Self-Efficacy

Education 173
Cognition and Learning in Educational Settings
Fall Quarter 2007

A Challenge to Behaviorism

- Do We Have to Experience Reinforcement to Learn? No.
- People Can Learn by Observation Alone
    - About the usefulness of behavior
    - About the consequences of behavior
- Social Cognitive Theory
    - Advanced by Albert Bandura
    - Recognized internalized aspects of learning/behavior, including imagination of likely consequences, goal-setting, and beliefs about one's own capabilities

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Vicarious Learning/Modeling

- Vicarious learning speeds up the process
    - Some imitative learning is hard-wired (nativist)
- Reinforcement is not necessary for vicarious learning (but it is for later performance)
- Animals (including nonhuman primates) are poor at imitative learning
    - How are innovations propagated?
    - How is culture maintained?

Factors Affecting Modeling

- Response Facilitation
  - Including unconscious mimicry
    - Chameleon Effect
    - Posture; gestures; speech, clothing; actions
- A Model Is More Effective If He/She is Perceived as Having High Status
  - Why do celebrities endorse projects?

Different Kinds of Models

- Types of Models
  - Mastery Models
  - Coping Models
    - Powerful if combined with cognitive modeling
    - Teaches how to cope with errors, setbacks, self-doubt
    - Peer coping and teacher coping are both helpful
- Variety of Models
  - Male and female
  - Different levels of ability
  - "Anti-model": What not to do!

More On Modeling

- Vicarious Consequences Inform and Motivate Behavior
  - Bobo doll
  - Watching violence produced mo
- Self-Modeling Can Be Highly Effective
  - Dowrick: Spliced videotape of successes
    - Children in physical therapy practice walking
  - Also effective for learning mathematics skills
 - Do you visualize your past successes?

Self-Efficacy

- Beliefs About Capability to Perform
- Not the Same as Ability
  - Might be higher
  - Might be lower
- Domain-specific
  - Does Not Generalize (Probably)
- Self-Efficacy Can Influence:
  - Choice of activities
  - Effort expenditure
  - Persistence
  - Accomplishment (e.g., learning, performance)

Triadic Reciprocality

Environment ↔ Person
Behavior
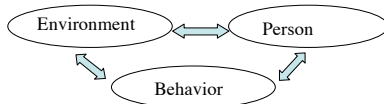
- Person, Environment, and Behavior are Related
- "Person" Includes Relatively Stable Traits
  - Such as self-efficacy
  - Also intelligence, personality traits
- *Reciprocality* Means Mutual Influence
  For example, behavior (performance attainments) can influence person (self-efficacy beliefs)
  Likewise, self-efficacy can influence performance

How is Self-Efficacy Influenced?

- Performance Attainments
- Vicarious Experiences
  - "If he can do it . . ."
- Social Persuasion
  - Teachers, parents, peers
- Physiological Indexes
  - Heart rate; perspiration
  - Signs of anxiety

Applications of Self Efficacy

- To Education
  - Positive classroom atmosphere
  - Higher student achievement
    - Causal direction?
    - Triadic reciprocality
- To Health
  - Smoking cessation
  - Heart attack recovery
- To Other Areas
  - Treating Phobias, Athletic Performance

Applications to Instruction

- Self-Efficacy as Goal for Student
  - "I can do it"
  - Also, effort attributions
- Teacher Efficacy
  - Timeline for achieving expertise
  - Collective teacher efficacy