The effect of stable unions on child health, nutrition and development

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Stable families influence their children's well being. Using data drawn 2,190 girls and boys aged three to six years old in disadvantaged areas in Central Philippines, I examined the effect of maternal marital unions on the health, nutrition and development of their preschool children. Findings support the argument that stable unions have a positive effect on the well being of children. Children whose mothers were in stable marital unions were healthier, well nourished and were socio emotionally developed than those whose mothers were in unstable unions. The effect of marital stability was more significant among the boys compared to the girls even when other individual and household and community covariates were considered. These findings support the importance of stable unions on child health, nutrition and development especially in developing countries where stable marriages are still considered as ideal and the norm.

Introduction

The child's well-being is affected by her or his environment. Bronfenbrenner's ecological model (1979) showed that there are different environment that influence child development. One of these environments is the home, which is largely influenced by the family structure, the composition and relationship to members in the households (Schneider et al., 2005).

Studies that focused on changes in family structure have yielded diverse results. Some have shown that children of intact families where both parents were present had less behavioral problems (Morrison and Cherlin 1995 in Aughinbaugh, et al., 2005) and performed better in cognitive and other achievement tests (Baydar and Brooks-Gunn, 1994, McLanahan, 1997 in (Aughinbaugh, et al., 2005). However, results of the National Longitudinal Survey of Youth 1997 showed that changes in family structure due to the marital status of parents were not significant factors associated with youth achievement (Aughinbaugh, et al., 2005) and divorce did not affect the cognitive stimulation nor emotional support of young children (Kowaleski-Jones and Dunifon, 2004). However, other studies have also shown that changes in family structure explained income inequality in families with children (Martin 2006). Similarly, family transitions involving the stability of relationships between parents (Brown, 2006) or growing with single divorced mothers (Biblarz and Gottainer, 2000) or in cohabitating relationships (Kalil, 2001) affected the development of children.

Contribution of this study

Although studies on changes in marital status may have been well explored in developed societies and to a limited extent in some developing societies, findings have been inconsistent and studies on children from disadvantaged environments have been limited. Local studies (e.g. Save the Children, 1997) that examined the psychosocial development of children are limited and have not accounted for the types of marital status on the health, nutrition and socio emotional development of children. With the increasing trend in consensual unions in the country in the recent years, this study seeks to provide additional evidence on the effect of stability of marital unions on the child's well being by focusing on the development of children in disadvantaged settings.

Major Objective

The major objective of this study was to determine the influence of stable marital unions of mothers on the well being of their preschool children,

Methodology

Data

This study focused on a sample of 2, 190 children who were followed up from 2001 to 2005 and were aged three to five years old living in the barangays (villages) in Western, Central and Eastern Visayas, one of the three major island groups in the Philippines. These barangays were those identified to be at risk and in need[1] by the Philippine government's Department of Social Welfare and Development (Council for the Welfare of Children, 1999). Thus, the sample children from these *barangays* provide a different insight into the development of children living in disadvantaged settings.

Variables

Outcome variables: In this paper, I used several indices to measure the child's well being. These included health, nutrition and development measures.

Health status was measured whether the child was reported to have parasitic worms in any of the survey rounds. There were two classifications used for this indicator: healthy referred to the reported absence of parasitic worms in any of the survey rounds; and unhealthy referred to the reported presence of parasitic worms in any of the survey rounds.

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[1] Those in need include populations with children aged d 0-5 who are at risk of dying or populations with children 6-12 years old who have dropped out of elementary school or who are underweight (less than 75% of the standard). Those at risk include populations with children aged 0-5 who are living in households with limited information, in households with low income per capita income or in a community with limited social services (Council for the Welfare of Children, 1999).

The nutritional status was measured using the height for age measurements of the children in the 2005. To categorize the child as stunting or not, I used the World Health Organization/National Center for Health Statistics (WHO NCHS) international reference standards. However, in the regression analysis, I used the z-scores of the height for age measurements.

Socio-emotional development of children was one of the psychosocial and cognitive development domains measured using the revised ECD checklist developed by the team of Drs. Lourdes Ledesma and Elizabeth Ventura of the Department of Psychology of the University of the Philippines. Children were observed performing tasks and mothers/caretakers were asked to provide additional information. Scaled scores were derived and used to classify the development of children as below average, average or above average. In the regression analysis, I used the scaled scores for the socio-emotional domain.

The overall development of children were measured using all the psychosocial and cognitive development domains measured using the revised ECD checklist developed by the team of Drs. Lourdes Ledesma and Elizabeth Ventura of the Department of Psychology of the University of the Philippines. Children were observed performing tasks and mothers/caretakers were asked to provide additional information. Like the socio-emotional domain, scaled scores were derived to classify overall development as below average, average or above average. In the analysis, I also used the scaled scores for overall development.

Main exposure variables: In this study, marital stability referred to the mother's last marital status. There were two categories used in this study: stable unions referred to whether the mother continued to be in a married state (by law or by the Church in all rounds) and unstable unions referred to the mother being in a consensual or having no spouse in any round, or changed marital status (from married to separated) in any round.

Covariates
Individual, household and community characteristics that may influence the development of children were also included as covariates in the regression analysis. Child's characteristics like age and attendance to daycare or preschool and maternal characteristics like education and work status were included. Household variables like land ownership and ownership of a television set were also examined. The type of residence and the presence of the early child development project in the community were also considered. However, since nearly all of the households were in rural areas, the type of residence was not used in the regression analysis.

Tools for Analysis
Analysis was done separately for girls and boys to determine whether the influence of stable unions differed between the sexes.

Several statistical techniques were used in the analysis. Initially, frequencies and cross tabulations were used to explore the characteristics of the sample children, their health, nutrition and development status and the status of their mother's marriage. Regression analysis was carried out to determine the effects of the exposure variable on the outcomes and the effects of the other covariates. STATA Statistical Software was used to carry out the statistical analysis.

Results of the study

The children included in this study were on average five years old with slightly more boys than girls. Although these children were from disadvantaged areas, more than half of the girls and boys were able to attend day care or preschool.

These children had mothers more half of who had some high school education but less than half had experienced working. On average, these children were living in households composed of more than six persons. Less than half of these girls and boys were living in households with television appliances, and lower proportion of children were living in households where their parents owned the land on which their house was built. Almost all of these children are from rural areas and a moderate proportion is from program areas where early childhood development initiatives were introduced.

Table 1. Selected Characteristics of the sample children, their mothers, household and community

Characteristic	Girls (N=1,007)		Boys (N=1183)	
	Mean	**SD**	**Mean**	**SD**
Age (in months)	65.85	9.03	65.97	13.52
Attendance to daycare or preschool	0.59	0.49	0.53	0.50
Number of persons in household	6.59	2.10	6.68	2.12
Mothers work status	0.46	0.50	0.48	0.50
Mother s education (high school)	0.54	0.50	0.57	0.50
Television ownership	0.47	0.50	0.51	0.50
Lot ownership	0.30	0.46	0.36	0.48
Urban residency	0.08	0.28	0.08	0.27
Program area	0.62	0.48	0.61	0.49

Girls were shown to be in a better state than the boys. As shown in Table 2, the proportions of girls who were healthy (had no parasitic worms), and well nourished were higher compared to the boys. Similarly, the proportions of girls with delayed socio-emotional skills or overall development were lower compared to the boys. More girls were above average in their socio-emotional and overall development compared to the boys.

Table 2. Well- being status of 3-6 year old girls and boys

Child Well Being Indicators	Girls N=1,007	Boys N=1,183
Health Status		
Unhealthy (had worms in any of the survey rounds)	43.20	43.62
Healthy (did not have worms in any of the survey rounds)	56.80	56.38
Nutritional Status		
Stunted	37.09	47.19
Normal	62.91	52.81
Socio emotional development		
Delayed (below average)	6.55	7.27
Average	93.35	92.65
Advanced (above average)	0.10	0.08
Overall development		
Delayed (below average)	5.86	6.17
Average	87.69	90.36
Advanced (above average)	6.45	3.47

The distribution of marital status as shown in Table 3, revealed that majority of the children were living with mothers whose unions were stable. However, the proportion of boys living with mothers whose unions were unstable was higher compared to girls whose mothers were also in unstable unions.

Table 3. Distribution of girls and boys by the status of their mother's marital union.

Status of mother's marital union	Girls (N=1,007) Per cent	Boys (N=1,183) Per cent
Stable	69.99	68.56
Unstable	30.01	31.44

Results shown in Tables 4, 5 and 6 showed that stable unions had a positive influence on the health, nutritional status, and socio-emotional and overall development of both girls and boys. When other covariates were taken into account (adjusted model), results revealed that boys were more vulnerable than girls. The boys' health, nutrition, socio-emotional and overall development were significantly associated with the stability of their mother's marriage. The effect of marital stability was only shown to be significant in relation to the girl's socio-emotional development. These findings showed that boys were more vulnerable than girls and that marital stability was important in the health, nutrition and development of preschool children.

Table 4. Odds ratios showing the influence of the status of mother's marital union on the health status of girls and boys.

Status of mother's marital union	Unadjusted Model[1]				Adjusted Model[2]			
	Odds Ratio	95% CI			Odds Ratio	95% CI		
Girls								
Mother's marital union								
Unstable	1.00				1.00			
Stable	1.39	1.06	1.82	*	1.27	0.94	1.70	
Boys								
Mother's marital union								
Unhealthy	1.00				1.00			
Healthy	1.47	1.15	1.88	**	1.34	1.02	1.76	*

[1] Unadjusted model refers to a regression without the covariates
[2] Adjusted model refers to a regression including the individual, household and community covariates
 *significant at p<0.05, ** significant at p<0.01

Table 5. Regression results showing the influence of the status of mother's marital union on the nutritional status (height for age) of girls and boys.

Status of mother's marital union	Unadjusted Model[1]				Adjusted Model[2]			
	Beta	95% CI			Beta	95% CI		
Girls								
Mother's marital union								
Unstable	0.00				0.00			
Stable	0.40	-0.11	0.19		0.00	-0.14	0.15	
Boys								
Mother's marital union								
Unstable	0.00				0.00			
Stable	0.19	0.06	0.32	**	0.16	0.03	0.29	*

[1] Unadjusted model refers to a regression without the covariates
[2] Adjusted model refers to a regression including the individual, household and community covariates
 *significant at p<0.05, ** significant at p<0.01

Table 6. Regression results showing the influence of the status of mother's marital union on the socio emotional and overall development of girls and boys.

Status of mother's marital union	Unadjusted Model[1]				Adjusted Model[2]			
	Beta	95% CI			Beta	95% CI		
Socio emotional development								
Girls								
Mother's marital union								
Unstable	0.00				0.00			
Stable	0.59	0.26	0.92	**	0.60	0.27	0.94	**
Boys								
Mother's marital union								
Unstable	0.00				0.00			
Stable	0.39	0.07	0.70	*	0.36	0.04	0.68	*
Overall development								
Girls								
Mother's marital union								
Unstable	0.00				0.00			
Stable	2.30	0.54	4.05	**	1.67	-0.53	3.40	
Boys								
Mother's marital union								
Unstable	0.00				0.00			
Unstable	2.42	0.77	4.08	**	2.02	0.40	3.63	*

[1] Unadjusted model refers to a regression without the covariates
[2] Adjusted model refers to a regression including the individual, household and community covariates
 *significant at $p<0.05$, ** significant at $p<0.01$

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