

In sickness and in health? Comorbidity in older couples

Cara L. Booker, Ph.D.

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Comorbidity in couples

- Circumstances in which both members of a couple are affected by disease or disability
 - Concentration of disease/disability in couples affects the nature and distribution of the social cost of disease
 - Can explore disease processes, specifically relative importance of early and late environmental influences on health in later life

Theories of comorbidity

- Social contact and stress
 - Partnership has impact on
 - social engagement and risk of isolation
 - Stress system/response
- Social control and influence
 - Personal incentive to have a healthy partner and may attempt to control the behaviour of the partner
 - Intra-marital social control may be mutual and result in similar health outcomes
- Direct contagion
 - Exposure to partner's health-related behaviours, e.g. Second-hand smoke
 - Impacts of mental disorder or poor mental well-being
- Household production
 - Household-level production of basic commodities, e.g. meals and leisure activities
- Marriage market and marital stability
 - Less stable partnerships will result in higher value on maintaining marriage market value, i.e. staying in shape

Alternate Theories

- Foetal Origins Hypothesis
 - Changes *in utero* have an effect on later life outcomes
 - Cardiovascular disease
- Homophily
 - Association/Partnering with similar individuals

Research Questions

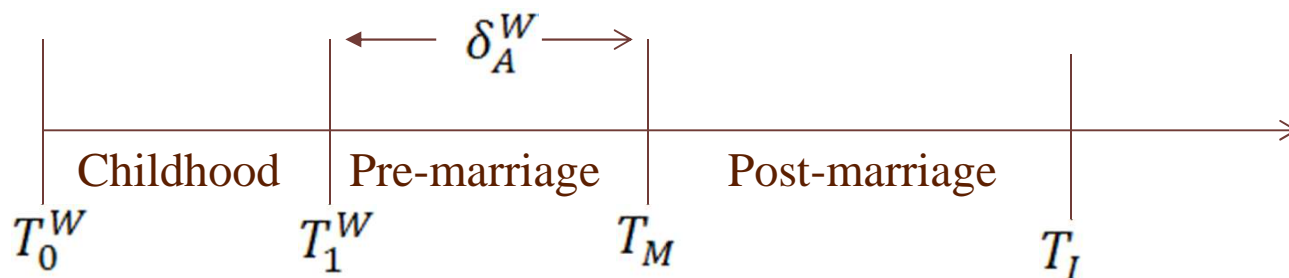
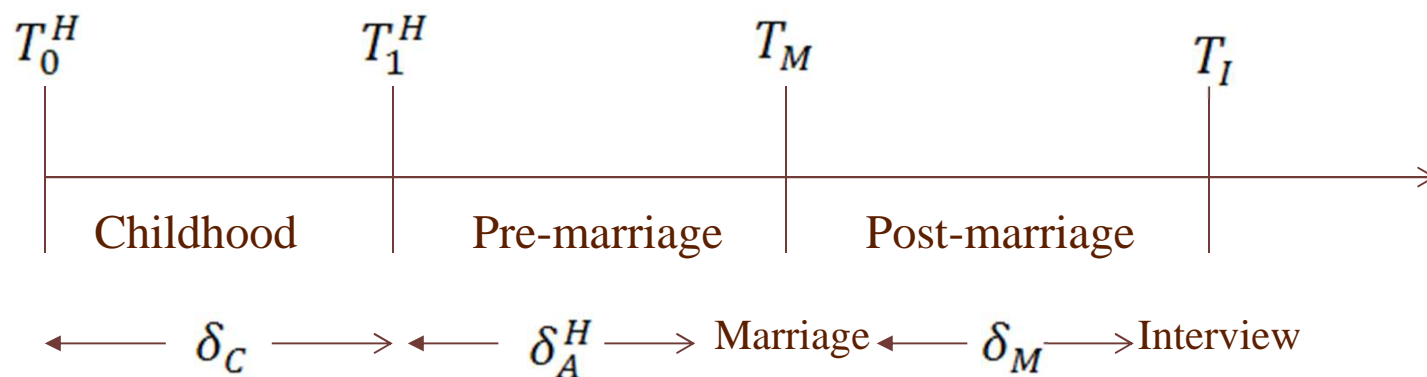
- Is there evidence of comorbidity?
- Is there evidence of homogamy in childhood and pre-partnership health outcomes?
- Is the degree of comorbidity attenuated with the inclusion of childhood and pre-partnership health outcomes?

Does comorbidity increase with partnership duration?

Data

- SHARELife
 - Wave 3 of SHARE
 - Survey of 50+ and their partners in 12 countries
 - Respondents were asked about personal histories using a computer-assisted life grid
 - We use data from both partners in a cohabiting/marital relationship (n=6999)

Three-phase Health measures



Childhood Measures

- Self-rated health
- Missed school for 1+ months
- Hospitalised 1+ month or 3 times in one year
- Number of illnesses
 - 0-5 years
 - 6-10 years
 - 11-15 years
- Any long-standing illness

Adult Health measures

Pre-marriage

- Number of illnesses starting pre-marriage
- Pre-marital ill health episode limiting activity
- Worst period of ill health pre-marriage

Post-marriage

- Self-rated health
- Number of illnesses starting post-marriage
- Post-marital ill health episode limiting activity
- Worst period of ill health post-marriage
- Dominant hand grip strength

Covariates

Childhood

- Country of residence dummies
- Year of birth
- Number of home moves
- Living in rural areas
- Parental drinking
- Childhood overlapped with WWII

Family SEP

Adult

- Country of residence dummies
- Age left education
- Length of period of
 - financial hardship
 - Hunger
- Ever smoked & years smoked
- Injured/disabled
- Length of pre-marital/marital period
 - Married or cohabiting
- Female covariates
 - Every given birth
 - Number of births
 - Age at first birth

Analysis

- Dynamic structural model of latent health

$$\begin{aligned} h_t^p &= \left[\sum_{s=1}^{15} \theta_{st} \lambda_s^p \right] + \left[\sum_{s=16}^{T_M - T_0^p} \theta_{st} \lambda_s^p \right] + \left[\sum_{s=16 + \delta_A^p + 1}^{T_I - T_0^p} \theta_{st} \lambda_s^p \right] \\ &= \Lambda_C^p + \Lambda_A^p + \Lambda_M^p \end{aligned}$$

Results - Descriptive

Childhood

- Over 60% reported excellent/very good SRH
- 10% missed school for 1+ months
- 7% were in hospital 1+ months or 3+ times/year
- 35-40% reported having 1 illness between ages 0-5 and 6-10
- Less than 10% reported having 1 illness from 11-15

Adult

- Pre-marriage
 - 2% had 1+illness start in this period
 - 10% work-related episodes
 - 4% had a period of poor health
- Post-marriage
 - <25% reported excellent/very good SRH
 - 10% had 1+ illnesses start in this period
 - 23% had work-related episodes
 - 39% had periods of poor health

Findings

- Most proximal health states were associated
 - Childhood health was associated with pre-marital health for both males and females
 - Only associated with males post-marital health
 - Pre-marital health was associated with post-marital health
 - Stronger association for females
- No correlation between male and female pre-marital health status over and above childhood health status correlation
- Significant correlation for post-marital health status

Comorbidity or Homogamy?

Table 1. Sources of variance and correlation in latent health during marriage

	Intra-marital sources of variation			All sources
	Unobservable	Observable	Pre-marital	
	Variance decomposition			
Wife	0.480	0.311	0.126	0.917
Husband	0.497	0.081	0.100	0.678
	Between-partner correlation in latent health			
	0.299	-0.74	0.247	

Conclusions

- The findings from this study suggest both comorbidity and homogamy are going on
- Need to better understand and address the unobserved factors
 - Did not have information about nutrition, physical activity or shared activities
 - Did not include labour force participation due to issues of reverse causality

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