Exercise 1: Growth Mindset and Extra Effort in Supervisor–Subordinate Dyads

The dataset `supervisorsubordinate.csv` contains data from 300 distinguishable supervisor–subordinate dyads. The purpose of this exercise is to examine whether the growth mindset of each member predicts extra effort within the dyad.

Variables

- `supgrowth`: Supervisor's growth-mindset score
- `subgrowth`: Subordinate's growth-mindset score
- `supeffort`: Supervisor's extra-effort score
- `subeffort`: Subordinate's extra-effort score

Research questions

1. Examine the supervisor's actor effect.
2. Examine the subordinate's actor effect.
3. Examiner the supervisor's partner effect (`subgrowth` → `supeffort`).
4. Examiner the subordinate's partner effect (`supgrowth` → `subeffort`).
5. Does the effect of the supervisor's growth mindset on the subordinate's extra effort depend on the subordinate's growth mindset?

Exercise 2: Secret Gift Giving and Gift Satisfaction

The dataset `buddygift.csv` contains data from 150 pairs of randomly assigned freshmen who exchanged secret gifts. Because the two buddies do not have substantively different roles, the dyads should be treated as indistinguishable.

Each participant reported the value of the gift they gave, whether they knew their buddy before the activity, and their satisfaction with the gift they received.

Variables

- `buddyid`: Buddy-pair identification number
- `subjectid`: Participant identification number
- `sat`: Satisfaction with the gift received, ranging approximately from 0 to 10
- `knowbefore`: Whether the participant knew the buddy before the activity
    - 0 = Did not know the buddy before
    - 1 = Knew the buddy before
- `giftvalue`: Value of the gift given by the participant
    - The minimum gift value is 100.

Research questions

1. Does the value of the gift a participant gives predict that participant's own satisfaction?
2. Does the value of the gift given by the participant's buddy predict the participant's satisfaction?
3. Does knowing the buddy beforehand predict satisfaction?
4. Does the buddy's prior familiarity (partner's `knowbefore` = 1) with the participant predict the participant's satisfaction?

Exercise 3: Negotiation Framing and Trust

The dataset `negotiation.csv` contains data from 200 negotiation dyads. Each negotiator was randomly assigned to receive either compromise-oriented or competitive framing instructions before negotiating with the other member.

The two negotiators have equivalent roles, so the dyads should be treated as indistinguishable.

Variables

- `pairid`: Negotiation-pair identification number
- `subjectid`: Participant identification number
- `framing`: Framing condition assigned to the participant
    - 0 = Compromise framing
    - 1 = Competitive framing
- `trust`: Participant's trust in the other negotiator

Research questions

1. Does receiving competitive framing reduce a negotiator's trust in the other person?
2. Does negotiating with a competitively framed partner reduce trust?
3. Does the effect of one person's framing depend on the partner's framing condition?

Exercise 4: Roommate Depression and GPA

The dataset `roommatedepressioneffect.csv` contains data from 250 roommate dyads. The purpose is to examine whether students' depressive-symptom scores and their roommates' depressive-symptom scores predict GPA.

The dyads are treated as indistinguishable because the two roommates do not have substantively different roles.

Variables

- `coupleid`: Roommate-pair identification number
- `subjectid`: Participant identification number
- `status`: Length-of-roommate-relationship indicator
    - 0 = New roommates or living together for less than one year
    - 1 = Living together for at least one year
- `depression`: Participant's depressive-symptom score
- `GPA`: Participant's grade-point average, restricted to the range from 0 to 4

Research questions

1. Does a student's depression predict that student's own GPA?
2. Does the roommate's depression predict the student's GPA?
3. Do students who have lived together for at least one year have different GPAs from newer roommates?
4. Does roommate status moderate the actor effect of depression?
5. Does roommate status moderate the partner effect of depression?

Exercise 5: Avoidant Coping and Psychological Distress Among Spouses

The dataset `avoidantcopingspouses.csv` contains data from 200 distinguishable husband–wife dyads. The purpose is to examine whether each spouse's avoidant coping predicts their own and their partner's psychological distress.

Variables

- `dyad_id`: Couple identification number
- `gender`: Spousal role
    - Husband
    - Wife
- `avoidant`: Participant's avoidant-coping score
- `distress`: Participant's psychological-distress score, restricted to the range from 1 to 7

Note that this dataset is in the long format.

Research questions

1. Does a husband's avoidant coping predict his own distress?
2. Does a wife's avoidant coping predict her own distress?
3. Does a husband's avoidant coping predict his wife's distress?
4. Does a wife's avoidant coping predict her husband's distress?
5. Does the association between one spouse's avoidant coping and distress depend on the other spouse's avoidant coping?
6. Are the actor, partner, or interaction effects different for husbands and wives?