

Assessing Family-Level Processes, Lifestyle, Resources and Social Capital in Primary Care Settings with the Family Health Scale

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Disclosure

The presenters of this session have NOT had any relevant financial relationships during the past 12 months.

Learning Objectives

At the conclusion of this session, the participant will be able to:

1. **Describe** the importance of assessing family health in primary care settings
2. **Demonstrate** the development, validation and screening potential of the Family Health Scale
3. **Discuss** current and future applications of the Family Health Scale in clinical settings and in research

Families are Critical to Health



Research and Practice Gaps

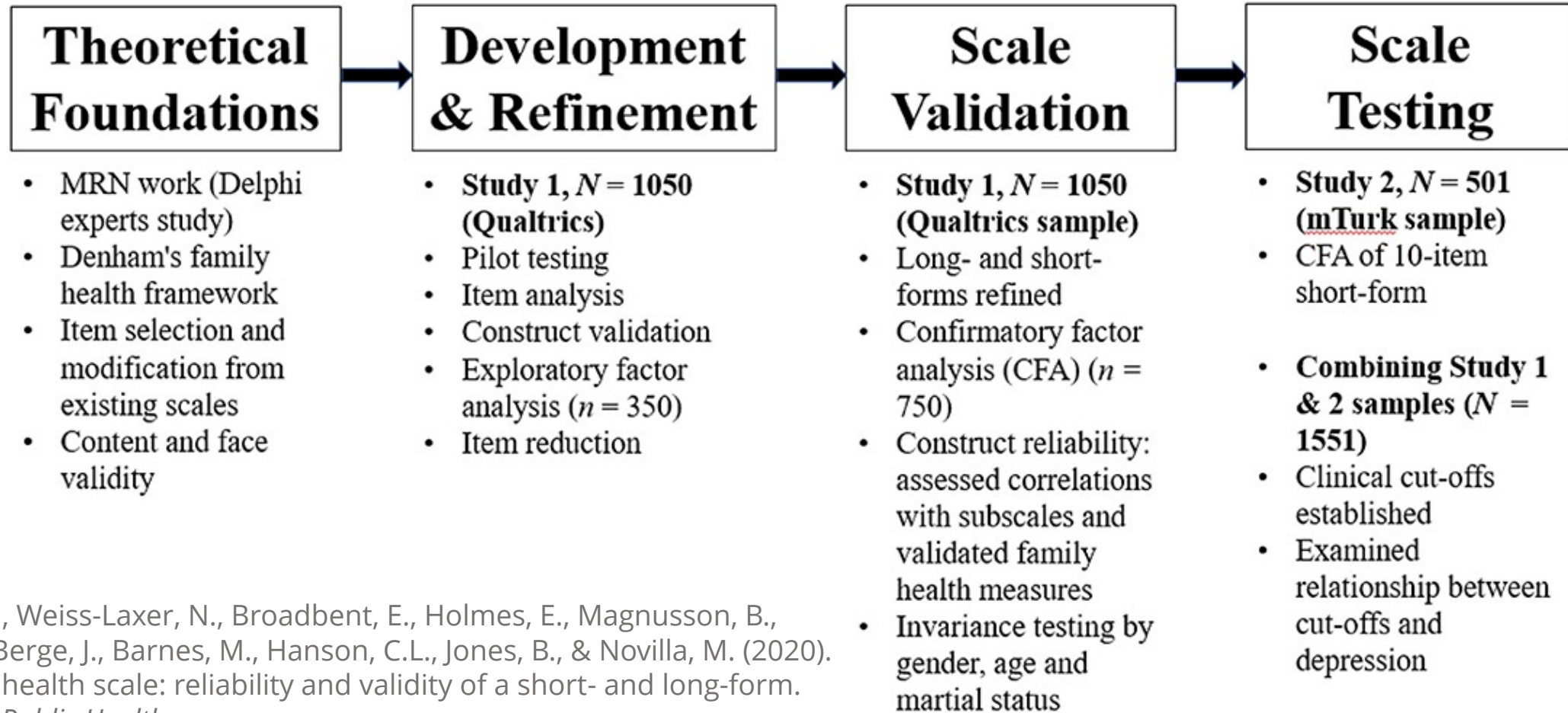


What is Family Health?

“A resource at the level of the family unit that develops from the intersection of the health of each family member, their interactions and capacities, as well as the family’s physical, social, emotional, economic, and medical resources”

Weiss-Laxer, N. S., Crandall, A., Okano, L., & Riley, A. W. (2020). Building a Foundation for Family Health Measurement in National Surveys: A Modified Delphi Expert Process. *Maternal and Child Health Journal*, 1-8.

Scale Development, Validation and Testing



Crandall, A., Weiss-Laxer, N., Broadbent, E., Holmes, E., Magnusson, B., Okano, L., Berge, J., Barnes, M., Hanson, C.L., Jones, B., & Novilla, M. (2020). The Family health scale: reliability and validity of a short- and long-form. *Frontiers in Public Health*.

Family Health Scale, Long Form (FHS-LF)

- 32 items
- Four dimensions:
 1. Family social and emotional health processes
 2. Family healthy lifestyle
 3. Family health resources
 4. Family external social supports.

* Each item assessed on a 5-point Likert (strongly agree to strongly disagree scale)

Crandall, A., et al.. (2020)

Family Health Scale, Short Form (FHS-SF) – 10 items

In my family...

1. We support each other.
2. I feel safe in my family relationships.
3. We help each other in seeking health care services when needed (such as making doctor's appointments).
4. We help each other make healthy changes.
5. We stay hopeful even in difficult times.
6. We do not trust doctors and other health professionals
7. We have people outside of our family we can turn to when we have problems at school or work.
8. If we needed financial help, we have people outside of our family we could turn to for a loan

In the past 12 months...

9. My family did not have enough money at the end of the month after bills were paid.
10. My family did not have adequate housing.

Crandall, A., et al.. (2020)

Reliability and Validity

- Internal consistency reliability:
 - All Cronbach's alphas > .80; good model fit in confirmatory factor analyses
- Construct validity
 - Strong correlations with validated scales

TABLE 5 | Correlation of the FAD and family health climate score with the FHS-LF. Model fit: RMSEA = 0.056; CFI = 0.951.

	FAD	Family health climate score	Factor 1: family social/emotional health processes	Factor 2: family healthy lifestyle	Factor 3: family health resources	Factor 4: family external social supports
FAD	1.00					
Family health climate score	0.45	1.00				
Factor 1: family social/emotional health processes	0.86	0.48	1.00			
Factor 2: family healthy lifestyle	0.65	0.78	0.77	1.00		
Factor 3: family health resources	0.61	0.29	0.52	0.45	1.00	
Factor 4: family external social supports	0.46	0.39	0.47	0.49	0.41	1.00

p < 0.001 for all correlations. FAD, Family Assessment Device.

Crandall, A., et al.. (2020).

Establishing Clinical Cut-Offs

Family Health:

- Family Health Scale-SF
- Binary variable for each item
- Summed items [range: 0-10]

Cut-offs

- <6 = poor
- 6-8 = moderate
- 9-10 = excellent

Depression:

- Patient Health Questionnaire, 9-item (Kroenke, 2001)
- Summed items [range: 0-36]

Cut-offs

- < 10 = low or none
- 10+ = moderate to high

Family Health Protective Against Depression

TABLE 7 | Odds ratios for moderate-to-severe depression based on level of family health.

	Odds ratio (95% confidence interval)
Poor family health	[Reference]
Moderate family health	0.28 (0.21–0.38)
Excellent family health	0.07 (0.05–0.10)
Sampling control	
Study 1 qualtrics sample	[Reference]
Study 2 mTurk sample	0.59 (0.45–0.78)

Family Health Scale Applications

Family Matters Study

- National Institutes of Health (NIH) R01 Study
- Design: Prospective Longitudinal Cohort Study
- Objective: Examine Risk and Protective Factors in the Home Environment for Childhood Obesity Disparities
- Sample: n=1307; ~200 each from Black, Latinx, Hmong, Native American, Somali, White
- Family Health Measure, Short Form



Correlates of Family Health

Table 3. Structural Equation Model Results of the Association between Individual Health and Family Health, $N = 1,045$.

	Family Social and Emotional Health Processes	Family Healthy Lifestyle	Family Health Resources	Family External Social Supports
Depression	-0.352***	-0.205***	-0.540***	-0.319***
Executive Functioning	0.103*	0.160**	0.054	-0.050
Income	0.091*	0.107**	0.191***	0.159***
Bachelor's Degree	0.015	0.060	-0.029	0.024
Subjective SES	0.058	0.149***	0.026	0.105**
Days of Vigorous Physical Activity	0.048	0.154***	-0.015	0.050
Controls				
Married	0.106**	0.082*	-0.043	0.002
Age	-0.088*	-0.104**	0.053	-0.292***
Number of People in Household	0.044	0.021	0.006	-0.018
Female	0.048	-0.005	0.039	0.009

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Model Fit: RMSEA = 0.041; CFI = 0.956.

Haehnel et al., accepted –
Journal of Family Issues

Childhood Family Environment and Adult Family Health

- Adverse childhood experiences (ACEs) are known to negatively affect lifelong physical and mental health
 - ACEs include family dysfunction, abuse, and neglect before age 18 years
- Positive childhood experiences (PCEs) lead to better health irrespective of ACEs
 - PCEs included positive family relationships and healthy relationships with adults and peers in the neighborhood and community; family routines; beliefs that provide comfort

Childhood Family Environment and Adult Family Health

- Sample: 1,030 U.S. adults
- Measures: positive and adverse childhood experiences (PCEs and ACEs); family health
- Data analysis: Structural Equation Modeling (SEM)

Table 1 Descriptive statistics of the sample, $N = 1030$

	%
Age, M (SD)	40.4 (17.3)
Married	46.2
People per household, M (SD)	3.2 (2.1)
Education	
Less than high school	11.9
Bachelor's degree	35.3
Female	53.5
Non-Hispanic white	60.8

Daines et al. 2021

Results

Table 2 Structural equation model of the effects of childhood experiences on family health in adulthood, $N = 1030$

	Family Social and Emotional Health Processes			Family Healthy Lifestyle			Family Health Resources			Family External Social Supports		
	ACEs Model	PCEs Model	Adjusted Model	ACEs Model	PCEs Model	Adjusted Model	ACEs Model	PCEs Model	Adjusted Model	ACEs Model	PCEs Model	Adjusted Model
ACEs	-.17***	–	-.09**	-.12***	–	-.04	-.28***	–	-.20***	-.07*	–	-.03
PCEs	–	.27***	.24***	–	.27***	.26***	–	.31***	.25***	–	.30***	.31***
Controls												
Female	.03	.02	.02	-.03	-.04	-.04	.03	.01	.02	-.02	-.03	-.03
Age	.00	.00	-.01	-.04	-.05	-.05	.15***	.16***	.14***	-.23***	-.24***	-.24***
Married	.20***	.19***	.18***	.18***	.16***	.16***	.07*	.06	.05	.10**	.07*	.08*
Non-Hispanic White	-.01	.00	.00	-.01	.01	.01	.09**	.10**	.10**	.02	.04	.04
Bachelor's degree	.10**	.09**	.08	.17***	.15***	.15***	-.11**	.11**	.09**	.14***	.11**	.11**

Note: Coefficients are standardized. Adjusted model included both ACEs and PCEs along with controls

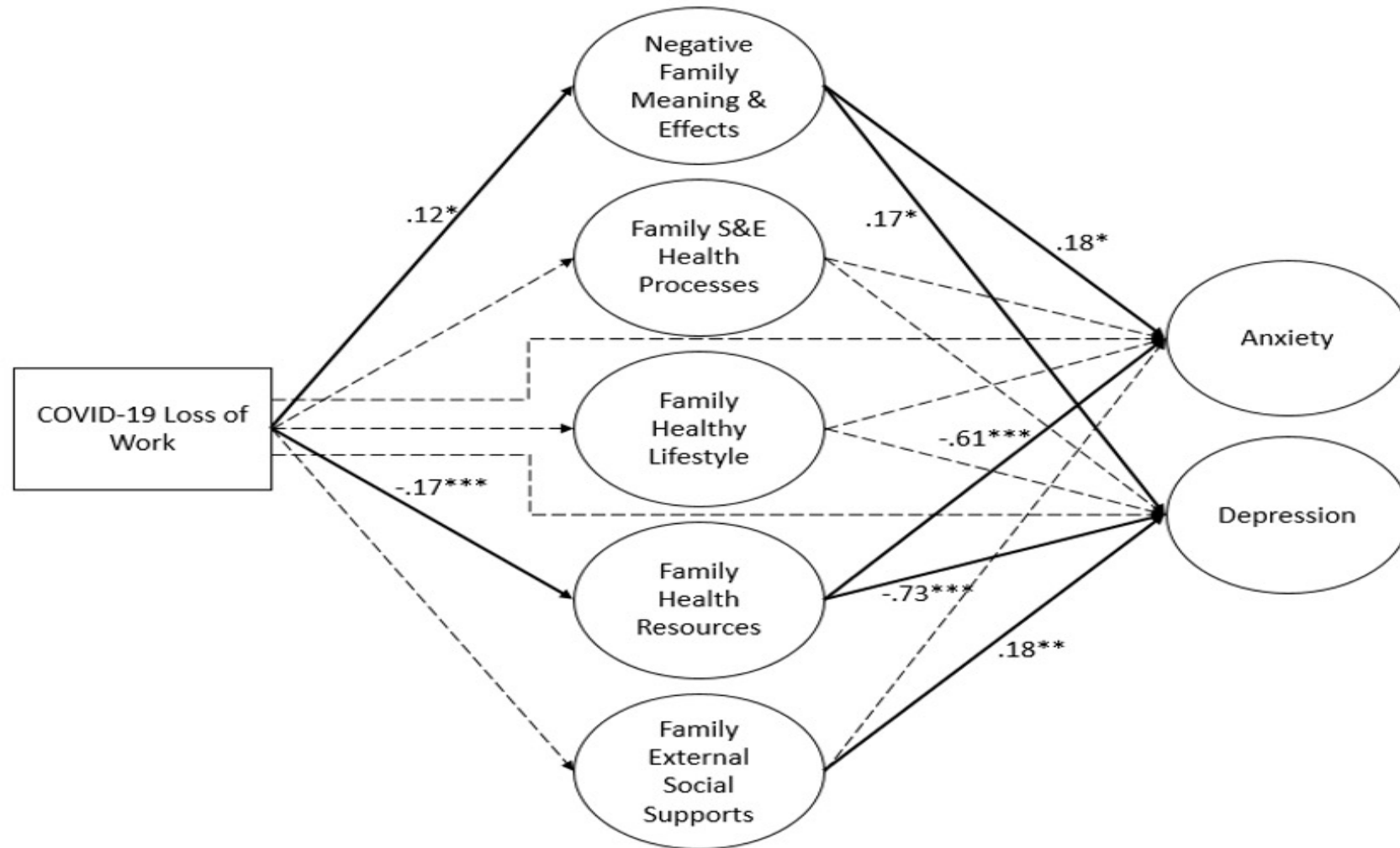
Model fit for fully adjusted model: RMSEA = .05; CFI = .95

* $p < .05$. ** $p < .01$. *** $p < .001$

COVID-19 and Family Health

- U.S. adult sample, one month into the COVID-19 pandemic
- $N = 416$
- Application of the Family Stress Theory on mental health during the COVID-19 pandemic
 - Family Health included as a resource
 - Also developed a family meaning-making scale
- Crandall et al., in press (*Families, Systems, and Health*)

COVID-19, Loss of Work Hours, Family Health and Mental Health, N=416



Future Research: Family Health Explorations Study

- Purpose:
 - Examine the FHS as a true family member (multiple family members)
 - Validate the FHS among adolescents
 - Examine trends in family health over time
 - Describe predictors and outcomes of family health
- 500 Married and cohabitating couples
- Phase 3: include adolescents
- Annual follow-ups
- Baseline data collected in 2021

Examination of Clinical Cut-Offs

Assessing the Feasibility, Acceptability and Utility of the Family Health Scale-Short Form among English- and Spanish-Speaking Caregivers of Young Children in Primary Care Pediatrics

Supported by the Life Course Intervention Research Network Pilot and Feasibility Program (June 2021-June 2022)

Project Aims

1. Assess feasibility of the Family Health Scale-Short Form in pediatrics
2. Examine pediatric provider and caregiver perspectives on the acceptability and utility of the screener
3. Validate association of proposed clinical cut-offs with
 - Caregiver mental & health physical health
 - Child health & developmental outcomes
 - Preventative pediatric care engagement

Population and Setting

- Two “safety net” pediatric clinics in Buffalo, New York
- Caregivers of 0-4 year old children
- English and Spanish speakers
- Pediatric providers

Current and Planned Research Using the FHS

- FHS scale validation in multiple cultures and languages
 - Studies planned or ongoing...
 - Brazil
 - China
 - Denmark
 - Indonesia
 - Hmong and Somali population in the U.S.
 - RCT in the U.S.

Future Research and Practice Directions

- Ongoing refinement of the scale (FHS) across cultures and languages
- Adaptation of the FHS for multiple ages and stages of family life
- Examination of trends in family health globally

Audience Discussion

Thinking about the Family Health Scale in the context of your practice, colleagues in/out of your field, trainees:

- Feasibility, acceptability, buy-in
- Barriers and opportunities
- Level of efficacy/confidence for taking family-focused approach to care for your practice?
- Best practices for referrals
- Perspective better suited for some health outcomes v. others?

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