

## Mother-Adolescent Conversations about Sex: Factors that determine the extent of communication for Families in Tharaka-Nithi County, Kenya

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### Abstract

*Many parents are opposed to providing information regarding sexual matters to their children. A good number of those opposed to this practice do so on the premise that having their children exposed to this information is dangerous, especially when they are younger. Parents are generally uneasy about any sexuality discussions, particularly in this age where HIV/AIDS is rampant. Most mothers have reported their hesitance towards speaking to their children about sexuality, either because they fear that the children may construe this as suspicion of their sexual behaviour or they don't think their concerns will be considered seriously. This becomes even harder when the need to address more sensitive subjects arises, i.e. discussing boyfriends, girlfriends, contraceptives and sexual behaviours among others. While these mothers appreciate the importance of having these sensitive discussions, they report being unable to broach the discussions as frequently as they should. This circumvention of sensitive sexuality-related discussions also in part contributes to adolescents not having enough information they can leverage for self-protection. As such, there is sufficient reason to conclude that many families within Tharaka-Nithi County have difficulty having mother-adolescent discussions on sexuality-related matters, necessitating a study such as this one.*

**Keywords:** Mothers, Adolescents, Mother-adolescent Sexuality Communication, Adolescent Sexual Behaviour

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### Introduction

Society considers mothers to be pivotal sources of support for their adolescent children, and they are more often listed as primary sources of sexual-related information to children than fathers (Bleakley, Hennesy, Fishbein, & Jordan, 2009) (Jaccard, Dittus, & Gordon, 2000). Providing information on sexual matters to children has typically been received with much opposition by many parents. A good number of those opposed to this practice do so on the premise that having their children exposed to such information is dangerous, especially when they are younger. Parents are generally uneasy about any sexuality discussions, particularly in this age where HIV/AIDS is rampant. Many parents have reported their hesitance towards speaking to their children about sexuality, either because they fear that the children may construe this as suspicion of their sexual behaviour or they don't think their concerns will be considered seriously (Jaccard, Dittus, & Gordon, 2000). This becomes even harder when the need to address more sensitive subjects arises, i.e. discussing boyfriends, girlfriends,

contraceptives and sexual behaviours among others. While the parents appreciate the importance of having these sensitive discussions, they report being unable to broach the discussions as frequently as they should. The circumvention of these sensitive sexuality-related discussions also in part contributes to adolescents not having enough information they can leverage for self-protection (Juma, Alaii, Askew, Bartholomew, & Van den Borne, 2015). As such, there is sufficient reason to conclude that many families within Tharaka-Nithi County have significant difficulty having parent-adolescent discussions on sexuality-related matters.

Adolescents within the region report that they have more sexuality-related discussions within their peer groups than they do at home. Furthermore, adolescents within Tharaka-Nithi county, and girls especially, receive less information regarding sexuality from their mothers than they do from peer group members. This raises the all-important question: which factors define whether or not mothers will speak about sexuality-related matters with their children? Maternal concern regarding the sexual involvements of their children can be a major factor determining the scope of their discussions on sensitive matters with their adolescent children (Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001). For instance, parents may speak more to older adolescents than younger ones about sensitive sex-related topics, if they suspect the former to be sexually active.

One study showed that more mothers who suspected their children to be using alcohol reported having more of these sensitive discussions with their children (including matters connected to having sex and birth control practices) than mothers whose adolescent children were not suspected or reported to be using alcohol (Jaccard, Dittus, & Gordon, 2000).

Mothers who perceive that their children's safety is at risk are likely to engage in sexual related communication with them. The topics that they are likely to discuss are more inclined to self-protection. This is despite whether the links are directly or indirectly associated to sexual behaviour (Jaccard, Dittus, & Gordon, 1998). The nature of these factors remain largely unaddressed by existing literature. Mothers from poor backgrounds tend to have less anxiety regarding the likelihood that their children are involved with risky sexual behaviour, compared with mothers from more affluent backgrounds. A similar study postulates this to be resultant of the fact that such parents are more concerned with survival endeavours and hence pay less attention to communication for sexual risk prevention (Juma, Alaii, Askew, Bartholomew, & Van den Borne, 2015).

A majority of mothers may be especially apprehensive about their adolescent children's risk to HIV infection. Given their cognizance of the increase in their children's exposure to unsavoury influences within their peer groups, it is reasonably understandable why mothers would be worried about their adolescents' susceptibility to dangerous diseases (Centre for Disease Control and Prevention, 1991). A study in South Africa showed that a rise in number of cases of teenage pregnancy correspondent to a rise in incidence of HIV infection (Christofides, et al., 2014). As such, we hypothesize that mothers may have more discussions on sex-related topics to counteract negative peer influence, as well as following suspicions regarding their own children's behaviour and actions.

Girls have previously reported having been told by their mothers to protect themselves (referring to their sexual conduct), without proffering specific details on how they should do this (Fox & Inazu, 1980). Previous studies show this information to be limited to warnings and rules, and covering a rather restricted range of topics (Brock & Jennings, 1993). This

implies that some mothers may overrate the amount of knowledge passed on to their adolescent children. This in turn creates a need to have observational studies so as to examine the exact content variables that would not be as effectively captured by simply using questionnaires as a mode of data collection.

The general objective of this current study was to examine the extent of communications on sex-related matters through observation of mother-adolescent discussions on sexuality and dating.

### **Statement of the Problem**

In Tharaka- Nithi County, many people are very conservative and still hold onto outdated cultural practices such as with-holding certain information to children. A good number of parents especially mothers are opposed to providing information on sex to their adolescent children. According to them, such information is dangerous, especially when they are younger. Many parents have reported their hesitance towards speaking to their children about sexuality, either because they fear that the children may construe this as suspicion of their sexual behaviour or they don't think their concerns will be considered seriously (Jaccard, Dittus, & Gordon, 2000). While the parents appreciate the importance of having these sensitive discussions, they are unable to broach the discussions as frequently as they should. The circumvention of these sensitive sexuality-related discussions also in part contributes to adolescents not having enough information they can leverage for self-protection (Juma, Alaii, Askew, Bartholomew, & Van den Borne, 2015). This is what has led to the current primary school dropout rate for boys in the county to stand at 21.6 per cent (source) while for girls stands at 19.7 per cent (source)

It has been reported that Tharaka –Nithi County contributes a third of the high number of problems among the youth in Kenya. These include teenage pregnancy, Hiv, drug use and abuse. The youth is the age group that is mostly affected by poverty in the region. Nearly one third of every youth are unemployed. With unemployment being highest among the 15-29 year olds of both sexes; many young people suffer from status frustration caused by blocked opportunities for socioeconomic advancement. In response, many of them turn to modes of adaptation such as alcohol and drug use to cope with the challenges posed by their poverty status. This is deliberate consumption of drugs for reasons other than its intended which results in damage to the person's health or ability to function properly (Odongo, 2012). The main source of some of these problems is lack of information. The information should have been given to them earlier during adolescence which is never the case since most parents hold on to their cultural barriers of discussing certain issues with their children especially after circumcision. As such, there was sufficient reason to conclude that many families within Tharaka-Nithi County have significant difficulty having parent-adolescent discussions on sexuality-related matters and therefore the need for a study like this.

### **Specifically the Study Sought To:**

1. Find out whether there is a relationship between adolescent's exposure to HIV/AIDS and maternal –adolescent communication about sex related matters
2. Investigate if there is a relationship between exposure to substance use and mother-adolescent communication about sex related matters
3. Find out whether there is a relationship between adolescent gender and communication about sex related matters

4. Investigate if there is a relationship between family income and mother adolescent communication about sex related matters.

### **Research Questions**

1. Is there any relationship between adolescent's exposure to HIV/AIDS and maternal – adolescent communication about sex related matters
2. What is the relationship between exposure to substance use and mother- adolescent communication about sex related matters
3. Is there any relationship between adolescent gender and communication about sex related matters
4. What is the relationship between family income and mother adolescent communication about sex related matters.

The main hypothesis under test was that mothers of adolescent children within Tharaka-Nithi County had more discussions on sexuality with their adolescents where they had concerns about their adolescents' exposure to drug abuse and HIV infection. Moreover, the study explored the relationship between duration of conversations about sexuality and the gender and age of adolescents involved.

Various studies have shown that parents are more likely to have sex-related discussions with older adolescents (Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001)(Jaccard, Dittus, & Gordon, 2000). According to Raymond & Silverberg (1997), as female adolescents approached the mid-teen years, discussions on sexuality shifted from simple reproduction and menstruation to more delicate matters such as birth control and sexual experiences. This study also tested the hypothesis that mothers have more sexuality-related discussions with their older adolescents, presumably owing to their concern that such children are more likely to engage in risky sexual conduct. The study also sought to investigate whether the adolescent's age is a continuous factor affecting the variability of sexuality related discussions, considering maternal concerns regarding risky and/or sexual behaviours.

According to literature, another factor closely linked to increase in communication on sex-related matters is the adolescents' gender (Nolin & Petersen, 1992). Mothers in particular are reported to have more discussions on sexuality with daughters than sons. Mothers also report having tackled a broader range of topics with their daughters through more open and amenable communications, and being less reserved in speaking about sex with their adolescent daughters compared with their adolescent sons (Nolin & Petersen, 1992),(Jaccard, Dittus, & Gordon, 2000). There remains some question as to whether these findings can be rightly extrapolated to parents within Tharaka-Nithi County and their adolescent children.

Gender is a strong factor determining how mothers relate with their children on matters dating and sexuality. Mothers are reported to have more open and frequent discussions with their daughters than sons, particularly as regards sexual behaviour. They may also establish a more stringent set of standards for their daughters than their sons, creating a sexual double-standard within the home (Nolin & Petersen, 1992). In the latter case, speaking about sexual conduct with their adolescent daughters may be considered irrelevant and/or altogether avoided.

Apart from investigating the relationship between adolescent characteristics and parental perceptions vis-à-vis duration of discussions on sexual conduct, this study also attempted to

define the extent of linkage between perceived family relationships and sexual discussions within families in Tharaka-Nithi County.

A higher degree of openness in general familial discussions has also been linked to reports of more openness in discussions surrounding sexuality and related topics (Miller, Kotchick, Dorsey, Forehand, & Ham, 1998)(Fox & Inazu, 1980). In general, these findings have been gleaned from self-reporting literature, giving rise to another aim for the current study, i.e. to determine whether such associations are also present in observed dyadic communications.

## **Methodology**

### *Participants*

This study's participants comprised of 100 mothers and one of their adolescents each to form 50 mother-daughter and 50 mother-son dyads, with the adolescents' ages ranging from 12-18 years of age. The participants were selected from families within Tharaka-Nithi County. Participants were given KES 1,000 to reimburse transportation expenses and pay for lunch in return for their participation in this study.

There already existed some communication data on the 100 parents and their adolescent children (50 boys and 50 girls). The adolescents' ages ranged from 11.9-17.9 years, with their mean age being 15.2 years. The mothers' ages ranged from 24-50 years, with their mean age being 36 years, and the standard deviation being 5.8. 65 percent of the parents were born within Tharaka-Nithi County, while 30 percent were born in the neighbouring Meru County. The remaining 5% were born in parts of Kenya other than the mentioned counties. 82 percent of mothers were Protestant, and 70 percent of participants reported that their church attendance was either regular (weekly) or frequent (bi-monthly). 23 percent also reported occasional church attendance, while 7 percent reported never going to church.

The participating families reported median household incomes of between KES 15,000 and KES 25,000 per month (the range was from less than KES 10,000 to between KES 40,000 and KES 55,000). The parents' years of education stretched between 5 and 17 years, bringing a mean education level of 10 years. 50 percent of the sample reported not having completed their secondary school education, with 30 percent of these having only finished Standard Eight in primary school. The remaining 20 percent did not finish primary school. Approximately 70 percent of the mothers were married. The remaining 30 percent were single because of widowhood or had never been married.

### *Procedure*

Each dyad participating was slotted in for a private research session lasting 1.5 hours at one of two local primary schools near their neighbourhoods. When participants arrived, they were greeted in Kimeru and Kiswahili, after which all relevant information and instructions were given in the parents' and adolescents' language of choice (i.e. Kiswahili or Kimeru, or any other). After a broad introduction to the study's procedure and collection of duly signed consent forms, the dyad was invited to participate in a warm-up exercise wherein they were asked to discuss and give a description of characteristics of a well-adjusted teenager, according to them. Mothers were also asked to speak about matters that they regularly talk

about in everyday communications with their adolescents. The aim of these warm-up exercises was to acclimatize both mothers and adolescents to the videotaping.

Afterward, the mother and their adolescent were requested to adjust their seats and be seated comfortably in anticipation of the conversation phase of the testing session. The experimenter stated: "In 10 minute spans, we want you to discuss 'X'", where X was dating and sexuality, HIV/AIDS or a subject that was a source of disagreement between them. The particular theme of discussion was established by the experimenter. Both parents and adolescents were then asked to state whether or not they had any questions/concerns regarding the procedure. A lot of the respondents requested to be provided with suggestions for topics on which their conversations should be focused. The experimenter in turn responded that they were free to express 'anything' they desired that was relevant to the particular theme assigned. The experimenter exited the room to give space for each conversation, and, once the 10 minutes ran out, came back in and asked the families to move on to the next theme for another 10 minutes. The order in which all 3 themes were tackled was equalized within the dyads.

Following the conversation phase, the parent and adolescents were handed a set of questionnaires which they completed in two separate rooms. A research assistant was assigned to each room to provide guidance on any questions the respondents had, or assist them to read and interpret survey questions. Where necessary, a local interpreter was found to translate questionnaire items from English to Kimeru or Kiswahili. A moderator was used to ensure that all translations retained the intention of questionnaire items. The final check point was translation of questionnaires back to English. There only a few phrases whose wording was phrased differently from the original English questionnaire's phrasing. In all, 93 percent of the parents and 97 of adolescents managed to correctly complete the questionnaires in English, Kiswahili or Kimeru.

*Demographic variables:* In the questionnaires designed for the adolescents, questions sought to provide information on the adolescents' birthplace, age and their educational background. Mothers also had similar questions, with additional questions on marital status, socio-economic status, church attendance and years of education. Families' language preferences were assessed by reviewing videotapes and decoding whether parents only or mostly spoke in Kiswahili or Kimeru.

*Observational coding of sexuality:* A specialized computer program designed to decode interactions was used to record data about how long dyads spoke about sex-related topics in the dating and sexuality conversation segments. Every time a topic surrounding contraceptives or sexual behaviour was introduced and discussed, the time-code for the start and finish of these conversations was marked and recorded. For every dyad, the length of time (in seconds) spent sensitive sexual topics (i.e. behaviours culminating in sex, sexual experiences and contraceptives) was calculated throughout the 10-minute conversation segments. Samples of conversation excerpts are outlined in Table 1. In general, marked topics were those related to:

1. Dating
2. Having sex – conversations on activities related to sexual intercourse
3. Contraceptives – any measures for birth control or discussions mentioning condoms as regards self-protection from sexually transmitted diseases.

The instances in which such topics were initiated but not addressed were excluded. An example of one such instance was one in which one mother asked, “What have you been taught by your teachers in school?” The child responded with scanty details, but neither mother nor child went further to elaborate on the answer. There were four coders, experts in Kiswahili and Kimeru respectively, who were responsible for analysis of the videotapes. There was a primary and secondary coder who coded 15 percent of all conversations together for purposes of training, while another 18 percent of tapes (18 tapes) were separately coded for reliability purposes. Given the total time duration spent in discussions on sexuality, there was an intra-class correlation of 0.89.

**TABLE 1: Examples of Coding Categories**

**Dating**

M: Have you ever approached a girl for a date?  
 S: Yeah  
 M: Oh, really? Who?  
 S: I can't tell you that!

**Having Sex**

M: What do you think about having sex?  
 D: That I should not engage in sex before I'm married, because if I do when I'm still in secondary school, I'll lose your trust, and also my friends in school will start calling me names.  
 M: So, you don't do it because of your reputation?  
 D: That happens.  
 M: Do you think dating and sex go together?  
 D: No, but I think there are some boys who try to make it look like they have to

**Condoms/Birth Control**

M: Now, about sexuality, we have told you that having sex when you are young can bring problems, because you're not old enough to understand and deal with all it brings. But because it's my job to prepare you for everything, especially in this age of HIV/AIDS, you should be prepared and be protected.  
 S: You mean like practising safe sex? Like using condoms?  
 M: Well yes, with condoms, if you decide you still want to do it... Also, well, you must be very careful about who you sleep with, you know that, right?  
 S: How will using a condom protect me? Because a girl may have some infection?  
 M: Partially yes, son. Using a condom can protect you against many things. For instance, if your partner has an infection, it will protect you and it will prevent you from getting the girl pregnant

**M=Mother    S=son    D=daughter**

*Frequency of home communication on sex-related topics.* Each mother and adolescent completed an approved format of the Home Discussion Questionnaire. The questionnaire outlined questions regarding the frequency with which the adolescent and parent held discussions on twenty different discussions related to sexuality, puberty and dating. Respondents were asked to outline the frequency of discussions on aforementioned topics separately in a scale of 0-4 where 0=never and 4=all the time. For this study’s purposes, a scoring system was created which measured the frequency with which mothers reported to have discussions on sensitive sex-related matters with their adolescent. The score comprises of a sum of ratings from four different questions: Have you and your adolescent ever discussed (a) dating (b) having sex (c) sexual intercourse or (d) contraceptives

*Maternal concerns regarding adolescents’ involvement in risky activities/behaviours.* Mothers were also asked to rate, on a 5-point scale from 0-4 (where 0=not worried at all and 4=very worried), the degree to which they were concerned about their child’s exposure to the HIV virus. In addition, they filled out a questionnaire which outlined questions related to their children’s substance use/abuse (e.g. Has your child ever: (a) had three or more portions of an alcoholic drink in a single sitting; (b) smoked marijuana; (c) used an intravenously-consumed drug?). The mothers gave their responses on a 5-point scale as follows: 1=Never, 2=Once, 3=Sometimes, 4=Often and 5=All the time. These ratings were added up to give a single “Substance use belief” mark. Supplementary questions associated with the adolescent’s exposure to thrill-seeking behaviour (such as car racing) were included within the questionnaire, but their results are not reported herein.

**TABLE 2: Mean Scores (Standard Deviations) of the Mothers Background Characteristics in Each Language Group**

	Kiswahili-speaking Mothers (N=44)	Kimeru Speaking Mothers (N=56)	
<b>Background Characteristics</b>			
<b>Age of Mother</b>	37.7 (5.6)	40.0 (6.3)	
<b>Years of Education</b>	13.6 (2.0)	7.4 (4.4)	***p<0.001
<b>Family Income Scale (1-8)</b>	4.9 (2.0)	2.8 (1.6)	***p<0.001

*Perception of openness in mother-adolescent relationships.* The degree to which mothers rated openness within their relationship was quantified using a sub-scale of 10 items making up the PAC Openness scale. Sample items include “My child listens when I try to speak to him/her” and “My child makes some effort to appreciate my viewpoint”. A 5-point agree-disagree scoring system was used, with higher numbers being indicative of greater openness. The parents had an Alpha of 0.80.

### **Results**

The language background of all mothers was considered in all analyses, given that a 2x2 ANOVA table (gender of child x language group) showed reliable variances between mothers speaking Kiswahili and Kimeru. The Kimeru-speaking mothers for instance were less

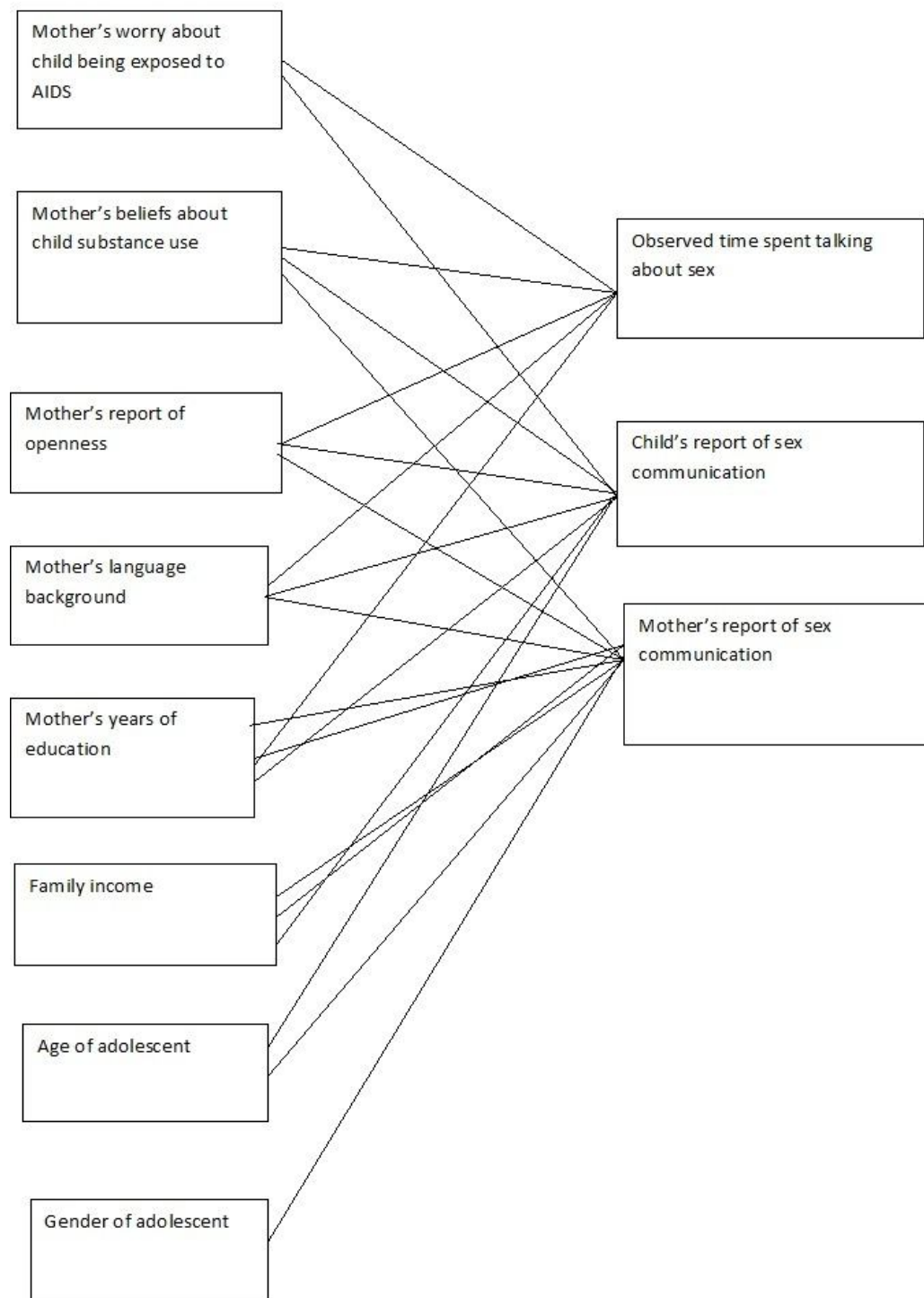
educated  $F(1,94)=68.70$ ,  $p=0.001$  and had lower aggregate family incomes  $F(1,92)=33.14$ ,  $p=0.001$ , as compared to the Kiswahili-speaking mothers. The Kimeru-speaking mothers were also more worried about their children's exposure to HIV than their Kiswahili-speaking counterparts ( $M=0.4$ ,  $SD = 0.8$ ),  $F(1, 93) = 19.87$ ,  $p < 0.001$ . However, language group had no reliable effect on the mothers' concerns regarding adolescents' substance use,  $p=0.60$ . Kimeru-speaking mothers perceived a higher degree of openness in communication with their adolescents ( $M = 38.0$ ,  $SD = 8.0$ ),  $F(1, 94) = 4.52$ ,  $p < 0.05$ . There were neither child gender differences (i.e. mothers of sons vis-à-vis mothers of daughters) nor significant interaction effects for all measured child demographic variables. Table 2 outlines the means and standard deviations in the characteristics of mother-child dyads, separated according to language group.

*The Path Model: Mother-related factors and Communication on Sexuality*

A model was set up to investigate mothers' beliefs regarding their adolescents' exposure to substance use/abuse, concerns about their adolescents' exposure to HIV/AIDS, perception of the quality of relationship with their adolescent children, demographic variables (income, language background, years of education etc.) and gender and ages of adolescents influenced communications on sexuality. The use of a model proved valuable information since a lot of these variables have/had been previously examined separately in various studies conducted in different researchers (Centre for Disease Control and Prevention, 1991)(Juma, Alaii, Askew, Bartholomew, & Van den Borne, 2015); (Bogensneider, Wu, Raffaelli, & Tsay, 1998). The model enabled the integration of these findings into a singular image depicting a comprehensive and simultaneous test for all the relationship.

Figure 1 depicts the hypothesized model. Direct pathways from all separate variables were hypothetically taken to be related to the length of time dyads spent in discussions on sex-related topics within their conversations, as well as to the mothers' and adolescents' reports regarding sex-related matters in home communications. The mothers' income, language background years of education variables were correlated to one another. Given that the Kimeru-speaking mothers contrasted with their Kiswahili-speaking counterparts in the extent to which mothers worried about their children's exposure to the HIV/AIDS virus and mothers' reports on open communication, the variables were allowed to be correlated with mothers' language background variable. The residual associated with three dependent variables, the self-report and observed communication measurements were also correlated with one another.

Prior to testing the model, an evaluation of the assumptions of linearity and multivariate normality of variables was carried out. Two Kimeru-speaking mother-adolescent dyads were established as multi-variate outliers according to the Mahalanobis distance criterion,  $p < 0.001$ . These dyads spent 3 or more minutes discussing sex-related topics (out of which 2 or more minutes were spent directly discussing contraceptives). This was an extreme period compared with other dyads. The outlier dyads had adjustments made in their scoring, in that both were assigned scores just above the highest in-lying dyad ( $2\frac{1}{3}$  minutes). Once these scores had been adjusted, continuous variables were to evaluate for level of skew and kurtosis. The variable representing mothers' beliefs regarding whether their children had been exposed to substance use activities was considerably kurtotic. The model also incorporated two dichotomous variables (language group and gender) which violated the assumptions of multivariate normality. Thus, the robust maximum-likelihood estimation which adjusts for standard errors and gives the Satorra-Bentler-scaled chi-square was used.



*Figure 1: Initial hypothesized path analysis model*

*Model estimation.* Using EQS 6.0, Path analysis procedures were carried out on data collected from 87 mother-adolescent dyads. There was missing data from 5 dyads because questionnaires regarding substance use were not administered to those respondents. Two dyads had missing information. The independence model which postulates the hypothesis that all variables are uncorrelated was effortlessly dismissed. The chi-square value,  $\chi^2$  (55, N =87)

was 33.76 ( $p=0.07$ ) and the Bentler-Bonett Non-normed Fit Index and Comparative Fit Index (CFI) was 0.92 for this model.

Post-hoc model modification was carried out in an effort to develop a model of better fit (i.e. to bring about a CFI index value not less than 0.9532). Using the Lagrange multiplier as a basis, a single path was added connecting the income variable to the parents' perceptions regarding openness in their parent-adolescent relationship. The final model designed was a much better fit for the data:  $\chi^2(22, N=87)$  was 25.58 ( $p = 0.29$ ), CFI was 0.97 and the Bentler-Bonett Non-normed Fit Index was 0.93. Results of the chi-square difference test showed significant enhancement of fit for the second model as compared with the first ( $M1-M2 = \chi^2_{diff}(1, N=87) = 8.18, p < 0.05$ , even though the path itself did not attain significance. The final model with its significant coefficients shown in standardized format is provided in Figure 2.

### *Effects*

The four independent variables, namely maternal concern regarding their adolescent's exposure to HIV/AIDS, maternal beliefs regarding their adolescent's exposure to substance use, adolescent gender and family income, were reliably linked to discussions on sexual topics. More concern over the adolescent's possible exposure to HIV/AIDS led to more communication on sex-related matters within mother-adolescent conversations. Higher degrees of maternal concern over their adolescent's substance use also culminated in more home discussions about sex. Mothers from families with lower incomes reported more communication on sexuality with their adolescents than mothers from higher-income families, albeit this finding only had marginal significance  $p < 0.06$ .

Adolescent gender was linked to the length of time dyads spent in discussions about sexual topics, with mother-son dyads having longer discussions on sex than mother-daughter dyads. The residuals connected to adolescents' and mothers' reports detailing home communications on sex showed positive correlation, indicative of the fact that both the mother's and child's report about home communications on sex were likely to be in agreement with each other. A number of independent variables were also reliably linked to one another. Kimeru-speaking mothers were more likely to have fewer years of education and lower aggregate family incomes, which is something we are likely to find among mothers born and raised in Tharaka-Nithi County. Like other parts of the country, education level and socioeconomic status are closely connected with cultural background and upbringing (Juma, Alaii, Askew, Bartholomew, & Van den Borne, 2015). Low-income Kimeru-speaking mothers had more positive views of their relationships with their adolescent children compared with Kiswahili-speaking mothers. The degree to which parents were worried about their children's exposure to HIV/AIDS virus was also linked to respondents language background, i.e. mothers that were more worried were likely to be low income and with Kimeru-speaking backgrounds. The zero-order correlation figures for all variables are presented in Table 3 for reference.

### *Discussion*

Both the self-reported and observational data collected confirmed the important and relatively new premise that maternal concern over their adolescents' well-being is a motivator for mothers to discuss sexual conduct and behaviours for self-protection with their children. Mothers that were more concerned about the fact that their children had been exposed to the HIV virus spoke more about contraceptives and sexual intercourse than mothers who do not

have such worries. Mothers that thought their adolescents had tried to use alcohol and/or other drugs were also reported to speak more about sex-related topics at home, implying that Kimeru-speaking mothers think of drug and alcohol use as a sexual health risk for their adolescents.

In contrast to existing literature (Jaccard, Dittus, & Gordon, 2000) (Fox & Inazu, 1980), perceptions regarding relationship quality and adolescent age neither accounted for topical differences for the recorded conversations nor for sex-related communication frequency at home as reported. We are however hesitant to conclude that these factors are completely irrelevant to sex-related discussions within families from Tharaka-Nithi. Instead, we suggest that more concerned Kimeru-speaking mothers particularly from low-income backgrounds are more compelled to broach discussions on sexuality-related topics, regardless of the adolescents' age, mother's years of education and the quality of their mother-adolescent relationship.

A noteworthy observation is that neither self-reported nor observational data revealed any evidence supporting the notion that mothers find it easier to speak with girls on sexuality than with boys. As a matter of fact, Kimeru-speaking mothers were observed to speak less with their daughters on sexual matters, dating and contraception as compared to their sons. This evidence is consistent with the premise that gender is a strong determinant in the extent to which mothers in Tharaka-Nithi communicate with their children about sexuality and dating matters. Discussions with daughters touching on sexual activities/behaviour, from kissing and petting to sexual intercourse, may be considered ungermane and hence avoided during their adolescent years, explaining why adolescent girls from this area have limited knowledge on general sexuality matters. In the same vein, Tharaka-Nithi mothers may be more compelled to broach these discussions with their sons rather than daughters as a result of their prevailing expectation that boys are more likely to engage in non-marital coitus. For the boys, engaging in any sexual behaviours may be viewed as a show of masculinity, and it may form a part of gender role expectations that males are sexually active. In fact, a casual review of the recorded conversations showed significant instances mentioning the need for boys to protect themselves (by using condoms, for instance) from women that might pass the HIV virus on to them following sexual encounters. It is noteworthy, however, that only two mothers from the entire sample even mentioned homosexuality, and there were no discussions on sexual behaviours/activity between same-sex partners.

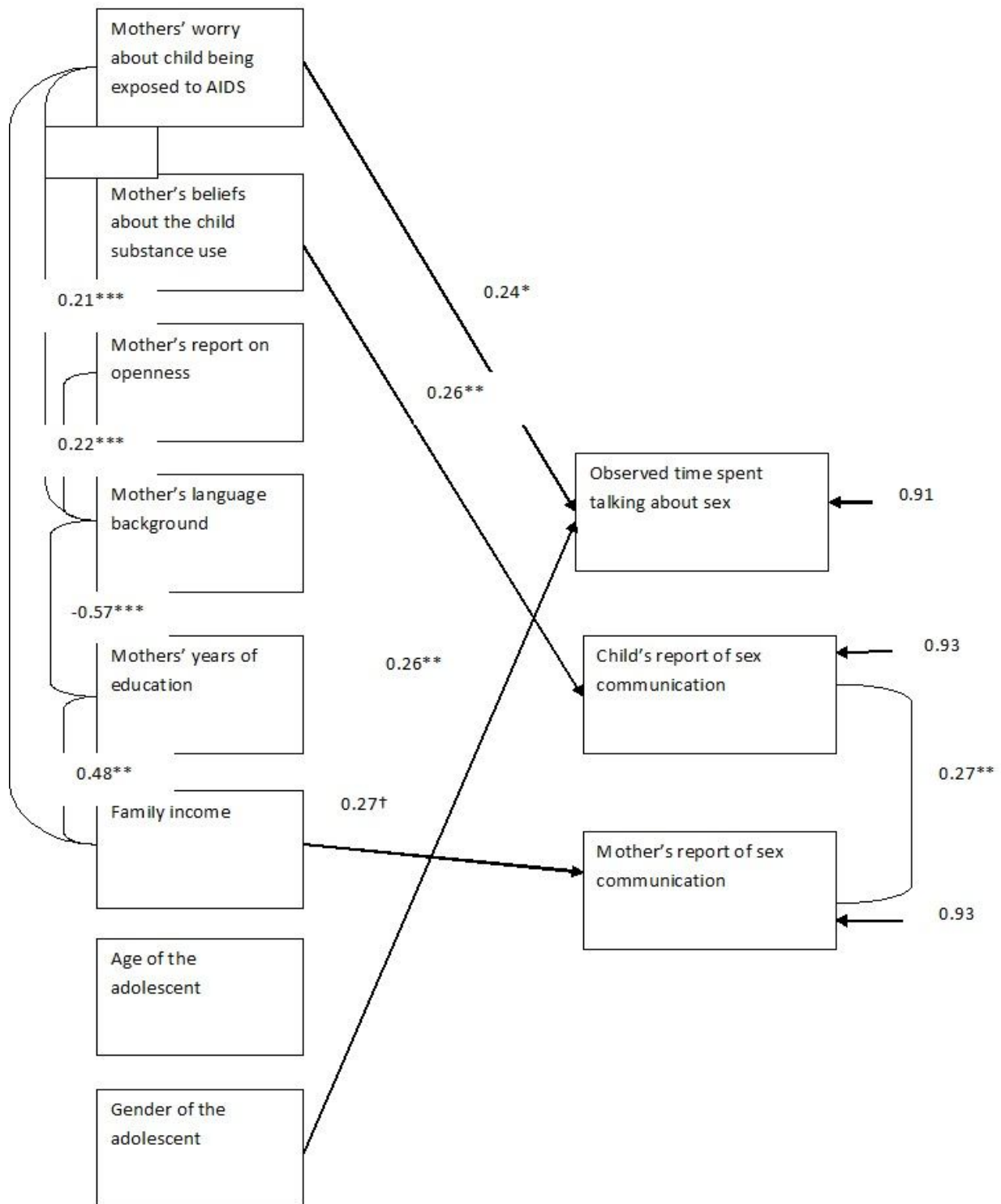


Figure 2: Final Path analysis model depicting significance coefficients

**TABLE 3 Zero-order Correlations among the measured variables that were tested in the structural equation model (n=87)**

Variables	I	II	III	IV	V	VI	VII	VIII	IX	X
<b>Material-Related Variables</b>										
1. Worry about HIV										
2. Substance use	0.09									
3. Openness	-0.08	0								
4. Language	-0.37**	-0.04	0.16**							
5. Years of Education	-0.32**	-0.02	0.17	-0.61**						
6. Family income	-0.39**	-0.07	0.17	-0.19**	0.53*					
<b>Adolescent-Related Variables</b>										
7. Age	-0.04	0.15	-0.13	-0.04	0.02	0.08				
8. Gender	-0.12	0.12	0.18	0.08	-0.01	-0.05	-0.12			
<b>Measures of Communication</b>										
9. Observed	0.28*	0.12	-0.04	0.24*	-0.19	-0.25	-0.02	0.24		
10. Child's Report	-0.03	0.21*	0.08	0.01	0.01	0.01	0.07	-0.08	-0.12	-0.13
11. Mother's Report	-0.09	0.06	0.18	-0.14	0.17	0.27*	0.11	0.11	-0.10	0.29
*p<0.05			**p<0.01			***p<0.001				

An issue not addressed in this study relates to the differences in levels of communication about sexual matters between either parent. Existing research suggests that it is improbable that fathers would be more communicative about sexuality-related matters than mothers (Bleakley, Hennesy, Fishbein, & Jordan, 2009)(Miller, Kotchick, Dorsey, Forehand, & Ham, 1998). Society considers mothers to be pivotal sources of support for their adolescent children, and they are more often listed as primary sources of sexual-related information to children than fathers (Bleakley, Hennesy, Fishbein, & Jordan, 2009)(Jaccard, Dittus, & Gordon, 2000). Self-reported findings suggest that where a single parent plays a significant role as sex educator for children, this parent is more often mother than father (Bleakley, Hennesy, Fishbein, & Jordan, 2009)(Placeholder3). It should however be interesting to observe in more detail fathers' approaches to discussions on sexual topics.

The role of maternal concern in mother-adolescent communications regarding sexuality is an understudied area. This may in part be due to the fact that maternal concerns about HIV/AIDS are more rampant in families that live within economically disadvantaged localities and who have previously not been included in research studies that address mother-child communication on sexuality-related matters (Fisher, 1986). Mothers that live in less affluent neighbourhoods may think their children to be at greater risk for HIV infection compared with mothers living in more affluent neighbourhoods. This notion is supported by the existing and reliable negative association found in our study between families' earning

capacity and mothers' concern about their children's exposure to HIV/AIDS. Another noteworthy fact is that maternal beliefs regarding their child's exposure to substance use did not correlate with any demographic variables, suggesting that substance use was a concern for all sample mothers regardless of language background or economic status (Bogenschneider, Wu, Raffaelli, & Tsay, 1998)(Pinkerton & Abramson, 1997).

A limitation to this study is that there was only a small portion of information collected addressing maternal beliefs about their adolescents' risky behaviours. It would seem that mothers do not associate their adolescents' use of substances with increased risk of exposure to HIV/AIDS, and hence the reason behind the more home communications on sexuality where the mother has concerns that their child is using substances remains unclear. Perhaps the mothers are worried that substance use may lead to sexual behaviour, the latter being their primary concern rather than exposure to HIV/AIDS. Another limitation is that there was no information collected on mothers' beliefs about other risky behaviours such as gang involvement and crime. There is need for more information to appreciate how mothers' perceptions determine the degree to which they communicate with their adolescents in sexuality.

Yet another limitation of the study was lack of evaluation of collected content. Take the example of one mother telling their child that using condoms can save one from being infected. Recent research from the medical fraternity shows this to be untrue (Pinkerton & Abramson, 1997). It is therefore possible that even when mothers from Tharaka-Nithi do address sexuality-related matters with their children, they are passing on inaccurate information. Intervention efforts directed towards helping Tharaka-Nithi mothers to have more effective and open discussions on sex-related subjects should include health education so that these mothers are passing on the right information to their children, when they do.

The degree to which respondents within this study are an accurate representation of families within Tharaka-Nithi County also remains unclear. Mothers and adolescents that agree to participate in mother-adolescent interaction studies like this one may already have better communication systems compared to their counterparts that do not participate. Nonetheless, given that most respondents stemmed from poor backgrounds, the financial incentive for participation may have attracted a broader participant demographic than would ordinarily occur. A number of mothers reported that the amount paid for participating in the research (KES 1,000) was a strong incentive for both mother and adolescent to make an effort to participate in the research. Therefore, this enabled us to include families from lower socioeconomic backgrounds whose adolescent children may be at greater risk for exposure to HIV/AIDS and unwanted pregnancies, and hence contribute towards increasing the level of knowledge regarding mother-child discussions on sexuality.

Like many other researchers, we strongly support the efforts towards making mothers to open up lines of communication on sexuality early. More mother-child communication on sexuality has been linked to fewer adolescent sexual behaviours/activities (Placeholder7), particularly communication about family values and beliefs and advice and information on practices and behaviour for self-protection (Bleakley, Hennesy, Fishbein, & Jordan, 2009). However, this finding also raises certain concerns. According to research, regardless of children's gender or age, mothers are likely to underestimate their child's involvement in sexual activities (Fisher, 1986). Evidence also points to the fact that mothers may underestimate their adolescent's substance use and exposure (Bogenschneider, Wu, Raffaelli,

& Tsay, 1998). If mothers wait until they think they have reason to worry about their child's safety in order to launch discussions on self-protective behaviour, it is very likely that many of these adolescents may get the information after it has become too late.

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