THE EFFECT OF MARRIAGE ON WEIGHT GAIN AND PROPENSITY TO BECOME OBESE IN THE AFRICAN-AMERICAN COMMUNITY

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Obesity in the U.S.

- Obesity is associated with a host of diseases and increased likelihood of premature death (National Center for Health Statistics 2006).

- The majority of U.S. adult citizens are considered to be overweight and about a third obese (National Center for Health Statistics 2006).
Obesity and Race

- African-American women are disproportionally obese at all ages relative to African-American men and women and men of other races (Burke and Heiland 2008).
Marriage and Obesity

- Marriage and health

- Few studies have examined the link between marriage and obesity
  - Inconsistent results regarding marriage and body mass index

- Even less well understood is how marriage relates to obesity by different race and ethnic groups
  - Yet marriage rates vary widely by race
Questions

- What change in the likelihood of becoming obese is associated with marriage?

- What change in Body Mass Index is associated with marriage?

- And how do these effects differ by race and gender?
Data

- NLSY 1979
- BMI = \[\text{weight} / \text{height}^2\] * 703
- Levels of BMI
  - underweight (BMI < 18.5)
  - normal weight (BMI in range 18.5-24.9)
  - overweight (BMI in range 25-29.9)
  - obese (BMI \geq 30).
- For example, if an individual is 5’9’’:
  - normal weight range is from 125 to 168 lbs.
  - overweight is 169-202 lbs.
  - obese is over 202 lbs.
- 2 outcomes – obesity and BMI index
Method

- Models aimed specifically at netting out selection bias
- Lagged Y-Regressor Model
- Individual level fixed effects
### Results

**Predicted probability of becoming obese in the next survey year, if an individual is not obese currently**

<table>
<thead>
<tr>
<th></th>
<th>never married, living alone</th>
<th>married</th>
<th>% change in probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>African-American women</td>
<td>7.24%</td>
<td>10.70%</td>
<td>**</td>
</tr>
<tr>
<td>African-American men</td>
<td>6.22%</td>
<td>5.84%</td>
<td>Not significant</td>
</tr>
<tr>
<td>White women</td>
<td>3.68%</td>
<td>3.93%</td>
<td>Not significant</td>
</tr>
<tr>
<td>White men</td>
<td>3.58%</td>
<td>4.34%</td>
<td>Not significant</td>
</tr>
<tr>
<td>Hispanic women</td>
<td>4.56%</td>
<td>6.81%</td>
<td>*</td>
</tr>
<tr>
<td>Hispanic men</td>
<td>7.15%</td>
<td>6.33%</td>
<td>Not significant</td>
</tr>
</tbody>
</table>
### Results (2)

**Individual fixed effects regression predicting Body Mass Index (BMI) by race and gender**

<table>
<thead>
<tr>
<th></th>
<th>African American</th>
<th></th>
<th>white</th>
<th></th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>women</td>
<td>men</td>
<td>women</td>
<td>men</td>
<td>women</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>married</td>
<td>0.56 ***</td>
<td>0.65 ***</td>
<td>0.46 ***</td>
<td>0.45 ***</td>
<td>0.63 ***</td>
</tr>
<tr>
<td>cohabiting with a partner</td>
<td>0.24 +</td>
<td>0.41 ***</td>
<td>0.11</td>
<td>0.16 ***</td>
<td>0.19</td>
</tr>
<tr>
<td>separated</td>
<td>0.00</td>
<td>0.13</td>
<td>-0.39 **</td>
<td>-0.19 *</td>
<td>0.09</td>
</tr>
<tr>
<td>divorced</td>
<td>0.42 +</td>
<td>0.06</td>
<td>-0.27 *</td>
<td>-0.08</td>
<td>-0.13</td>
</tr>
<tr>
<td>widowed</td>
<td>-0.26</td>
<td>-0.25</td>
<td>0.03</td>
<td>0.33</td>
<td>0.86 *</td>
</tr>
</tbody>
</table>

A .71 BMI increase is associated with a 5 lb increase for an individual who is 5’9”.
Summary

- Marriage is associated with an increase in the likelihood of obesity for African-American and Hispanic women.

- Marriage is associated with a modest increase in body mass index.
Conclusions

- These results call into question the role of marriage as a protective institution.

- We need to understand the mechanisms that produce weight gain in marriage.
  - This is particularly important for African American and Hispanic women.

- Health prior to marriage equally important as health within marriage.