



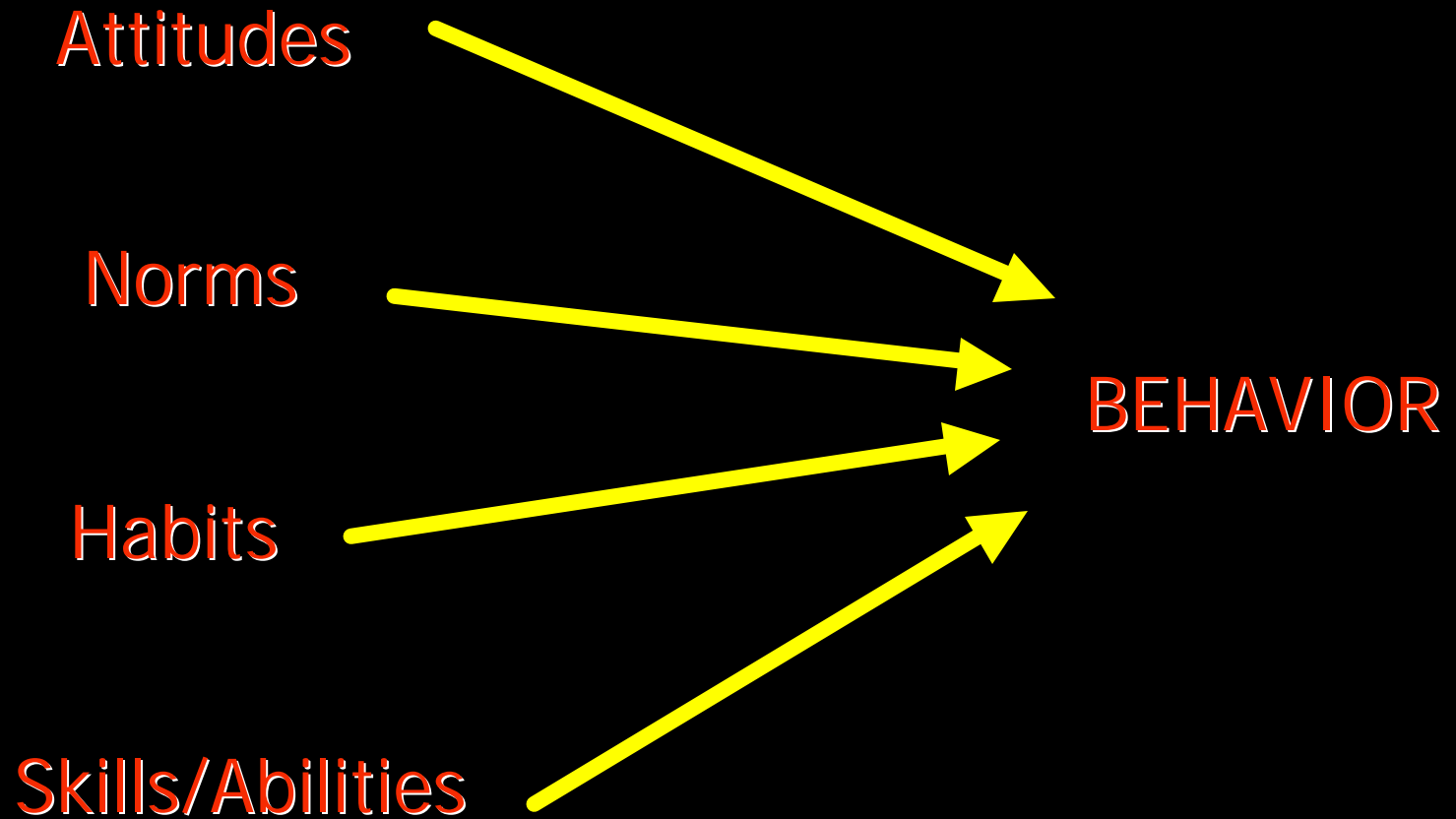
The Elaboration Likelihood Model: Understanding Behavior Change



Richard E. Petty
Ohio State University

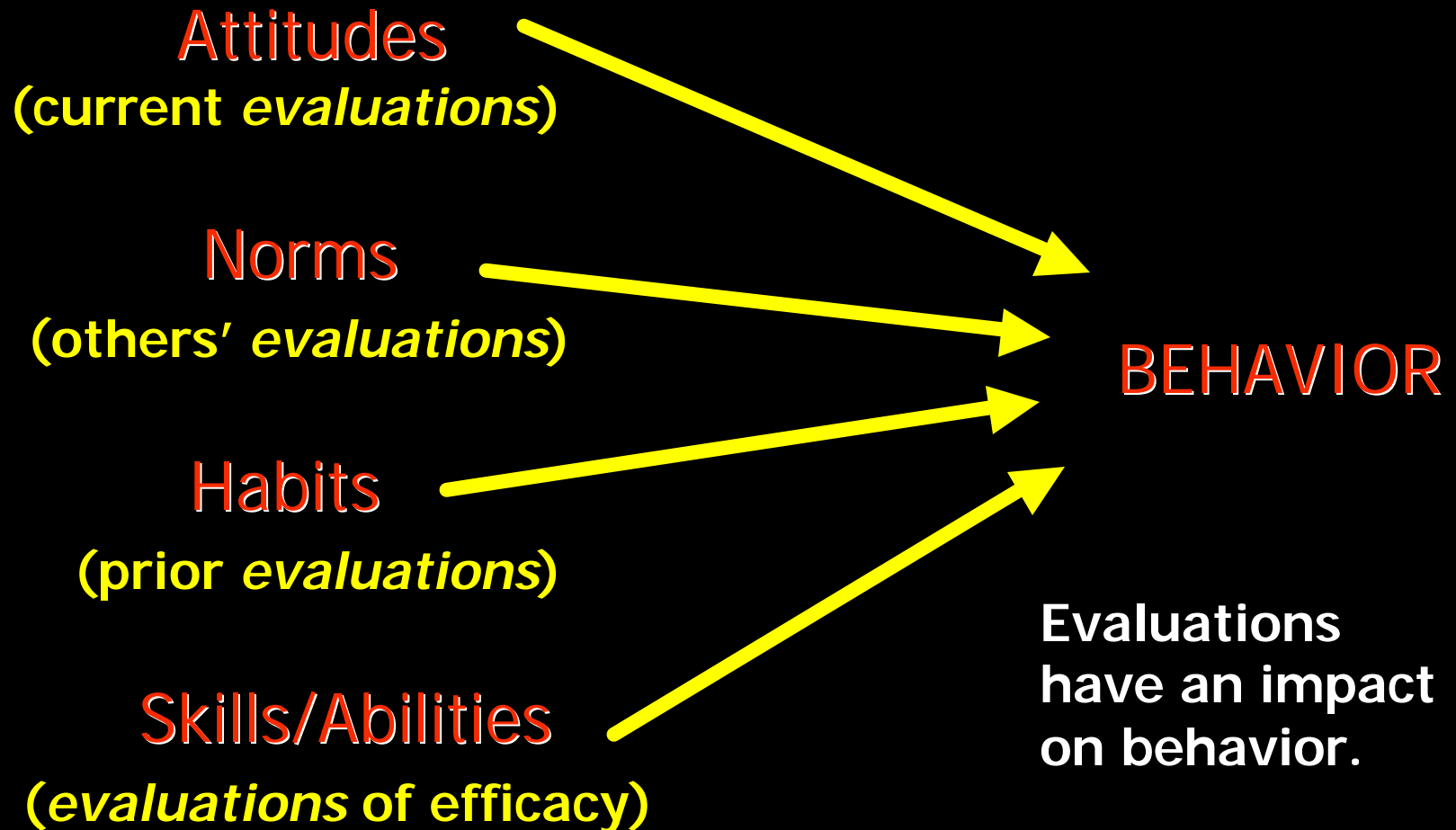


Influencing Behavior





Influencing Behavior





Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

- *1. In any given situation, the likelihood of elaboration (thinking) varies.

ELABORATION CONTINUUM

Low thinking

High thinking

Low personal relevance.....	High personal relevance
High distraction.....	Low distraction
Low accountability.....	High accountability
Low repetition.....	High repetition
Low knowledge.....	High knowledge
Low need for cognition.....	High need for cognition



Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

- *2. People evaluate differently at different points along the elaboration continuum.

ELABORATION CONTINUUM

Low thinking

High thinking

.....

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.

ELABORATION CONTINUUM



Low thinking

High thinking

.....EVALUATE INFORMATION
AS ARGUMENTS (EVIDENCE)

1. Is the information *important*, *relevant* and *valid* for assessing the central merits of the issue or proposal?

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.

ELABORATION CONTINUUM



Low thinking

High thinking

.....EVALUATE INFORMATION
AS ARGUMENTS (EVIDENCE)

2. Does the information point to *favorable* consequences for me? How favorable?

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.

ELABORATION CONTINUUM



Low thinking

High thinking

.....EVALUATE INFORMATION
AS ARGUMENTS (EVIDENCE)

3. Are the consequences likely to occur?
How likely?

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.



ELABORATION CONTINUUM

Low thinking

High thinking

**USE OF SIMPLE.....
LOW EFFORT STRATEGIES**

1. Evaluate evidence quickly (rely on first plausible evidence; the simplest evidence, the easiest to understand).

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.



ELABORATION CONTINUUM

Low thinking

High thinking

USE OF SIMPLE.....
LOW EFFORT STRATEGIES

2. May use information that would be seen as *irrelevant* if given more thought (e.g., source attractiveness).

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.



ELABORATION CONTINUUM

Low thinking

High thinking

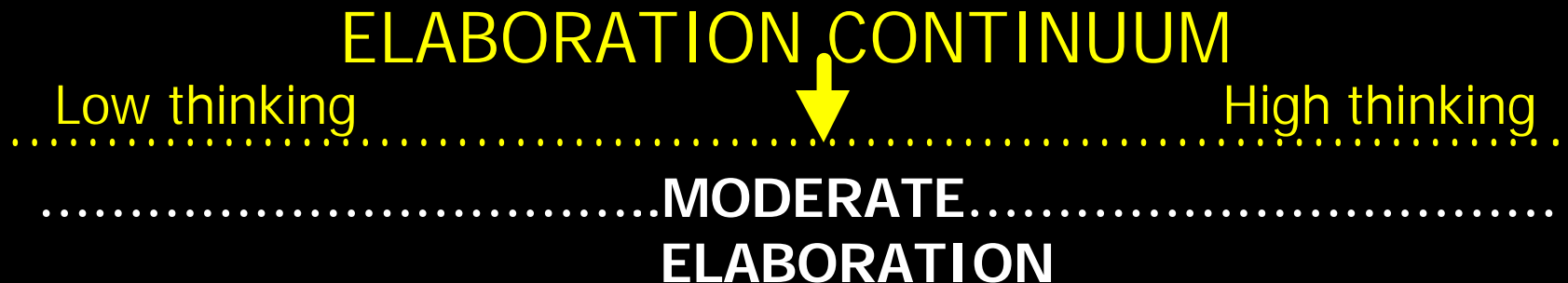
USE OF SIMPLE.....
LOW EFFORT STRATEGIES

3. Evaluate evidence by a different mechanism (e.g., instead of evaluating merits, might simply count the number of items of information).

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.

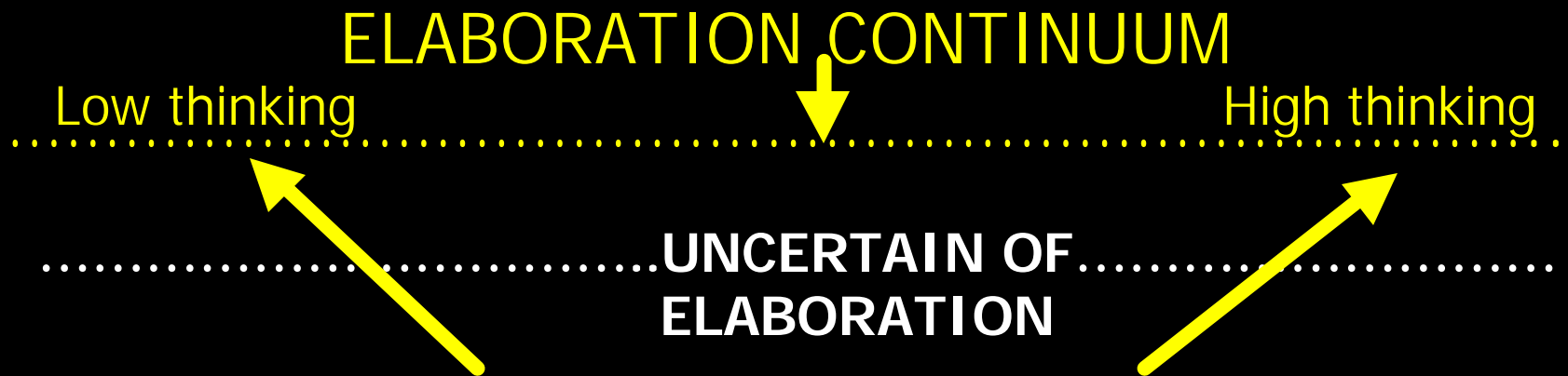


1. Evaluate with moderate effort (e.g., evaluate the first few pieces of evidence, but not all; or all, but not too carefully).

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

2. People evaluate differently at different points along the elaboration continuum.



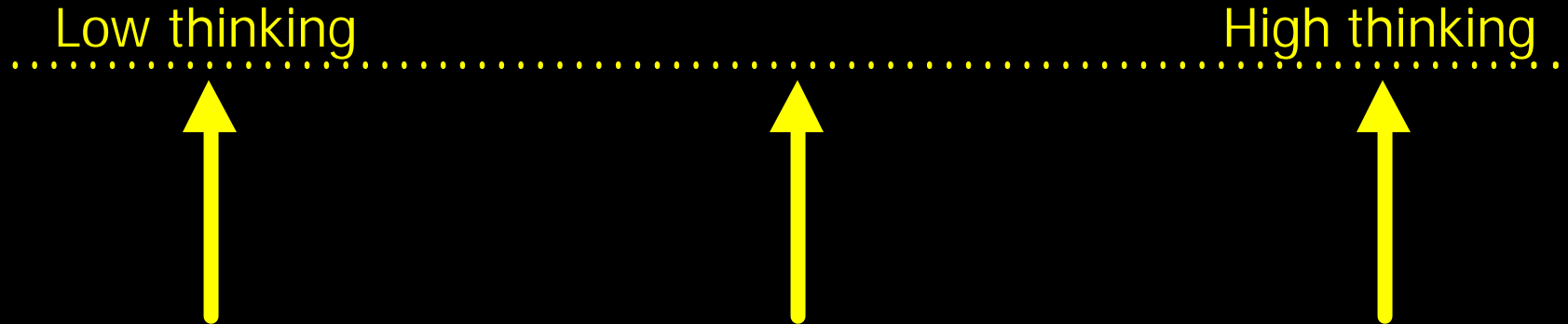
2. Need to determine if the message is worthy of processing. Variables can push you to higher or lower points on the elaboration continuum.

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

- *3. Variables work differently at different points along the elaboration continuum.

ELABORATION CONTINUUM



EXAMPLE: A PERSON'S EMOTIONAL STATE

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

3. Variables work differently at different points along the elaboration continuum.

ELABORATION CONTINUUM

Low thinking

High thinking

A PERSON'S EMOTIONAL STATE



Analyze emotion as evidence: Is the fact that a person makes you feel happy, a good reason to marry him/her?

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

3. Variables work differently at different points along the elaboration continuum.

ELABORATION CONTINUUM

Low thinking

High thinking

A PERSON'S EMOTIONAL STATE



Analyze emotion as evidence: Is the fact that an advertisement makes you feel happy a good reason to like the advertised product?

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

3. Variables work differently at different points along the elaboration continuum.

ELABORATION CONTINUUM

Low thinking

High thinking

A PERSON'S EMOTIONAL STATE



Emotion biases ongoing evidence evaluation (e.g., being in a happy state makes positive consequences seem more likely than when in a sad state).

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

3. Variables work differently at different points along the elaboration continuum.

ELABORATION CONTINUUM

Low thinking

High thinking

A PERSON'S EMOTIONAL STATE

Emotion serves as a simple cue regardless of issue-relevance (e.g., "if I feel good, I must like it).

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

3. Variables work differently at different points along the elaboration continuum.

ELABORATION CONTINUUM

Low thinking

High thinking

A PERSON'S

EMOTIONAL STATE



Emotion determines the extent of thinking (e.g., sadness signals problems that need to be solved and thus can enhance thinking over happiness).



Multiple Roles for Positive Versus Negative Affective States

- Cue effect: classical conditioning of affect (e.g., Zanna, Kiesler, & Pilkonis, 1970)
- Valence of thinking: affect infusion model (e.g., Forgas, 1995)
- Amount of thinking: feelings as information approach; (e.g., Bless, Bohner, Schwarz, & Strack, 1990)
- Processed as argument: mood as input model; (e.g., Martin, Abend, Sedikides & Green, 1999)
- Influences thought strength (self-validation processes, Petty et al., in press)

Influencing *Evaluations*:

The Elaboration Likelihood Model (Petty & Cacioppo, 1981; 1986)

- *4. The strength of any attitude changed depends on where it was changed along the elaboration continuum.

ELABORATION CONTINUUM

Low thinking

High thinking

WEAK ATTITUDES

STRONG ATTITUDES



Low persistence.....High persistence
Low resistance.....High resistance
Low impact on behavior.....High impact on behavior

EXAMPLE:

High Thinking Ad: Kentucky

DISCOVER FRIENDS, FAMILY AND SO MUCH MORE WHEN YOU DISCOVER KENTUCKY.

ONLY IN KENTUCKY See Mammoth Cave, the world's largest cave system with more than 350 miles of explored passageways. Kentucky's storied history as the horse racing capital of the world is celebrated year-round at the Kentucky Horse Park. The state is also the home of bourbon whiskey, with seven world-renowned distilleries located along the Kentucky Bourbon Trail. Or, for a truly once-in-a-lifetime experience, catch the incredible 'moonbow' at Cumberland Falls, one of only two places in the world you can witness a rare nighttime rainbow.

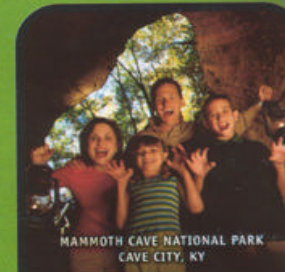
UNIQUE SHOPPING In the state's early history, quilts, baskets, pottery, furniture and other handmade goods were prized for their utility and function. Now, these Kentucky crafts are sought the world over for their simple design and unique artisanship. Berea is the crafts capital of Kentucky and a hotspot for those in search of the unique, folksy or downright amazing. While you're here in Kentucky, you may also discover a genuine treasure in one of the state's many antique stores and galleries.

HERITAGE & MUSIC Local residents will gladly direct you to Abraham Lincoln's boyhood home, near Hodgenville. Follow in the footsteps of Daniel Boone along the Cumberland Gap's Wilderness Trail. Experience a Civil War reenactment on the grounds of the Perryville or Mill Springs battlefields. Visit the cradle of Bill Monroe's blazing bluegrass style or the hometowns of other Kentucky country music legends, including Loretta Lynn, Ricky Skaggs, Patty Loveless and the Judds, along US 23, Kentucky's Country Music Highway.

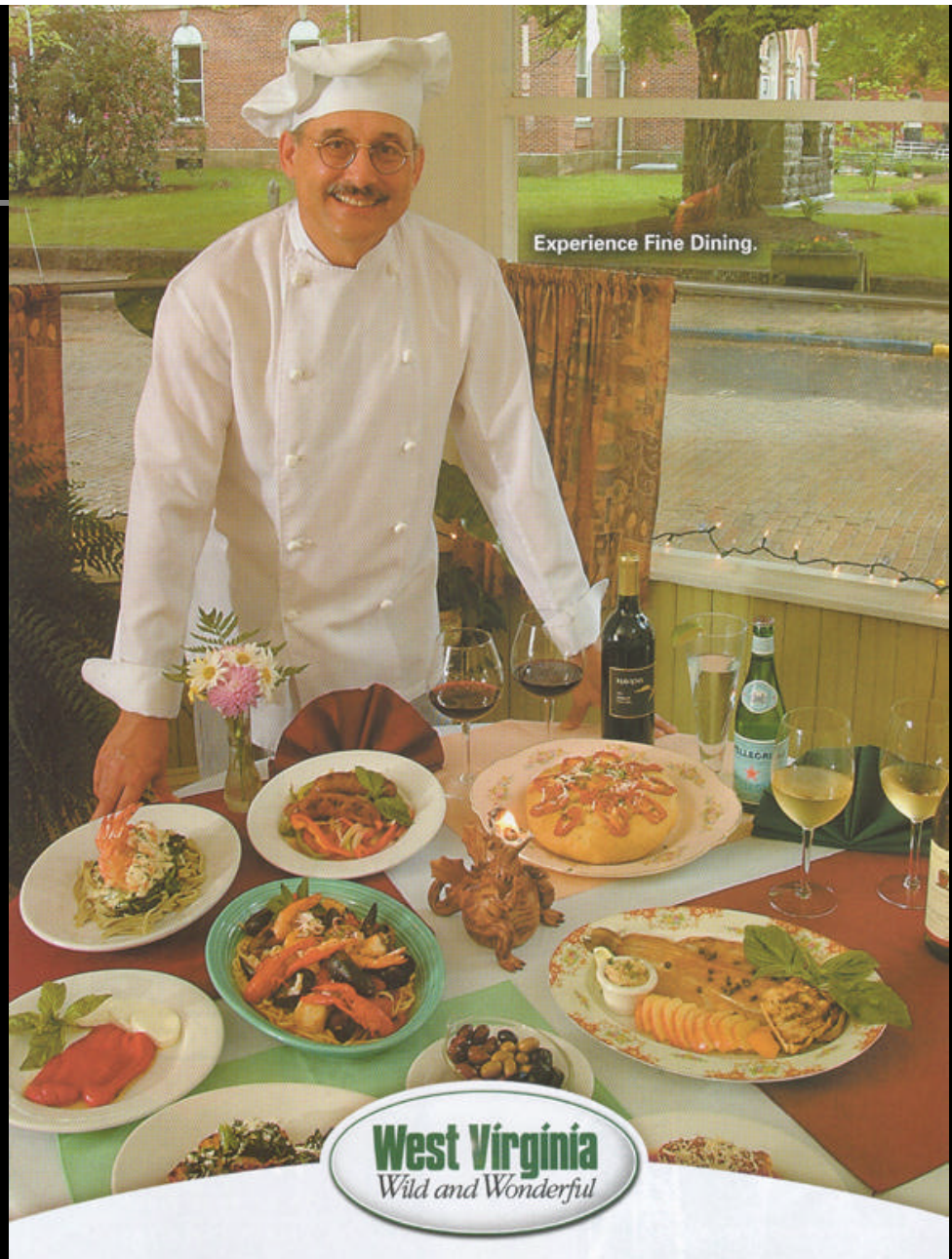
SPORTS & OUTDOORS Kentucky's diverse natural terrain makes it the perfect playground for the sports and outdoors person. Whether you're a waterskiier, waverunner or just a wader, you'll enjoy good times, great fishing or houseboating on Kentucky's beautiful lakes and waterways. Or, put in some work on your drive with a drive to any one of Kentucky's over 170 golf courses, including the new StoneCrest golf course in Prestonsburg, and Wasioto Winds near Pineville.

STATE PARKS Kentucky offers the finest state parks in the nation, including 17 state resort parks. You'll find championship golf courses, marinas, wilderness preserves, cozy campgrounds and genuine hospitality within minutes of Kentucky's vast lakes, raging rivers and winding trails.

A TASTE OF KENTUCKY Kentucky is home to the International Barbecue Festival in Owensboro, famous fried chicken, the rich and hearty taste of Kentucky burgoo, Derby Pie and countless festivals celebrating the fine art of Kentucky-style cooking. Come and have a taste of Kentucky!



Low
Thinking
Ad:
West Virginia



High Thinking Ad: Vitamix

Vita-Mix. Makes Juice 12 Times Faster Than Other Juicers—And 400% More Nutritious



Only Vita-Mix makes "total juice" which includes the cholesterol-lowering fiber and up to 400% more vitamins than any other juicer!

What is "total juice?" It's made by pureeing whole fruits and vegetables (except for the bitter parts and certain seeds) to the consistency of pudding. This fiber-rich, vitamin-rich puree is then treated just

like ordinary juice concentrate and diluted to a delicious juice consistency.

Only Vita-Mix's 24,000 RPM speed, superior power, and hammermill blade technology can reduce fruit and vegetable fiber (cellulose) to a smooth consistency.

For this reason, all other juicers separate the juice from the pulp. The leftover pulp and fiber are fed to the garbage disposal—along with most of the vitamins. The U.S. Dept. of Agriculture Handbook No. 8 says that a whole orange contains 3 times more vitamin C than juice alone. A whole lemon has 4 times more vitamin C than the juice in a lemon.

By using the whole fruit Vita-Mix "total juice" gives you up to 400% more vitamins—plus the disease-lowering fiber missing in extracted juice.

Consuming the juice and the fiber produce nutritional synergy...much like the vowels and consonants in the alphabet combine to produce thousands of different words. If you only remove the least used vowel "U" from our alphabet, you eliminate over 2900 words from the

English vocabulary.

The word "juice" wouldn't even exist! How could you communicate effectively without the words—you, our, human, under, up, use, busy, summer, etc.

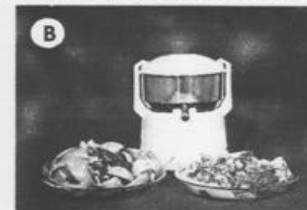
How can you expect your body to manufacture the various nutritional/chemical compounds required to optimize human health—if your juicer is removing vital nutrients from your fruits and vegetables?

Even more important than the nutritional value of juice—is the convenience of the juicer! Any juicer that requires over 20 minutes a day to use will almost never get used! Unless you make and drink juice on a frequent and regular basis there is virtually no health benefit to you or your family.

Not only is Vita-Mix 12 times faster than other juicers, "total juice" will save you 80% on fresh produce.

For a FREE 20-page brochure call 1-800-848-2649 (1-800-VITAMIN), or write to Vita-Mix Corp., Dept. COLO 592 8615 Usher Rd., Cleveland, OH 44138

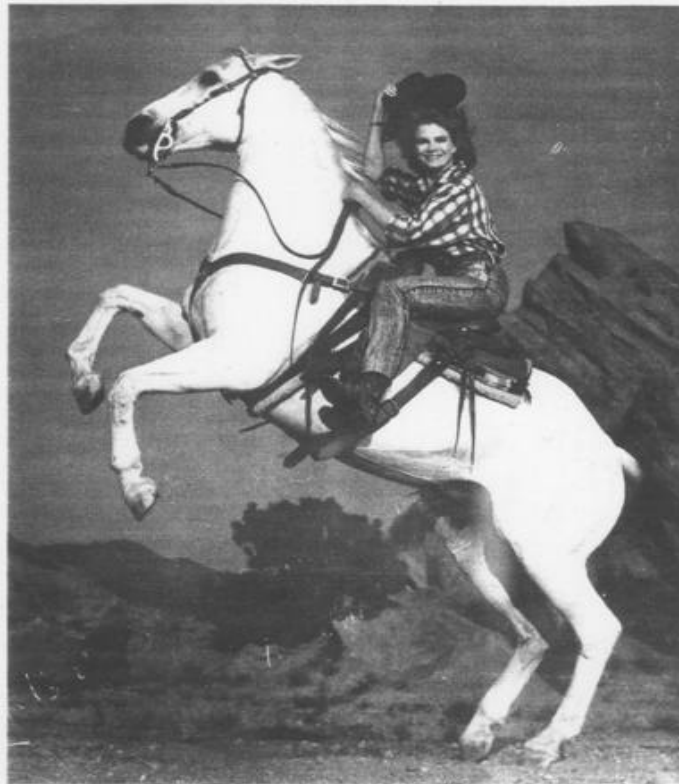
Chart shows time & money required to make a 1/2 gal. of orange-apple-pineapple-banana juice in four juicers.



JUICER	AMOUNT OF PRODUCE USED	COST OF JUICE (1/2 gallon)	TIME REQUIRED TO PROCESS PRODUCE	CLEAN-UP TIME	TOTAL TIME	8 OUNCE SERVING COST	AMOUNT OF PULP WASTED	RESULTS WITH BANANA
A	9.6 lbs	\$4.89	24 minutes	5 minutes	29 minutes	61¢	5.8 lbs. \$2.96	ejected like pulp
B	9.6 lbs	\$4.89	18 minutes	4 minutes	22 minutes	61¢	5.8 lbs. \$2.96	clogged pulp basket
C	8.8 lbs.	\$4.49	17.5 minutes	4 minutes	21.5 minutes	56¢	4.8 lbs. \$2.45	ejected like pulp
VITA-MIX	1.8 lbs.	92¢	90 seconds	10 seconds	1 min. 40 sec.	12¢	7.4 ozs. 24¢	juice includes nutritious banana

Unless you are independently wealthy—you can't afford to make juice in a juice extractor. A half gallon of fresh extracted juice increases your grocery bill by \$3.57 a day ($\$4.49 \div .92 = \3.57). That's \$1,303 a year! Your conscience won't let you throw away hundreds of dollars worth of nutritious pulp every year. Vita-Mix "total juice" is the fastest, most cost effective, nutritious juice you can make!

Low Thinking Ad: AMEX



Candice Bergen. Cardmember since 1971.



Don't leave home without it.
Call 1-800-THE CARD to apply.

Mixed
Ad:
Ford

OF THE MAJOR MANUFACTURERS WHO HAS THE BEST NEW CAR OFFER IN AMERICA?

FORD.

	FORD™	CHRYSLER	GM
WORKMANSHIP WARRANTY*	WHOLE CAR COVERAGE 2 YEARS	COVERAGE OF SOME PARTS 5 YEARS	WHOLE CAR COVERAGE 1 YEAR
FREE SCHEDULED MAINTENANCE	COMPLETE 2 YEARS	COMPLETE 5 YEARS	NO
COVERS EVERY WEAR ITEM (BLADES, BELTS, BATTERIES, ETC.)	YES	NO	NO
COVERS EVERY ADJUSTMENT FOR TWO YEARS	YES	NO	NO
FREE OF CUSTOMER-PAID DEDUCTIBLES ON WARRANTY	YES	NO†	YES
FINANCIAL ASSISTANCE	YES	NO	YES
HUNDREDS IN CASH DIRECT TO CUS- TOMER FROM THE MANUFACTURER	YES	NO	NO
CASH PAID RIGHT NOW	YES	NO	NO
CASH WHETHER YOU PURCHASE OUTRIGHT OR FINANCE	YES	NO	NO
CASH AND COVERAGE AVAILABLE IN ALL 50 STATES	YES	NO	NO
CASH AND COVERAGE AVAILABLE AT EVERY FORD DEALER	YES	NO	NO

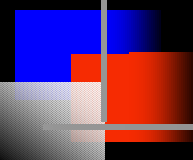
**THE BOTTOM LINE: WITH FORD CARE COVERAGE,
FOR TWO YEARS VIRTUALLY ALL YOU PAY FOR IS GAS.
PLUS, FORD OFFERS UP-FRONT CASH.**

*Excludes liability, collision, theft, fire, flood and accessories. **See dealer for full details. †See dealer for details.

**WHEN IT COMES TO
QUALITY, FORD DELIVERS.**



	FORD**	CHRYSLER	GM
WORKMANSHIP WARRANTY*	WHOLE CAR COVERAGE 3 YEARS	COVERAGE OF SOME PARTS 5 YEARS	WHOLE CAR COVERAGE 1 YEAR
FREE SCHEDULED MAINTENANCE	COMPLETE 2 YEARS	COMPLETE 5 YEARS	NO
COVERS EVERY WEAR ITEM (BLADES, BELTS, BATTERIES, ETC.)	YES	NO	NO
COVERS EVERY ADJUSTMENT FOR TWO YEARS	YES	NO	NO
FREE OF CUSTOMER-PAID DEDUCTIBLES ON WARRANTY	YES	NO†	YES
CASH WHETHER YOU PURCHASE OUTRIGHT OR FINANCE	YES	NO	NO
CASH AND COVERAGE AVAILABLE IN ALL 50 STATES	YES	NO	NO
CASH AND COVERAGE AVAILABLE AT EVERY FORD DEALER	YES	NO	NO



Two Routes to Persuasion: Quantity versus Quality of Arguments

(Petty & Cacioppo, *JPSP*, 1984)

- ❖ **MANIPULATED MOTIVATION TO THINK**

a proposal to raise tuition was under consideration at:

THE STUDENTS' OWN UNIVERSITY, or
A DISTANT BUT COMPARABLE UNIVERSITY

- ❖ **READ ONE OF THREE MESSAGES ON
TUITION**

3 Strong Arguments, or

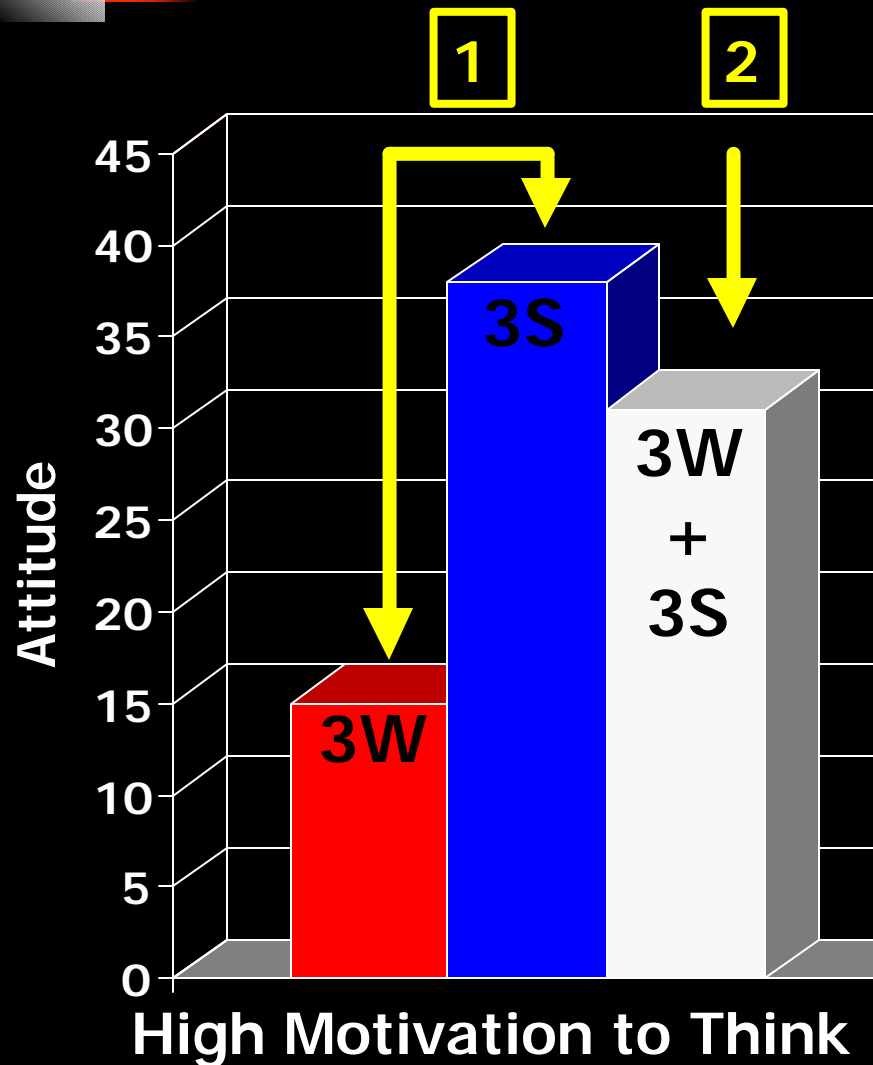
3 Weak Arguments, or

6 Arguments (3 Strong + 3 Weak)

- ❖ **REPORTED ATTITUDES TOWARD PROPOSAL**

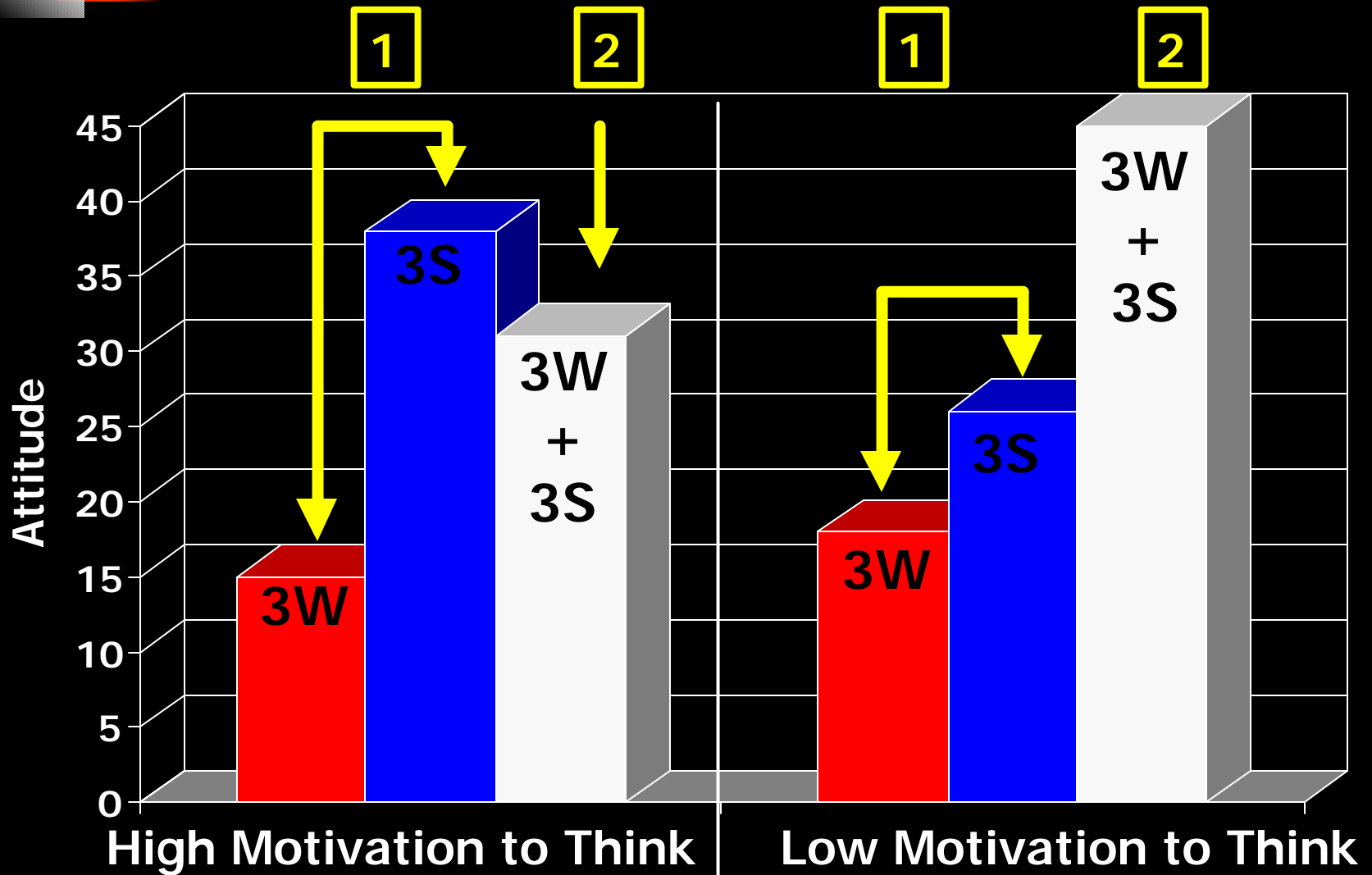
Number versus Quality of Arguments

(Petty & Cacioppo, *JPSP*, 1984)



Number versus Quality of Arguments

(Petty & Cacioppo, *JPSP*, 1984)



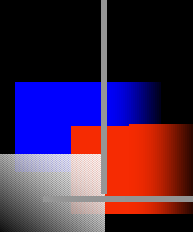


Conclusion: Two routes to persuasion

People given the same information can process it differently.

When personal relevance was high, people *evaluated the merits* of the presented information.

When personal relevance was low, people *counted the number* of arguments presented and made a simple inference: “More is Better”



Consequences of different amounts of thinking: High Thought Attitudes...

1. SHOW GREATER TEMPORAL STABILITY.

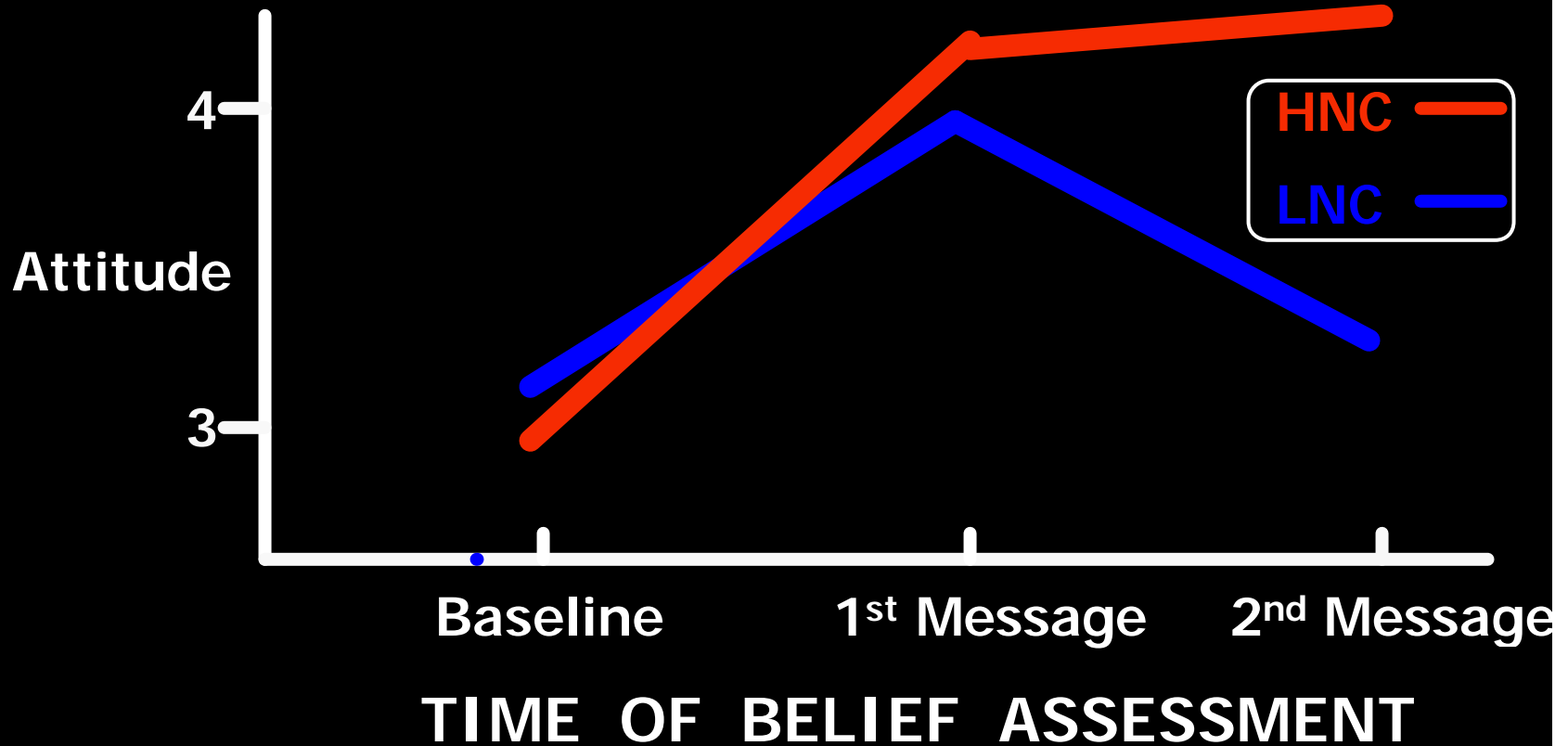
Once formed or newly changed, attitudes tend to persist longer over time when changed under high than low thinking conditions.

2. SHOW GREATER ATTITUDE-BEHAVIOR CONSISTENCY.

Attitudes predict behavior better when changed under high than under low thinking conditions.

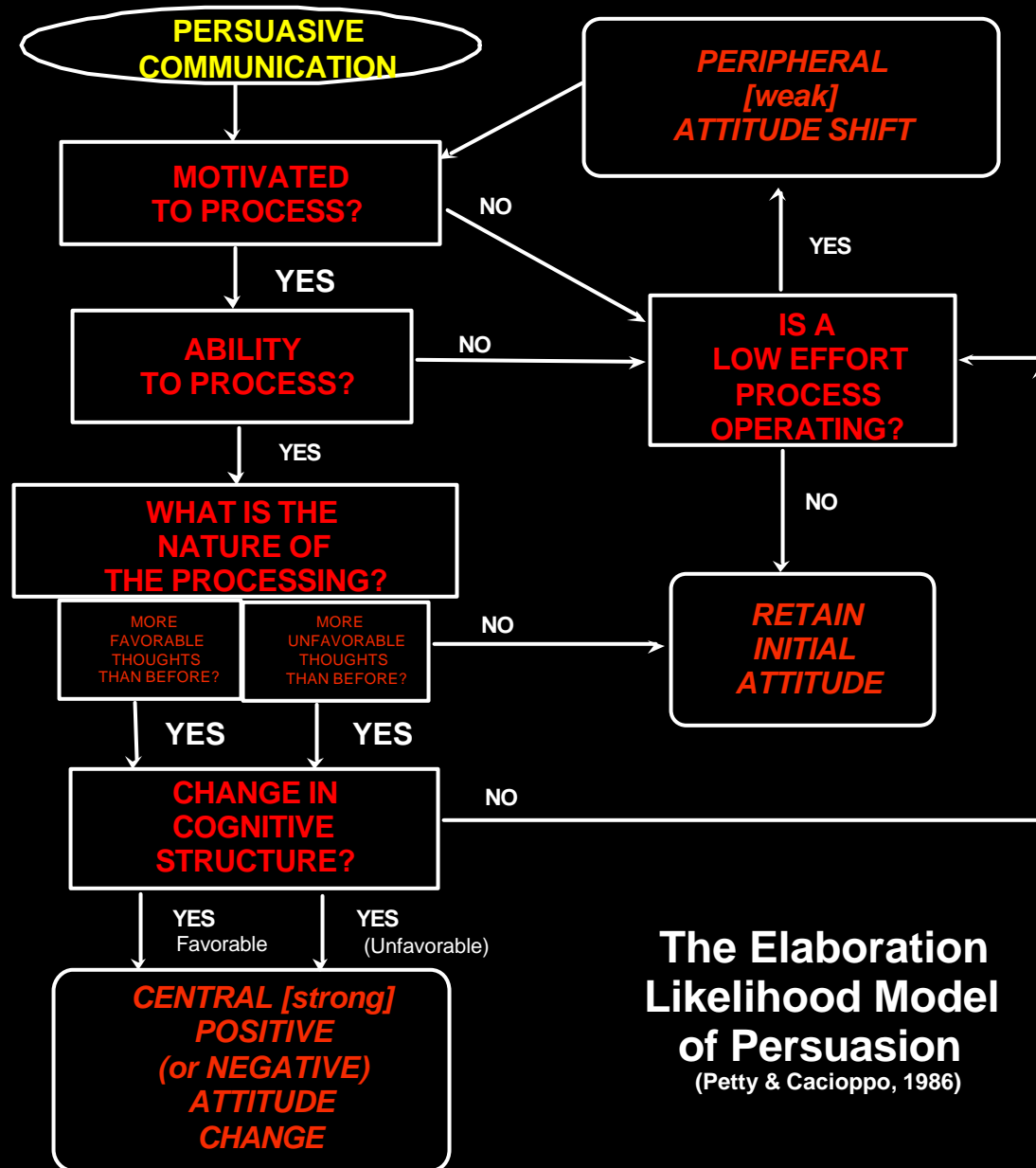
Consequences of different amounts of thinking: High Thought Attitudes...

3. ARE MORE RESISTANT TO COUNTER-PERSUASION (Haugtvedt & Petty, *JPSP*, 1992)



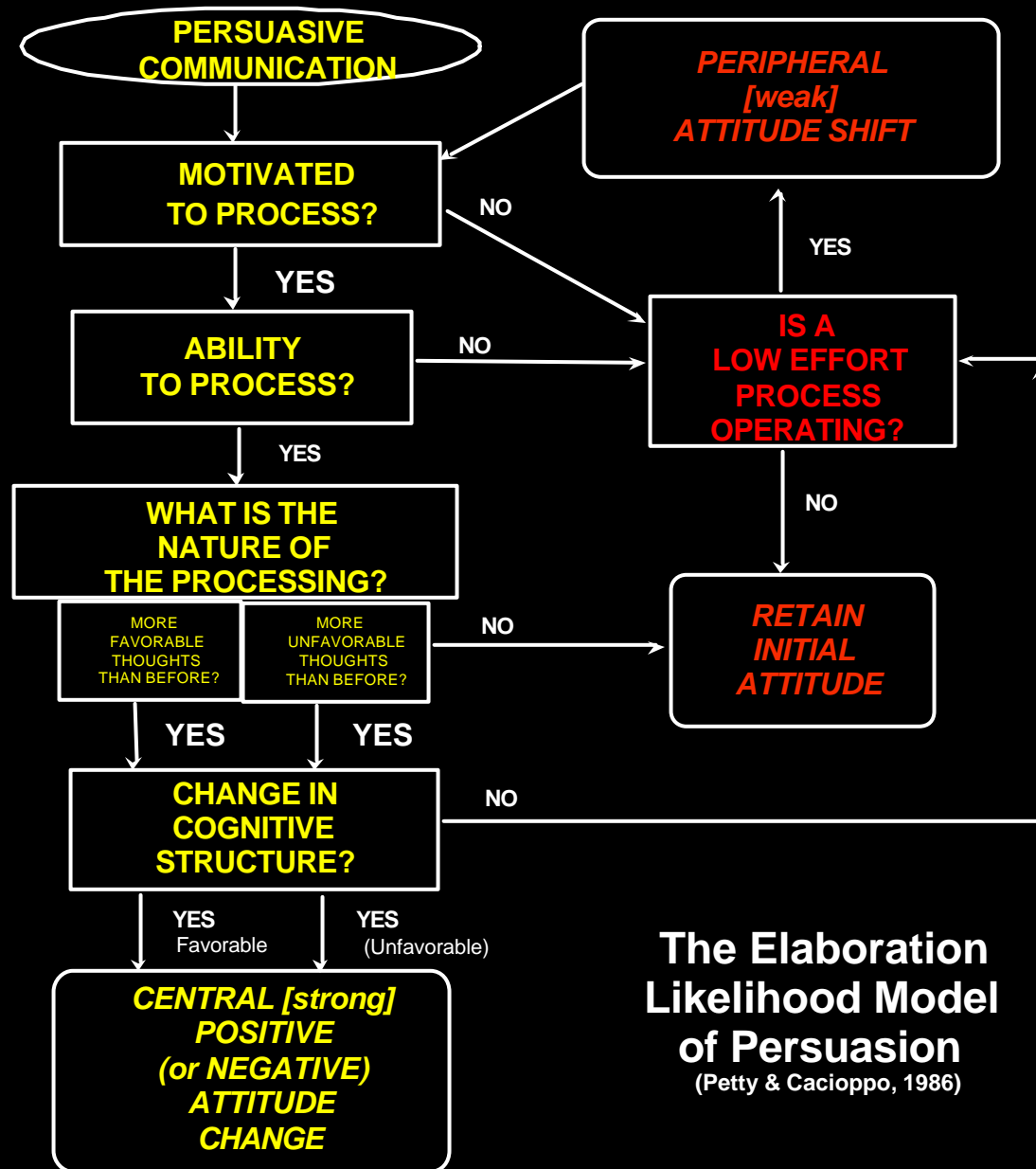
SUMMARY:

1. Two Routes to Persuasion



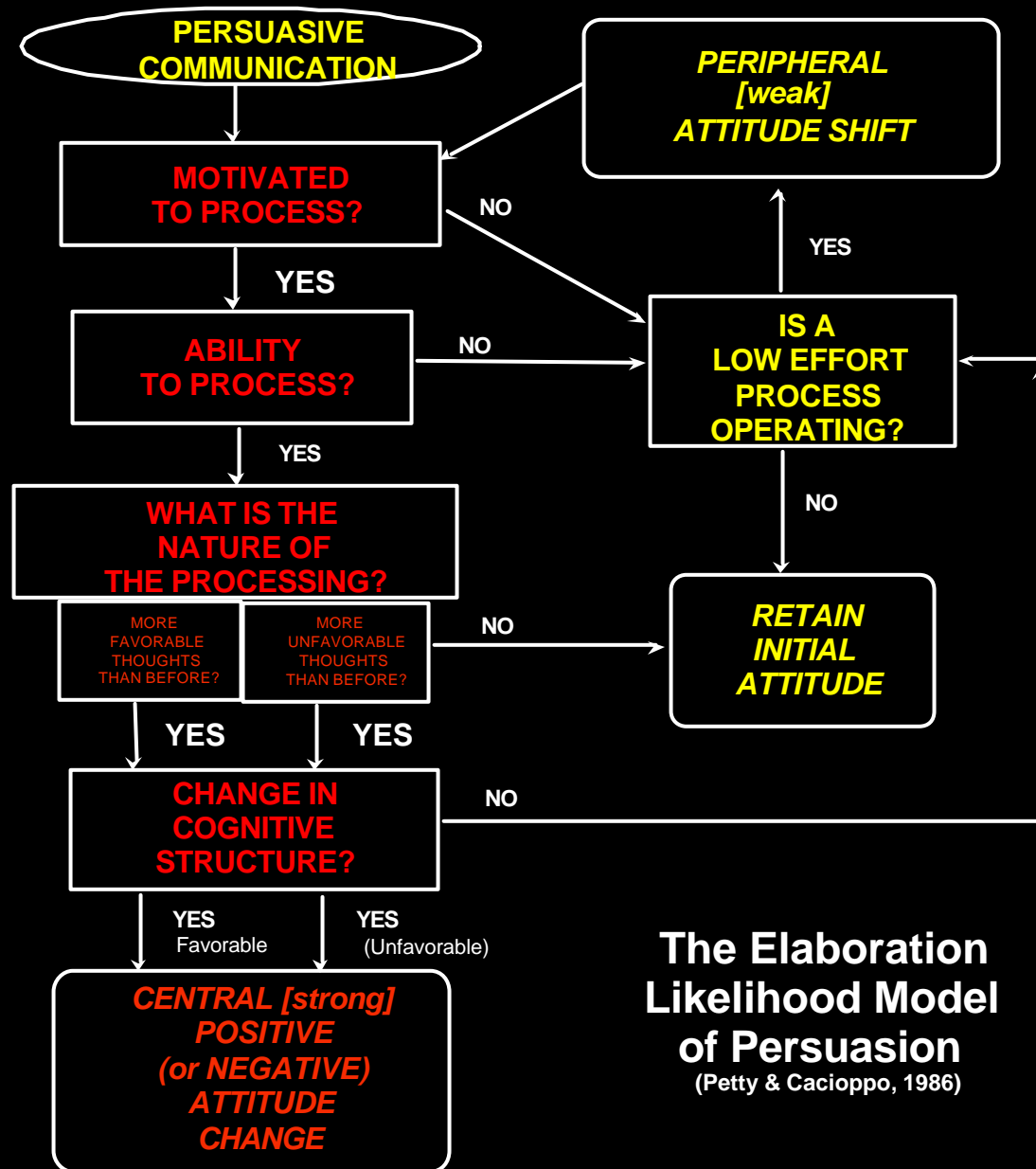
**The Elaboration
Likelihood Model
of Persuasion**
(Petty & Cacioppo, 1986)

Central Route



**The Elaboration
Likelihood Model
of Persuasion**
(Petty & Cacioppo, 1986)

Peripheral Route

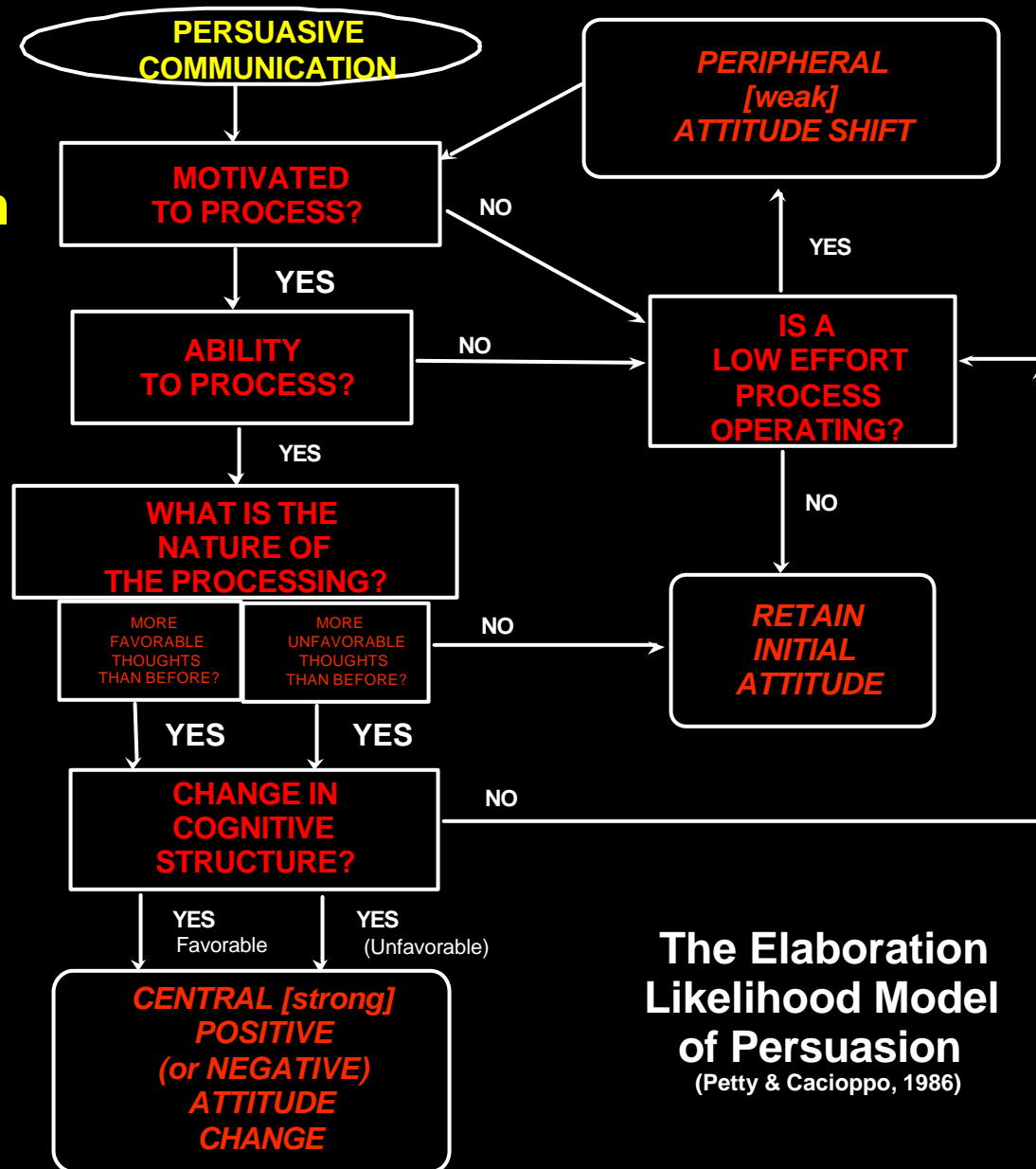


**The Elaboration
Likelihood Model
of Persuasion**
(Petty & Cacioppo, 1986)

2. Multiple Mechanisms Of Persuasion Within each Route

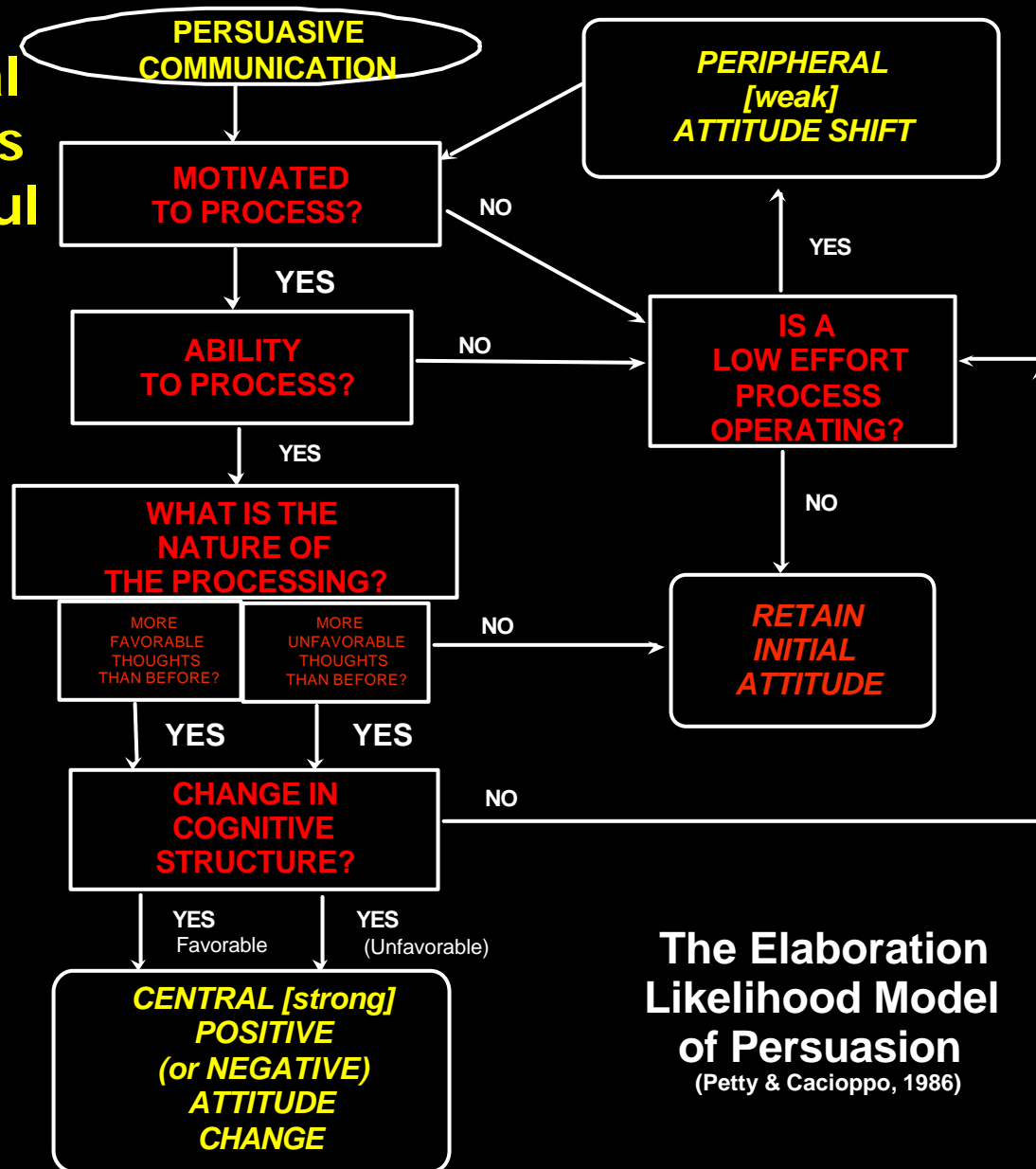


3. Multiple Roles for Variables in Persuasion



**The Elaboration
Likelihood Model
of Persuasion**
(Petty & Cacioppo, 1986)

4. Differential Consequences For Thoughtful Versus Non-Thoughtful persuasion



**The Elaboration
Likelihood Model
of Persuasion**
(Petty & Cacioppo, 1986)

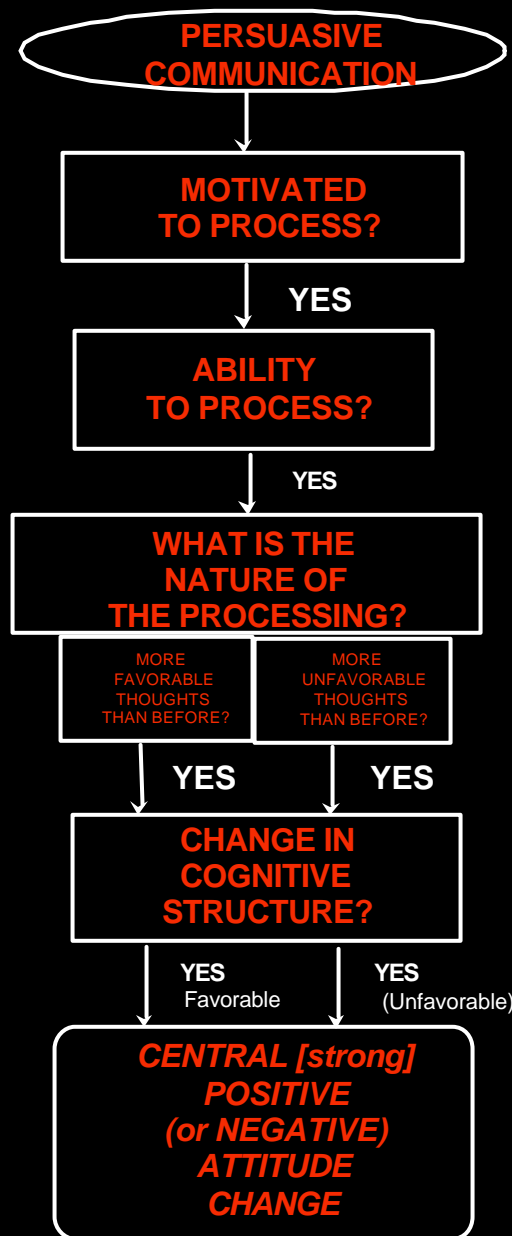


The Elaboration Likelihood Model: Understanding Behavior Change



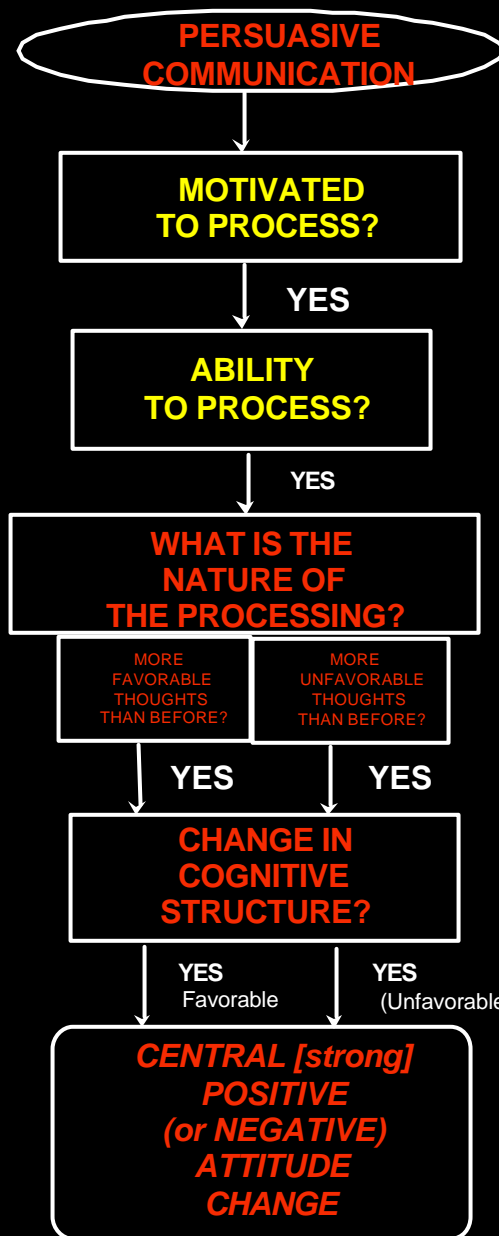
Richard E. Petty
Ohio State University

.....THE END



CENTRAL ROUTE:
IN THE CENTRAL ROUTE,
PEOPLE ARE THINKING
CAREFULLY ABOUT THE
ISSUE-RELEVANT
INFORMATION.

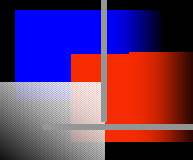
IN THE CENTRAL ROUTE,
THE FOLLOWING
MECHANISMS ARE OF
INTEREST.....



CENTRAL ROUTE: WHAT HAPPENS?

1. AMOUNT OF THOUGHT

How extensive
is the thinking?



Generating Positive Thoughts is Not Enough

RESEARCH QUESTION:

Although much research has examined how variables can increase the extent of thinking, and lead to the generation of favorable thoughts, relatively little research has examined the question of whether people will *use* or rely on the positive (or negative) thoughts that they generate.

RESEARCH ON THOUGHT CONFIDENCE



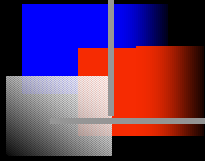
"Use" Bias Example

■ THOUGHT CONFIDENCE EFFECTS

After thoughts are generated, people sometimes think about the validity of those thoughts. That is, after thinking a thought, people can decide to "discard" it if they lack confidence in it, or they can use it if they have sufficient confidence in it.

For thoughtful people, thinking a thought is not enough, one must also have confidence in ones' thoughts.

*Thought confidence is different from the likelihood and desirability of beliefs.



Predictions for Thought Confidence

The more confidence one has in one's thoughts, the more these thoughts determine one's attitudes.

Thus, increasing confidence in favorable thoughts increases persuasion, but increasing confidence in unfavorable thoughts reduces it.

DOES THOUGHT CONFIDENCE MATTER??



Confidence from Handedness

- ❖ **GENERATED POSITIVE OR NEGATIVE TRAITS**

(students asked to think of either 3 positive or 3 negative traits that they possessed relevant to taking a job)

- ❖ **LISTED THOUGHTS WITH RIGHT OR LEFT HAND**

(each of the three traits was written on a card with either the right [dominant] or left [non-dominant] hand)

- ❖ **DEPENDENT MEASURES**

(completed the Rosenberg self-esteem inventory, and rated confidence in each of the traits listed)



Dominant versus non-dominant hand

- Dominant Hand - REGULAR

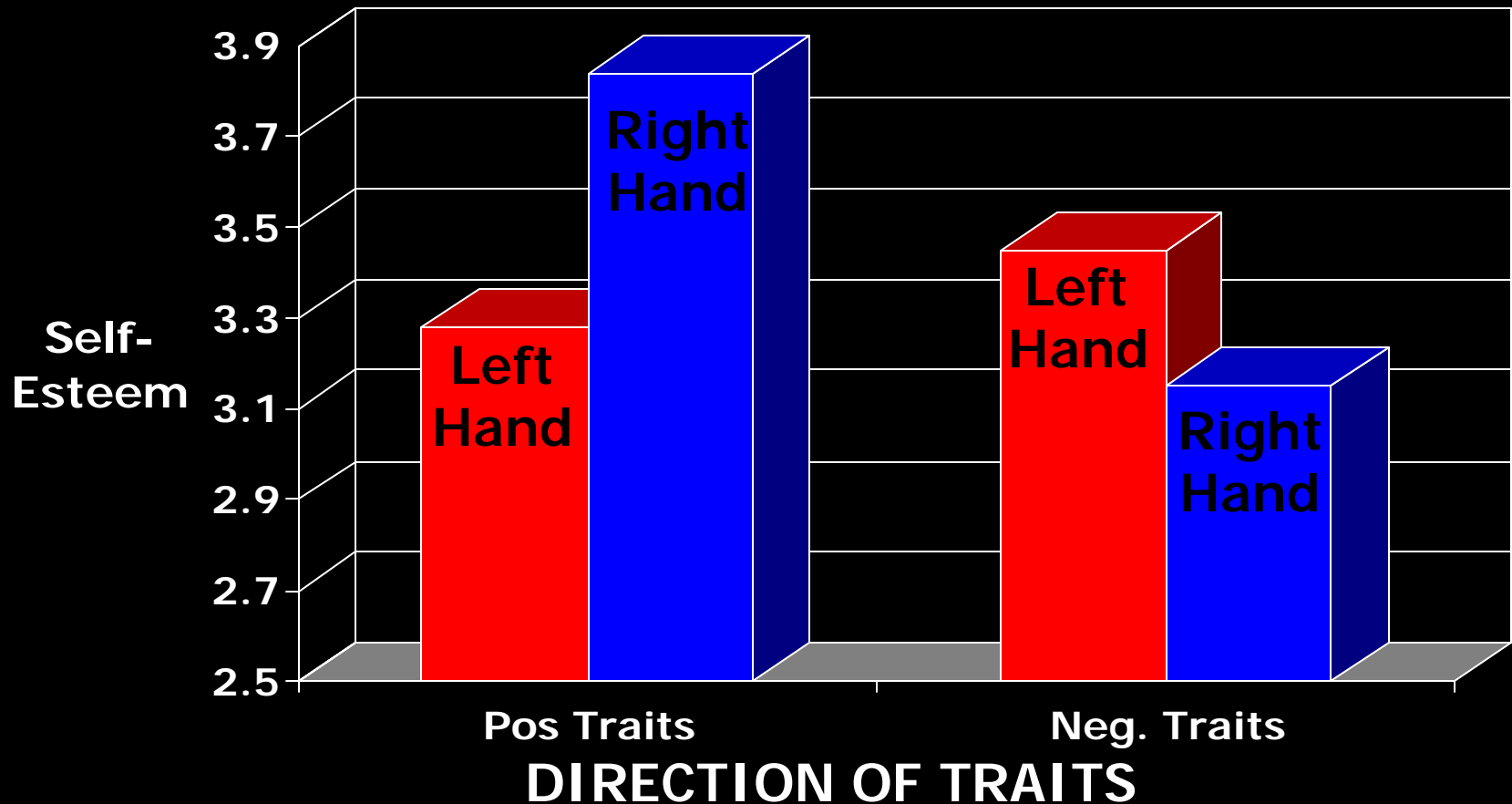
Sometimes I am lazy

- Non-Dominant Hand - SHAKY

al am smart

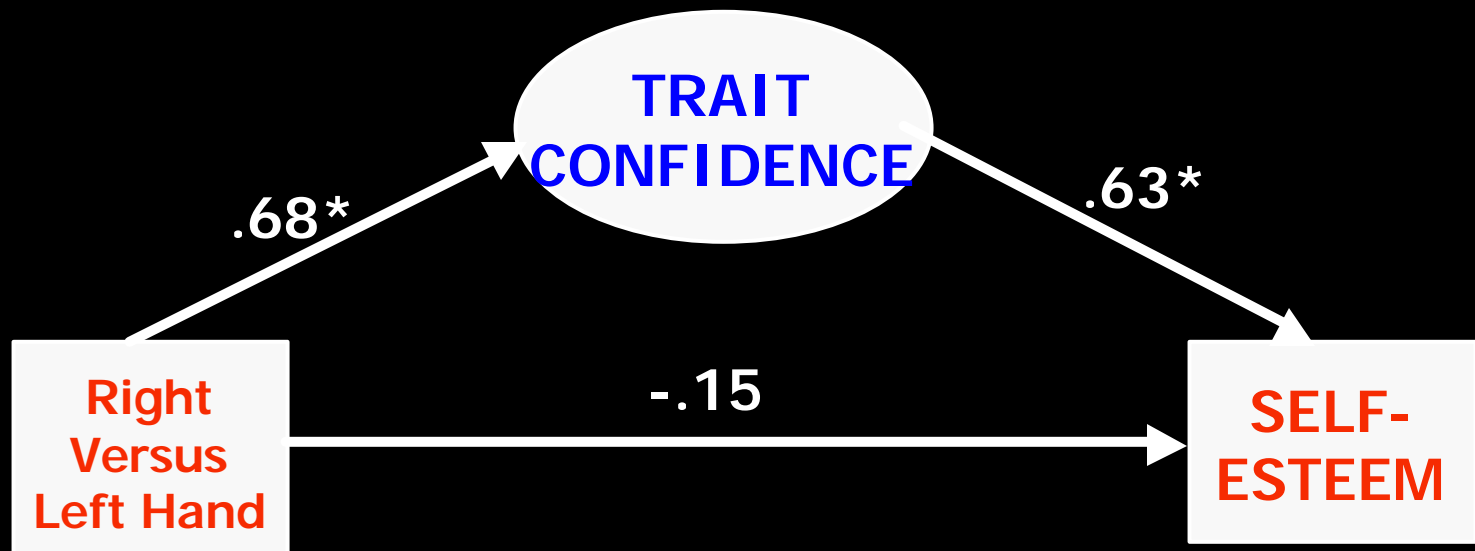
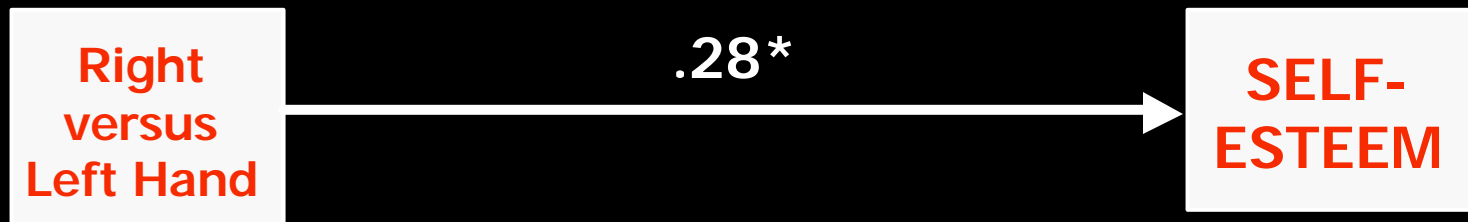
Self-Esteem Ratings

(Brinöl & Petty, *JPSP*, 2003)



Mediation of Hand Writing Effect

(negative traits are reverse scored; Briñol & Petty, *JPSP*, 2003)



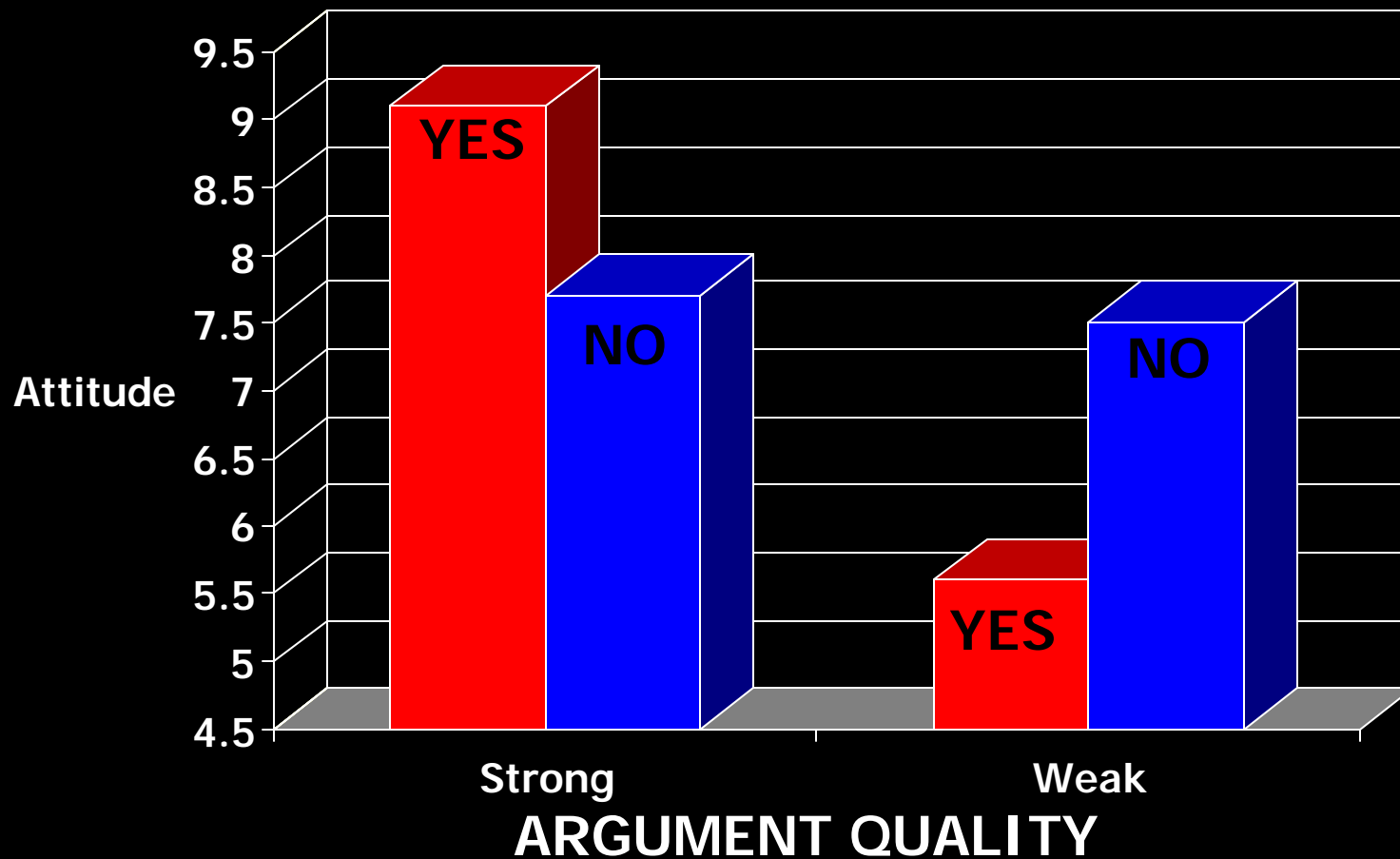


Confidence from head nodding

- ❖ **READ A MESSAGE WITH STRONG or WEAK ARGS**
(strong or weak message advocated adoption of senior comprehensive exams at Ohio State University; told to attend carefully to message – high elaboration)
- ❖ **HEAD NODDING MANIPULATION**
(asked to nod heads in a vertical or horizontal manner once per second during message to test headphones)
- ❖ **DEPENDENT MEASURES**
listed thoughts
rated attitudes
rated confidence in thoughts

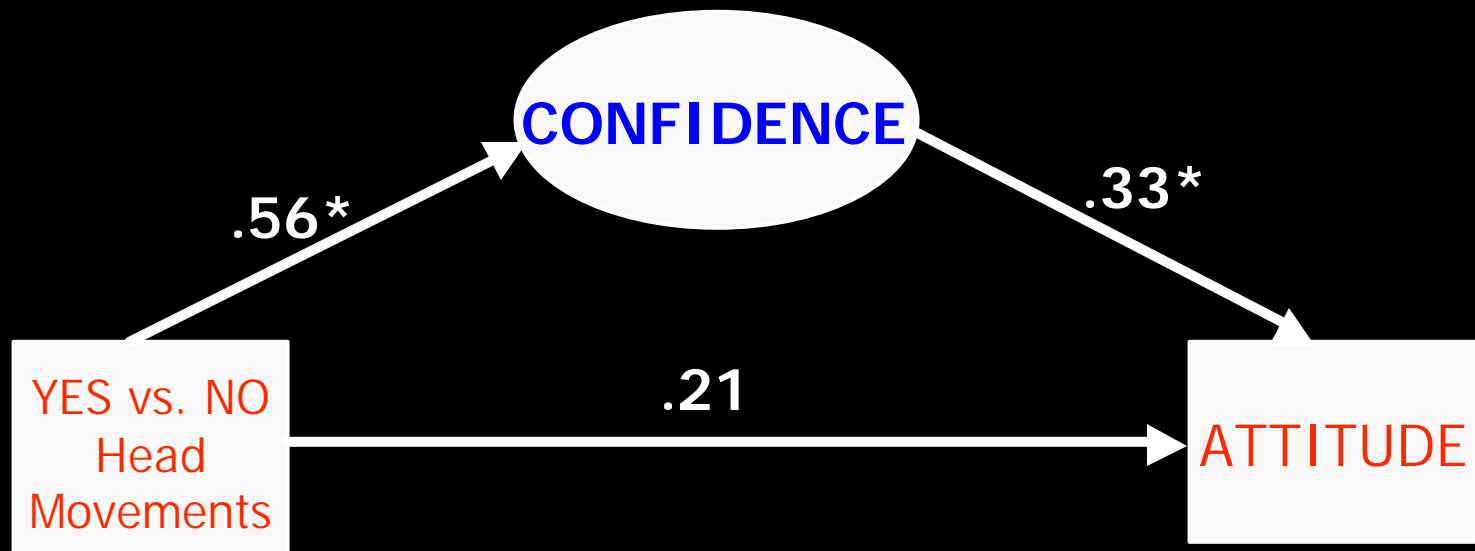
Attitude Results (Brinöl & Petty, *JPSP*, 2003)

HIGH ELABORATION



Mediation of head nodding effect

(Negative arguments are reverse scored; Briñol & Petty, *JPSP*, 2003)





A number of variables can impact thought confidence under high thinking conditions

❖ **MOOD STATE**

People in a positive mood or made to smile during a message were more confident in their thoughts.

❖ **SOURCE EXPERTISE**

People had more confidence in their thoughts to an expert than a non-expert source.



Thought Confidence Increases Attitude Strength

- (1) Not only does increasing thought confidence make people more likely to rely on their generated thoughts, but it also increases confidence in the attitudes formed.
- (2) Attitudes held with high confidence are more persistent, resistant, and predictive of behavior than are attitudes held with low confidence.



CONCLUSIONS

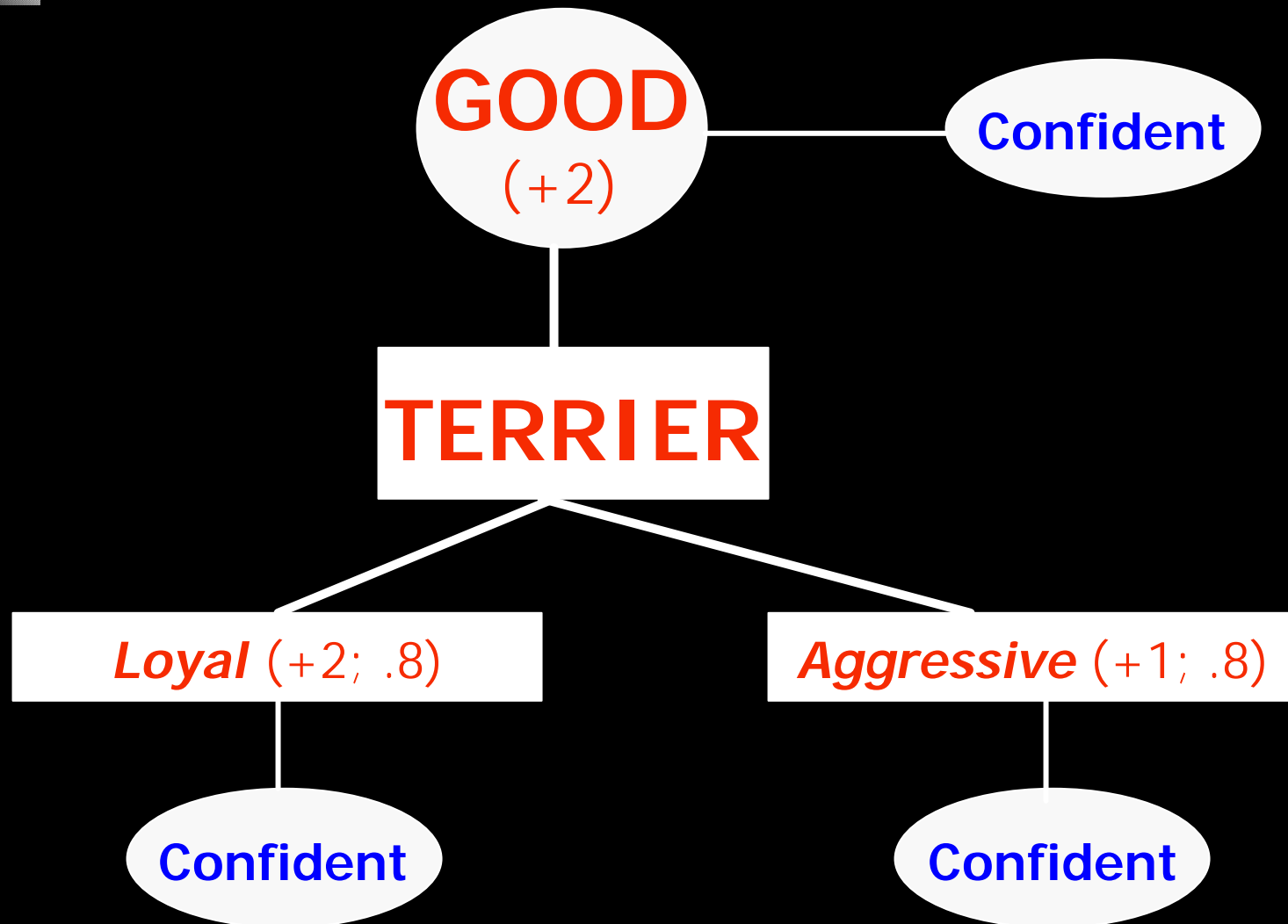
- (1) Not only should persuaders attempt to increase the number of positive thoughts generated to a persuasive appeal, they should also.....
- (2) Do what it takes to increase confidence in the generated thoughts.



Thought Confidence

How is it related to likelihood and desirability (Expectancy X Value)?

Thought Confidence: High



Thought Confidence: Low

GOOD
(+2)

Not
Confident

TERRIER

Loyal (+1 to +3; .5 to .9)

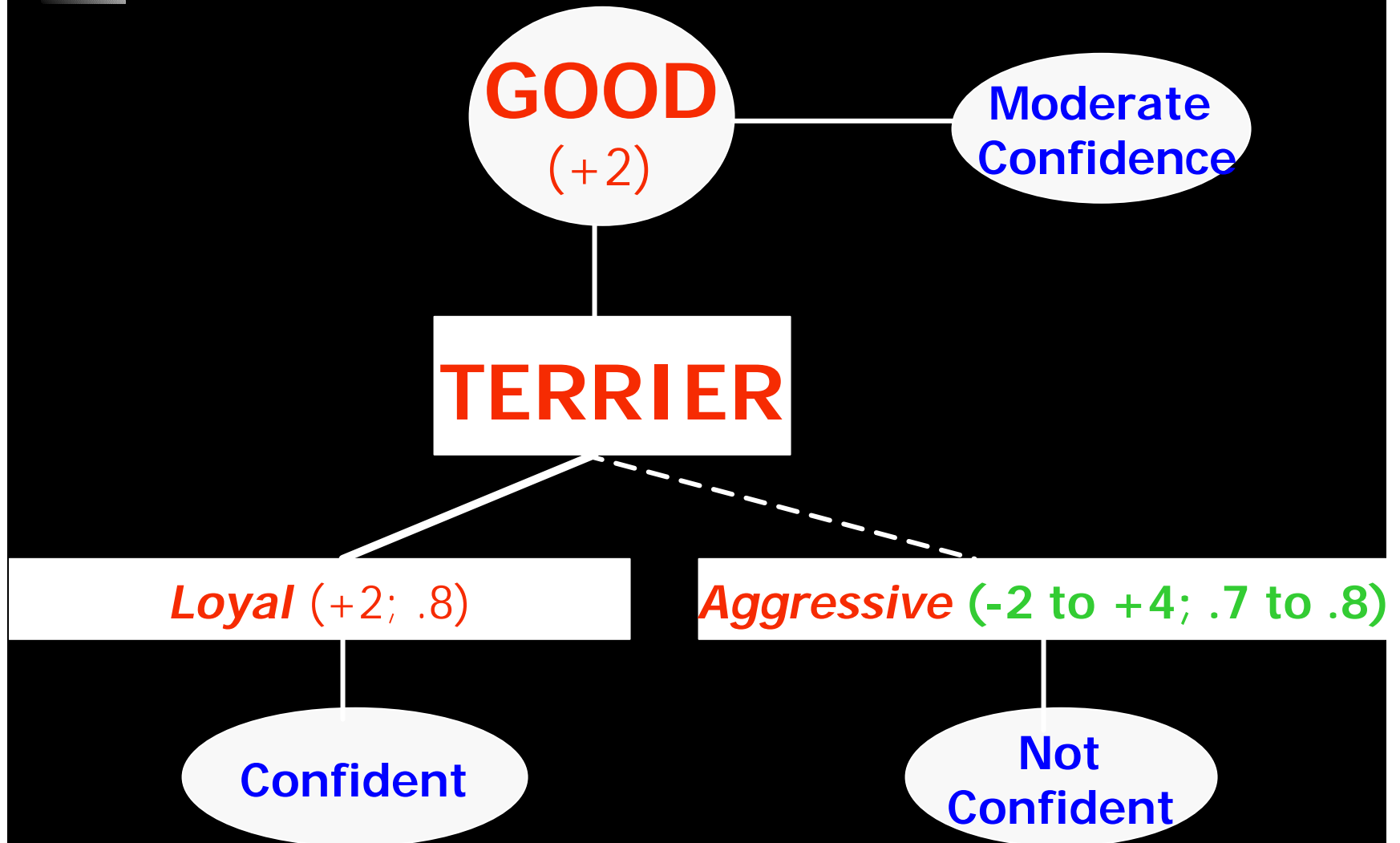
Aggressive (-2 to +4; .7 to .8)

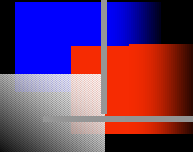
Low Confidence in
Desirability & Likelihood

Not
Confident

Not
Confident

Thought Confidence: Mixed





Multiple Roles for Sources Variables (e.g., credibility, attractiveness)

- Cue effect: (e.g., Kiesler & Mathog, 1968; Petty, Cacioppo, & Goldman, 1981)
- Valence of thinking: (e.g., Chaiken & Maheswaran, 1994)
- Amount of thinking: (Heesacker, Petty, & Cacioppo, 1984; DeBono & Harnish, 1988)
- Processed as argument: (Kruglanski & Thompson, 1999; Petty & Cacioppo, 1981)
- Influences thought strength (Brinol, Tormala, & Petty, 2003).