The Relationship Between Physical Inactivity and Family Life Course Stage

Margo Hilbrecht, University of Guelph
Suzy Wong, University of Waterloo
Judith Toms, University of Missouri
Mary Thompson, University of Waterloo

Health over the Life Course Conference – University of Western Ontario – October 15-16, 2009
Background to the study

- Physical inactivity and established health risks

- Rates of physical inactivity in Canada (CFLI, 2007)
  - 51% of Canadian adults
  - 52% of women and 48% of men

- Participation in physically active leisure
  - Linked to personal roles and responsibilities, time constraints, physical environment, and social support
Other factors influencing physical activity levels

- **Mostly consistent evidence:**
  - *Age:* Physical activity decreases with age
  - *Income:* Higher income associated with more physical activity & fitness
  - *Gender:* Men spend more time in physical activity than women

- **We’re less certain about:**
  - *Single or partnered?*
    - Singles more active (Spanier & Allison, 2001; Downward & Kay, 2005)
    - Marrieds more active (Hurst, 2009)
    - Married and single mothers equally active (Bianchi et al, 2006)
  - *Parent or childless?*
    - Childless more active (Hurst, 2009)
    - May depend on interaction of age of children, parents’ gender, spousal role (Miller et al, 2002)
To explore the associations between leisure time physical inactivity, household structure, and family life cycle stage for men and women in Canada.

Questions:
- What is the relationship between household structure, gender, income and leisure time physical activity?
- How does age of children in the household influence adults’ participation in physically active leisure?
### Theoretical framework

<table>
<thead>
<tr>
<th>Social-ecological model</th>
<th>Family life cycle theory</th>
</tr>
</thead>
</table>

- **Importance of social and physical environment**
- **Interpersonal, institutional, community, and public policy levels of influence**
- **De-emphasizes individual lifestyle “choice”**
- **Families progress through sequential stages based on presence and age of children**
- **Behaviour adapted to social norms and expectations for each stage**
Methods

- 2003 Canadian Community Health Survey, Cycle 2.1
- Computer assisted telephone (CATI) and personal interviews (CAPI)
- Sub-sample of 57,832 adults between 18 to 64 years old
- Logistic regression models using survey bootstrap weights
- **Physical Activity** - Self-reported leisure time physical activity for previous 3 months (Kilocalories per Kilogram of body weight per Day)
  - **INACTIVE**: < 1.5 KKD
  - **ACTIVE**: > 1.5 KKD
Explanatory factors

- **Household Structure**
  - Single or partnered
  - Co-resident children; no children at home

- **Income**
  - Household income adequacy
  - Highest, upper-middle, lower-middle, lowest

- **Age of youngest child**
  - < 6, 6 – 11, > 11 years old
  - stages: childbearing, school age, secondary school

- **Age of parents**
  - 18 - 30, 31 - 40, 41 - 50, and 51 - 64 years old

- **Interview mode**
  - CAPI – Computer Assisted Personal Interview
  - CATI – Computer Assisted Telephone Interview
Household structure by gender, unweighted (% of sample)

<table>
<thead>
<tr>
<th>Household Structure</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unattached, living alone</td>
<td>14.7</td>
<td>12.4</td>
</tr>
<tr>
<td>Living with partner</td>
<td>11.3</td>
<td>14.5</td>
</tr>
<tr>
<td>Parent living with partner and child (ren)</td>
<td>21.7</td>
<td>25.8</td>
</tr>
<tr>
<td>Single parent living with child (ren)</td>
<td>7.6</td>
<td>1.3</td>
</tr>
</tbody>
</table>
FOR ADULTS LIVING WITH A PARTNER

Potential *gender* effects of having children on the probability of being inactive

<table>
<thead>
<tr>
<th>Factor</th>
<th>Category</th>
<th>Reference Category</th>
<th>Odds Ratio and 95% CI, ( p \leq .05 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of child</td>
<td>&lt; 6 yr</td>
<td>No child</td>
<td><strong>1.11</strong> (1.04, 1.19)</td>
</tr>
<tr>
<td></td>
<td>6-11 yrs</td>
<td></td>
<td><strong>0.92</strong> (0.85, 0.99)</td>
</tr>
<tr>
<td>Income adequacy</td>
<td>Lower middle</td>
<td>Lowest</td>
<td><strong>1.24</strong> (1.14, 1.36)</td>
</tr>
<tr>
<td></td>
<td>Highest</td>
<td></td>
<td><strong>0.62</strong> (0.59, 0.66)</td>
</tr>
<tr>
<td>Interview mode</td>
<td>CAPI</td>
<td>CATI</td>
<td><strong>1.16</strong> (1.12, 1.20)</td>
</tr>
<tr>
<td>Interaction effects</td>
<td>Male * child &lt; 6 years old</td>
<td></td>
<td><strong>0.92</strong> (0.87, 0.97)</td>
</tr>
</tbody>
</table>

*Also included: age group and sex of respondents.*
FOR ADULTS LIVING WITH A PARTNER
Potential *income* effects of having children on the probability of being inactive

<table>
<thead>
<tr>
<th>Factor</th>
<th>Category</th>
<th>Reference Category</th>
<th>Odds Ratio and 95% CI, ( p \leq .05 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of child</td>
<td>&lt; 6 yr</td>
<td>No child</td>
<td><strong>1.16</strong> (1.07, 1.26)</td>
</tr>
<tr>
<td>Income adequacy</td>
<td>Lower middle</td>
<td>Lowest</td>
<td><strong>1.22</strong> (1.11, 1.34)</td>
</tr>
<tr>
<td></td>
<td>Highest</td>
<td></td>
<td><strong>0.62</strong> (0.58, 0.66)</td>
</tr>
<tr>
<td>Interview mode</td>
<td>CAPI</td>
<td>CATI</td>
<td><strong>1.16</strong> (1.11, 1.20)</td>
</tr>
<tr>
<td>Interaction effects</td>
<td>Lower middle inc.</td>
<td>* child &lt; 6 yrs old</td>
<td><strong>1.13</strong> (1.00, 1.27)</td>
</tr>
</tbody>
</table>

*Also included: age group and sex of respondents.*
FOR ADULTS LIVING WITH AT LEAST ONE CHILD
Potential *gender* effects of having a spouse/partner on the probability of being inactive.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Category</th>
<th>Reference Category</th>
<th>Odds Ratio and 95% CI, p ≤ .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>Female</td>
<td>0.90 (0.82, 0.98)</td>
</tr>
<tr>
<td>Age of child</td>
<td>6-11 yrs</td>
<td>&gt; 11 years</td>
<td>0.92 (0.87, 0.97)</td>
</tr>
<tr>
<td>Interview mode</td>
<td>CAPI</td>
<td>CATI</td>
<td>1.19 (1.13, 1.25)</td>
</tr>
<tr>
<td>Interaction effects</td>
<td>Male * child &lt; 6 years old</td>
<td></td>
<td>0.94 (0.89, 0.99)</td>
</tr>
</tbody>
</table>

*Also included: age group, single or living with partner.*
## FOR ADULTS LIVING WITH AT LEAST ONE CHILD
Potential *income* effects of having a spouse/partner on the probability of being inactive.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Category</th>
<th>Reference Category</th>
<th>Odds Ratio and 95% CI, p ≤ .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living Arrangement</td>
<td>Single</td>
<td>Partnered</td>
<td><strong>0.89</strong> (0.82, 0.96)</td>
</tr>
<tr>
<td>Age of child</td>
<td>6-11 yrs</td>
<td>&gt; 11 yrs</td>
<td><strong>0.91</strong> (0.85, 0.97)</td>
</tr>
<tr>
<td>Income adequacy</td>
<td>Lower middle</td>
<td>Lowest</td>
<td><strong>1.23</strong> (1.12, 1.34)</td>
</tr>
<tr>
<td></td>
<td>Highest</td>
<td>Highest</td>
<td><strong>0.58</strong> (0.54, 0.62)</td>
</tr>
<tr>
<td>Interview mode</td>
<td>CAPI</td>
<td>CATI</td>
<td><strong>1.16</strong> (1.11, 1.22)</td>
</tr>
<tr>
<td>Interaction effects</td>
<td>Male * child &lt; 6 years old</td>
<td></td>
<td><strong>0.94</strong> (0.89, 0.99)</td>
</tr>
</tbody>
</table>

*Also included: age group and sex of respondents.*
Discussion

- **Adults at greatest risk of physical inactivity:**
  - Parents with young children, especially mothers
  - Lower-middle income group

- **Family life cycle theory**
  - Age of children more important than age of parents
  - Each stage shows different effects on adults’ activity levels

- **Social ecological model**
  - Single parents no more or less physically inactive during leisure unless controlling for income
  - Physical inactivity and lower middle income group

- **Importance of interview mode**
Summary and Policy Implications

- Concentrate on services and surroundings most accessible to vulnerable groups.
  - **Target environment** – not individual
  - **Physical activity promotion** – for those with young children - Daycare, Early Years Centres (Ontario), community centres, doctors’ offices, libraries, public transit, workplace initiatives, etc.
  - **Consider financial incentives** –
    - Subsidized/free child care at recreation centres
    - Tax breaks for lower and lower middle income adults; and for institutions offering free child care during phys. activity programs

- **Policy should be directed at many levels—institutional, community, provincial and federal to be most effective**
Thank you.