

## **Ideational Factors and Modern Contraceptives: Social Network Data from Rural Kenya**

*Background.* In recent decades, demographers studying the processes that drive fertility transition have been interested in the role of *ideational changes* – the spread through social networks of beliefs and attitudes linked to fertility behaviors, including modern contraceptive use (Casterline, 2001). These ideational factors may include beliefs and attitudes about modern contraceptive methods themselves, as well as beliefs and attitudes about childbearing, birth spacing, and family size, and the social acceptability of sexual activity among adolescents and/or outside of marriage. Few studies, however, have sought systematically to identify the most important beliefs and attitudes or to describe how those beliefs and attitudes are distributed across social networks in the context of communities where fertility transition is actively underway. The current study addresses these issues using recently collected social network survey data from two rural communities in Kilifi County in Kenya’s Coast Province.

*Methods.* Between March and August 2018 we conducted a social network survey in two rural communities in Kilifi County, Kenya, selected on the basis of having low (10%) and high (33%) modern contraceptive prevalence according to PMA2020 data. Enumerators sought to interview every resident aged 15 or older in both communities. The response rate was 74%. Key elements of the questionnaire included (a) items assessing current and intended future use of modern contraception, (b) eighteen statements of beliefs and attitudes related to childbearing, sexuality, and modern contraceptive use; and (c) items asking participants to identify their social network contacts for a range of issues and topics, including who they have spoken with about modern contraceptives and who they have spoken with about childbearing. Participants identified those contacts from a comprehensive list of community residents, allowing each participant’s own responses to be linked to those of her/his network contacts, provided those contacts were community residents. Analyses already completed include the following. First, we describe the total sample and the subsample of women of childbearing age and summarize responses to the 18 belief and attitudes statements for the total sample and the subsample of women of childbearing age, overall and comparing the two communities. Second, we conduct logistic regression analyses to assess which beliefs and attitudes are associated with current use and intended future use of modern contraceptives among women of childbearing age. And third, we characterize the social network contacts of women of childbearing age. Additional analyses not yet conducted will use an Auto-Logistic Actor Attribute Model to examine (1) the extent to which the beliefs/attitudes of women of childbearing age are influenced by the beliefs/attitudes of their network contacts, and (2) the extent to which the modern contraceptive use of women of childbearing age is influenced by their own beliefs/attitudes and beliefs, their network contacts’ beliefs/attitudes, and their network contacts’ MC use behavior.

*Preliminary Results.* The sample consists of 1,975 individuals, 66.3% of whom were from the high MCPR community. The sample is 55% female and generally young with over 60% under age 35. Most respondents (65%) have at least one living child. Islam and Protestant Christianity are the most common religious identifications. Education levels are low and unemployment is high in the sample. Among women of childbearing age, 35% reported current use of modern contraception, and 65% reported current use or intention to use in the future.

Table 1 shows the distribution of responses to the 18 belief/attitude statements. Average responses to the belief/attitude items vary widely, with the statements about child spacing and the wisdom of having small families yielding responses most conducive to modern contraceptive

use, and statements about adolescent sexual activity, God's role in deciding the number of children a woman will have, and the belief the modern contraceptive use causes weight changes yielding responses that are least conducive to modern contraceptive use. Statistically significant differences were found between the low and high MCP communities for most items in the full sample and among women of childbearing age, with more MC-conducive responses in the high MCP community for almost all of the statements (indicated by positive  $\Delta$ s).

Table 2 shows associations between each of the 18 beliefs and attitudes and current use and intended future use of modern contraceptives among women of childbearing age. In models without and with controls for sociodemographic variables, most beliefs and attitudes were significantly associated with current use and intended future use. The strongest and most consistent associations were found for statements about side effects and health problems resulting from MC use, and about the potential for MC use to lead to family conflict.

Table 3 shows the identities of the network contacts nominated by women of childbearing age. For both types of network contact, over 70% of women of childbearing age nominated at least one network contact. Almost all of the most commonly nominated network contacts were female relatives. However, husbands and female friends were also commonly mentioned. Note that health care providers were not commonly identified as network contacts for either of these questions. This finding may be attributable to health care providers not residing in the study communities, and therefore not being included on the list of community residents from which respondents identified their network contacts.

*Discussion.* This study will shed light on the social processes by which fertility transition and the uptake of modern contraception spread through social networks; lay the groundwork for longitudinal studies that can elucidate the dynamics of these processes and provide a more compelling case for causal inference; and inform the design of interventions, including communication campaigns, intended to mitigate barriers to and accelerate the uptake of modern contraception. Results of our preliminary analyses suggest that the most important ideational factors at this stage of the fertility transition process in these rural communities may be beliefs and attitudes about the side effects and health consequences of modern contraceptive use, and about modern contraceptive use leading to family conflict. This is in line with recent finding that, in Demographic and Health Surveys, the most common reasons for non-use of modern contraceptives offered by women with unmet need include concerns about side effects and health problems, and opposition by the woman herself or by someone else (Sedgh & Hussain, 2014).

## References

Casterline J. 2001. Diffusion processes and fertility transition: Introduction. In J. Casterline (Ed.), *Diffusion Processes and Fertility Transition: Selected Perspectives* (pp. 1-38). Washington, DC: National Academy Press.

Sedgh G, Hussain R. 2014. Reasons for contraceptive nonuse among women having unmet need for contraception in developing countries. *Studies in Family Planning*. 45(2): 151-169.

Table 1. Responses to 18 Attitude/Belief Questions and Community Differences, Overall and for Women of Childbearing Age

Belief/Attitude Statement	Full Sample (n=1975)		Women of Childbearing Age (n=841)	
	Mean (SD)	$\Delta$	Mean (SD)	$\Delta$
It is essential to have a child as soon as possible after getting married. [R]	2.19 (1.15)	0.09	2.26 (1.20)	0.15*
It is dangerous to the health of mother and child to have one birth too soon after another.	3.96 (1.01)	0.10*	4.00 (0.97)	0.19*
It is smart to have a small family with one to three children.	3.65 (1.16)	-0.16**	3.80 (1.08)	-0.18*
It is God who determines how many children a woman has. [R]	1.86 (0.95)	-0.02	1.87 (0.97)	-0.03
Having many children is wise because it ensures that you will have someone to support you in your old age. [R]	2.60 (2.26)	0.21***	2.56 (1.22)	0.34***
Using medical methods of FP can cause health problems. [R]	2.19 (0.94)	0.20***	2.19 (0.96)	0.34***
Using medical methods of FP can cause weight gain/loss for women. [R]	1.94 (0.78)	0.22***	1.90 (0.73)	0.22**
Using medical methods of FP can cause a woman to become infertile. [R]	2.40 (1.08)	0.24***	2.51 (1.10)	0.35***
Using medical methods of FP can cause a loss of trust between a person and his/her partner. [R]	2.34 (1.02)	0.21***	2.40 (1.02)	0.21**
Using medical methods of FP can cause conflict between a person and his/her partner. [R]	2.29 (1.01)	0.25***	2.32 (1.01)	0.32***
Using medical methods of FP can cause conflict between a person and his/her family/in-laws. [R]	2.36 (1.07)	0.20***	2.40 (1.07)	0.28***
Using medical methods of FP can make a woman more likely to be promiscuous. [R]	2.61 (1.21)	0.18***	2.83 (1.24)	0.27***
It is okay for unmarried women to be sexually active.	2.12 (1.10)	0.03	2.06 (1.08)	-0.14
If unmarried women are sexually active, it is okay for them to use medical methods of FP.	2.75 (1.26)	0.16**	2.70 (1.22)	0.12
It is okay for unmarried men to be sexually active.	2.35 (1.21)	0.04	2.32 (1.18)	-0.14
If unmarried men are sexually active, it is okay for them to use medical methods of FP.	2.85 (1.27)	0.33***	2.85 (1.24)	0.26***
It is okay for adolescents to be sexually active.	1.82 (0.92)	0.25***	1.74 (0.82)	0.16*
If adolescents are sexually active, it is okay for them to use medical methods of FP.	2.55 (1.30)	0.19***	2.53 (1.27)	0.17*

NOTES: All statements are coded on a 1 to 5 response scale. Those marked [R] are reverse-coded so that high values represent beliefs/attitudes presumed to be supportive of modern contraceptive use.  $\Delta$  is Cohen's d, the standardized difference between the means in the high and low MCP communities. FP = family planning.

Table 2. Crude and Adjusted Odds Ratios Measuring Associations between Beliefs/Attitudes and Current Use and Intentions to Use Modern Contraception among Women of Reproductive Age (n=841)

Belief/Attitude Statement	Unadjusted Models		Adjusted Models	
	Current Use	Use/Intent	Current Use	Use/Intent
It is essential to have a child as soon as possible after getting married. [R]	0.90	0.93	1.03	0.94
It is dangerous to the health of mother and child to have one birth too soon after another.	1.34***	1.21*	1.24*	1.14
It is smart to have a small family with one to three children.	1.04	1.26***	1.14	1.27**
It is God who determines how many children a woman has. [R]	1.19*	1.20*	1.20*	1.16
Having many children is wise because it ensures that you will have someone to support you in your old age. [R]	1.06	1.20**	0.98	1.15
Using medical methods of FP can cause health problems. [R]	1.43***	1.50***	1.42***	1.48***
Using medical methods of FP can cause weight gain/loss for women. [R]	1.14	1.10	1.24	1.06

Using medical methods of FP can cause a woman to become infertile. [R]	1.27***	1.33***	1.11	1.23**
Using medical methods of FP can cause a loss of trust between a person and his/her partner. [R]	1.37***	1.38***	1.36***	1.37***
Using medical methods of FP can cause conflict between a person and his/her partner. [R]	1.36***	1.48***	1.33**	1.45***
Using medical methods of FP can cause conflict between a person and his/her family/in-laws. [R]	1.29***	1.28***	1.31**	1.25**
Using medical methods of FP can make a woman more likely to be promiscuous. [R]	1.32***	1.27***	1.19*	1.22**
It is okay for unmarried women to be sexually active.	1.08	1.14	1.03	1.12
If unmarried women are sexually active, it is okay for them to use medical methods of FP.	1.09	1.24***	1.12	1.25**
It is okay for unmarried men to be sexually active.	1.18**	1.10	1.10	1.06
If unmarried men are sexually active, it is okay for them to use medical methods of FP.	1.09	1.21**	1.04	1.15*
It is okay for adolescents to be sexually active.	1.12	1.22*	1.06	1.13
If adolescents are sexually active, it is okay for them to use medical methods of FP.	1.09	1.20**	1.10	1.19**
NOTES: Current use is coded 1 if the respondent indicated that she is currently using a method of modern contraception. Use/Intent is coded 1 if the respondent indicated that she is currently using a method or intends to use a method in the future. Variables included in adjusted models are: Village, age group, marital status, number of living children, religion, occupation, and education.				

Table 3. Social Network Contacts for Discussion of Modern Contraception and Childbearing and Child Spacing among Women of Childbearing Age (n=841)

Modern Contraception	First	Any	Childbearing and Child Spacing	First	Any
Female Relative (Unspecified)	225	433	Female Relative (Unspecified)	205	391
Sister-in-Law	83	140	Husband	98	126
Female Friend	70	112	Sister-in-Law	77	124
Husband	74	111	Co-Wife	52	87
Co-Wife	67	111	Female Friend	52	79
Mother	37	46	Mother	26	36
Sister	26	40	Sister	29	31
Mother-in-Law	15	25	Mother-in-Law	13	23
Daughter	7	9	Daughter	5	10
Male Friend	2	6	Male Relative (Unspecified)	7	9
Grandmother	4	5	Brother	5	8
Male Relative (Unspecified)	3	5	Other	23	38
Other	21	33	TOTAL	592	962
TOTAL	634	1076	Female Relative (Unspecified)	205	391
NOTE: Respondents could identify up to five network contacts for each topic. Columns labeled "First" present the first contacts identified, and columns labeled "Any" cover all contacts identified.					