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Abstract In their 1975 report Nuttall and Nuttall (1975) discuss the results of an intensive study of family characteristics in Puerto Rico, and Boston. The method of gathering data that they used was for the most part personal interviews with the respondents. Nuttall and Nuttall (1975) report a 'U-shaped' profile between family size and socioeconomic status. The research reported in this paper was an attempt to determine if this profile would emerge with a diferent sample, and a different data acqisition technique. The sample consisted of students from randomly selected classrooms in nine schools selected on the basis of the average socioeconomic status of the community, and community size. The communities sampled were from Rhode Island, and eastern Massachusetts. The students responded to a questionnaire with the size of their family (number of children including themselves) and the occupation and education levels of their parents. The socioeconomic status variable was calculated by adding the z-scores of the parent's education and occupations, and dividing this sum by four. The SES score of a family served as the basis for the definition of eight SES catagories. It was found that the U-shaped profile found in this data possessed a highly significant linear component. The departures from linearity were due to lower middle, and lower lower class families. The lower middle class families behaved in s fashion similar to upper lower class families, and lower class families behaved as lower central middle class families with respect to family size. INTRODUCTION: Nuttall and Nuttall (1975) report the results of an intensive investigation of the characteristics of Puerto Rican, and suburban Boston families. One of the many results reported in that study was a ' $\bar{U}$ -shaped' relation between family socioeconomic status and family size. These investigators report that: "very low and very high socioeconomic status families will have a tendancy to be large, while middle status families will tend to be small according to the U-shaped hypothesis" (Nuttall and Nuttall 1975, p. 68). The purpose of this research was to determine if the U-shaped SES-family size profile would emerge from data obtained from a different sample, and method of data collection. METHOD: The data used in the Nuttall and Nuttall (1975) study was gathered through personal interviews. The data for this study was collected using a survey instrument. The sample consisted of the families of 909 children selected from

nine school districts in Rhode Island and Massachusetts. The school districts were choosen as so that upper, middle, and lower SES as well as large and small communities were equally represented. Within each school classrooms were randomly selected. Only one grade level within each high school was selected inorder to reduce the probability that large families would be over-represented. Each student in each of the classrooms completed a short guestionnaire. These students were asked to list the occupation, and highest level of education achieved by each of their parents, and the number of children in the subject's family (including the subject him or her self).

The education level of each of the parents were catagorized according to the scheme described in Table 1. The occupation levels of each of the parents were coded using a modified Warner scale (Inkeles & Smith, 1974). Occupations were coded on an eight point scale. The higher the number the greater the occupational status. A code of 8 would be assigned to college professors, bank executives, owners of large businesses, doctors, lawyers, etc.. A score of 1 would be assigned to unemployed individuals, or wives (or husbands) who were 'at home'.

A global socioeconomic status measure was calculated by adding the z-score of the occupation, and education levels of the parents, and dividing this sum by 4. This procedure should, if the variables were independent, result in a mean score of 0.0, and a standard deviation of 1.0. The observed mean was -.002. Since the parent's occupations and education levels were correlated, the observed standard deviation of .684 was somewhat less than the theoretical expectation assuming independance. The mean education, occupation, and SES levels are reported for each family size grouping in table 2. It was found that the observed variation in each of these indices could not be attributed to family size. Using each of these indices as dependent variables in a oneway analysis of variance failed to result in a significant 'main effect' at the .05 significance level.

The global SES parameter was recoded into eight catagories. If a family had an SES score of x, it would fall into the class  $INT(4 + (2x/s_{SES}))$ . This scheme

made it possible to divide the upper, and lower classes into two groups each, and the middle class into four groups. The terms assigned to these groupings are standard terms most commonly found in the socioeconomic literature (Broom & Selznick, 1963). This procedure is similar to that used by Nuttall and Nuttall (1975). <u>RESULTS:</u> A oneway analysis of variance procedure with the family size as the dependent variable, and the SES catagorization as the independent variable resulted in a large main effect (F=2.682; df=7,901; p less than .01). The mean family size gor each of the SES groups are shown in table 3, and figure 1.

An inspection of the graph in figure 1 would indicate that a U-shaped curve similar to that found by Nuttall and Nuttall (1975) exists with this data. However, since this population was distributed in such a way as to facilitate a finer division of the middle class, the shape of the profile in figure 1 is somewhat asymmetric. The lower middle class families seem to have the least number of children. The lower middle class families seem to be similar to the upper lower class families in terms of family size. The lower lower class families seem to be similar to the lower central middle class families in terms of the number of children.

The profile shown in figure 1 seems to be parabolic in character. This hypothesis was tested using a polynomial regression procedure (Winer, 1971). The results of this analysis is described in table 4. These results indicate that only the linear term can be considered to be significant (F=10.128; df=1,901; p less than .002). All higher order terms up to the quintic (degree 5) were found not to be significant at the .05 level. The linear term accounted for 54 percent of the variance in the family size (multiple correlation of .736). It can be easily seen from figure 1 that the departure from linearity is primarily due to the influence of the lower middle, and lower class families. Lower class families seem to be more like lower central middle class families than would be expected from a linear model. Lower middle class families seem to behave more like upper lower class families than one would expect from a purely linear model.

DISCUSSION: The main objective of this research was to demonstrate that the Ushaped profile between family size and SES reported by Nuttall and Nuttall (1975) could be found in other samples, and using other techniques for data acquisition. The existance of the U-shaped profile is called the 'U-Hypothesis' by Nuttall and Nuttall (1975). The results of the analysis of the data collected from this sample, using the child self-report questionnaire, indicates that the U-shaped profile can be found from different samples and using other procedures.

The U-shape seems to be more of a de-

parture from linearity than a parabolic tendency in the population. Lower middle class families seem to behave more like upper lower class families, and lower class families seem to behave more like lower central middle class families. The behavior of other social classes with regard to family size can be explained by a linear SES by family size profile. Except for lower middle class, and lower class families, it seems that the higher a families SES the more children it can and does support.

The fact that lower middle class families are similar to upper lower class families is not surprizing. Assuming that upward social mobility is operating here, the lower middle class family can be thought of as being 'derived' from an upper lower class parentage (or grandparentage). Therefore, it would be expected that some of the child bearing characteristics of the upper lower class would be reflected in the lower middle class.

The general linear profile would imply that the higher the SES level of the family the larger the family size. The similarity between lower lower class families and lower central middle class families can be explained in terms of the linear model if we assume that higher SES means a somewhat larger family in-The lower lower class family in come. this sample were either unemployed, or employed at a very low level. It seems likely that they would be obtaining some type of public assistance. Given the large number of public agencies giving support to the underprivleged, it seems most likely that in terms of finances the lower lower class family could be similar to the lower central middle class family. Therefore, one would expect a similarity to exist between these social classes with regard to the size of their families.

**REFERENCES:** 

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## Table 1

# Education Catagorizations

9. Phd., Edd., LLd., M.D., DDS.

8. Master's Degree

7. B.A. or B.S. and more college

6. B.A. or B.S. only

5. Some College

4. High School Graduate

3. Some High School

2. Jr. High School Graduate

1. Elementary School Only

### Table 2

Mean Education And Occupation By

Family Size

FAMILY SIZE (NUMBER OF CHILDREN)

		1	2	3	4	5	6	7	8
Mother's		0.010	2 202		0.04	0 000	0 700	0 700	0 100
Occupation	mean	2.919	3.209	2.940	2.75	2.000	2.538	2.533	2.197
	Std. Dev.	2.465	2.530	2.413	2.431	2.383	2.396	2.646	2.294
Education	Mean	2.865	2.550	2.778	2.631	2.559	2.478	2.220	2.051
	Std. Dev.	1.030	1.953	1.962	2.044	1.905	1.915	1.920	2.224
Father's									
Education	Mean	3086	3.033	3.168	3.449	2.946	3.067	3.291	2.831
	Std. Dev.	2.418	2.110	2.160	2.064	2.111	2.297	2.043	2.386
Occupation	Mean	4.056	4.000	4.019	4.173	3.656	3.713	3.411	3.902
	Std. Dev.	2.317	2.201	2.344	2.187	2.265	2.363	2.104	2.420
Family S.E.S.	Mean	.042	.030	•070	.062	055	043	098	161
	Std. Dev.	.647	.685	.648	.656	.666	.675	.634	.771

## Table 3

Mean Family Size By Social Class	Mean	Family	Size	Ву	Social	Class
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Social Class	N	Mean	Std. Dev.
Upper Class:			
Upper Half	66	5.1515	1.8080
Lower Half	76	3.9342	1.9207
Middle Class:			
Upper	114	3.8509	1.6893
Central:			
Upper	92	4.1957	1.7866
Lower	157	4.2611	1.8985
Lower	123	4.3984	1.9066
Lower Class:			
Upper	98	4.4286	1.8667
Lower	183	4.6831	1.9522

Table 4

Polynomial Regression Results

Source	D.F.	SS	MS	F	₽ <sup>2</sup>
Between Groups	7	65.4063	9.3438	2.682*	N.A.
Linear Term	1	35.3934	35.3934	10.128**	• 541
Dev. From Linear	6	30.0128	5.0021	1.436	N.A.
Quadratic Term	1	6.2280	6.2280	1.784*	.095
Dev. From Quadrati	c 5	23.7849	4.7570	1.365	N.A.
Cubic Term	1	2.9982	2.9982	•859 <sup>*</sup>	.046
Dev. From Cubic	4	20.7867	5.1967	1.491	N.A.
Quartic Term	1	3.0973	3.0973	•887 <sup>*</sup>	.047
Dev. From Quartic	3	17.6893	5.8964	1.692	N.A.
Quintic Term	1	.3150	.3150	•090*	.005
Dev. From Quintic	2	17.3743	8.6872	2.493	N.A.

**\*** p **<** .001

\* p **> .**05

N.A. Not Applicable





FAMILYSIZE

