WIC and Food Insecurity
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Literature review by Emily Heberlein
Outline

• Conceptualization of food insecurity
• Prior research on food insecurity and WIC
• Food insecurity as stressor
  – Elimination example
  – Buffering examples
• Other potentially useful concepts
  – Synergy of tangible benefit and behavior change
  – Family demands and capabilities
• Some research questions
Food Insecurity
Uncertain, insufficient, or unacceptable availability, access, or utilization of food

- Management Strategies
- Livelihood Strategies

- Distress & Adverse Family & Social Interactions
- Worry & Anxiety
- Deprivation & Alienation

- Nutritional status
- Dietary Intake
- Hunger

- Well-being

National Research Council, 2006
Nord (2009)

• Of households that received WIC in the past 30 days:
  – 23% had a food-insecure adult or child
  – 11% had a food-insecure child

• Of low-income households with FIS, 19% on WIC (6% on WIC alone)
Black et al. (2004)

- Medical chart reviews & household surveys in six cities
- FIS prevalence (%, unadjusted)

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<tbody>
<tr>
<td>Participants</td>
<td>23</td>
</tr>
<tr>
<td>Non-participants with access problems</td>
<td>28</td>
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<tr>
<td>Non-participants with no perceived need</td>
<td>11</td>
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Not different after covariate adjustment
Kropf et al. (2007)

- 2006 survey of WIC and WIC FMNP participants in Athens County, OH
- FIS associated with poorer diet quality

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<thead>
<tr>
<th>Household food security</th>
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<tbody>
<tr>
<td>Marginal</td>
<td>21</td>
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<tr>
<td>Low</td>
<td>33</td>
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<td>Very low</td>
<td>20</td>
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<td>Child low food security</td>
<td>21</td>
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Bitler et al. (2005)

• Compared WIC participants and eligible non-participants using 1996 SIPP
• Higher proportion of FIS among participants than eligible non-participants → WIC reaches women and children at greater nutritional risk
• Large number eligible and FIS, but not participating
Herman et al. (2004)

- Prospective, with 313 pregnant, African-American and Hispanic first time participants in CA during 1999
- Enrollment at end of third trimester and 3-6 months postpartum
- 41% FIS at enrollment, 8% with moderate or severe hunger
- Half of these FS at the postpartum visit
Herman et al. (2004)

- High-school education and enrolling in Medicaid associated with increasing the odds of achieving food security
- 2/3 spent less money on groceries after enrolling (most commonly, extra money was spent on items for the baby)
- For 1/3, WIC benefits completed household food budget
Metallinos-Katsaras et al. (2010)

- 5 years of administrative data, MA WIC
- FIS women with hunger in prenatal period had reduced risk for any post-partum food insecurity if WIC participation began during 1st or 2nd trimester, compared to the 3rd
- For FIS children at initial WIC visit, each additional WIC visit (=additional 6 months’ participation in WIC) associated with decreased risk of FIS at last WIC visit
Stress elimination model

Program → Domestic violence
          → Food insecurity
          → Measured economy
          → Perceived economy
          → Social constraints

Distress → Wellbeing

BRAC Ultra-Poor Program in Bangladesh
Stress elimination model

Program

Domestic violence
Food insecurity
Measured economy
Perceived economy
Social constraints

74%

Distress

Wellbeing

29%

BRAC Ultra-Poor Program in Bangladesh
Food supplement program, cortisol, & BW

N=1041  Adjusted for block, BMI, parity  Interaction term (P < 0.04)
Early vs. usual supplementation

NCAST total score

Secure (25\%ile)  Insecure (75\%ile)

Food insecurity

p=0.04

Similar pattern for physical abuse
EBF+HC vs. HC

NCAST total score

p=0.06
Tangible benefit and behavior change communication

• Societal benefit from WIC FMNP comes when coupons and information given together

• Food voucher and behavior-change-communication components in WIC may be synergistic

Patterson (2002)
Some research questions

1. Does WIC reduce food insecurity, thereby leading to better outcomes?
2. Does WIC buffer the effects of food insecurity?
3. Does the food component of WIC primarily benefit those who are most food insecure?
Some research questions

4. Does behavior change communications component of WIC primarily benefit those who are the least food insecure?

5. Should FIS be eliminated with food component before initiating behavior change communication to obtain synergy?

6. Does WIC reduce demands and increase capabilities, and how can WIC best help families balance these?