

## Applications of Applied Behavior Analysis to Sustainability:

## A Literature Review

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Interventions & Dependent Variables

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#### Pro-Environmental Behavior

- Pro-environmental behaviors (PEBs) are behaviors that intentionally seek to reduce an individual's harmful impact on the environment, through unsustainable practices
  - Conserving energy
  - Reducing waste
  - Proper recycling
- The 10 studies reviewed demonstrated an increase in pro-environmental behaviors through various applications of applied behavior analysis procedures

#### Contributions of ABA

- Applied behavior analysis is a unique methodology that provides a technology to predict, develop, and maintain behavior.
- ABA procedures were used to develop and evoke pro-environmental behaviors, primarily through the use of consequence strategies
- Positive reinforcement was the most prominent procedure used to increase anti-littering and other proenvironmental behaviors

Interventions	Definition of Independent Variables	Dependent Variables	Who Used It
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Stimulus Control (SC) & in Prompting Procedures are (PP)	·	Increase recycling of paper products	Austin et al., 1993
		Increase recycling of cans	Ludwig et al., 1998
	PP: Systematic strategies used to increase correct responding in behavior	Increase purchasing of refundable bottles	Geller et al., 1973
Consequence Strategies: Contingent Positive Reinforcement	The presentation of a reinforcer following a response, making it more likely that the reinforced	Increase anti-littering behavior (i.e., litter collection in a movie theatre/campground)	Burgess et al., 1971; Chapman & Risley, 1974; Clark et al., 1972; Hayes et al., 1975

### Social Validity

Increase bus ridership

Gasoline conservation

Everett et al., 1974

Foxx & Hake, 1977

• When considering the current state of the global environment, each of these studies is socially significant when measuring the acceptability of the objectives, the procedures employed, and the importance of its effects (Wolf, 1978)

behavior will occur again in

the future. Incentives were

environmental behaviors in

offered to increase the

occurrence of pro-

these studies.

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#### Results

- ABA procedures were utilized to effectively increase environmentally conscious behaviors
- All 10 studies demonstrated a functional relationship between the independent variable(s) and dependent variables
- Positive effects were established in all studies under review, however, the size of effect for some were too small to be considered socially significant

#### **Future Directions**

- Future research should focus on evaluating the longitudinal effects of ABA on increasing pro-environmental behaviors
- Continue to evaluate how ABA can play a greater role in effectively targeting, developing, and maintaining sustainable behaviors on a societal and global scale
- Concentrate on how ABA can strongly impact and increase its presence in developing collaborative solutions and technologies with other disciplines