Exploring the Influence of Conditions on Pro-Environmental Behavior

Applying the Reasonable Person Model to Personal Transportation Behavior

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Presentation Overview

- Research framing
- Influence of conditions on behavior
- Reasonable Person Model
- Research study design
- Research study findings and implications
My Research Journey

• Concern/interest: Why is engaging in pro-environmental behavior (PEB) so difficult to do, even for environmentally concerned individuals?

• Educational approach- school reform (original focus)

• Interdisciplinary approach to research (dissertation)
  • Adults: *All in the Timing* (Hatfield-Dobbs, 2013)
  • Learning in everyday life where barriers to PEB exist
  • Influence of conditions on learning and behavior
Why Study Personal Transportation Behavior

- State of the environment and climate change (Barnosky et al., 2012; Halpern, et al., 2008; Rockstrom, et al., 2009)

- Role of human behavior and high consumption lifestyles (Flamm, 2009; Steg & Vlek, 2007; Goodall, 2010; Shulman, 2012; Barnosky, et al., 2012; Dietz & Stern, 2002; Crompton, 2008)

- Carbon footprint of different individual behaviors (Goodall, 2010; Shulman, 2012) transportation, stuff we buy, home heating and cooling, other home energy, food
Pro-Environmental Behavior (PEB) and Personal Transportation

- Personal Transportation PEB- “difficult to achieve” (Corbett, 2005; Wals & Schwarzin, 2012, Steg & Vlek, 2009) yet high impact (Leon & Brower, 1999; Shulman, S., et al., 2012; Tanner, 1999) pro-environmental behavior

- Motivation for Research Study: How do we shift behavior in personal transportation?
The Intention-Behavior Gap

- Environmental Behavior Theories/Models
  - Model of Responsible Environmental Behavior (Hines, Hungerford & Tomera, 1987)
  - Values-Beliefs-Norms model (Stern, 2000)


- Attitude/Beliefs/Values-Behavior Gap (Heimlich & Ardoin, 2008; Tanner, 1999; Blake, 1999)
Conditions for Pro-Environmental Behavior

- **Intercede intention and behavior**
- **Conditions** (Kaplan & Kaplan, 2009; Steg & Vlek, 2002; Kollmuss & Agyeman, 2002; Schultz, 2002; learning· Barron, 2004) constitute the context that influences an individual and can support or inhibit different behaviors.
  - **Social conditions** include influence by friends, family and others that matter to the individual.
  - **Physical conditions** include things such as infrastructure and availability of products and services.
  - **Conceptual conditions** include opportunities to explore and understand behavior, consequences and personal control.
Roles of Conditions

- Conditions can **directly** support or inhibit a behavior.
- Conditions **indirectly** support or inhibit a behavior through affecting motivation.
  - Meeting human needs (Kaplan, 2000)
  - Appealing to self-interest (DeYoung, 2000; Lindenberg & Steg, 2007; Schultz & Zelezny, 2003)
  - Enhance quality of life rather than sacrifice (DeYoung 2000)
Reasonable Person Model (Kaplan & Kaplan 2003, 2009, 2011)

- **Emphasis on conditions** rather than trying to explain or predict behavior

- Premised on how people can feel lost, confused, disoriented, overwhelmed and even helpless when conditions are NOT supportive

- Blends **self-interest**, motivation and conditions together as influence on human behavior

- Relatively untested and unexplored in relation to pro-environmental behavior
Reasonable Person Model (RPM)

- To bring out the best in people, conditions must meet people’s needs* to
  - Explore and understand (model building)
  - Be competent, clear-headed (being effective)
  - Participate and make a difference (meaningful action)

* Model calls these information related needs, not focus of study
Research Study

- Teacher Institute setting - 32 teachers
- Personal Climate Action Plans
- 5 case studies (longitudinal) - personal transportation (purposive sample)
Research Questions

- **What** conditions influence individuals in efforts to engage in personal transportation *pro-environmental behavior*?

- **How do** conditions influence individual efforts to engage in personal transportation *pro-environmental behavior*?
  - As **barriers** to *pro-environmental behavior*
  - As **supports** to *pro-environmental behavior*

- For each individual, how does the **influence of conditions help explain his or her engagement** with personal transportation *pro-environmental behavior*?
Research Methods

- Two interviews of each participant
- Short written surveys
- Document analysis
- Observation of institute
- Data analysis- a priori (RPM) and open coding (alternative hypotheses)
- Individual vignettes
Findings: Individual #1

- **Bus/walk to work 2 days/week** - mostly successful
  - Family and colleague’s support
  - Personal benefits - health
  - Meeting family and work needs = constraint
  - Desire to manage time better to allow PEB

“just thinking that out a little more clearly about how my mornings can be effective when I am giving up that time”
Findings: Individual #2

- **Bike to work every day** - very successful
  - Support from family, colleagues and students
    - “oh man, that is really awesome that you are doing that”
    - “I feel it's this nice little positive influence on other people and if I can do that, why not.”
    - “part of the ‘biking community’”

- Multiple personal benefits
  - “health-wise I felt a lot better doing it, so I wanted to keep doing it. Shoot, I lost like 7 pounds already...half of my commute is going through Golden Gate Park. I get to see coyotes running around early in the mornings.”
Findings: Individual #2 continued

- **Bike to work every day** - very successful
  - Overcomes physical barriers
  - Habit

  “it's my routine now. If I keep doing it, it's going to be the thing that I do, not just a routine. It's my way of life essentially, it might end up becoming.”
Findings: Individual #3

- **No car twice a week** - somewhat successful
  - Some family and friends opposed or not supportive
    - [Others saying]- “you're being ridiculous...really, is that so important to you?..why wouldn't you just take your car?”

- Lack of acceptable alternatives to work
  - “bicycl[ing] is about 45 minutes and arriving a bit winded and sweaty [or] 45 minutes in a bus where you are probably a little antsy about getting things done ... I already get up at 5:30/6:00 and I would have to get up almost an hour earlier [to bike or take bus]. I don't think that is really worth it.”
Findings: Individual #4

- Subway/walk to work at least 3 days/week- very successful
  - Found system convenient and dependable
    “I haven’t had any [subway] problems in the sense of running late or problems with the service ... I know exactly the time that I am getting to school which is about 20 minutes before school starts. I haven't been late once this year.”

- Multiple personal benefits- lower stress, physical health
  “I don’t miss the car at all.”

- Bonding with other riders and neighbors
  “I'm more of a participant in the community.”
Findings: Individual #5

- **Bus to work twice a week- not successful**
- Limited family or other support
  
  “[pause] I got support from my wife. She was proud of me for taking the bus. Maybe, she was a little skeptical that I would. [laughs]”

- Limited experience to explore and understand
  
  “I would have to find $2.10, just an extra burden to think about.”
Findings: Overall Influence of Conditions

- Institute, as *conceptual* condition, largely influenced *intention* not personal transportation behavior
  - Institute curriculum increased awareness of environmental problems and role of human behavior
    “I don’t use my hair dryer nearly as much as I would have in the past.... I no longer use my coffee pot in my classroom, because we did that experiment and saw how much heat and wattage that you use to have it on all day long.”
  - Personal Climate Action Plan- ‘commitment’
Findings: Overall Influence of Conditions

- Conditions, beyond institute, varied and influenced how engaged each individual was with chosen PEB
  - Intention-behavior gap
- Success with individual PEB among participants in this study related to the amount and intensity of *conditions* serving as supports relative to barriers
- Environmental concern (alternative hypothesis)- not a consistent influence
Findings: Role of Conditions

- Conditions served as **direct support**

- Social conditions supported learning how to do behavior (e.g.: fix a flat tire)

- Conceptual conditions allowed participants to explore and understand behavior **personal control and benefits** of behavior
  - Learning through experience in ‘everyday’ context
Findings: Role of Conditions

- Conditions served as **direct barriers**

- Physical conditions often provided barriers (especially for bus and biking) and sometimes support (BART, bike shop, cost, etc)

- Everyday life constraints- time, work, family
Findings: Role of Conditions

- Conditions **affect motivation**, often based on self-interest
  - Feeling competent (human need) as motivating influence
  - Personal benefits, enhancing quality of life
  - Social benefits (e.g. participating with others, recognition, role model)
Findings: RPM (a priori codes)

Explore and understand biking, subway, bus system through experience (NOT confused)

Bike rider felt she was making a difference as a role model; motivation from participation with others.

Competence and clear-headedness enabled and motivated alternative commuting.
Findings: Limits of applying RPM to PEB

- Such a general theory can be applied widely but is limited in explaining or predicting a specific phenomenon (McAdam, 1999).
  - E.g.: being effective (general) through being safe, comfortable, convenient, saving money, etc. (specifics)

- Evidence of alternative hypotheses
  - Social influences more prominent and complex
  - Constraints and barriers of ‘everyday’ life; practical reality
  - Habitual nature of humans
Implications

- More research focused on conditions that influence personal transportation choices (affect motivation, overcome barriers and change habits)
  - Social influences
  - Information/technology (conceptual)
  - Everyday learning, primarily through experience (conceptual)

- Education for behavior change
  - Emphasize understanding of influence of ‘real world’ conditions
  - Experiential learning

- Is a social movement needed?