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## **Unmarried Zambian School Teenagers and Sexual Activity: A Discriminant Analysis**

### **Introduction**

IF we are to understand the process of modernization in traditional societies such as Zambia, we need to pay closer attention to the roles institutions such as education play in bringing about attitudinal changes. It has been suggested that institutional changes forced by modernization modify cultural practices, values, attitudes, and technology (Billet, 1993; Nash, 1984). The spread of new values and ideas in a modernizing society is not uniform. For example, it has been found that educated women who hold formal sector occupations are more likely to adopt family planning methods (Carrasco, 1981; Sethi, 1974). Perhaps one of the well-known approaches towards identifying the determinants of attitudinal changes involves classifying populations based on several interrelated social and demographic characteristics.

Even though a large number of anthropological studies of modernization have been undertaken in the African region, very few have focussed on teenagers as a population (Tuden and Plotnicov, 1970). Teenagers, as a group, are interesting in several respects. First, they are in an early stage of life. The forces which predispose individuals to modern attitudes are likely to vary across life stages. Second, from a policy point of view, it is necessary to identify teenagers as a population in order to develop programmes which involve teenagers.

Caldwell (1982) argues that western media and mass education spread small family norms, romantic involvement and liberal attitudes toward sexual relationships. The propensity to transit from traditional norms and beliefs to new ideas from outside is often

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determined by conditions which are conducive to attitudinal changes. This study has several purposes: Firstly, to isolate variables which discriminate between teenagers who have to liberal attitude toward sex and those who do not and, secondly, to determine if the variables suggested by current explanations of modernization are supported by data from an African country, Zambia. Another purpose is to ascertain the social and demographic profile of the teenagers who have liberal sexual attitudes as contrasted with those who do not.

Among a large number of social, psychological and economic variables which have been identified as associated with liberal sexual attitudes, the most important is social class (Rogers, 1969; Lerner, 1964). Teenagers who perceive themselves as belonging to a high socioeconomic class are more likely to have liberal attitudes toward sex (Sinha, 1993; Agrawal, 1986).

High academic expectations, academic and personal discipline demanded and imposed by teachers in the classrooms, and high academic self esteem have been found to be associated with conservative attitudes toward sex (Agrawal, 1986; Gore, 1982).

Weak parental influence on mate selection, and exposure to western media are associated with a liberal attitude toward sex (Caldwell, 1982). In addition, as the importance of family as a socializing agent decreases, the number of restrictions parents impose on their teenagers decreases. This often increases the number of individual choices teenagers have, and predisposes teenagers to liberal attitudes toward sex (Sinha, 1993; Andree, 1974).

Another factor in the African contexts which may be associated with liberal sexual attitudes is the custom of LOBOLA. Teenagers who support traditional customs of mate selection such as Brideprice (LOBOLA) are more likely to possess traditional attitudes toward sex. Consequently, they are likely to be less predisposed toward premarital sexual activity. Bridegrooms in Zambia are expected to transfer to the bride's family cash and commodities (brideprice) as negotiated by the families of the bride and the bridegroom.

In sum, the two groups, those who have liberal attitudes toward sex and those who do not are characterized by seven selected variables such as academic self esteem (GOODSCH) and extent of parental control (PRESTR). The ability of these variables to discriminate between the two groups will be assessed empirically. The amount of empirical support for the hypotheses proposed here will enable us to further enrich the current theories of modernization.

## Methods

This study is based on a sample of 527 unmarried teenage females. The term 'teenager' is defined as a person within the age range of 13 to 21 years old. More specifically, the teenagers in the study are enrolled in higher secondary schools situated in two large urban provinces of Zambia. A higher secondary school education has five levels, ranging from 1 to 5.

Seven schools were selected randomly from all schools in the Copperbelt and Lusaka Central Provinces. For these selected schools, we obtained the registers of students enrolled in each of the five secondary division forms. Several lists of all female students classified

by their current form were made using these registers. Approximately 20 percent of the female students were randomly drawn from each form.

A self-administered questionnaire was used for data collection. Questionnaires were distributed and described in detail to the selected students from each form. Seven questions from the overall questionnaire are used in this study (variable labels for each item are presented in parentheses). Parent/guardian's income level (PARRICH), as perceived by the respondent, was measured by a single item with response categories of 1 very poor, 2 poor, 3 neither rich nor poor, 4 rich, and 5 very rich. Perceptions about academic ability (GOODSCH) were measured by one question. "How true is the statement: I am good at school work." Response categories were 1 definitely untrue, 2 untrue, 3 somewhat true, 4 true, and 5 very true.

The amount of restrictiveness respondents perceived as placed upon them by their teachers (TEACRSTR) and their parents or guardians (PRESTR) was measured by two items: (i) "How do you feel about the number of restrictions placed on you by teachers in your school on your relationship with the members of the opposite sex, and (ii) "How do you feel about the number of restrictions your parents/guardians put on things you may do outside the home?" Response categories for each question were: 1 very few restrictions, 2 few restrictions, 3 many restrictions, 4 too many restrictions.

In order to assess the extent of parental influence (INFLU) on selecting marriage partners for their daughters, the following question was asked. "If you were to choose a marriage partner, how much influence your parents/guardians are likely to have on your choice?" Response categories are 1 very much influence, 2 much influence, 3 little influence, 4 no influence. As a measure of desired family size (FUTMKIDS), respondents were asked what they felt was the "best number of male children" they would like to have in their lifetime, with responses of 1 through 7 or 8 "God only knows." Finally, attitudes toward how far a respondent approved of a Lobola relationship (LOBOLA) with members of the opposite sex was measured by one item with response categories of 1 strongly disagree, 2 disapprove, 3 neutral, 4 somewhat approve, and 5 strongly approve.

The dependent variable 'SHAME' was measured by one item; how much do you agree/disagree with the statement that sexual contact with males before marriage is not shameful. Responses strongly agree, or agree are categorised as 'liberal' sexual attitudes. Responses, neither agree nor disagree, strongly disagree and disagree are categorised as 'not-liberal' sexual attitudes. Those who belong to the liberal category are coded 1 and the not-liberal category is coded 2.

## **Analysis and Results**

Table 1 presents the Means and Standard deviations of all the variables used in this study. T-tests are conducted to assess the significance of the differences between group means. Two variables, PARRICH and FUTMKIDS are significant at the .05 level. This initial analysis indicates that statistically significant differences between liberal and not-liberal groups exist for perceptions of social class and the desired number of male children.

Not-liberal respondents indicated higher mean perceptions of parent's income levels than group 1 respondents. Additionally, not-liberal respondents expressed the desire for significantly less male children than group 1 respondents. No significant differences in means were found between the groups for academic self-esteem, parent and teacher restrictions on behaviour, parental influence on marriage, and Lobola attitudes.

TABLE 1 : MEANS AND STANDARD DEVIATIONS

Variable	Group 1		Group 2	
	Mean	SD	Mean	SD
GOODSCH	1.68	.64	1.85	.70
TEACRSTR	2.17	1.19	2.33	1.08
PRESTR	2.02	1.02	1.93	.99
PARRICH	2.90	.73	3.00	.64**
FUTMKIDS	2.41	1.10	2.19	.96*
INFLU	2.06	1.14	2.09	1.09
LOBOLA	2.77	1.43	2.36	1.40

\*PR &lt; .1

\*\*PR &lt;=.05.

A common method of examining group differences is to investigate the mean differences of a variable across two or more groups. This method has several limitations (Tatsuoka, 1970). First, as variables are interrelated it is necessary to examine net effects. Secondly, univariate statistics are not helpful in understanding the multivariate differences between groups (Klecka, 1980). Discriminant analysis methods are particularly helpful in overcoming these limitations. Discriminant analysis is a widely used method to examine the properties associated with membership in two or more groups of a characteristic. The dependent variable is usually a nominal level variable, as in this study.

Discriminant analysis proceeds by creating a discriminant function by combining a number of independent variables linearly. When two groups are compared, one discriminant function results. In general, discriminant analysis will yield  $K-1$  discriminant functions where  $K$  is the number of groups in the model. These discriminant functions are weighted, linear combinations of significant variables in the model, combined in such a way as to maximize the difference between the groups.

In the step-wise discriminant analysis procedure, the most important variable which discriminates between groups is chosen from among all the independent variables specified. A second variable is then added to the discriminant function such that the predictive contribution to group membership is maximized. The process is continued until no more discriminators are found which maximize the separation of the groups.

Table 2 presents the discriminant function coefficients. The centroids of the two categories indicate the group means on the discriminant function. The centroids are 0.378

and -0.113 respectively. The discrimination function is significant at the .05 level. The canonical correlation is 0.203 and Wilk's Lamda is 0.958. The squaring of the canonical correlation suggests that the discriminant function accounts for a small proportion, 4 percent, of the explained variance between the two groups.

TABLE 2: DISCRIMINANT ANALYSIS OF DIFFERENCE ON LIBERAL SEXUAL ATTITUDES AND OTHERWISE AMONG TEENAGE ZAMBIAN SCHOOL GOING FEMALES

<i>Attitude toward Premarital Sex</i>	<i>N</i>	<i>Group Centroids</i>
1=Liberal	098	0.378
0=Otherwise	327	-0.113

  

<i>Variable</i>	<i>Structure Matrix Coefficient</i>	<i>Standardized Discriminant Function Coefficients</i>
GOODSCH	0.546	0.571
TEACRSTR	0.449	0.517
PRESTR	-0.322	-0.409
PARRICH	0.345	0.412
FUTMKIDS	0.425	0.424

Canonical Correlation=0.203     $p < .05$     Wilk's Lamda = .958.

The standardized discriminant function coefficients enable us to identify the relative importance of the independent variables in calculating the discriminant score. The sign of the coefficient indicates the direction of the contribution to the function. Independent effects of the discriminating variables may become ambiguous when examining the standardized function coefficients. This is because the standardized coefficients are influenced by the covariances among discriminating variables. A more direct measure of the contributions of the discriminating variable is the structure matrix coefficient. The structure matrix coefficients, when squared, indicate the amount of variance in an item accounted for by the discriminant function.

Four variables ,GOODSCH, TEACRSTR, PARRICH, and FUTMKIDS have positive loadings on the discrimination function. Together these variables characterize the teenagers who possess liberal attitudes toward sex. Thus, those who have high academic self esteem, feel that the number of teacher imposed restrictions are high, believe that they belong to the upper social class, and desire more male children, are more likely to hold liberal sexual attitudes. The variable, PRESTR, has a negative loading on the discrimination function. Thus, those teenagers who feel that their parents impose *st* large number of restrictions on their social activities are more likely to hold 'not-liberal' attitudes toward sex.

In sum, empirical results of this study produced several surprising findings. Factors such as high academic self esteem, and a large number of teacher imposed restrictions were expected to be associated with 'not-liberal attitudes'. Furthermore, we had expected

a desire for large number of male children to be correlated with 'not-liberal' sexual attitudes. These expectations are not supported. The results of this study indicate that modern attitudes may coexist with traditional ones. For example, these respondents were willing to maintain more western, liberal attitudes toward sexual relationships, but retain many traditional values such as the desire for larger numbers of male children.

In this regard, Vattimo (1988) argues that modernization/globalization is more likely to stimulate cultural reinvention rather than always produce cultural uniformity. These teenage females have assimilated certain western values, while rejecting others. Cultural reinvention, with the incorporation of certain outside values and the retention of other traditional values, would seem a more valid interpretation of the processes of social change among these teenagers in Zambia. Clearly, the abandonment of traditional norms and values and the uniform embracement of ideals associated with modernization in the west is not evident in this study.

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