## Survey Research and Design

Measuring Ideology and Other Latent Traits

William Marble
November 7, 2023

**Midterm**

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- ▶ Mean: 66/80, standard deviation: 8.8.
- ▶ To see solution/answer questions: come to office hours next week or make an appointment by email.
- ▶ If you didn't do as well as you'd hoped: **don't panic**. Midterm is just 15% of final grade.

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## A Puzzle

**Is the United States public fundamentally liberal or conservative?**
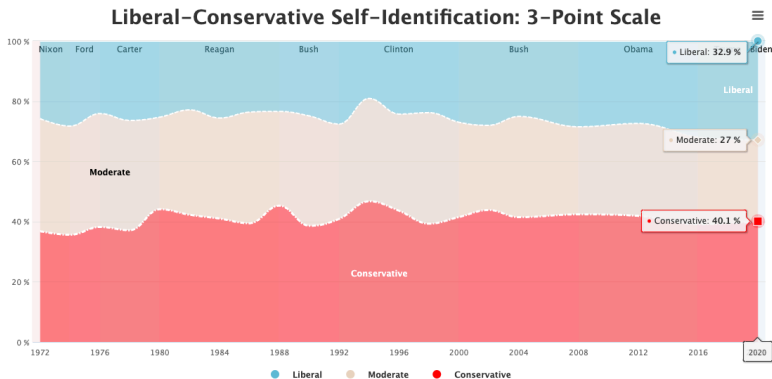
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**Liberal–Conservative Self-Identification: 3-Point Scale**

- Liberal: 32.9 %
- Moderate: 27 %
- Conservative: 40.1 %

Legend: ● Liberal ● Moderate ● Conservative

The ANES Guide of Public Opinion and Electoral Behavior

Source: ANES

## A Puzzle

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**Is the United States public fundamentally liberal or conservative?**

*We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. Are we spending too much money, too little money, or about the right amount on…*

- *the military, armaments, and defense)*
- *foreign aid*
- *the problems of big cities*
- *halting the rising crime rate*
- *dealing with drug addiction*
- *improving the nation's education system*
- *improving and protecting the environment*
- *welfare*
- *improving and protecting the nation's health*
- *improving the conditions of blacks*

3

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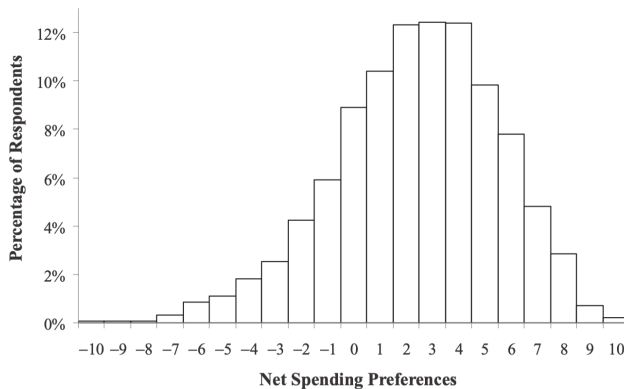
### Spending Preferences



FIGURE 5.3. Net Preferences on Spending Issues, 1973–2006

Source: Ellis and Stimson (2012, p. 95)

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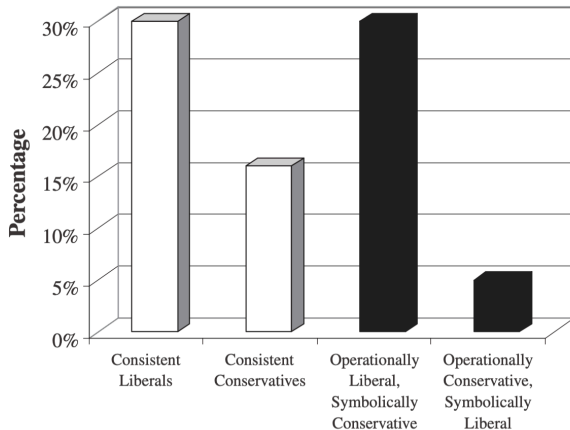


FIGURE 5.4. Distribution of Operational and Ideological Preferences

Source: Ellis and Stimson (2012, p. 95)

**The Operational-Symbolic Paradox**

- The American public is *symbolically conservative* but *operationally liberal*
- People identify themselves as conservative, but when asked about core policy questions, they express preference for bigger government
- What explains this mismatch?

## A Second Dimension of Ideology?

- ▶ *Please tell me whether or not you think it should be possible for a pregnant woman to obtain a legal abortion if…[6 scenarios]*
- ▶ *There's been a lot of discussion about the way morals and attitudes about sex are changing in this country. If two adults of the same sex have sexual relations, do you think it is always wrong, almost always wrong, wrong only sometimes, or not wrong at all?*
- ▶ *Do you strongly agree, agree, disagree, or strongly disagree that methods of birth control should be available to teenagers between the ages of 14 and 16 if their parents do not approve?*
- ▶ *When a person has a disease that cannot be cured, do you think doctors should be allowed by law to end the patient's life by some painless means if the patient and his family request it?*
- ▶ *The United States Supreme Court has ruled that no state or local government may require the reading of the Lord's Prayer or Bible verses in public schools. What are your views on this — do you approve or disapprove of the court ruling?*
- ▶ *Would you be for or against sex education in the public schools?*
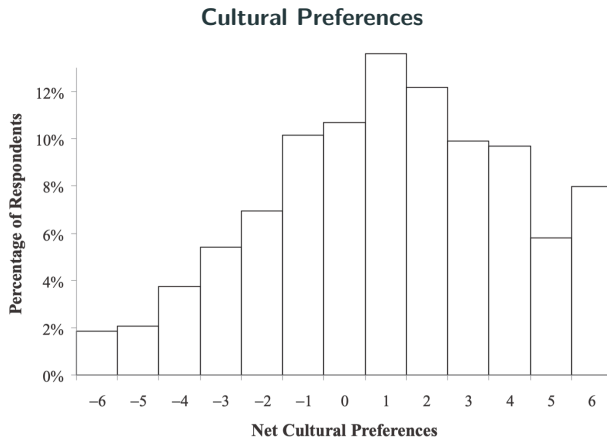
**A Second Dimension of Ideology?**

### Cultural Preferences



Figure 5.6. Net Preferences on "Cultural" Issues, 1973–2006

Source: Ellis and Stimson (2012, p. 108)

# Two-Dimensional Operational Ideology
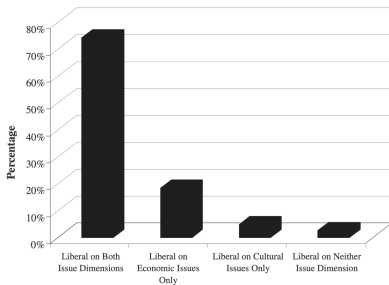
## Self-Identified Liberals



FIGURE 5.7. Operational Preferences of Self-Identified "Liberals"
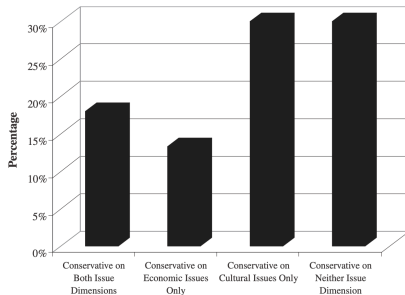
## Self-Identified Conservatives



FIGURE 5.8. Operational Preferences of Self-Identified "Conservatives"

## The Operational-Symbolic Paradox: A Resolution

- ▶ There are many paths to "being a conservative" but only one path to "being a liberal"
- ▶ The label "conservative" often refers to cultural attitudes — not economic attitudes
- ▶ The two dimensions of operational ideology are imperfectly captured by the single dimension of ideological self-identification

## Latent Traits

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Other examples include:

- ▶ ideology (unobservable) vs. policy attitudes (observable)
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- ▶ personality characteristics (unobservable) vs. behavior (observable)
- ▶ risk aversion (unobservable) vs. behavior under uncertain conditions (observable)
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Latent traits play a key role in social science theory as we often think of them as "fundamental" causes of behavior.

**Measuring Latent Traits: A Workflow**

1. Define the construct (i.e. the latent trait)
2. Design a survey question or battery of questions to measure the trait
3. Combine survey questions together into a scale (if using more than one question)
4. Validate the measure

# Defining the Construct

**Measurement**

Construct
$\mu_i$

Validity

Measurement
$Y_i$

Measurement
Error

Response
$y_i$

Processing
Error

Edited
Response
$y_{ip}$

**Representation**

Target
Population
$\bar{Y}$

Coverage
Error

Sampling
Frame
$\bar{Y}_c$

Sampling
Error

Sample
$\bar{y}_s$

Nonresponse
Error

Respondents
$\bar{y}_r$

Adjustment
Error

Postsurvey
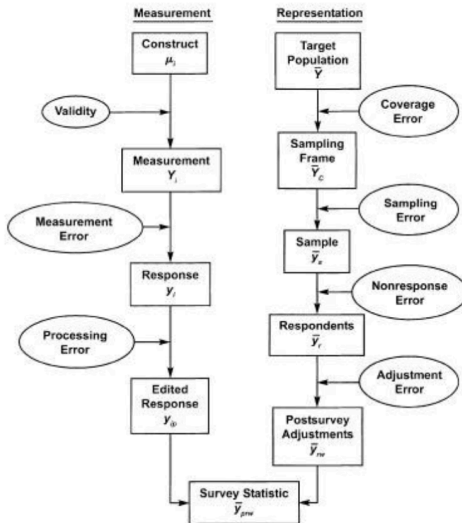Adjustments
$\bar{y}_{rw}$

Survey Statistic
$\bar{y}_{prw}$

Figure 2.5 Survey life cycle from a quality perspective.

**What is it You Are Trying to Measure?**

▶ The operational-symbolic ideology paradox illustrates the importance of defining the construct

▶ Asking people to self-identify leaves the construct up to their own interpretation

▶ If political scientists have different ideas of "liberalism" and "conservatism" than respondents, won't get a valid measure

**Considerations**

A construct should be:

- ▶ **Motivated** by a theoretical or empirical consideration. Needs to be a prior reason to think the concept is analytically useful.
- ▶ **Distinct** from related concepts
- ▶ **Explicable** in abstract terms, unrelated to the specific measurement

## Conceptions of Ideology

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Ellis and Stimson focus on "the conundrum over ideological *symbols* and ideological *preferences* …We wish to show that American mass ideology has two conceptions, often existing quite independently of one another in the minds of citizens and performing quite different functions in the political system."
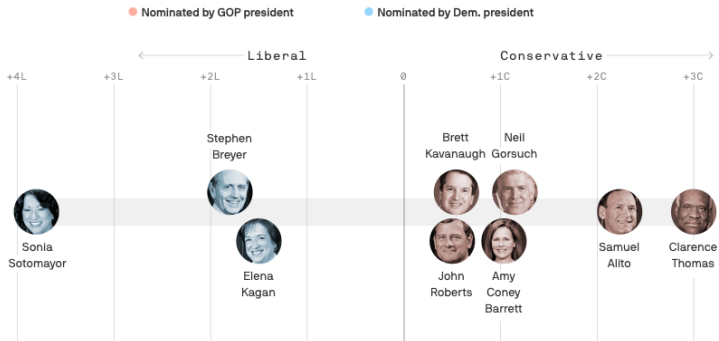
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In essence: the term "ideology" is overloaded. Common discourse conflates two different notions of ideology.

## Ideology as Measured in Much Political Science Research

▶ Political scientists commonly calculate ideological "scores" based on voting, stated preferences, political donations, etc.

▶ These scores essentially measure the consistency with which some political actor makes "liberal" or "conservative" choices

▶ Conversian notion of ideology: "a configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence"
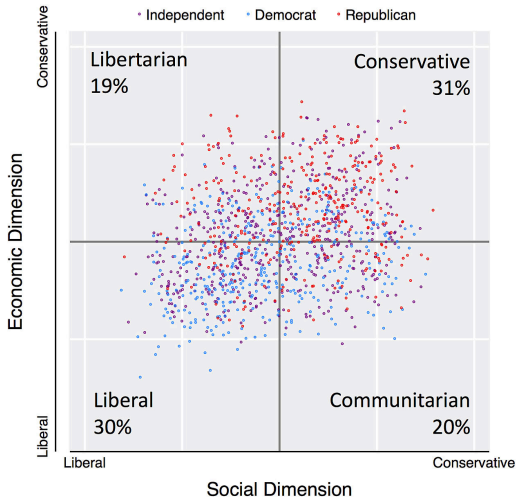
Ideological scores of Supreme Court justices

The American Electorate

Source: Cato Institute; Data Source: ANES EGSS 2012

**Another Example: Right-Wing Authoritarian Personality**

Altemeyer (1996, p. 6) defines "right-wing authoritarianism" thus:

1. *Authoritarian submission—a high degree of submission to the authorities who are perceived to be established and legitimate in the society in which one lives.*

2. *Authoritarian aggression—general aggressiveness, directed against various persons, that is perceived to be sanctioned by established authorities.*

3. *Conventionalism—a high degree of adherence to the social conventions that are perceived to be endorsed by society and its established authorities.*

**Right-Wing Authoritarian Personality**

Do you think this construct is

- ▶ well-motivated?
- ▶ distinct from related concepts?
- ▶ explicable?

**Additional Considerations**

- **Dimensionality**: Is the construct unidimensional, or multidimensional? In other words, is a single number enough to convey one's position on the latent construct?

- **Scope conditions**: What are the temporal, geographic, or societal limits of the construct? E.g., is the meaning of "conservative" fixed over time? Does it mean something different in (say) China than in the U.S.?

# Developing and Validating a Measure

## Measurement Principles

Principles of **construct validity** guide the design and evaluation of a questionnaire

- ▶ **Face validity**: does the measure appear, on its face, to capture the construct?
- ▶ **Content validity**: does the measure capture the full range of the construct?
- ▶ **Predictive validity**: does the measure predict attitudes or behaviors we have reason to think are correlated with the construct?
- ▶ **Convergent validity**: is the measure correlated with other measures of the same construct?
- ▶ **Discriminant validity**: is the measure uncorrelated with measures of distinct constructs?

## Direct Elicitation

Directly ask people to report their position on the latent scale

Assumptions

- ▶ common understanding of the concept being measured
- ▶ common understanding of the response options
- ▶ (if a single question) unidimensional construct

*Here is a 7-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale, or haven't you thought much about this?*

► Face validity?

► Predictive validity?
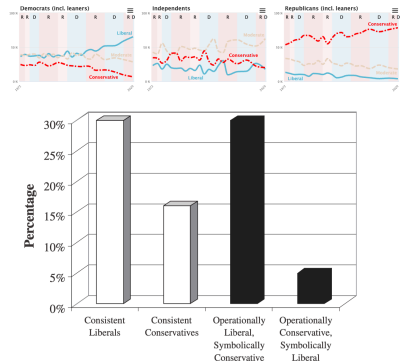
► Convergent validity?

► Content validity?



FIGURE 5.4. Distribution of Operational and Ideological Preferences

# Self-Identified Ideology

*Here is a 7-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale, or haven't you thought much about this?*

- ▶ Face validity?  ✓
- ▶ Predictive validity?
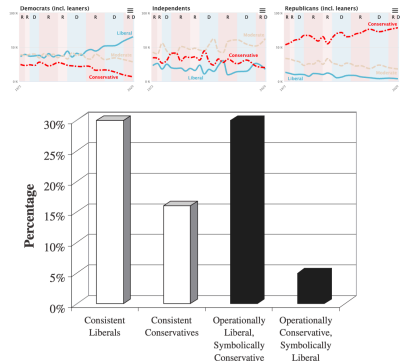- ▶ Convergent validity?
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▶ Face validity? ✔

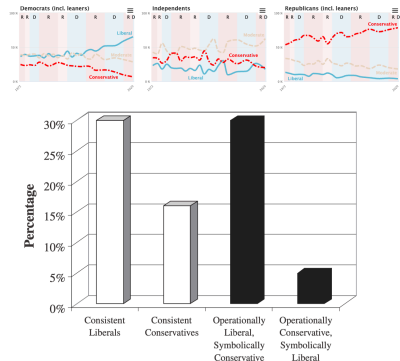▶ Predictive validity? ✔

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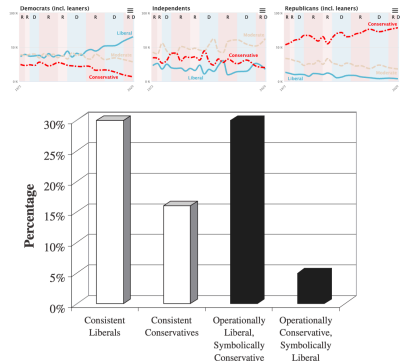▶ Predictive validity? ✓

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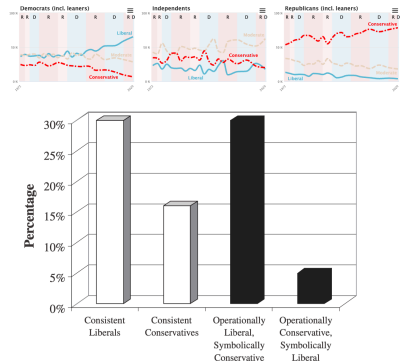
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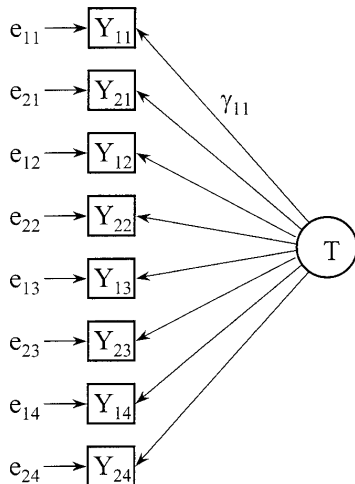
## Another Approach: A Scale

- Instead of direct elicitation, might ask a number of questions designed to measure (different manifestations of) the same construct
- Then, combine responses together to create a scale
- Enables more flexibility and additional checking of assumptions
- Trade-off between comprehensiveness and questionnaire length
- Sometimes less straightforward to argue the scale is capturing the construct of interest

**Latent Trait Measurement Scale: Illustration**

$T$: underlying trait

$Y$: survey questions

$e$: measurement errors

# Right-Wing Authoritarian Personality Scale (Altemeyer, 2006)  i

5-point agree/disagree scale for each of the following statements. RWA score is the sum of the responses (recoding directionality as needed.)

1. *The established authorities generally turn out to be right about things, while the radicals and protestors are usually just "loud mouths" showing off their ignorance.*

2. *Women should have to promise to obey their husbands when they get married.*

3. *Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.*

4. *Gays and lesbians are just as healthy and moral as anybody else.*

5. *It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people's minds.*

6. *Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.*

7. *The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leaders in power, and silence the troublemakers spreading bad ideas.*

8. *There is absolutely nothing wrong with nudist camps.*

9. *Our country needs free thinkers who have the courage to defy traditional ways, even if this upsets many people.*

10. *Our country will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs.*

11. *Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.*

12. *The "old-fashioned ways" and the "old-fashioned values" still show the best way to live.*

13  *You have to admire those who challenged the law and the majority's view by protesting for women's abortion rights, for animal rights, or to abolish school prayer.*

14  *What our country really needs is a strong, determined leader who will crush evil, and take us back to our true path.*

15  *Some of the best people in our country are those who are challenging our government, criticizing religion, and ignoring the "normal way things are supposed to be done.*

16  *God's laws about abortion, pornography and marriage must be strictly followed before it is too late, and those who break them must be strongly punished.*

17  *There are many radical, immoral people in our country today, who are trying to ruin it for their own godless purposes, whom the authorities should put out of action.*

18  *A "woman's place" should be wherever she wants to be. The days when women are submissive to their husbands and social conventions belong strictly in the past.*

19  *Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the "rotten apples" who are ruining everything.*

20  *There is no "ONE right way" to live life; everybody has to create their own way.*

21  *Homosexuals and feminists should be praised for being brave enough to defy "traditional" family values.*

22  *This country would work a lot better if certain groups of troublemakers would just shut up and accept their group's traditional place in society*

**Right-Wing Authoritarian Personality Scale**

▶ Face validity?

## Right-Wing Authoritarian Personality Scale

- ▶ Face validity? ✓
- ▶ Content validity?

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Consider three items:

*(1) "The only way our country can get through the crisis ahead is to get back our traditional values, put some tough leaders in power, and silence the troublemakers spreading bad ideas," (2) "What our country really needs is a strong, determined leader who will crush evil, and take us back to our true path," and (3) "It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people's minds."*

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Very similar to rhetoric used by politicians. Answers fluctuate based on political environment ⤳ this isn't measuring a stable trait.

## An Alternative Measure of Authoritarianism

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*Although there are a number of qualities that people think children should have, every person thinks that some are more important than others. Although you may feel that both qualities are important, please tell me which one of each pair you think is more important for a child to have.*

1. *Would you say that it is more important for a child to be INDEPENDENT or RESPECTFUL OF THEIR ELDERS?*
2. *Would you say that it is more important for a child to be OBEDIENT or SELF-RELIANT?*
3. *Would you say that it is more important for a child to be WELL-BEHAVED or CONSIDERATE?*
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How might this measure improve on the critique? What might its weaknesses be?

**Summing Up**

- ▶ Latent traits are thought to be (relatively) stable psychological constructs that influence more malleable attitudes and behavior
- ▶ They are difficult to observe directly but play a key role in social science theory
- ▶ Survey research must attend to:
  - ▶ The definition of the construct
  - ▶ The validity of the measurement strategy
- ▶ Direct elicitation and measurement scales are two contrasting approaches
- ▶ Next time: statistical methods for measuring latent traits and validating scales

**Taking a Personality Test**

"Big 5" personality traits:

- ▶ Openness to experience
- ▶ Conscientiousness
- ▶ Extraversion
- ▶ Agreeableness
- ▶ Neuroticism

https://openpsychometrics.org/tests/IPIP-BFFM/