific behaviors can be found in Fazio's MODE model.



*Russell H. Fazio*  
Ohio State University

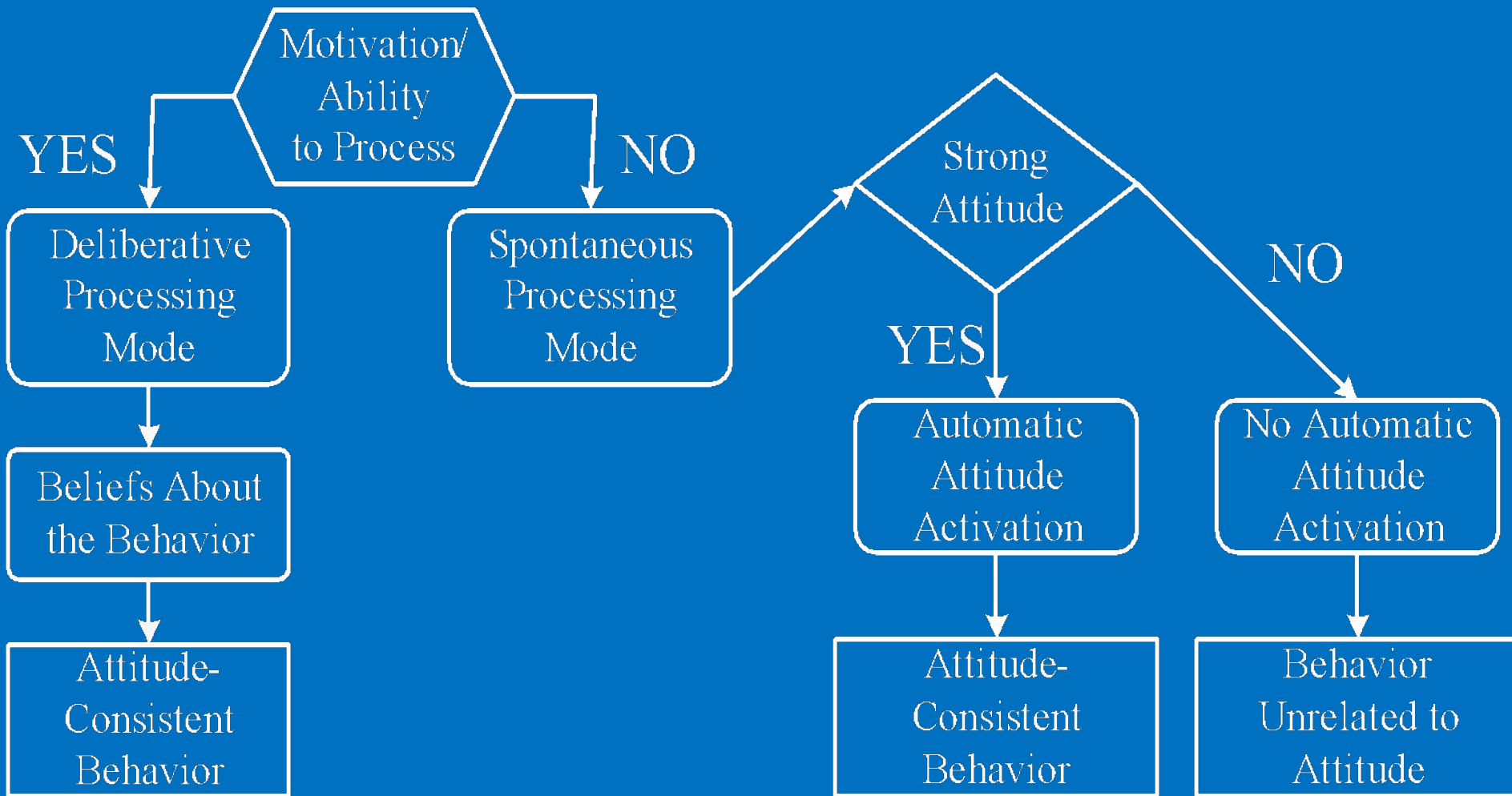
- The acronym MODE is used to suggest that “**m**otivation and **o**pportunity act as **d**eterminants of spontaneous versus deliberative attitude-to-behavior processes” (Fazio, 1995, p. 257).



## *From General Attitudes to Specific Behaviors: Automatic and Deliberative Processes (Fazio, 1990)*

- Attitude is the link in memory between an object and an evaluation.
- The stronger is the link, the stronger is the attitude.
- Direct experience, repeated attitude expressions, and other factors produce strong attitudes.
- Attitude strength is indicated by low response latency.
- Attitude must be activated from memory to influence behavior.
- Only strong attitudes are automatically activated.
- Biased processing results are consequences of strong attitude-behavior correlation.

*The MODE Model (Motivation and Opportunity as Determinants) — Fazio (1990)*



*The MODE Model (Motivation and Opportunity as Determinants) — Fazio (1990)*

- Thus, **automatic** attitude activation occurs when a **strong link** has been established in memory between the attitude object and a positive or negative evaluation.
- The degree of accessibility (i.e., attitude strength) is **usually operationalized by measuring the latency of responses to attitudinal questions**: the faster is the response, the more accessible the attitude is assumed to be.

## *Empirical Support for the MODE Model*

- Studies that were designed to test directly the MODE model's predictions concerning the attitude-to-behavior process have focused on behavior in a deliberative processing mode. The results of these studies are also generally consistent with the model.

## *Empirical Support for the MODE Model*

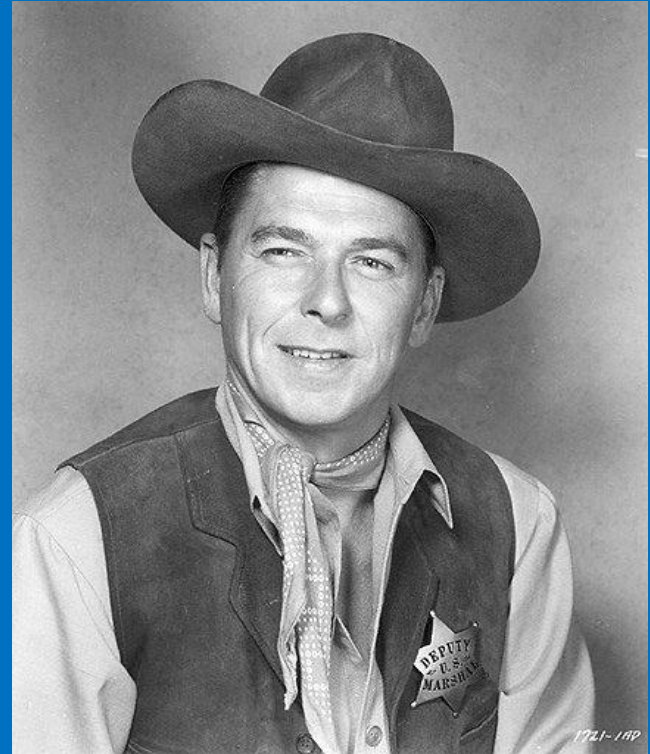
- Fazio and Williams (1986) predicted voting choice in the 1984 presidential election from attitudes toward the two major candidates (Reagan and Mondale) assessed several months earlier.
- In addition to **attitude valence**, the investigators also assessed the **accessibility** of these attitudes by asking participants to respond as quickly as possible to the attitude questions and by recording response latencies. As it was expected the prediction of voting choice was significantly better for participants with relatively accessible (low latency) attitudes toward the candidates than for participants with relatively inaccessible attitudes.

## Attitude Accessibility as a Moderator of the Attitude-Perception and Attitude-Behavior Relations: An Investigation of the 1984 Presidential Election

Russell H. Fazio and Carol J. Williams  
Indiana University

It was hypothesized that the extent to which individuals' attitudes guide their subsequent perceptions of and behavior toward the attitude object is a function of the accessibility of those attitudes from memory. A field investigation concerning the 1984 presidential election was conducted as a test of these hypotheses. Attitudes toward each of the two candidates, Reagan and Mondale, and the accessibility of those attitudes, as indicated by the latency of response to the attitudinal inquiry, were measured for a large sample of townspeople months before the election. Judgments of the performance of the candidates during the televised debates served as the measure of subsequent perceptions, and voting served as the measure of subsequent behavior. As predicted, both the attitude-perception and the attitude-behavior relations were moderated by attitude accessibility. The

# *Ronald Reagan*



# *Walter Mondale*





# *Experiment*

- A total of 245 voting age residents of the Bloomington, Indiana area participated in the initial part of the study.
- Twenty-five of these individuals responded to an advertisement in the local newspaper.
- Another 16 people were recruited and interviewed at the public library.
- The majority of the sample, the remaining 204 individuals, were shoppers at a local mall who agreed to participate in a political survey.
- The subjects were paid **\$3.00** for participating in the survey. All interviews were conducted during June and July of 1984.

# *Experiment*

- The first five statements were intended to serve as practice items to acquaint subjects with the procedure. The experimenter monitored the subjects' performance during these trials to ensure that subjects did understand the procedure.
- Of the remaining 20 statements, 5 were factual items (e.g., "The capital of Indiana is Terre Haute") and 15 were opinion items concerning attitudes toward such issues as school prayer, gun control, and nuclear power plants in addition to the two major-party candidates for the presidency.
- **These two critical statements were "A good president for the next 4 years would be Ronald Reagan" and "A good president for the next 4 years would be Walter Mondale"**

# *Experiment*

- The answers of the participants of that experiment was recorded on a tape recorder, **which allowed in the future to measure the latent time of answer expectancy.**
- The participants had to fill a special blank in which they should have written down personal data: name, family name, address and phone number to receive money for the answers. Therefore, the researchers softly-softly received personal information about the participants, which helped them in the future to get in touch with the participants on the next two stages of the research.

## *Experiment*

- **The next phase** concerned judgments of the candidates' performances during the nationally televised debates. The first debate involved the presidential candidates and was held on October 7; the second involved the vice-presidential candidates and was held on October 11. It was judgments of these two debates that served as the researchers perception measures.

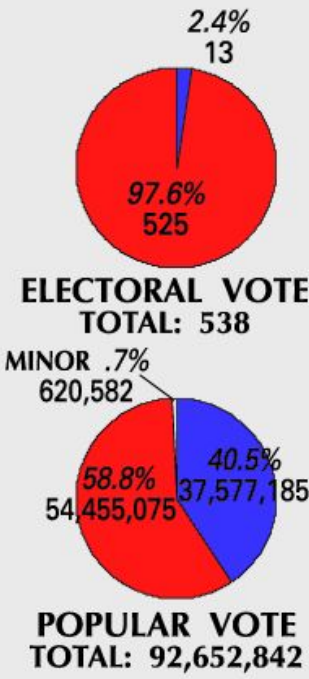
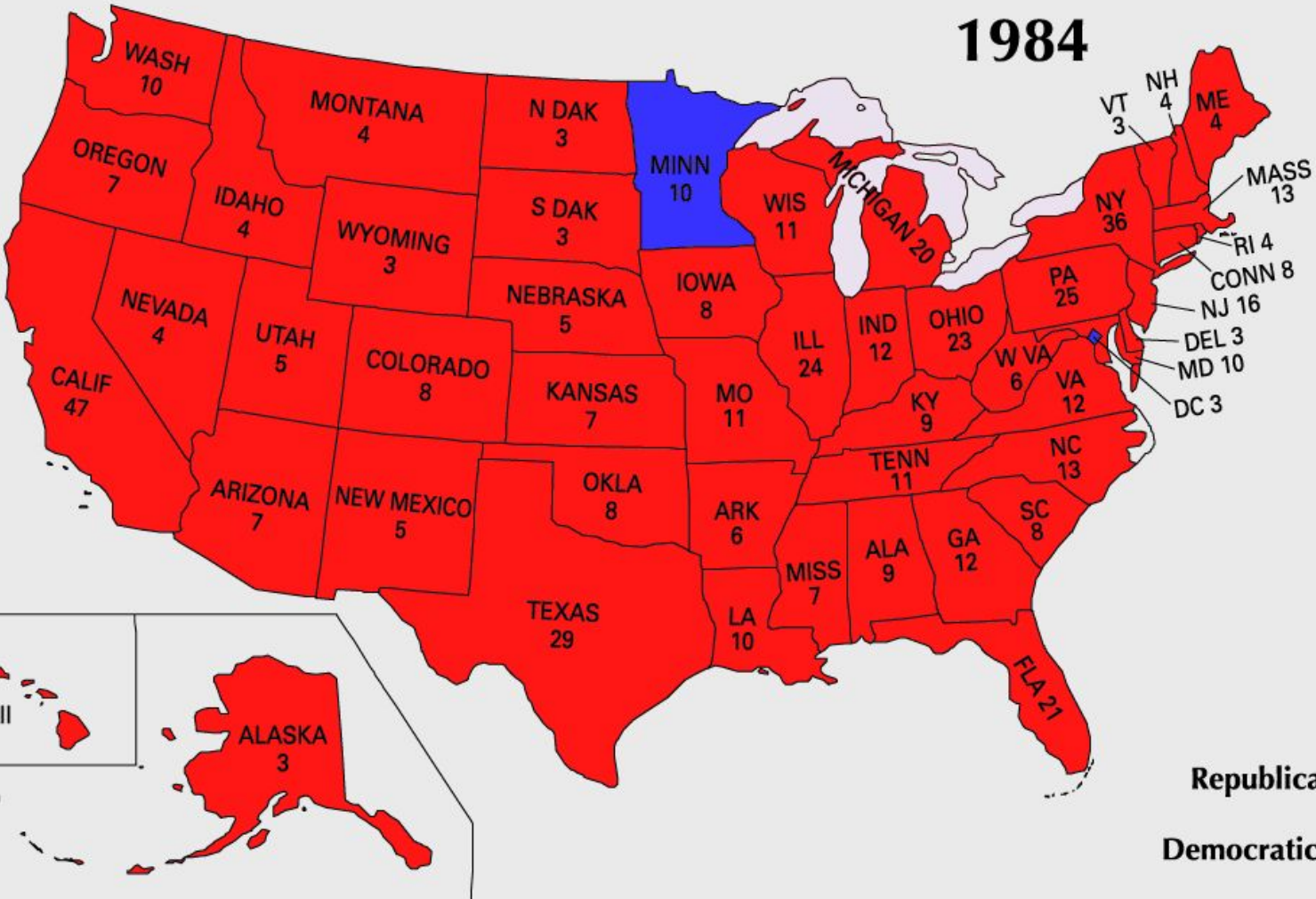
## *Experiment*

- The day after the second debate, subjects were mailed a letter from the Political Behavior Research Laboratory on psychology department letterhead. The letter asked for help in a study being conducted concerning public perceptions of the performance of the participants in the two debates that had been held thus far. It further explained that if individuals would complete and return the enclosed stamped postcard by October 25, they would receive a check for \$2.00. In addition, subjects were urged to complete the postcard questionnaire regardless of whether they had only read or heard about the debates or whether they had actually watched the debates. The postcard contained an item concerning the presidential debate.

## *Experiment*

- Subjects were asked to endorse one of five statements: "Reagan was much more impressive," "Reagan was slightly more impressive," "The two candidates performed equally well," "Mondale was slightly more impressive" or "Mondale was much more impressive." A similarly worded item concerned the vice-presidential debate.

# 1984



Republican (Reagan) ■  
Democratic (Mondale) ■

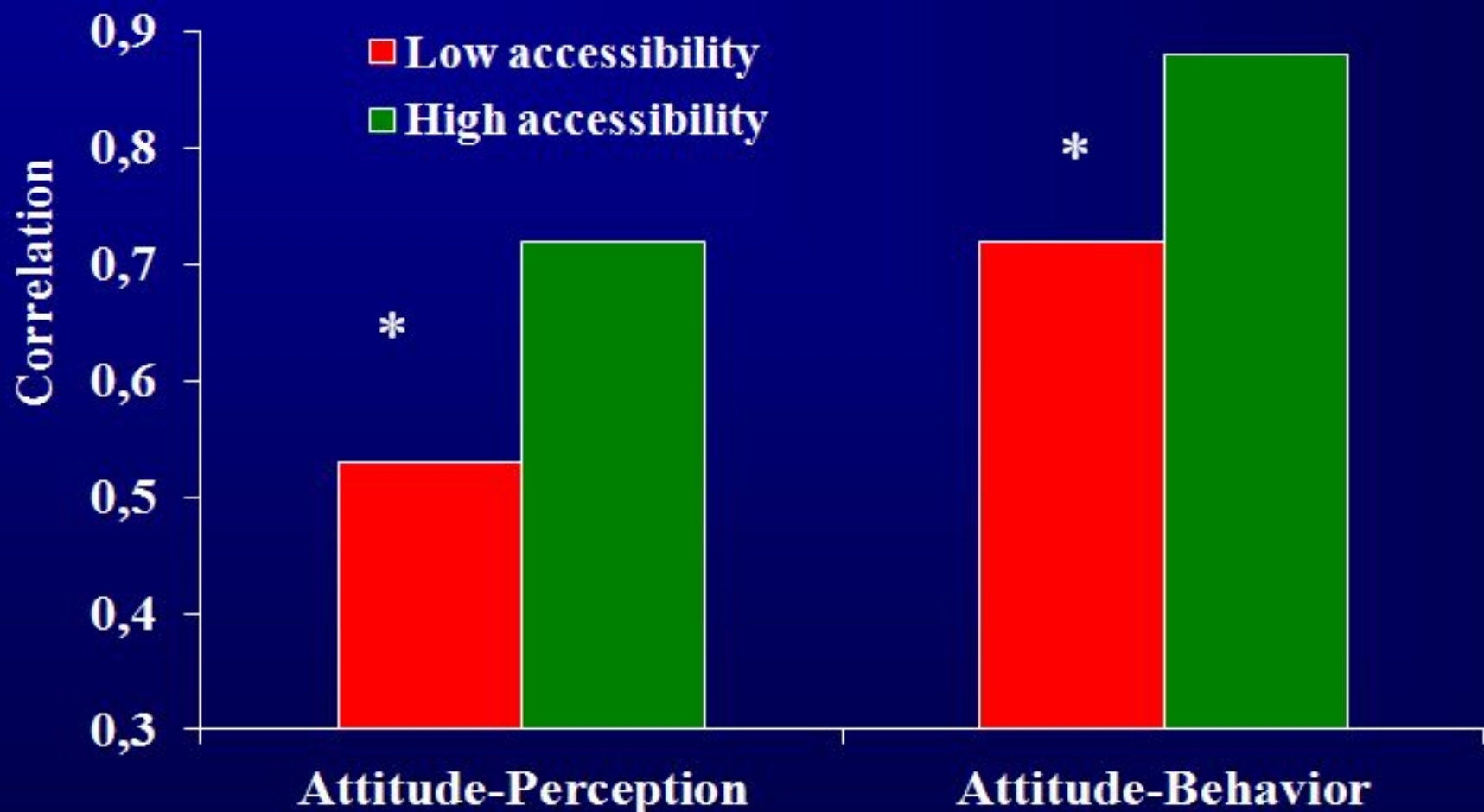




## *Experiment*

- **The final phase** of the investigation concerned voting behavior. Beginning the day after the election, an attempt was made to contact by telephone all the individuals who had participated in the initial survey. **One hundred sixty-three individuals** were reached and were asked whether they had voted and, if so, for whom. Eight of these people chose not to reveal their votes. Two other respondents had voted for candidates other than Reagan or Mondale and their data were not included in subsequent analyses.

*Accessibility, Biased Perception, and Voting Choice in  
1984 Presidential Election (Fazio & Williams, 1986)*



## *The Role of Attitude Strength: Two Possibilities*

- Response latency is an indicator of attitude strength. “Attitude strength” is multifaceted. Any of its facets can moderate the attitude-behavior relation.
- **MODE model:** **Accessibility is the crucial facet.** Accessibility increases bias and thus produces attitude-consistent.
- **Alternative explanation:** **Stability is the crucial facet.** Strong attitudes are more stable over time and therefore more predictive of later behavior.

## *Stability of Intentions*

- Perhaps more important, if intentions change after they are assessed, they will tend to be poor predictors of later behavior. The time interval between measurement of intention and assessment of behavior is often taken as a proxy for stability because it is assumed that with the passage of time, an increasing number of events may cause intentions to change.
- **Meta-analyses of intention–behavior correlations show the expected pattern over time, although the effect is not always significant.**

## *Stability of Intentions*

- Instead of relying on time interval as an indication of stability, some studies have assessed **stability of intentions directly**, and these studies have consistently found that the intention–behavior correlation declines substantially when intentions are unstable.

## *Stability of Intentions*

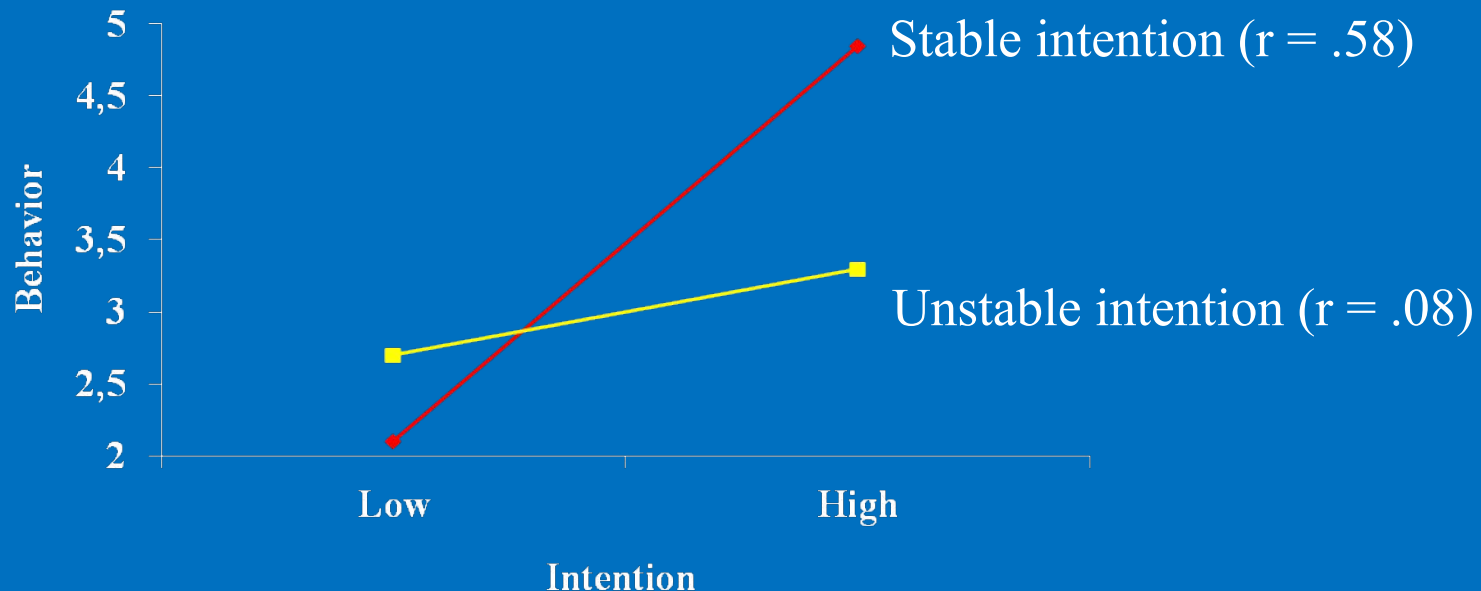
In one of these investigations (Sheeran, Orbell, & Trafimow, 1999), undergraduate college students **twice** indicated their intentions to study over the winter vacation, 5 weeks apart.

After returning from the winter vacation, they reported on how many days a week they had actually studied.

# IA

## *Changes in Intentions Prior to Behavior (Sheeran, Orbell, & Trafimow, 1999)*

- *Behavior*: Self-reported studying during winter vacation (number of days).
- *Intention*: Measured twice, 5 weeks apart prior to winter vacation.
- *Overall intention-behavior correlation*: .38\*\*
- *Results of moderated regression analysis*:



## *Stability of Intentions*

- For participants whose intentions remained relatively stable during the 5-week period prior to the vacation, the intention–behavior correlation was .58, whereas for participants with relatively unstable intentions, it was .08. **Similar results were reported with respect to attending a health screening appointment and eating a low-fat diet (Conner, Sheeran, Norman, & Armitage, 2000).**