Does Marriage Benefit Maternal Mental Health? New Evidence from Nairobi, Kenya

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It has long been known that relationship quality and social support are key correlates of the mental health of mothers but the lion's share of the scholarship is based in western contexts. It has only been in the past 5 years that researchers have started to pay attention to the social determinants of mental health in the African context. In this analysis, we draw on three waves of data from an ongoing longitudinal study in two low income communities in Nairobi, Kenya to unpack the complex relationship among marriage, kinship support and maternal mental health. Using cross-lagged and mediation models, we find some support for the protective role of unions for maternal mental health as well as the mediating effect of relationship quality but limited evidence for the mediating role of kinship support.

A considerable amount of scholarship has shown that social support is critical to protect mental health (Kawachi and 2004; Kessler and McLeod 1985) and that father's support, in particular, is important for mothers' mental health (Racine et al. 2019; Walsh et al. 2021) but most of this research is based in western contexts. Research on mental health is woefully lacking in sub-Saharan African contexts (Burger et al. 2021), many of which are marked by extreme poverty and lack of access to care, though there has been a welcome focus on the mental health needs of young mothers (Kumar and Huang 2021; Osok et al. 2018). In this analysis, we draw on three waves of data from an ongoing longitudinal study in two low income communities in Nairobi, Kenya to examine 1) the relationship between union formalization and maternal mental health net of maternal and household factors; 2) the extent to which relationship quality mediates the effects of union formalization and 3) the extent to which emotional support from kin mediates the effect.

Two critical issues underscore the value of this inquiry. First, the World Health Organization has called for increased research on mental health in Africa in response to evidence showing a high prevalence of depression, anxiety and suicide in several African countries (WHO 2022) made even more urgent by the lack of psychiatrists on the continent (1 per 500000 people). Perinatal mental health promotion and prevention, in particular, are currently not prioritized in low- and middle- income countries where common perinatal mental disorders affect 1 in 5 women. In the absence of professional interventions, support from partners and kin are likely to be critical in mitigating mental health effects for mothers. This is particularly true in low income urban contexts across the continent that attract large numbers of young people who find themselves without a steady source of income and living in insecure environments. This group includes young mothers who have the added burden of taking care of their children in the context of financial and physical precarity. Second, despite significant progress in improving child survival, sub-Saharan Africa continues to have some of the worst outcomes for children's physical growth and early childhood development. Given the well-established connections between maternal mental health and child outcomes, it is imperative that we improve our understanding of the social correlates of mental health. Our analysis is, therefore, timely and can provide needed insights to develop effective programming to support the mental health needs of low income communities not only in Kenya but in other urban African contexts.

Conceptual Background

Establishing a causal effect among marriage, social support and mental health outcomes, even in longitudinal studies, is a significant challenge, but a good place to start is the conceptual framework put forth by Cohen and Willis (1985) that includes two models. The direct effect operates through social

influence and integration to impact behavioral change and outcomes whereas the stress buffering model suggests that social support mitigates the effect of stressful events such as a death or job loss. The analytical framework shown in Figure 1 adapts this approach and posits that the benefits of union formalization are likely to work through two channels: a 'mediating' channel through activation and intensification of kin support, and a direct channel through increments in relationship quality and marital satisfaction. Both of these effects are likely to depend on the stability of the union. We know from a long line of work in family sociology that fathers' investment in mothers and children depends on the status of the union (Manning et al. 2003; Raley and Sweeney 2020).

We draw on this conceptual framework to examine the nexus of social support, union context and maternal mental health in a context marked by high unemployment, gender roles in transition, an uncertain and protracted marriage process, and high levels of economic precarity for mothers and children. Specifically we want to know whether the conditions of a union affect maternal mental health as a main effect or indirectly through kinship support and/or whether the effect of kinship support depends on union formalization. We are not aware of any study in an African context that has attempted to study these effects together.

Data and Methods

The data for this paper come from two informal slum settlements in Kenya's capital city, Nairobi – Korogocho and Viwandani – covered by the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) and administered by the African Population Health Research Center (APHRC). These two areas have a combined population of about 90,000 (Wamukoya et al 2020) and are characterized by inadequate sanitation, limited health care facilities, low-quality housing, high levels of crime, unemployment and poverty (Emina et al 2011). Infant and child health indices are very poor (Kimani-Murage et al 2014). While the two settlements share many commonalities, Viwandani has higher formal sector employment opportunities and a more mobile population than Korogocho. Both settlements are multi-ethnic and include Kikuyu (30%), Kamba (24%), Luhya (18%), and Luo (12%) ethnic groups, among others, all patrilineal/local.

The data come from the JAMO (JAMAA na AFYA ya MTOTO) project, which uses mixed methods to examine the relationships among kinship support, union formalization and infant/child development outcomes longitudinally over 6 waves of survey data collection and 3 rounds of qualitative interviews. Wave 1 (conducted in March 2022) started with 1203 mothers aged 18-29 years old with a co-resident child aged 0-24 months. The survey includes a union formalization module comprised of questions related to seven specific steps: living together, introductions to partner's kin (his and hers), negotiation of

bridewealth, first bridewealth payment, marriage certificate, and wedding ceremony. In addition, we asked questions on support from biological father/current partner and kins to mother and child, socio-demographic characteristics of the mother and biological father, socio-economic status of the household, mother's fertility history, and maternal mental health captured through the CESD-10 instrument, as well as couple relationship quality, child health and early childhood development.

We draw on the pooled data from all three waves (N=3479). The analysis proceeds in three phases. First, we run conventional logistic models examining the relationship between union formalization and risk of depression. Second, we conduct cross lagged regression models estimating the risk of depression accounting for reverse causality. Risk of depression is assessed at two cut-off points: >=10 and >=15. Control variables include mother attributes (age, education, employment, number of children, household attributes (size, food insecurity), the number of potential kin and wave. Third, we use mediation models in Mplus to estimate the extent to which relationship quality and emotional support from kin mediate the effects of union formalization on maternal mental health.

Preliminary Findings

Table 1 presents selected descriptives of the starting sample of women and the focal children in Wave 1.

Insert Table 1 here.

The median age is about 24 and the vast majority have at least primary level education. Two thirds were unemployed likely due to having young children. Lastly, about 25% scored high enough on the CESD-10 to be classified as either moderate or severe risk of depression. Figure 2 shows the distribution of union formalization categories in collapsed form.

Insert Figure 2. here

The largest category is cohabitation and some introduction followed by none/minimal, the addition of some bridewealth payment and completion of almost all steps.

Insert Table 2 here.

We find that all union formalization stages reduce the risk of depression compared to the minimal or none category using both cut-offs but the group that includes cohabitation, some introduction and some payment of bridewealth has the strongest effect. Being in this category reduces the odds of moderate depression by more than 50% and severe depression by 60%.

Next Steps

The initial results are encouraging but we will continue refining the regression models and also test the effects of specific types of social support. We will then conduct mediation analysis in Mplus to better understand the ways in which social support, union formalization and maternal mental health relate to one another. Lastly, we will examine the extent to which relationship quality mediates the effect of union formalization on depression.

Table 1. Selected Characteristics of Mothers, JAMO Wave 1 (N=1203)

Mean age of mother	24.2
Education level	
Never been to school	1%
Primary school	31%
Secondary school	58%
Some university or college	5%
Completed university	6%
Employment status	
Formal	14%
Informal	20%
Unemployed	66%
CESD Score	
CESD<=10 (none)	75.7%
CESD>10 and <13 (moderate)	12.4%
CESD >=13 (severe)	11.9%

Figure 1: Hypothesized linkages between union formalization and risk of depression

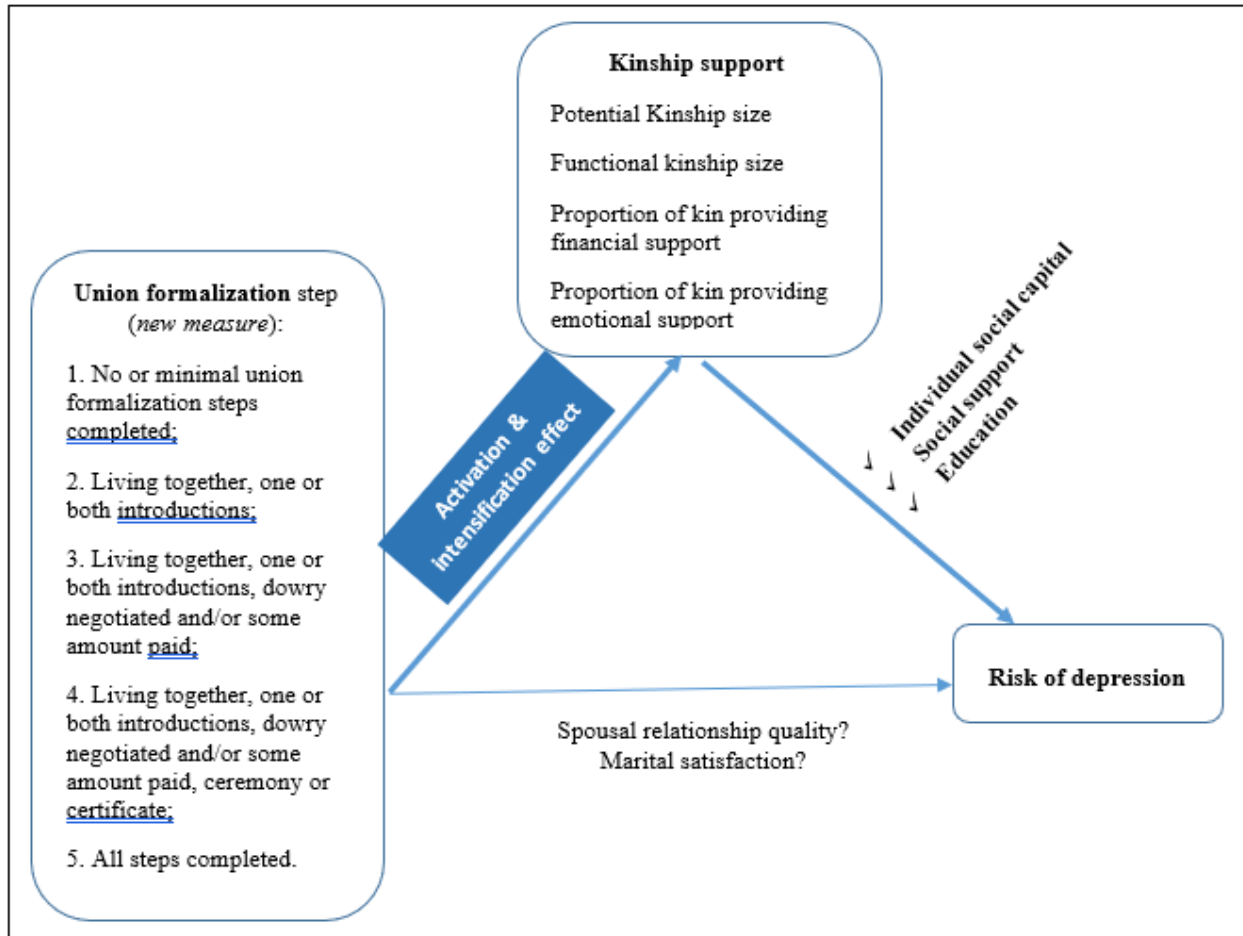Union formalization step
(*new measure*):

1. No or minimal union formalization steps completed;

2. Living together, one or both introductions;

3. Living together, one or both introductions, dowry negotiated and/or some amount paid;

4. Living together, one or both introductions, dowry negotiated and/or some amount paid, ceremony or certificate;

5. All steps completed.

Kinship support

Potential Kinship size

Functional kinship size

Proportion of kin providing financial support

Proportion of kin providing emotional support

Activation & intensification effect

Individual social capital
Social support
Education

Risk of depression

Spousal relationship quality?
Marital satisfaction?

Figure 2. Distribution of Union Formalization Stages (collapsed categories), JAMO Wave 1

- 🔵 None/Minimal Steps
- 🟠 cohabitation & some introduction,
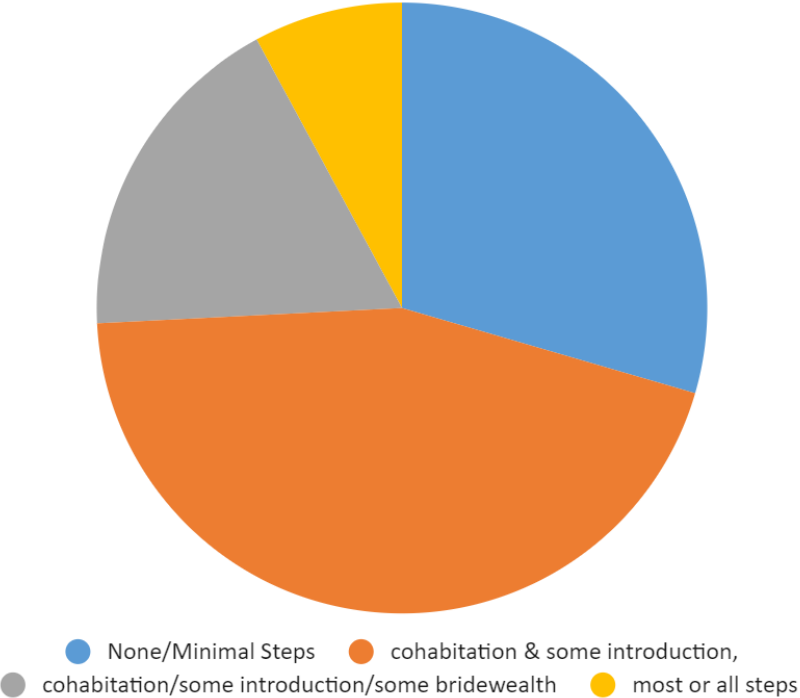- ⚪ cohabitation/some introduction/some bridewealth
- 🟡 most or all steps

Table 2. Results from logistic regression predicting risk for depression, JAMO Waves 1-3

	CESD>=10 OR (robust standard error)	CESD>=15 OR (robust standard error)
	Model 1	Model 2
Union formalization status		
None/minimal steps	ref	ref
Cohab & Intro	.76*(.09)	NS
Cohab/Intro/Some bridewealth	.44***(.08)	.39***(.09)
Most/All steps	.61*(.14)	.51*(.17)
pseudo-R^2	.1119	.1102
N	3414	3414

Controls: wave, mother age, mother education, mother employment, children ever born, food security, household size, count of potential kin

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