Control Groups:
What other interpretations can account for this pattern of results?
No Treatment Control Groups

• To what extent would persons change or improve without treatment?
• Controls for:
  – History during intervention
  – Maturation
  – Statistical regression
  – Effects of repeated assessments
No Treatment Control Groups

- Should dropouts who had been randomly assigned to treatment be included in the no treatment control condition?
No Treatment Control Groups

• Issues
  – Disappointment
  – Resentment
  – Seeking other treatment
  – Attrition
  – Ethical issues
Waiting List Control Groups

- Treatment is delayed rather than withheld
- Waiting period corresponds to the length of treatment
Waiting List Control Groups

• Issues
  – Participant expectancies
  – How long a wait is feasible?
  – Long-term control not possible after the group receives treatment
No Contact Control Groups

- Participants are not aware that they are in a study on psychotherapy
- No expectations concerning treatment
- Not typically used in clinical settings
Attention Placebo Control Groups

• Meetings with therapist
  Same number and duration of sessions as treatment group
• Controls for nonspecific factors in psychotherapy
  – Contact with a therapist
  – Belief that change will occur
Attention Placebo Control Groups

• Issues
  – Attention placebo control conditions are more effective than no treatment (Lambert & Bergin, 1994)
  – Credibility
  – Comparability to treatment
  – Ethical issues
    • Ineffective treatment may distort the participant’s perspective of therapy
    • Deleterious effects
Standard Treatment Control Groups

- Treatment as usual as a control group
- All participants receive a treatment that is assumed to be effective
Standard Treatment Control Groups

• Issues
  – Expectations, enthusiasm of investigator and therapists
  – What is the content of standard treatment?
  – Ethical issues
    • What if standard treatment is shown to be ineffective or deleterious?
Yoked Control Groups

- Control participants and treatment participants are matched on variables that might systematically vary across conditions (e.g., # of sessions)
- Helps rule out potential confounds
Methodology Case Study #1

• You are asked to develop an attention-placebo control condition for cognitive therapy
  – What would you need to know about CT?
  – What will you try to control for?
Methodology Case Study #2

- Cognitive-behavioral therapy has been demonstrated to be efficacious with European Americans.
- Dr. X Pert now wants to evaluate CBT with African Americans.
- What control group(s) will he need?
Methodology Case Study #3

- A researcher who has developed an intervention for children’s violence finds no change after one year.
- Can an intervention that produces no change be considered efficacious?
Methodology Case Study #4

• Based on a theory of narcissism, you develop a treatment for shy people that emphasizes how self-absorbed they are.
• Your control condition does not include an active treatment.
• Are you ethically obligated to provide shy people an active treatment?
What treatment, by whom, is most effective for this individual with that specific problem, under which set of circumstances?

Gordon Paul, 1967
Treatment Evaluation Strategies
Treatment Package Strategy

- a vs. 0
- What are the effects of treatment as it is ordinarily used?
- Does treatment produce therapeutic change?
- No treatment, waiting list, or attention placebo control
Dismantling Strategy

• $a_1 + a_2$ vs. $a_1 - a_2$
• What are the necessary and sufficient components of treatment?
Constructive Treatment Strategy

- $a$ vs. $a + b$
- What can be added to a treatment to make it more effective?
- Is the combined treatment more effective than an individual treatment?
Parametric Treatment Strategy

- a vs. a
- Dimensions or parameters of treatment are altered to find the optimal way of administering treatment
- Basic parameter is duration
Comparative Treatment Strategy

• a vs. b
• Which treatment is better for a clinical problem?
Treatment Moderator Strategy

- Which variables influence treatment effects? (e.g., matching)
- Identification of moderators should be guided by theory
Treatment Mediator Strategy

• a → b → c

• Mechanisms of change

• What processes cause change?

• Castonguay et al. (1996)
  – Therapeutic alliance and client cognitive and emotional involvement cause change
  – Therapeutic techniques do not
Methodology Case Study #1

- You want to determine if Imipramine, CBT, or both are necessary to treat Major Depressive Disorder.
- What treatment evaluation strategy(ies) would you use?
Methodology Case Study #2

• Based on social identity theory, you hypothesize that clients who perceive themselves as similar to their therapist will improve more than clients who perceive themselves as dissimilar.

• Which treatment evaluation strategy(ies) might you use to test this hypothesis?
Assessing the Impact of the Experimental Manipulation
Ethnic Priming

• Ethnic priming = increasing awareness of ethnicity
• Priming may include questions (e.g., language, friends), images, confederates
Ethnic Priming

• Variations of information
  – Were the participants aware of the prime?

• Variations in participant behavior and experience
  – How did the prime condition differ from the non-prime condition?
  – Did the participants suspect that the other student was a confederate?
Manipulation Check

- Questionnaire following instructions or rationale
- When should the manipulation check occur?
  - Reactivity
  - Memory
- What if the manipulation check fails, but there is still an effect on the DV?
  - Participants aren’t aware of ethnic prime, but the between-groups outcome is different
Pilot Studies

• Focus groups
  – What experimental variables are likely to have an impact?

• Pilot experiment
  – Does the experimental manipulation work on a small scale?
Treatment integrity

• Treatment should be defined
  – Criteria, procedures, tasks, therapist/client characteristics
  – Manualized treatments
    • Can treatment integrity be evaluated when no manuals are employed?

• Therapists should be trained
  – Experience is not a substitute for training

• Ongoing supervision
Treatment Differentiation

- Are two or more treatments distinct from each other?
  - Potential problem of overlap when the same therapists provide more than one form of treatment
  - Common factors (Castonguay et al., 1996)
Exclusion of Participants in Data Analyses

• What should be done with participants who do not receive adequate exposure to the experimental manipulation?
  – e.g., treatment dropouts

• Shouldn’t those who receive full exposure to an experimental manipulation be considered the most relevant group to analyze?

• Completer analysis most commonly used
  – May be biased in favor of treatment
  – Selecting a subgroup of completers violates random assignment
Exclusion of Participants in Data Analyses

• Intent to treat analysis
  – Include all participants
  – Preserves random assignment
  – Last data provided are used for posttest
  – Conservative estimate of outcome
Exclusion of Participants in Data Analyses

- Post hoc analyses of subgroups
  - Analyze completers only; or
  - Examine correlation between dose and effect
Observational Research

- Observe characteristics rather than intervene
- Some variables cannot be manipulated experimentally
  - e.g., severe psychopathology
- Multiple variables usually cannot be manipulated in experimental research
  - Observational methods and data-analytic techniques allow the consideration of the influences of multiple variables
- Goal is to understand causality
Case Control Designs

• Form groups that differ on a characteristic (IV) and study group differences (DV)
• “Case” = someone who has a condition (e.g., depression)
• Sampling bias is possible
  – How are cases identified?
Cross-Sectional Designs

- Snapshot of current characteristics
- Hypotheses concerning group differences
- Results are correlational
Retrospective Design

• Goal is to draw inferences about some antecedent condition that leads to an outcome
• Groups formed on the basis of the outcome
• Reports of past events are assessed (e.g., abuse)
  – Self report
  – Archival records
• When is a retrospective design more appropriate than other designs?
Cohort Designs

- A group(s) is studied over time
  - Also known as longitudinal or prospective study
- The group is studied before an outcome (e.g., depression) occurs
Cohort Designs

• Single Group Cohort Design
  – All persons who meet a particular criterion are included (e.g., all clinic cases, all persons a school)
  – At least 2 assessments are required

• Multigroup cohort design
  – 2 or more groups who initially differ on a risk factor (e.g., abuse) are followed over time to determine an outcome (e.g., depression)

• A temporal sequence can be established
  – The outcome variable cannot affect predictor variable (assuming that the outcome did not exist at Time 1)
  – If A precedes B, can it be assumed that A *causes* B?
Accelerated, Multicohort Longitudinal Design

- 2 or more cohorts differ in age when they enter the study
- Accelerated = each group covers a portion of the total time frame of interest (e.g., 5-8 yrs., 8-11 yrs., 11-14 yrs.)
  - More economical than other cohort designs
- Controls for historical influences that occur at developmental periods (e.g., changing community norms regarding drugs or effects of war at 6 yrs. vs. 9 yrs. vs. 12 yrs.)
Limitations of Cohort Designs

- Time
- Cost
- Attrition can bias the sample
- Outcome may have a low base rate and require an extremely large sample
- Results may be specific to a unique sample
Case Studies and Single-Case Research Designs
Case Studies

Case Study

Intensive description and analysis of a single individual

Sources: natural observation, interviews, psychological tests, archival records
Advantages of Case Studies

- Focus on complexity
- Allow the study of rare phenomena (e.g., multiple personality disorder)
- May provide a counterinstance of notions assumed to be universally applicable
- Provide sources of hypotheses
- Persuasive
Case study to illustrate acculturation
Models of Acculturation (LaFromboise et al., 1993)

- Assimilation - absorption into the dominant or more desirable culture
Models of Acculturation (LaFromboise et al., 1993)

- *Acculturation* - competent in the second culture, but always will be identified as a member of the minority culture
Models of Acculturation (LaFromboise et al., 1993)

- *Alternation* - competent in two cultures
Models of Acculturation (LaFromboise et al., 1993)

- **Fusion** - cultures sharing an economic, political, or geographic space will fuse together until they are indistinguishable and form a new culture.
Models of Acculturation (LaFromboise et al., 1993)

- **Multicultural** - maintain distinct cultural identities while cultures are tied together within a single multicultural social structure characterizes the model
Case of Lisa M.

- Lisa M. is a 2nd generation Chinese American college student
- Her parents want her to get an accounting degree and return home to help run the family restaurant
- Lisa wants to major in art
Case of Lisa M.

- Lisa feels “caught between two worlds”
  - Has a European American boyfriend
  - Doesn’t feel entirely accepted at college

- What guidance should the therapist recommend?
Case of Lisa M.

• What do you think Lisa decided to do?
Disadvantages of Case Studies

- Inability to draw causal conclusions
- Alternative explanations cannot be easily refuted because of lack of control over variables
- Limited generalizability