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Section C

Decision-Making Theory

Components of Decision Making

1. Identify alternative options
2. Identify possible consequences
3. Evaluate the possible consequences
4. Assess the likelihood of the consequences
5. Combine the information to make a decision

Options

- Consideration of a limited set of options can lead to a poor decision no matter how carefully those options are weighed
 - Time constraints
 - Cognitive development
 - A limited repertoire with which to face new situations

Important Decisions

- The more important the decision, the greater the likelihood that options are enumerated; the more mundane elicit habitual responses

Identifying/Assessing Consequences (a.k.a., Utilities)

- Assessing relative *attractiveness* of each consequence is to assess relative value
- Assessing *importance* of each consequence
 - Expressed preferences
 - Revealed preferences
 - People often don't know what is most important to them

Noise

- Given a limited repertoire from which to assess consequences, adolescents' preferences are often shifting
 - Value of novelty is hard to factor into rational models of decision making

Conflicting Values

- When people have conflicting values, they are more susceptible to the way questions are posed

Temporal Discounting

- When future consequences are discounted in favor of the present

Probabilities

- Knowledge of probabilities tends to come from experience (e.g., the probability of pulling an all-nighter will improve your grade)
- In lieu of experience, people use subjective probabilities (e.g., beliefs about what the chances are)
- If all events are unique, then it is not possible to assess probability

Biases in Assessing Probability

- **Confirmation bias:** people recruit evidence to support pre-existing biases
- **Base-rate fallacy:** ignoring statistical evidence in the face of specific situations

Adolescent Assessment of Probability

- When asked to assess the probability of major life events, 15- to 16-year-olds were generally accurate (NLSY)
 - There was also high a correlation between assessment and likelihood of events happening subsequently

When Experience and Statistical Probability Collide

- Adolescents make decisions with limited information and limited experience
 - The myth of infertility

Integrating Options, Consequences, and Probabilities

- A rational decision maker assesses expected utility
 - *expected utility* = (the consequences x the probability)
- Comparing across expected utilities will allow for rational decision

Outcome Bias

- The tendency to judge choices by outcomes that followed them rather than what went into them

Computational Rules

- Elimination
- Variation from the status quo
 - Goal is to minimize decline from baseline rather than maximize gain (e.g., “counting one’s blessings”)
 - If the reference point is changed the outcome will vary (framing the effects)