INSTITUTE FOR SOCIAL RESEARCH
SURVEY RESEARCH CENTER
UNIVERSITY OF MICHIGAN

Parental Mental Health and Children's Timing of Marriage and Childbearing

William Axinn

September 27, 2023

Special thanks to Emma Banchoff, Kate Scott, Dirgha Ghimire and Stephanie Chardoul

Today's Presentation

- Intergenerational research with the CVFS
- Adding mental health measures – the Composite International Diagnostic Interview (CIDI) – to the CVFS in Nepal
- Independent associations between parental mental health and children's marriage and childbearing timing

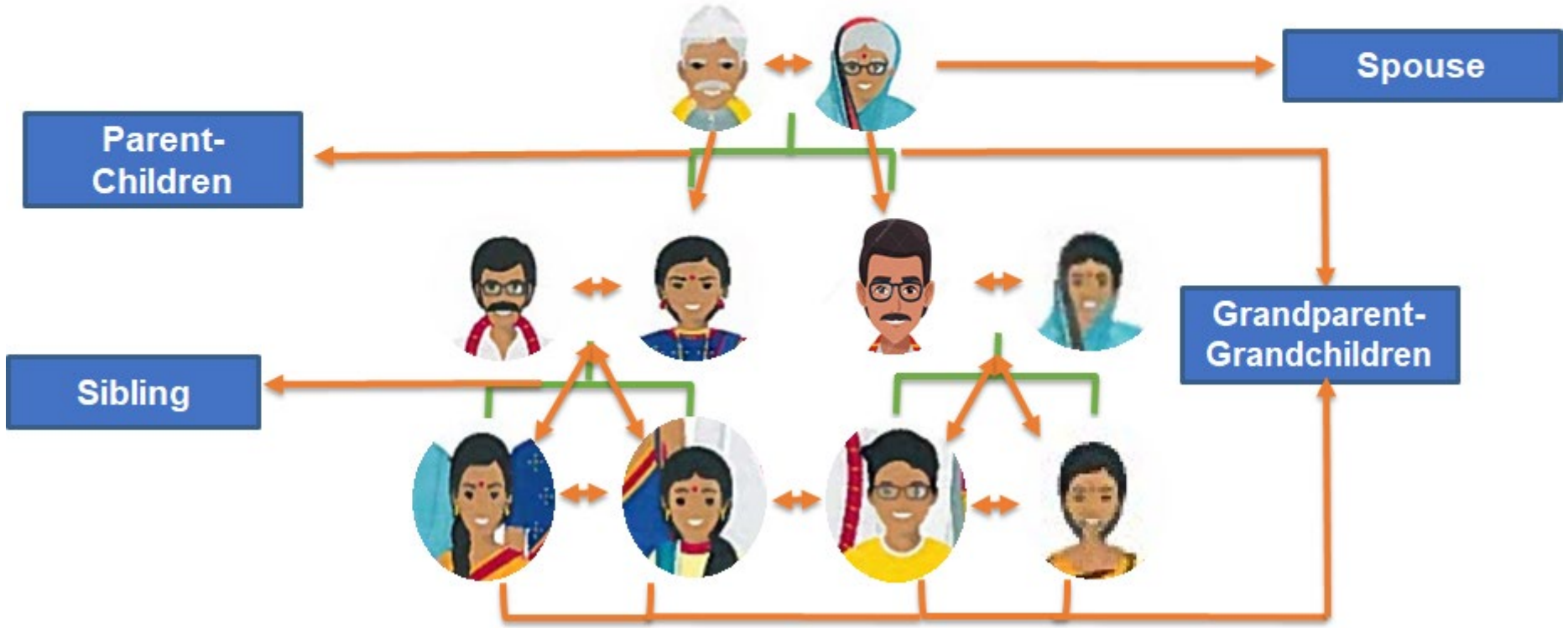
Intergenerational Research with the CVFS

- Whole family panel design
- More opportunities for intergenerational research over time
- New child health data
- New transition to adulthood data

Whole Family Panel Design

- Few longitudinal studies follow whole families
- The CVFS follows everyone in the household, including all parents, children, and siblings
- The CVFS follows new households that split off from existing households
- The CVFS adds anyone who marries a respondent, or any child born to a respondent
- This means the CVFS grows over time, adding more and more family members

Relationship with all household members



The CVFS is now more than 28 years old

- The CVFS has become a powerful resource for studying intergenerational influences
- CVFS “children”, now aged 15-25, are experiencing their own transitions into adulthood, including marriage and childbearing
- Those now 15-25 were all born *after* CVFS launch in 1995

New data on CVFS Children

2016, 2019, 2022 Panel Study of Children's Health

Previous Webinar: Child Health Data in the CVFS

Wednesday, January 12, 2022

Presenter: Emily Treleaven

New data on CVFS Children

2021-2024 Panel Study of the Transition into Adulthood

Previous Webinar: New CVFS Data on the Transition to Adulthood: Web Panel on Sensitive Topics

- **February 23, 2022**
  Presenters: William Axinn

New Webinar: Young Adult Substance Use, Sexual Experiences, and Contraceptive Choices

- **Wednesday, February 21, 2024**
  Presenter: William Axinn

Examples of CVFS Intergenerational Research

- Jennings, Elyse A, William G. Axinn, and Dirgha J. Ghimire. 2012. "The Effect of Parents' Attitudes on Sons' Marriage Timing." American Sociological Review 77(6):923-45. doi: 10.1177/0003122412464041. PMCID: PMC3590910.
- Smith-Greenaway, Emily, Sarah Brauner-Otto, and William Axinn. 2018. "Offspring Education and Parental Mortality: Evidence from South Asia." Social Science Research 76:157-68. doi: 10.1016/j.ssresearch.2018.07.001. PMCID: PMC6408726.
- Brauner-Otto, Sarah R., William G. Axinn, and Dirgha J. Ghimire. 2020. "Parents' Marital Quality and Children's Transition to Adulthood." Demography 57(1):195-220. doi: 10.1007/s13524-019-00851-w. PMCID: PMC7056585.

Today's Presentation

- Intergenerational research with the CVFS
- **Adding mental health measures – the Composite International Diagnostic Interview (CIDI) – to the CVFS in Nepal**
- Independent associations between parental mental health and their children's marriage and childbearing timing

Goals of Mental Health Research in CVFS

- Understand the health and wellbeing consequences of Nepal's armed conflict and 2015 earthquake
- Expand the study of predictors of variation and change in mental health
  - Community, household, and family
- Take full advantage of the CVFS "whole family" design
  - Intergenerational, spousal, and genetic

The Composite International Diagnostic Interview

- Survey instrument specially designed to generate diagnostic measures of mental disorders
  - Begins with screening items (such as mood), as used in some other surveys
  - Goes beyond screening to assess symptoms, duration, and functional impairment (behavioral, cognitive, and/or social) to meet diagnostic criteria
- All interviewing is done using a standardized instrument that can be administered by lay interviewers to generate validated diagnoses

The Composite International Diagnostic Interview

- Clinical validation of diagnoses measured in the survey is a key test of the survey instrument's success
- Validation is performed by having clinical professionals (psychiatrist, clinical psychologist, or clinical social worker) re-interview CIDI survey respondents, then test comparison of results
- Important to perform this validation in multiple languages and settings, directly with the target population

Adaptation for Nepal

- Nepal version of the World Mental Health (WMH) Survey Initiative Composite International Diagnostic Interview (CIDI)
  - Translation and cultural adaptation process
  - We only attempted a subset (8) of the CIDI diagnostic sections
  - The process still took more than 3 years
  - Lessons learned from earlier WMH CIDI data collections in Asia

- The CVFS provides respondents with a 20+ year track record of high confidentiality, within-family privacy, and protection from disclosure risks
- The CVFS has existing staff and procedures successful in translation/adaptation for the major Nepalese language/ethnic groups

Adaptation for Nepal

- Nepal version of the WMH-CIDI Interview
  - Linguistic and cultural variations in recalling and reporting time was a major obstacle to success
  - We added a life history calendar (described next)
  - We modified the language used for “time” thresholds in diagnoses
  - Iterative pilot studies
  - Validation was highly successful; similar to U.S. and European populations

Table 1: Clinical validation statistics comparing the Nepal LHC-CIDI to structured clinical interviews, compared with USA-based results

Disorder[a]	Country	Chi-squared[b]	AUC	Kappa
Major depressive disorder (MDD)	Nepal	4.4*	0.75	0.56
	USA	7.2*	0.75	0.54
Generalized Anxiety Disorder (GAD)[c]	Nepal	3.7*	0.67	0.45
	USA			
Alcohol Use Disorder (AUD)	Nepal	20.7*	0.95	0.79
	USA	7.3*	0.81	0.70
Posttraumatic Stress Disorder (PTSD)	Nepal	1.4	0.83	0.64
	USA	11.4*	0.69	0.49

[a] This table only includes a subset of validation statistics.
[b] * indicates a significant difference between the Structured Clinical Interview for DSM Disorders (SCID) and survey measures at the 0.05 level.
[c] There is no comparable CIDI-GAD sample for the USA.

Retrospective reporting is always a challenge

- Cognitively challenging to recall the precise timing of life events
  - Visual cues provide assistance
- Recall of more memorable events helps people recall less memorable events
- Traumatic events can be particularly difficult to remember correctly

Table 2: Percent screening positive and meeting criteria for mental disorder, with and without use of a life history calendar (LHC)

	Without LHC (n=1404), %	With LHC (n=1089), %
Screening Positive		
Depression	19.59	29.38***
Generalized Anxiety Disorder	17.09	21.03*
Alcohol Use Disorder	29.56	28.65
Posttraumatic Stress Disorder	78.21	83.84***
DSM-IV Diagnoses (lifetime)		
Depression	1.85	14.60***
Generalized Anxiety Disorder	1.78	7.35***
Alcohol Use Disorder	4.77	5.14
Posttraumatic Stress Disorder	1.71	3.67**

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (proportion tests for significant differences between the two subsamples)

Table 3: Percent with any and count of potentially traumatic experiences (PTE), with and without use of a life history calendar (LHC)

	Without LHC (n=1404)	**With LHC (n=1089)**
Any PTE	78.2%	83.8%***
Two or more PTEs	47.8%	64.2%***
Count of PTEs	1.71 (0.04)	2.00 (0.04)***

* p < 0.05; ** p < 0.01; *** p <0.001 (proportion tests for significant differences between the two subsamples)

Today's Presentation

- Intergenerational research with the CVFS
- Adding mental health measures – the Composite International Diagnostic Interview (CIDI) – to the CVFS in Nepal
- **Independent associations between parental mental health and children's marriage and childbearing timing**

Parental Mental Health and their Children's Marriage and Childbearing Timing

- Motivation
- Data linking
- Fathers' depression and marriage timing
- Mothers' depression and childbearing timing

Motivation

There is a high global burden of mental disorders.

- 1 in 5 adults in the world experienced a common mental disorder in the last 12 months
- Women are more likely to have mood and anxiety disorders
- Men are more likely to have substance abuse disorders

Scott et al. 2018; Steel et al. 2014

Motivation

Mental disorders are stressors within the family environment.

- Role strains – among spouses, parents, and children
- Intergenerational transmission of mental illness
- Impact on family caregivers

Avison and Comeau 2013

Motivation

Families help shape marriage and fertility behavior.

- Family as a site of socialization
- Parental attitudes/preferences and children's behavior
- Correlations of fertility behavior between parents and children, siblings

Anderton et al. 1987; Axinn & Thornton 1993; Axinn, Clarkberg, and Thornton 1994; Murphy and Knudsen 2002

Motivation

There is a high global burden of mental disorders.

Mental disorders are stressors within the family environment.

Families help shape marriage and fertility behavior.

Avison and Comeau 2013; Scott et al. 2018; Barber 2000; Anderton et al. 1987

Parental Mental Health and their Children's Marriage and Childbearing Timing

- Motivation
- **Data linking**
- Fathers' depression and marriage timing
- Mothers' depression and childbearing timing

Data Linking

- CVFS Mental Health Life Histories (LHC-CIDI)
  - Nepal LHC-CIDI collected 2016-2018
  - Life history of age of onset for each mental disorder
  - All household members, 15-59
- CVFS Relationship Grid
  - CVFS webinar on March 20, 2024
- CVFS Household Registry
  - Monthly marital and childbearing events
  - All children born to CVFS members

Parental Mental Health and their Children's Marriage and Childbearing Timing

- Motivation
- Data linking
- **Fathers' depression and marriage timing**
- Mothers' depression and childbearing timing

Table 1. Descriptive summary of the sample

Variables	Sons (N = 1,069)				Daughters (N = 982)			
	Mean	Stan. Dev.	Min.	Max.	Mean	Stan. Dev.	Min.	Max.
Child married during observation	0.32	0.47	0	1	0.43	0.50	0	1
Parental Mental Disorders								
Father has major depressive disorder	0.05	0.22	0	1	0.05	0.23	0	1
Father has any other disorder	0.17	0.37	0	1	0.16	0.37	0	1
Mother has major depressive disorder	0.27	0.44	0	1	0.26	0.44	0	1
Mother has any other disorder	0.18	0.38	0	1	0.16	0.36	0	1

Table 2. Parental mental disorders predicting the children's marriage timing ~ basic models (odds ratios from multivariable hazards models of 1st marriage)

Variables	Sons		
	Model 1	Model 2	Model 3
Parental Mental Disorders			
Father has major depressive disorder	1.73** (0.34)	1.73** (0.34)	1.64* (0.34)
Father has any other disorder		0.82 (0.15)	0.80 (0.14)
Mother has major depressive disorder			1.25 (0.18)
Mother has any other disorder			1.07 (0.18)

Models 1, 2, and 3 control for ethnicity.

Table 2. Parental mental disorders predicting the children's marriage timing ~ basic models (odds ratios from multivariable hazards models of 1st marriage)

Variables	Daughters		
	Model 1	Model 2	Model 3
Parental Mental Disorders			
Father has major depressive disorder	1.30 (0.24)	1.24 (0.23)	1.23 (0.23)
Father has any other disorder		1.29 (0.19)	1.28 (0.19)
Mother has major depressive disorder			1.17 (0.16)
Mother has any other disorder			0.85 (0.15)

Models 1, 2, and 3 control for ethnicity.

Table 3. Parental mental disorders predicting the children's marriage timing ~ controlled models, sons only

Variables	Model 1
Parental Mental Disorders	
Father has major depressive disorder	1.53* (0.31)
Father has any other disorder	0.76 (0.15)
Mother has major depressive disorder	1.12 (0.19)
Mother has any other disorder	1.05 (0.19)

Model 1 controls for ethnicity, parental education, parental marital experience, and household income and assets.
(odds ratios from multivariable hazards models of 1st marriage)

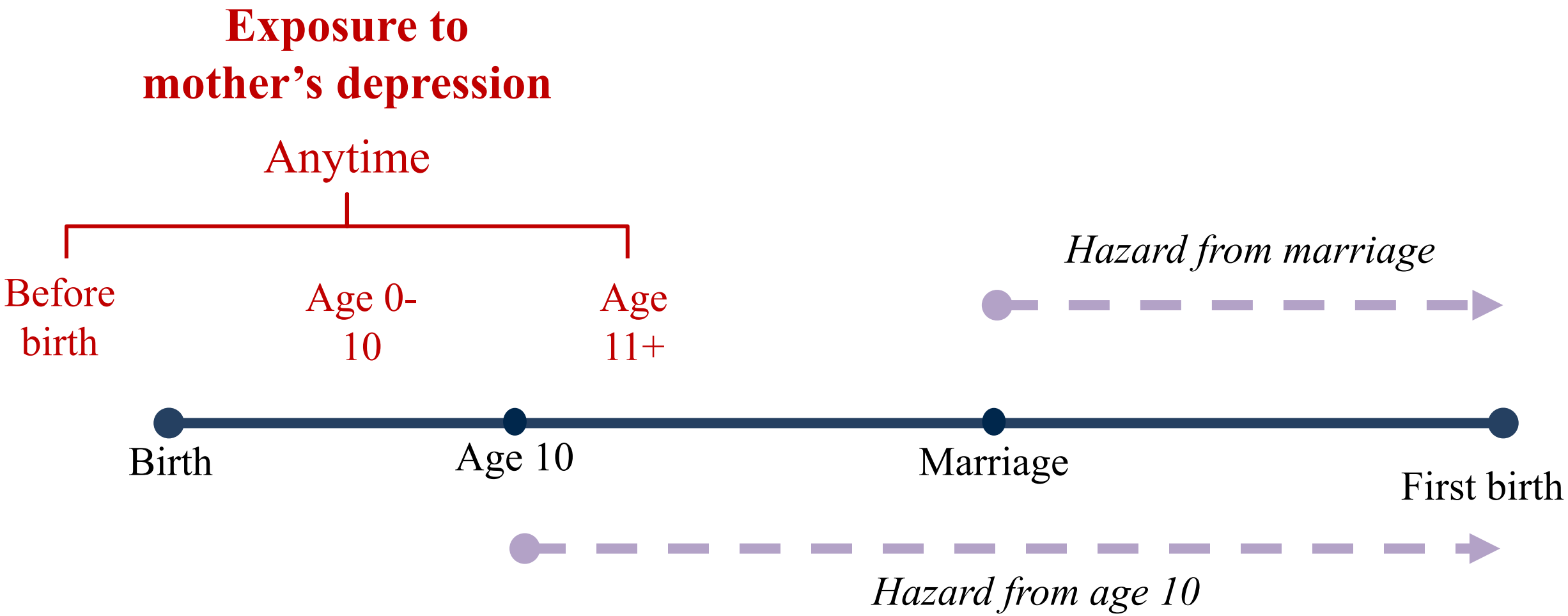
Table 4. Parental mental disorders predicting the children's marriage timing ~ sons' education marker

Variables	Model 1	Model 2
Parental Mental Disorders		
Father has major depressive disorder	1.68* (0.35)	1.55* (0.31)
Father has any other disorder	0.83 (0.15)	0.81 (0.15)
Mother has major depressive disorder	1.25 (0.18)	1.13 (0.19)
Mother has any other disorder	1.05 (0.18)	1.03 (0.19)
Child achieved at least 10 years of schooling by age 15	0.72** (0.09)	0.84 (0.11)

Model 1 controls for ethnicity.
Model 2 controls for ethnicity, parental education, parental marital experience, and household income and assets.
(odds ratios from multivariable hazards models of 1st marriage)

Parental Mental Health and their Children's Marriage and Childbearing Timing

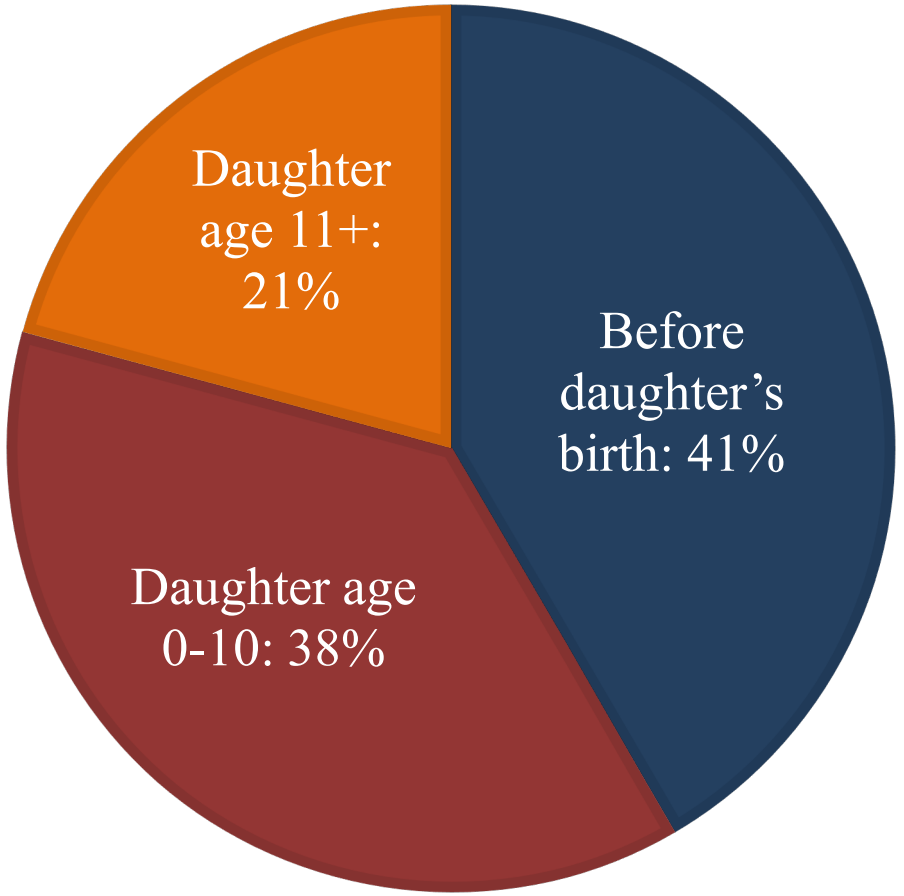
- Motivation
- Data linking
- Fathers' depression and marriage timing
- **Mothers' depression and childbearing timing**



Sample characteristics

- 1306 mother-father-daughter triads
  - Married: 454 (35%)
  - First birth: 289 (22%)
  - Mother's MDD: 329 (25%)

MOTHER'S MDD BY ONSET



Estimates of the hazard of first birth beginning at age 10 Odds ratios (95% confidence interval)

	Daughter's First Birth Timing			
	Model 1	*Model 2*	*Model 3*	*Model 4*
Mother has lifetime MDD	0.99 (0.74-1.31)	1.26 (0.91-1.76)	0.67* (0.46-0.97)	1.09 (0.80-1.49)
Mother MDD onset before child's birth		0.52* (0.31-0.88)		
Mother MDD onset, child aged 0-10			2.69*** (1.64-4.41)	
Mother MDD onset, child aged 11+ years				0.61 (0.32-1.19)

Controlled for all covariates (ethnicity, parental education, parental marital experience, and household income and assets).

*p < 0.05, **p < 0.01, ***p < 0.001

Estimates of the hazard of first birth beginning at marriage Odds ratios (95% confidence interval)

	Daughter's First Birth Timing			
	Model 1	*Model 2*	*Model 3*	*Model 4*
Mother has lifetime MDD	0.95 (0.71-1.27)	1.05 (0.75-1.48)	0.73 (0.50-1.07)	1.05 (0.76-1.43)
Mother MDD onset before child's birth		0.75 (0.44-1.26)		
Mother MDD onset, child aged 0-10			1.82* (1.10-2.99)	
Mother MDD onset, child aged 11+ years				0.61 (0.31-1.19)

Controlled for all covariates (ethnicity, parental education, parental marital experience, and household income and assets).

*p < 0.05, **p < 0.01, ***p < 0.001

CVFS Mental Health Data Availability

- Archiving at ICPSR is underway
  - Sign up for the CVFS newsletter to be notified
- Release A: Some demographics, screening for disorders, and diagnosis (lifetime and 12 month) of disorders
  - Codebook for this release available on CVFS website
- Release B later in 2023 with more detail from the diagnostic interview

Conclusion

- CVFS is an important resource for intergenerational research and it is getting ***more important as time passes***
- New mental health measures demonstrate that parental mental disorders do have ***significant independent effects*** on children's marriage and childbearing
- There is much more work to do with the new measures of mental health – ***Please Join Us***
- There is much more work to do on intergenerational research in general – ***Please Join Us***

Discussion

Related References

Substantive Potential: Population Prevalence

- Scott, Kate M., Yang Zhang, Stephanie Chardoul, Dirgha J. Ghimire, Jordan W. Smoller, and William G. Axinn. 2020. "**Resilience to Mental Disorders in a Low-Income, Non-Westernized Setting.**" Psychological Medicine.

Substantive Potential: Marital Experiences

- Axinn, W. G., Y. Zhang, D. J. Ghimire, S. A. Chardoul, K. M. Scott, and R. Bruffaerts. 2020. "**The Association between Marital Transitions, and the Onset of Major Depressive Disorder in a South Asian General Population**." Journal of Affective Disorders.

- Zhang, Y. and W. G. Axinn. 2021. "**Marital Experiences and Depression in an Arranged Marriage Setting.**" American Journal of Sociology.

- Axinn, W. G., E. Banchoff, F. Cole, D. J. Ghimire, and J. W. Smoller. 2022. "**The Transition to Parenthood, Opportunity to Drink, Drinking, and Alcohol Use Disorder.**" Drug and Alcohol Dependence.

Substantive Potential: Community Exposures

- Benjet, C., W.G. Axinn, S. Hermosilla, P. Schulz, F. Cole, L. Sampson, and D. J. Ghimire. 2020. "**Exposure to Armed Conflict in Childhood vs Older Ages and Subsequent Onset of Major Depressive Disorder**." JAMA Network Open 3(11):e2019848.

- Axinn, W. G., K. W. Choi, D. J. Ghimire, F. Cole, S. Hermosilla, C. Benjet, M. C. Morgenstern, Y. H. Lee, and J. W. Smoller. 2022. **"Community-Level Social Support Infrastructure and Adult Onset of Major Depressive Disorder in a South Asian Postconflict Setting."** JAMA Psychiatry 79(3):243-249.

References: World Mental Health Consortium

- Kessler, R. C., & Üstün, T. B. 2004. The World Mental Health (WMH) survey initiative version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). International Journal of Methods in Psychiatric Research, *13*(2), 93–121.
- Kessler, R. C., & Üstün, T. B. 2011. **The WHO World Mental Health Surveys:** Global Perspectives on the Epidemiology of Mental Disorders. Cambridge University Press

References: Creating the Nepal CIDI

- Ghimire, Dirgha J., Stephanie Chardoul, Ronald C. Kessler, William G. Axinn, and Bishnu P. Adhikari. 2013. "Modifying and Validating the Composite International Diagnostic Interview (CIDI) for Use in Nepal." International Journal of Methods in Psychiatric Research 22(1):71-81.
- Ghimire, Dirgha, William Axinn, Heather Gatny, and Stephanie Chardoul. 2017. "Preparing a Culturally Appropriate Translation of a Survey Questionnaire." SAGE Research Methods Cases Health.

References: Nepal LHC and CIDI

- Axinn, William G. and Stephanie Chardoul. 2021. “Improving Reports of Health Risks: Life History Calendars and Measurement of Potentially Traumatic Experiences.” International Journal of Methods in Psychiatric Research 30(1):e1853.
- Axinn, William G., Stephanie Chardoul, Heather Gatny, Dirgha Ghimire, Jordan W. Smoller, Yang Zhang, and Kate M. Scott. 2020. “Using Life History Calendars to Improve Measurement of Lifetime Experience with Mental Disorders.” Psychological Medicine 50(3):515-522.