

DOES PRIMING FOR NURTURANCE LEAD TO MORE SUSTAINABLE BEHAVIOR?

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What is environmental sustainability?

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

(World Commission on Environment and Development, 1987)

Gender and Sustainability

- Of all demographic information, gender is the most consistent predictor of environmental concern

(Koger & Winter, 2010)

- Girls and women more likely than boys and men to:
 - Report environmentally-friendly attitudes
 - Engage in private sustainable behaviors

(Engle-Friedman, Lee, Furman, Maculaitis, & Cho, 2010; Zelezny, Chua, & Aldrich, 2000)

Gender and Sustainability

- Longitudinal gender differences:
 - Over nine months in 2009, findings showed that men express less concern about climate change
 - Feelings of control in regards to environmental change decreased for men, but increased in women

(Engle-Friedman, et al., 2009)

Explaining the Gender Difference

- Socialization of Women and Men (Gender roles)
 - “Marketplace Mentality”
 - Men socialized to be “breadwinners”; “rational, masterful, accumulative, and competitive”
 - Extends to attitudes of dominance over the environment
 - “Motherhood Mentality”
 - Women socialized to be caretakers or caregivers; nurturing, compassionate, cooperative, and helpful
 - Caregiver role extends to protective attitudes toward nature

(Mohai, 1992; Blocker & Eckberg, 1993; McCright, 2010)

Generativity

- The concern for future generations and the desire to leave the world in a better condition for future generations
- Higher values in generativity correlate with higher environmental responsibility and attitudes

(Matsuba, Pratt, Norris, Mohle, Alisat, & McAdams, 2012)

- Concern about future consequences is related to self-reported environmental or health behaviors

(Strathman, Gleicher, Boninger, & Edwards, 1994)

Questions We Hope to Answer

- Can traits associated with women be stimulated in the general population?
(examples: nurturance, caring, compassion, generativity)
- Can traits associated with women be primed?
(nurturing prime)
- Can a nurturing prime increase environmentally sustainable behavior?

Hypotheses

- H1: Experimental group (nurturing prime) higher scores on nurturing emotions (e.g., compassion, kindness, etc.) than control group (neutral statements)
- H2: Experimental group will select sustainable option (in behavioral assessment) more often than the control group

Methods Overview

Control (n=33)
1. Nurturing-Type Scale (Pre-test)
2. Neutral Scenarios
3. Nurturing-Type Scale (Post-test)
4. Behavior Measure
5. Personality Scales (Generativity & Nurturing)
6. Demographics

Experimental (n=34)
1. Nurturing-Type Scale (Pre-test)
2. Nurturing Prime
3. Nurturing-Type Scale (Post-test)
4. Behavior Measure
5. Personality Scales (Generativity & Nurturing)
6. Demographics

*Participants were randomly assigned to conditions.

Methods: Primes

- Priming: When exposure to a stimulus influences the response to a stimulus that occurs later unconsciously
- Primes effective in eliciting compassionate and empathetic feelings
 - Example: Participants who read a priming story reported higher levels of compassion
(Mikulincer, Gillath, Halevy, Avihou, Avidan, & Eshkoli, 2001)
- In our prime, participants were asked to:
 1. Read and imagine themselves in a scenario
 2. Describe in a brief paragraph what they would do, feel, think, say during and after the scenario

Methods: Primes

1. Neutral scenarios (control group)
2. Nurturing prime (experimental group)
3. Material Preparation Studies

Methods: Neutral Scenarios (Control)

- Control group received only 5 neutral scenarios
- Neutral scenarios should not elicit any emotions
- Participants' moods should not change before and after scenarios

Please read the following scenario carefully.

Imagine you are in a kitchen. You open a cabinet and look at the cups on the shelves. You pick the cup that is closest to you. You take the cup out of the cabinet and place the cup on the kitchen counter. You close the cabinet doors. You pick up a pitcher and pour yourself a drink. You take a sip of the drink and then set the cup down.

Imagine yourself in the scenario above.

In a paragraph (140 letters or more; approximately 3 to 4 sentences), describe what you think you would do or would happen next in the scenario.

Please write in full sentences using correct grammar and punctuation, and only write about the scenario above.

Methods: Nurturing Prime (Experimental)

- Nurturing prime consists of 3 nurturing scenarios and 2 neutral scenarios
- Order of appearance:
 1. Nurturing
 2. Neutral
 3. Nurturing
 4. Neutral
 5. Nurturing

Methods: Nurturing Prime

- Nurturing scenarios stimulate feelings of caring, compassionate, loving, and nurturing
- Neutral scenarios were added nurturing scenarios to prevent demand characteristics

Please read the following scenario carefully.

Imagine it is a sunny day, and you are walking your baby in a stroller. He starts to cry. You check on your baby and see that his arms are reaching up at you, so you pick him up. You sing a playful nursery rhyme to your baby. Your baby stops crying immediately and begins to smile and coo at you. Your baby touches your face tenderly with his tiny, delicate hands.

Imagine yourself in the scenario above.

In a paragraph (140 letters or more; approximately 3 to 4 sentences), describe what you think you would do or would happen next in the scenario.

Please write in full sentences using correct grammar and punctuation, and only write about the scenario above.

Material Preparation Studies

- Selecting the scenarios:
 - Determine which scenarios are **least emotional** and **most nurturing**
 - Participants read a pool of nurturing and neutral scenarios, then assessed how scenario made them feel on a scale of primary emotions (e.g., loving, joy, angry, surprised, sad, indifferent)

Measures: Nurturing-Type Scale (NTS)

- Asks participant to report his or her mood **before** and **after** the prime; particularly, feelings of nurturance.
- To ensure that the prime is eliciting nurturing feelings
- Based on the POMS (Profile of Mood States) Brief Form;
 - “Assesses affective mood state fluctuation” on a 5 point Likert scale
(McNair, Lorr, Droppleman, 2003)
 - Contains total of 19 adjectives describing moods
 - 11 random adjectives borrowed from the POMS Brief (fillers)
 - 8 nurturing-type adjectives: Compassionate, kind, caring, helpful, tender, sympathetic, concerned, and loving

Directions: Below is a list of words that describe feelings people have. Please read each word carefully. Then select the option that best describes how you feel RIGHT NOW.

	Not at all	A little	Moderate	Quite a bit	Extremely
Tense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kind	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Active	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compassionate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Energetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exhausted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Caring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fatigued	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sympathetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sluggish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Behavioral Assessment

- Assess whether nurturing prime results in choice of sustainable option
- Two options for hypothetical Baruch construction project:

Factors	Green Plaza (Sustainable Option)	Urban Plaza
Sustainability	Has vegetation, offset climate change	Concrete and brick absorbs, radiates heat
Inconvenience	Inconvenience for 12 months	Inconvenience for 6 months
Appearance/Materials	Has vegetation, all else same	Concrete and brick, all else same
Cost	Same	Same
Purposes/Use	Same	Same

Behavioral Assessment

- Participants voted for preferred plaza
 - Green plaza or Urban plaza
- Participants indicated importance of each factor in decision
 - Primary reason for choice

Please think about the benefits and costs for each plan for the 25th Street Plaza. Consider how they might affect Baruch's students and staff now and in the future. If you had the opportunity to vote for one of the plans, which plan would get your vote?

- I am voting for the URBAN PLAZA
- I am voting for the GREEN PLAZA

Please rate how important each of the following factors was in your decision making:

	Not at all Important	Very Unimportant	Neither Important nor Unimportant	Important	Very Important
How the plaza will look	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How comfortable the plaza will be	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The materials used to build the plaza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How long the plaza will take to build	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much the plaza will benefit the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number of purposes the plaza can serve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The inconvenience of the construction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other Reasons (Please specify):

Measures: Personality Scales

- Loyola Generativity Scale (LGS)
 - 20-item self-report questionnaire assessing generative behavior and attitudes scored using a 4-point Likert scale
(McAdams & de St. Aubin, 1992)
- Personality Report Form (PRF), Nurturance Scale
 - 16-item True/False self-report questionnaire assessing general nurturing behaviors and attitudes
 - Taken from the Personality Report Form
(Jackson, 1974)

Participants

- Total: $n=67$, Mean age = 21.61
- Men: $n=40$, Mean age =
- Women: $n=26$, Mean age =

*One participant did not report gender

Results

Table 1: Differences between Control and Experimental Groups

Measure	F-value	Sig.
Nurturing-Type Scale (Post-test)	8.86	0.03
Change in Nurturance	3.11	.000
Behavior Measure		NS
Loyola Generativity Scale		
Personality Report Form		

- Participants who received nurturing prime (exp.) scored significantly higher on nurturing-type adjectives compared to those who did not (control)
- The experimental group reported a significant change in feelings of nurturance from the pre- to post-tests

Results

Table 2: Differences between Gender (Men and Women)

Measure	F-value	Sig.
Nurturing-Type Scale (Post-test)	.430	NS
Change in Nurturance	.541	NS
Behavior Measure		
Loyola Generativity Scale		NS
Personality Report Form	.220	0.42

- Women reported higher scores on nurturance on the PRF

Results

Table 3: Factors of Behavioral Assessment

Factor	Vote	Conditions	Gender
Appearance	NS	NS	NS
Comfort	0.20	NS	NS
Materials Used	NS	NS	NS
Time to Build	0.00	NS	NS
Sustainability	NS	NS	0.50
Purposes of Plaza	NS	NS	NS
Time of Inconvenience	0.01	NS	NS

- **Comfort** was a significant factor for participants who chose the **green plaza**
- **Length of inconvenience** and **time to build the plaza** were significant factors for participants who chose the **urban plaza**
- **Women** chose **sustainability** as a deciding factor significantly more often than **men**

Results

- Other findings:
 - People with high scores on the nurturing adjectives (NTS, post-test) tended to choose the green option more often, $t(58) = -2.67, p = 0.01$
 - There is a .363 correlation between PRF scores and scores on nurturing adjectives on the NTS (post-test)

Confounds/Limitations

- NTS could have been measuring positive valence instead of nurturance
- People may have been choosing behavior measure because it is the “easy choice”
- PRF was not very reliable ($\alpha = .68$)

Future Considerations

- How can we improve our behavior measure/other ways of measuring sustainable behavior?
- Are there more effective ways to prime for sustainable behavior?
 - E.g. Articles or videos

Acknowledgements

Thank you:

- The National Science Foundation
- Dr. Mindy Engle-Friedman
- Dr. Park & the REU faculty
- Rachel Jespersen
- Eunjung Lee & Gleb Furman
- ...And, our wonderful lab 😊