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ABSTRACT

This research is designed to study some major
characteristics concerning the fishermen community of Abu-Sakl
Area in the Governorate of North Sinai. A variety of roles could
be played by such communities to help achieving spesific goals of
integrated and healthy strategies of comprehensive development.

Nine variables were chosen to be studied to meet the paper
objective. These variables are: Age, Marital Status, Educational
Status, Communication, Income, Number of the Available House
Aplliances, Number of the Available House Utilities, Work
Conditions [Ownership versus Working for Others] and Nature of
the Used means.

A sample survey, consulting experts' opinions, a careful
examination of the collected responses along with a group of
inferential and analytical techniques are all used to reach the
research objecive.

An emphasis on studying the main parameters of each variable
along with using estimation theory to construct alternative
confidence intervals for such parameters were considered using a
set of mutually exclusive assumptions concerning the research
population size. At a next stage, a chosen set of
characteristics of the somewhat significant bivariate, and
sometimes multivariate, relationships between and among the
corresponding variables were researched using analysis of
enumerative data, nonparametric statistics and hypotheses
testing.

A set of concluding remarks and recommendations are reached
and have been exhibited at the end of the paper.

STUDYING SOME MAJOR CHARACTERISTICS REGARDING FISHERMEN COMMUNITY
OF ABU-SAKL AREA IN NORTH SINAI GOVERNORATE, USING SAMPLING
TECHNIQUES, INFERENCE ANALYSIS AND NONPARAMETRIC STATISTICS

This paper is designed to study some major characteristics
regarding fishermen community of Abu-Sakl Area in the Governorate
of North Sinai. Such a research could be used to serve regional
planning and at the end it could help to achieve specific goals
of integrated-comprehensive development.

It has been known for many centuries that fish resources
could supply any country that has access to a moderate share of
ocean, sea and/or rivers' resources with a basic source for food
supplies. Different aspects of nutrition and feeding in fish
have been dealt with in several articles and publications in the
subject literature. A good example of such publications could be
consulted. [e.g: Covey, Maackie & Bell, eds.,1985]

In addition to this role of fish resources, they could also
play many other important roles. Fish resources could be used to
develop an advanced industry which may provide a nation with a
solid mechanism to create so many job opportunities, to produce a
signifinat share of added value, to help in improving national
technological base and to participate in reaching a vriety of
other developmental goals.

In sum, there are many roles that fishermen communities in a
society could play to serve such a society whether at local
levels or at national levels.

With respect to North Sinai Governorate, it could be easy to
refer to such roles, once the fact that this Governorate
possesses a widespread shore on the Mediterranean Sea is noted.
Moreover, a very limited expoiltation of such a shore has been
noticed, in spite of the great potentials that are there,
specifically in the area of fish and sea resources.

Developing an integrated and a healthy strategy for the
expected potential exploitation of the fish resources and a
careful implementation of the resulted multidimentional plans and
policies could lead to a considerable advances of the rates of
comprehensive, whether local or partially national, development.

The specific goal of this paper is to study basic parameters
of some major variables concerning the main characteristics of
fishermen community of Abu-Sakl area in the North Sinai
Governorate.

Any developmental plans and policies for such communities to
achieve the multidimensional aspects and goals of the required
strategies should begin with considering the main characteristics
of such communities along with considering the potential
developments of surrounding environments and the related
ecological interactions.

THE RESEARCH DESIGN:

THE MECHANISMS & THE RESEARCH TECHNIQUES:
A sample survey, along with a selected set of inferential techniques and nonparametric analyses have been used. Specifically, a set of sampling mechanisms along with estimation and testing of hypotheses methods and techniques have been used to reach a set of interpretations, analyses and somewhat general understanding of the selected characteristics of the research community.

THE SURROUNDING COMMUNITY:
The surrounding community in our study was Abu-Sakl Area of North Sinai Governorate. The fishermen community in such an area represents a considerable part of it (around 53% of the population).

THE RESEARCH UNIVERSE:
The research universe or population of our study is consisted of the fishermen living in the above-mentioned area. (On shore fishermen are excluded).

THE RESEARCH UNIT:
A fishermen in such a community who had changed his means of fishing and his work conditions (Ownership/Working for Others).

THE TEMPORAL DOMAIN:
The temporal domain of the study was summer 1988.

THE SPATIAL DOMAIN:
The spatial domain of the study is Abu-Sakl Area of North Sinai.

THE RESEARCH MEANS:
The research means of this study are personal interviews to conduct the sample survey, observing the research community and consulting the specialised researchers and experts' opinions.

SAMPLE SURVEY TOOLS:
Responses were recorded on research schedules filled out by the interviewers as well as the recording of the results of both observing the research community and consulting specialised experts.

THE SAMPLE DESIGN:
The sample design of this research may be called quasi simple random sampling. A sample of around 300 fishermen was chosen and the data were collected through personal interviews using a specific form of a research schedule. Because of the lack of the optimal needed resources to conduct such type of sampling survey, a well-reviewed subset of the original sample was chosen at a second stage. This final sample is consisted of 70 fishermen. Their responses regarding the research variables were recorded.

Using a specific relevant type of microcomputer facilities, a data base was made and had been refined to serve a set of expected research papers covering different aspects and dimensions of the target community. A statistical package along with a set of computer programs, designed by the researcher, have been used to achieve the final objectives of such papers.

A set of nonparametric tests, the runs tests, was used to test for randomness of the final sample. The resulted outcomes of that test could not reject the randomness hypothesis of the chosen set of the basic variables of our research.

RESEARCH VARIABLES:
Nine basic variables were chosen to be studied to meet the paper objective. These variables are : Age, Marital Status, Educational Status, Communication, Income, Number of the Available House Appliances, Number of the Available House Utilities, Work Conditions (Ownership Versus Working for Others), and Nature of the Used Mean.

STUDY PLAN:
An emphasis on studying the main parameters of each variable along with using estimation theory to construct alternative confidence intervals for such parameters were considered using a set of mutually exclusive assumptions concerning the research population size. At a next stage, a chosen set of characteristics of the somewhat significant bivariate, and sometimes multivariate, relationships between and among the corresponding variables were researched using analysis of enumerative data, nonparametric statistics and hypotheses testing.

Concluding remarks and recommendations are stated at the end of this paper.

ANALYTICAL STUDY OF RESEARCH UNIVARIATE POPULATIONS:

AGE-DISTRIBUTION:
The first vriable to be considered in our study is the AGE. Table (1) exhibits the age distribution of the final sample:

Table (1)
Age Sample Distribution

AGE	16-	21-	26-	31-	41-	51-	61 and over	TOT
FREQUENCY	10	4	8	24	14	7	3	70

It is noted that the sample mean age of such a group is 37.69 years and that the median for the same group is 37 years. The standard deviation is 12.8 years.

Table (2) exhibits the sample units distributed according to

three levels of the age variable and the corresponding
percentages of the relative frequencies of such levels.
Three alternative 95.44% estimated confidence intervals of each
population percentage relevant to every chosen level of age are
also exhibited.

<div align="center">

Table (2)
A Univariate Sample Frequency Table
and Estimated Population Percentages'
Confidence Intervals of Age

</div>

Age	Frequency	Percentage %	95.44% Confidence Interval		
			N = 700	N = 800	N = 980
16-	14	20.000	10.863–29.137	10.200–29.200	10.719–29.281
26-	46	65.714	54.872–76.556	54.797–76.631	54.701–76.727
51-	10	14.286	6.293–22.279	6.238–22.334	6.167–22.405
	70	100.000			

It is noted that around 86% of the sample units belong to
the age classes that are less than fifty-one years old. The
estimated 95.44% confidence interval of the population percentage
of the age class: 16 and less than 22 years, lies from around 11%
to around 29%, depending upon which one of the three alternative
chosen assumptions regarding the population size is used. The
relevant confidence interval corresponding to the age class: 26
and less than 51, ranges from around 55% to around 77% according
to the same assumptions. The last estimated confidence interval
of the age class: 51 and over, lies from around 6% to around 22%.

MARITAL STATUS:
      With respect to the marital status variable, the sample
median of the sample considered is a married fisherman. The
modal pattern in our group is also the married fishermen. The
married fisherman's percentage in our sample is 72.86% with a
95.44% population percentage's confidence interval lies between
around 62% and 83% according to the chosen three alternative
assumptions regarding to population size.

      Table (3) exhibits the sample distribution of the sample
units according to their marital status. It also shows the
different percentages of different clsses of the above-mentioned
variable. A three alternative estimated 95.44% confidence
intervals for each of the population percentages corresponding to
two major classes of the variable under investigation are also
shown.

      Using the estimation theory to estimate such confidence
intervals, it is noted that the estimated 99.44% confidence

interval of the population percentage of the first class is
expected to lie between around 14.34% and 34.23%. Examining the
sample data, one finds some suggested pieces of evidence that
come in harmony with the literature of the subject under
examination which refers to the tendencey of young fishermen in
such communities to get married at early stages of life.
Everyone in the sample who passed the age thirty is already
married but one, who was married before. Moreover, there is only
one divorced fisherman in the whole sample which also comes along
with the literature of the subject matter that refers to the
scarcity of the divorce cases in such communities.

Table (3)
A Univariate Sample Frequency Table
and Estimated Population Percentages'
Confidence Intervals of Marital Status

Marital Status	Frequency	Percentage	95.44% Confidence Interval		
			N = 700	N = 800	N = 980
Never get married	17	24.286	14.491–34.080	14.423–34.148	14.337–34.235
Divorced	1	1.429			
Widower	1	1.429			
Married	51	72.857	62.700–83.017	62.629–83.085	62.629–83.085

EDUCATIONAL STATUS (Formal Education):

It is noted that the percentages of those who belong to the
subsets of low levels of formal education, in the sample, are
somewhat low. Illiteracy percentage is around 31.43%. The
estimated 95.44% confidence interval of the population illiteracy
percentage lies from around 21% to around 42%, using the three
alternative assumptions regarding the population size shown in
table (3). It is also noted that the sample percentages of those
who read only and of those who read and write are around 14.29%
and 17.14 respectively. Their corresponding estimated 95.44%
confidence intervals of the population percentages are from about
6% to around 22% and from around 8% to around 26% respectively.

The sample percentage of those who earned preparatory
certificates or elementary certificates is around 25.7% with
95.44% estimated confidence interval of the corresponding
population percentage lies from around 16% to around 36%.
Finally, the sample percentage of those who earned an
intermediate or higher certificate or degree is around 11.4% and
the relevent estimated 95.44% confidence interval of the
population percentage lies from around 4% to around 19%. (See
table (4) for details).

Table (4)
A Univeriate Sample Frequency Table
And Estimated Population Percentages'
Confidence Intervals of Education Status

Educational Status	Frequency	Percentage	95.44% Confidence Interval		
			N = 700	N = 800	N = 980
Illiterate	22	31.429	20.825-42.032	20.751-42.106	20.658-42.199
Read Only	10	14.286	6.293-22.279	6.238-22.334	6.167-22.405
Read and write	12	17.143	8.532-25.751	8.475-25.811	8.399-25.887
Elementary Certificate	3 18	4.288	15.731-35.697	15.662-35.767	15.574-35.855
Preparatory Certificate	15	21.429			
Intermediate Certificate or higher	6 8	8.571	41.161-18.696	4.111-18.746	4.047-18.810
Undergraduate degreee (4 yrs or more) or higher.	2	2.857			

COMMUNICATION:

Table (5) exhibits a univeriate sample distribution and estimated population percentages' confidence intervals of communication.

Table (5)
A Univeriate Sample Frequency Table
and Estimated Population Percentages'
Confidence Intervals of Communication

Communication	Frequency	Percentage %	95.44% Confidence Interval		
			N = 700	N = 800	N = 980
No Commun.	11	15.714	7.401-24.027	7.344-24.085	7.271-24.158
Communication through work.	13	18.571	9.689-27.454	9.627-27.515	9.549-27.594
Commun. thr. relatives	26	37.143	26.106-48.180	26.030-48.256	25.932-48.353
Higher Levels of Commun.	20	28.571	18.253-38.890	18.181-38.962	18.090-39.053
TOT	70	100			

Reclassifying the subsets of communication variable into 3 levels: no communication level, low or medium level and higher

than medium levels of communication, it is noted that :

(1) For the first level, the sample percentage of those who are
     in that level, is around 15.7%. The estimated 95.44%
     confidence interval of the population percentage for this
     class lies from around 7% to around 24% depending upon the
     specific chosen assumption regarding the population size.
(2) For the second level(*), the sample percentage of those who
     belong to that subset is around 55.71%. The corresponding
     estimated 95.44% confidence interval of the population per-
     centage lies from around 44.2% to around 67.2% and the exact
     values of the estimated limits are depending on the
     specific chosen assumption regarding the population size.
(3) For the third level, higher levels of communication, the
     sample percentage of the sample units that are qualified for
     such a level of communication is around 28.6%. The relevant
     estimated 95.44% confidence interval of the population
     percentage lies from around 18.1 % to around 39.1% [See
     Table (5) for details].

INCOME:

     A careful examination of the raw sample data of such a
variable shows some indications that there is a general tendency
for the sample units (fishermen) towards underestimating their
actual income, especially for those at higher classes of age.
This remark should be considered carefully if it is desired to
reach consistent results of the performed analyses.

     Table (6) exhibits the univeriate sample distribution and
estimated population percentages' confidence intervals of the
approximate monthly income.

     The sample percentages used to estimate the population
percentages' confidence intervals in table (6) are those
corresponding to three different levels of income, say low,
medium and higher levels of income respectively. Arbitrarily,
the level "LE.50 and less than LE.100" of income is cosidered to
be a low level of income, the level "L.E.100 and less than
L.E.200" is a medium level of income and the class "L.E.200 and
over" represents the higher levels of income.

     The percentage of those who earn monthly income that belongs
to the first level of income is around 24.3%. The corresponding
estimated 95.44% confidence interval of the population percentage
lies from around 14.3% to around 34.3%, depending upon the
specific chosen assumption regarding the population size. The
percentage of those who earn monthly income that belongs to the
second level of income is around 52.9% and the corresponding
estimated confidence interval of the population percentage lies
from around 41.3% to around 64.4%, depending upon the specific
chosen assumption regarding the poupulation size. With respect

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(*) The second level is consisted of joining the second and the
     third classes of table (5).

to the third level of income, it is noted that the sample percentage of those who earn monthly income that belongs to that level is around 22.86%. The relevant estimated population percentage lies from around 13.1% to around 32.6%, depending upon the specific above-mentioned chosen assumption. Table (6) exhibits the specific details of such a discussion.

Table (6)
A Univeriate Sample Frequency Table
and Estimated Population Percentages'
Confidence Intervals of Monthly Income.

Monthly Income	Frequency	Percentage	Confidence Interval		
			N = 700	N = 800	N = 980.
50-	17	24.286	14.491-34.080	14.423-34.148	14.337-34.335
100-	20	28.571	41.445-64.259	41.376-64.338	41.275-64.444
150-	17	24.286			
200-	12	17.143	13.266-32.449	13.199-32.515	13.115-32.600
250-	2	2.857			
300 & over	2	2.857			
	70	100.000			

The analysis also shows that the highest percentage of the sample units belongs to the medium level and the modal class of income is that from L.E. 100 to less than L.E. 150.

Again, one should urge the user of such analysis to consider these results along with the introductory remark regarding the sample responses to the monthly income variable questions.

THE NUMBER OF HOUSE APPLIANCES:
Examples of such appliances are radios, T.V. sets, refrigerators, air-conditions, ovens, and other available appliances in the house. At this stage of research, a simple treatment of such a variable that assigns equal weights to different types of apliances is assumed. It is hoped to use more realistic weights regarding the available types of appliances in future research.

However, the careful detailed examination of the sample responses regarding this variable shows that the house appliances avialable at the low levels of the considered variable are somewhat of homogeneous type. The same remark is noted at higher levels of the same variable. A suggested set of alternative weights could be used in the future research and comparisons of the results could be made.

Table (7) exhibits a univariate sample distribution and specific estimated population percentages' confidence intervals of the variable under examination.

Table (7)
A Univeriate Sample Frequency Table and Estimated Population Percentages' Confidence Intervals of Number of the Available House Appliances

No.of the Av.House Appliances	Frequency		Percentages	95.44% Confidence Intervals		
				N = 700	N = 800	N =980
1	1		1.429	9.689-	9.623-	9.549-
2	4	13	5.714	27.454	27.515	27.594
3	9		12.857			
4	20		28.571	47.320-	47.242-	47.142-
5	21	41	30.000	69.823	69.901	70.000
6	13		18.751	12.056-	11.991-	11.990-
7	2	15	2.857	30.801	30.886	30.949
	70		100			

Considering table(7), it is noted that the sample percentage of those who have low number (1-3) of available house appliances is around 18.6% and the corresponding 99.44% population percentages' confidence interval lies from around 9.6% to around 27.6%, depending upon the specific assumption regarding the population size. The sample percentage of those who have medium number (4-5) of available house appliances is around 58.6% and the corresponding 99.44% population percentages' confidence interval lies from around 47.1% to around 70.0% considering the above-mentioned repeated remark.(*) For the last subset of the variable, it is noted that the sample percentage of those who belong to this subset is around 21.4% and the relevant population percentage's confidence interval lies from around 12.0% to around 30.9%.

It is also noted that the modal pattern of the subset of such a variable is the medium level which comes along with that of the monthly income variable.

For more detailed information regarding the number of the available house appliances variable, see table (7).

(*)   The estimated confidence intervals will be stated from here on without referring to such a remark.

NUMBER OF THE AVAILABLE HOUSE UTILITIES:

Two basic remarks are noted, when the sample responses concerning this variable, are examined. The first one is similar to that of the preceding variable. It concerns the assignment of equal weights to the different types of utilties. The second remark comes as a result of observing a tendency of the responses to underestimate the actual number of available house utilities, especially at the low levels of such a variable.

Table (8) exhibits a unvariate sample distribution and specific estimated population percentages' confidence intervals of the subsets of the variable under study.

Table (8)
A Univariate Sample Frequency Table and Estimated
Population Percentages' Confidence Intervals
of Number of the Available House Utilities

No of the Av.H.utls.	Frequency	Percentage %	N = 700	N = 800	N = 980
			95.44% Confidence Interval		
1	25	35.714	24.770-46.659	24.694-46.735	24.597-46.831
2	27	38.571	32.940-55.631	32.861-55.710	32.761-55.810
	4 31	5.714			
4	10	14.286	10.863-29.137	10.800-29.200	10.719-29.260
5	14 24	5.714			
	70	100			

The sample information shows that the percentage of those who report a very low level of the number of the available house utilities is around 35.7%. The corresponding 95.44% estimated confidence interval of the population percentage lies from around 24.6% to around 46.8%.

The sample percentage of those who report low or close to medium level of the variable is around 44.3%. The related estimated 95.44% confidence interval of the population percentage lies from around 32.8% to around 55.8%. For the medium or higher level of the same variable, the sample percentage is 20%. As a reesult, the 95.44% estimated confidence intervals of the population percentage of the same class lies from around 10.7% to around 29.3%. An alternative way to deal with such a variable is to consider joining the 1st and the 2nd levels of the variable to constitute one level*, to calculate the relevant sample percentage and to estimate the corresponding population confidence intervals.

(*) This treatment may, partially, solve the problem of underestimating actual number of utilities at its lower levels.

WORK CONDITIONS [Ownership Versus Working for Others]:
One dimension of work conditions will be examined here. It is that of the ownership of the used means versus working for others. Table (9) exhibits four subsets of such a variable: working for others, partnership, mixing some sort of ownership with working for others, and sole-ownership.

Table (9)
A Univariate Sample Frequency Table
and Estimated Population Percentages'
Confidence Intervals of Work Conditions
[Ownership / Working for others]

Work Conditions [Own./WFO.]	Frequency	Percentage	95.44% Confidence Interval N = 700	N = 800	N = 980
Working for Others	22	31.428	20.828- 42.032	20.751- 42.106	20.658- 42.199
Partnership	25	35.714	32.938-	32.861-	32.761-
Mixture	6 31	8.571	55.632	55.710	55.810
Sole-Ownership	17	24.286	14.491-	14.423-	14.337-
	70				

With respect to the first subset, the sample percentage of those who work for others is about 31.4%. 95.44% estimated population percentage's confidence intervals show that such a percentage would range from around 20.7% to around 42.2%. As to the second subset, its relevant sample percentage is around 35.7%. For the third subset it is around 8.6%. Joining the last two subsets together, the resulted estimated population percentage's confidence intervals range from around 32.8% to around 55.8%. The sample percentage of the last subset is about 24.3%. Its relevant estimated population percentage's confidence intervals range from around 14.3% to around 34.2%. For more detailed information with respect to the estimated confidence intervals, see table (9).

It is also noted that the modal pattern of the work conditions variable, considering its dimension under study, is the partnership.

THE NATURE OF THE USED MEANS:
To construct the sample frequency table, table (10), of such a variable from the point of view of the degree of advancement in the embodied technology, five classes of such a variable are suggested: A small non-motor boat, a small motor boat, a small non-motor yacht, a motor yacht, and a ship (motor ship). A very small percentage, around 4.3%, of fishermen in the sample are still using small non-motor boats as their only means of fishing. In the meantime, about 35.7% of the sample units are using small motor boats, while 2.9% of the sample units are using small non-motor yachts. On the other hand, 45.7% of the sample units are using motor yachts as their means of fishing, while

11.4% of the fishermen are working on ships. The sample modal
pattern of the chosen classes of such a variable is the motor
yacht. For the purpose of constructing estimated confidence
intervals of the population percentages corresponding to the
subsets of such a variable, only two exhaustive subsets, are
considered. The first subset comprises the first three classes
of our variable and it reflects a somewhat elementary used
technology. The second subset includes the last two classes and
it represents available higher levels of the used technology.
The estimated 95.44% population percentages' confidence intervals
of the first subset range from around 31.4% to around 54.3%. The
estimated 95.44% population percentages' confidence intervals
corresponding to the last subset range from around 45.7% to
around 68.6%. Table (10) exhibits the detailed information
regarding the estimated population percentage's confidence
intervals.

Table (10)
A Univeriate Sample Frequency Table and Estimated
Population Percentages' Confidence Intervals
of the Nature of the Used Means

The Nature of the used Means	Frequency		Percentage %	95.44% Confidence Interval		
				N = 700	N = 800	N = 980
Small NMB	3		4.286			
Small MB	25	30	35.714	31.553–	31.475–	31.375–
Small NMY	2		2.857	54.714	54.239	54.339
M.Yacht	32		45.714	34.336–	34.257–	34.156–
				57.093	57.172	57.272
Ship	8		11.429	4.161–	4.111–	4.047–
				18.700	18.746	18.810
				45.839–	45.761–	45.661–
				68.447	68.525	68.625
	70		100			

STUDYING SOME ASPECTS OF THE POSSIBLE BIVARIATE & MULTIVARIATE
RELATIONS OF THE RESEARCH VARIABLES:

A set of statistical hypotheses tests have been performed to
search for the existence of possible bivariate relations of the
main variables under research. Specifically one hundred and
eight hypotheses tests have been used to search for the possible
exsistence of certain features of bivariate relations concerning
such variables. Conceptual analysis have been employed,
occasionally, to examine some aspects of the multivariate
relations included. As a result, a set of significant results
have been achieved. Such results will be discussed.

Initially, thirty-six bivariate sample frequency tables were
constructed to all possible bivariate relations that could be

encountered. Only those that their corresponding relations have shown some significant aspects will be discussed.

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN THE AGE AND THE MARITAL STATUS:

Table (11) exhibits a bivariate sample frequency distribution of the seventy fishermen distributed according to the classes of both the age and the marital status variables. It shows as it was expected, in such a type of communities that all of those who never get married in the research sample are at the early stages of their age. The majority of them did not pass the age of twenty-one.

A contingency test, to test for a possible existence of dependency between the two variables using the chi-square distribution, has shown that it is not possible to accept the null hypothesis of the independency between the two variables at three chosen levels of significance.

A non-parametric test, to test for linearity or association between the two variables, has also been performed. As a result, the null hypothesis of the non-existence of association or linearity between the two variables could not be accepted at the three chosen levels of significance. This result could be taken as an indicator to the possibility of the existence of such a relationship. Furthermore, it is noted that the direction of the possible relation is possitive which comes in harmony with the subject literature.

TABLES (11)
A Bivariate Sample Frequency Table
of the Sample Units Distributed According to
Age and Marital Status

Age Marital Status	Nevr Get Married	Divorced	Widower	Married	Total
16-	10				10
21-	3			1	4
26-	4			4	8
31-		1		10	11
36-				13	13
41-				6	6
46-			1	7	8
51-				4	4
56-				3	3
61 & over				3	3
Total	17	1	1	51	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN AGE AND EDUCATIONAL STATUS:

Table (12) exhibits a bivariate sample frequency distribution of the sample units distributed according to the classes of both the age and the educational status variables.

Table (12)
A Bivariate Sample Frequency Table of
the Sample Units Distributed According to
Age and Educational Status Variables

Educl. Status Age	Ill.	R. Only	R & W	Elem. Cert.	Prep. Cert.	Interm. Cert. or >	Undgr. degree or >	Total
16-	1		1		6	2		10
21-	1			1		2		4
26-	1	3			1	1	2	8
31-	3	2	2		3	1		11
36-	5		2	2	4			13
41-	2	1	3					6
46-	6	1			1			8
51-	1	2	1					4
56-	1	1	1					3
61 and over	1		2					3
Total	22	10	12	3	15	6	2	70

Studying table (12), one could notice:

(1) There are two persons with undergraduate degrees or higher in the research sample that are working in fishing and their age class is tewnty-six and less than thirty-one.

(2) The majority (25 out of 26) of those who have formal certificates or degrees, in the sample, belongs to the early classes of age (16 & less than 46). Only one of them who has a certificate that is less than intermediate (preparatory certificate) belongs to the class of age: 46 and less than 51. The interaction of two factors , in my opinion, is behind such a phenomenon. The first factor comes as a result of taking advantage of the available educational opportunities that have been being offered in the recent decades. The second one has resulted from parents' wishes and recent societial pressures on lower-class. families to pursue higher social status through the formal educational chances that have been being available to their children. A question concerning the effects of possible relative increase in the real income of the heads of the families in such a community during the above-mentioned recent decades could be raised and relevant hypotheses could be tested. It is also noted that, for the same class of age [16 & less

than 46], the percentage of those who have formal certificates is about 50% of the frequency of such a class.

(3)   On the contrary, there is only one person in the sample in the age-class: 46 and less than 51, who has a formal certificate, while no one, in the higher classes of age, possesses any kind of formal certificates of general education.

(4)   The sample illetracy percentage is still, to some extent, high and it is perhaps so in the population, considering the estimated confidence intervals of the corresponding population percentage. However, such a percentage could be lower than the same percentage on the national level (for the whole society). Again, one could notice that the illetracy percentage is quite lower at the early stages of age [16 and less than 31] than at higher stages of age, perhaps for the same reasons mentioned before.

Testing for association between the ranked pairs of the two variables, using Spearman's rank correlation test, one could not accept the null hypothesis of no association, only at the highest level of significance used. However, it is noted that the direction of such a possible association exhibited by the sign of the rank coeffiecient correlation, is negative. Such a direction of the possible association could be justified by the same arguement presented earlier.

Some Features of the Possible Significant Aspects of the Bivariate Relation Between Age and Number of the Available House Appliances :

Table (13)
A Bivariate Sample Frequency Table
of the Sample Units Distributed According to
Age and Number of the Available House Appliances

No.of the Av.H.Apps. Age	1	2	3	4	5	6	7	Total
16-		1		1	4	3	1	10
21-			2	1	1			4
26-			3	2	2	1		8
31-		2		7	1	1		11
36-	1		3	2	2	4	1	13
41-				4		2		6
46-		1		1	6			8
51-				2	2			4
56-			1	1		1		3
61-					2	1		3
Total	1	4	9	20	21	13	2	70

When studying the bivariate relationship between Age and number of the available house appliances, one may expect some sort of a positive relationship between such two variables.

However, using a relevant contingency table and testing the hypothesis of independency between the presented variables,one could not accept such a hypotheses, only at the highest chosen level of significance. In the meantime, a non-parametric test for association, Spearman's rank correlation test, has failed to show a significant evidence of the existence of such an association.

Table (13) exhibits a bivariate sample frequency distribution of the sample units distributed according to age and number of the available house appliances.

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN AGE AND WORK CONDITIONS [OWNERSHIP / WORKING FOR OTHERS]:

To examine some specific aspects of the possible bivariate relationship between age variable and that dimension of work conditions, treated before, a set of sample frequency tables of such a bivariate relation are constructed. Table (14) presents an elementary member of such a set. Using a relevant contingency table to test for possible dependency between the two variables, it has not been possible to reject the null hypotheses of the independency between the examined variables.

However, using Spearman's rank correlation test, to test for possible association between the two variables, it has not been possible to accept the null hypotheses of no association between the two variables which may support a suggested arguement that claims the existence of possible tendency for young fishermen to seek some sort of ownership of the used means at later stages of their life. The sign of the coefficient is a positive one, though, the magnitude of such a coefficient is relatively low.

Table (14)
A Bivariate Sample Frequency Table
of the Sample Units Distributed According to
Age and Work Conditions [Ownership / Working for Others]

Age	Work Conditions	Working for Othrs.	Partner-ship	Mixture	Sole-Ownership	Total
16-		4	3	1	2	10
21-		3	1			4
26-		4	2	1	1	8
31-		4	3		4	11
36-		3	6	1	3	13
41-		2	2	1	1	6
46-		2	1	1	4	8
51-			3		1	4
56-			1	1	1	3
61-			3			3
Total		22	25	6	17	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARTIATE RELATION BETWEEN MARITAL STATUS AND EDUCATIONAL STATUS:

Table (15) exhibits a bivariate sample frequency distribution of the sample units distributed according to marital status and educational status.

Considering such a table, it is noted that the percentage of those who have formal certificates in the first class of marital status, "never get married" class, is relatively higher than that of those who have such certificates or degrees in the last class, "married" class. An in-depth examination of this remark may return the cause of such a feature to the bivariate relationship between age and the educational status rather than to that relation between marital status and educational status; especially if we remember that the majority of those who never get married are in the early classes of age.

Using a relevant contingency table to test for possible dependency between the two variables, under examination, it has not been possible to accept the null hypothese of the independency between such variables in the corresponding populations, at all chosen levels of significance.

Testing for association between the same variables, using the same non-parametric test mentioned before, it has not been possible to reject the null hypothesis of no association between the two variables. Performing such a test, using Pearson correlation coefficient, could shed some lights on a possible existence of such an association. However, there is certain academic reservations regarding using the results of the latest test because of the used scales of the two variables.

Table (15)
A Bivariate Sample Frequency Table
of the Sample Units Distributed According to
the Marital Status and Educational Status

Edl. St. Mrtl.St.	Ill. St.	R. only	R & W	Elem. cert.	Prep. cert.	Interm. Cert. or >	Undgr. degree or >	Total
NGM	3	1	1		7	5		· 17
Div.		1						1
Wid.	1							1
Mar.	18	8	11	3	8	1	2	51
Total	22	10	12	3	15	6	2	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN MARITAL STATUS AND COMMUNICATION:

To study the possibility of the existence of some significant aspects of the bivariate relation between the marital status and communication, two tests of hypotheses have been performed.

The first test, chi-square test, has used a relevant contingency table. As a result, it has not been possible to reject the null hypotheses of independency.

On the other hand, a non-parametric test, to test for association between the two variables has been performed. The null hypotheses of no association could not be rejected at the lowest chosen level of significance. However, at the higher chosen levels of significance, it has not been possible to accept such a hypothesis of no association. The sign of Spearman's rank correlation coefficient between the two variables has reflected a positive direction of such possible relationship. Such a direction doesn't contradict with the subject literature that refers to the tendency of achieving higher levels of communication for those who are married.

Table (16) exhibits a bivariate sample frequency distribution of the sample units distributed according to the marital status and communication.

Table (16)
A Bivariate Sample Frequency Table
of the Sample Units Disributed According
to Marital Status and Communication

Com. Mrtl.St.	No Com.	Com.thr. Work	Com.thr. relatives	Hr.lvls. of Com.	Total
NGM	3	3	6	5	17
Div.		1			1
Wid.			1		1
Married	8	9	19	15	51
Total	11	13	26	20	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN MARITAL STATUS AND WORK CONDITIONS [OWNERSHIP / WORKING FOR OTHERS]:

Table (17) exhibits a bivariate sample frequency distribution of the sample units distributed according to the marital status and work conditions [ownership / working for others]. It shows a tendency towards seeking a higher level of personal independency, through some sort of ownership, when the

marital status changes towards marriage.

As a result of performing a chi-square test, it has not been possible to accept the null hypothesis of independency between the two variables, only at the highest level of the chosen levels of significance. As to the non-parametric test of association, one could not accept the null hypothesis of no association at all chosen levels of significance. The direction of such a relationship is positive. The possible existence of such an association and its suggested direction are not inconsistent with the subject literature.

Table (17)
A Bivariate Sample Frequency Table
of the Sample Units Distributed According to
Marital Status and Work Conditions [Ownership/Working for Others]

W.Conds. Mrtl.St.	Work for Others	Partnership	Mixture	Sole- Ownership	Total
NGM	10	4	1	2	17
Div.		1			1
Wid.				1	1
Married	12	20	5	14	51
Total	22	25	6	17	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN MARITAL STATUS AND NATURE OF THE USED MEANS [LEVEL OF TECHNOLOGY]:

Table (18)
A Bivariate Sample Frequency Table of
the Sample Units Disteributed According to
Marital status and Nature of the Used Means

Nat.of the Usd.Means Mrtl.St.	Small Nonmotor Boat	Small Motor Boat	Small Nonmotor Yacht	Motor Yacht	Ship	Total
NGT		3		12	2	17
Divorced					1	1
Widower		1				1
Married	3	21	2	20	5	51
Total	3	25	2	32	8	70

When trying to explore some features of the significant aspects of such a bivariate relation, a relevant contingency table has been used, to test for possible independency between the two examined variables. Consequently, it has not been

possible to accept the hypothesis of the existence of such an independency.

Meanwhile, it has not been possible to reject the null hypothesis of no association between the two variables, at all the chosen levels of significance, using Spearman's rank correlation test.

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN EDUCATIONAL STATUS AND COMMUNICATION:

Table (19) exhibits a bivariate sample frequency distribution of the sample units distributed according to the educational status and communication.

A test for independency between educational status and communication variables, has suggested a very low probability of the existence of such an independency. It has not been possible to reject the null hypothesis of independence at all chosen levels of significance, using a relevant contingency table and the chi-square hypothesis test.

Moreover, a nonparmetric test of possible association between the two variables has suggested not to reject the null hypothesis of no association at all the chosen levels of significance, except for the highest level at which it has been suggested not to accept the same null hypothesis.

Table (19)
A Bivariate Sample Frequency Table of the Sample Units
Distributed According to Educational Status and Communication

Com. Edl.St.	No Com.	Com.th. Work	Com.th. relatives	Hr.lvls. of Com.	Total
Iltrte.	7	3	7	5	22
R. only		2	3	5	10
R.& W.	1	2	6	3	12
Elm.Crt.		1	1	1	3
Prp.Crt.	3	3	4	5	15
Int/Hr. Crt.		1	5		6
Ungr/Hr. Dgr.		1		1	2
Total	11	13	26	20	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN EDUCATIONAL STATUS AND WORK CONDITIONS [OWNERSHIP / WORKING FOR OTHERS]:

Studying some aspects of the bivariate relation between educational status and work conditions [overship / working for others] may lead to examine dimensions such as possible existence

of dependency and/or association. Performing chi-square test, to test for independency, it has been suggested a relatively high chance of a possible existence of some sort of dependency between the two variables. It has not been possible, using a relevant contingency table, to accept the null hypothesis of independency at all chosen levels of significance.

However, a non-parametric test for association has suggested not to reject the null hypothesis of no association at all chosen levels of significance.

In spite of the results of the last test, the resulted negative sign for Spearman's correlation coefficient could be justified by an observation that connects higher levels of education with the chances of work on more advanced means of fishing. In addition, it is known that such a later means requires a higher levels of financial resources that may need longer period of time to make them available. Moreover, higher levels of education in the research population are associated with younger classes of age. In the meantime, the costs of less advanced means of fishing do not represent a real barrier for less educated fishermen with some experience to possess such means. Taking such factors, together, into consideration, may justify the possible negative direction of the relationship between educational status and work conditions, if it exists.

Table (20) shows a bivariate sample frequency distribution of the sample units distributed according to educational status and work conditions [ownership / working for others].

Table (20)
A Bivariate Sample Frequency Table of the Sample Units Distributed According to Educational Status and Work Conditions
[Ownership / working for others]

W.Conds. Edl.St.	Working for Othrs.	Partnership	Mixture	Sole- Ownership	Total
Iltrte.	6	4	2	10	22
R. only	3	5	2		10
R. & W.	2	8		2	12
Elm.Crt.		1	1	1	3
Prp.Crt.	7	5	1	2	15
Int/H.Crt.	4	1		1	6
Ungr/H.Dgr.		1		1	2
Total	22	25	6	17	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN EDUCATIONAL STATUS AND NATURE OF THE USED MEANS:

Examining the sample data with respect to the possible existence of chosen aspects of the relartionship between the

educational status and nature of the used means variables, the following has been suggested:

(1)   With respect to the hypothesis test regarding a possible existence of some sort of dependency between the two variables, a relevent contingency table has been used and a corresponding chi-square test has been performed. As a result, it has not been possible to accept the null hypothesis of the independency between the two variables at all chosen levels of significance, which could refer to a possible existence of some sort of dependency between the studied variables.

(2)   As to the association asppect, the nonparametric Spearman's correlation test has been performed and it has suggested not to accept the null hypothesis of no association between the two variables at all chosen levels of significance.

(3)   The resulted direction of the examined relationship according to the association test has suggested a positive relation and the magnitude of the used coefficient has been relatively higher than that of most of other bivariate relations considered. Such a direction connects the higher levels of education with the higher chances of using more advanced means of fishing.

Table (21) exhibits a bivariate sample frequency table of the sample units distributed according to educational status and nature of the used means.

Table   (21)
A Bivariate Sample Frequency Table
of the Sample Units Distributed According to
Educational Status and Nature of the Used Means

Nt.of the Edl. St.	Small Nonmotor Boat	Small Motor Boat	Non-Motor Yacht	Motor Yacht	Ship	Total
Iltrte.		18		3	1	22
R. Only		1	1	7	1	10
R.& W.	1	2	1	6	2	12
Elm.Crt.	1	1		1		3
Prp.Crt.		3		11	1	15
Int/H.Crt.				3	3	6
Ungr/H.Crt.	1			1		2
Total	3	25	2	32	8	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN COMMUNICATION AND WORK CONDITIONS [OWNERSHIP / WORKING FOR OTHERS]:

To study such features, a bivariate sample frequency table has been made using the sample data as an initial step to test

for independency using a relevant contingency table. In a
following step, a resulted contingency table has been used and
the test has been performed, and it has not been possible
accordingly to reject the null hypothesis of independency.

On the other hand, the Spearman's rank correlation test has
been performed to test for the possible existence of association
between the two variables, and it has suggested not to accept the
null hypothesis of no association. This might be considered as
an indicator of the possible existence of such an association.
The suggested direction of such an association is positive.
Meanwhile, the magnitude of the used coefficient is relatively a
moderate one. The initial bivariate sample frequency
distribution of the sample units distributed according to the
communication and work conditions' variables is presented in
table (22).

Table (22)
A Bivariate Sample Frequency Table of the Sample Units
Distributed According to Communication and Work Conditions
[Ownership / Working for others]

W.Cnds. Comm.	Working for Othrs.	Partnership	Mixture	Sole- ownership	Total
No Comm.	7	2	1	1	11
Com.thr.Work.	2	9		2	13
Com.thr.Rltvs.	9	7	2	8	26
Hr.lvls.of Com.	4	7	3	6	20
Total	22	25	6	17	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE
BIVARIATE RELATION BETWEEN INCOME AND NUMBER OF THE AVAILABLE
HOUSE APPLIANCES:

Viewing such a relation, using the sample data, an initial
table, table (23), exhibiting a bivariate sample distribution of
the research units distributed according to income and number of
the available house appliances' variables has been presented.

To test for possible dependency between such variables, a
suitable contingency table has been used, and the used hypothesis
test has suggested not to reject the null hypothesis of
independency between the two variables at the three chosen levels
of significance.

Yet, the results of performing a nonparametric test for the
possible association between the above-mentioned variables have
not ruled out the possibility of the existence of such an
association. It has not been possible, according to such test,
to accept the null hypothesis of no association between the two

variables, at all chosen levels of significance. Such results do not contradict the subject literature that suggests the existence of a positive relationship between both variables. An additional test using Pearson's correlation coefficient has been performed and its results have suggested similar conclusions. The signs of the used statistics in both later tests have been positive which should emphasize the concluded remarks. Moreover, the magnitudes of such coefficients have not been significantly low.

Table (23)
A Bivariate Sample Frequency Table of
the Sample Units Distributed According to
Income and Number of the Available House Appliances

Income \ No.of the Av. H.Apps.	1	2	3	4	5	6	7	Total
50-		1	3	1	3	1		9
75-	1	1	1	2	2		1	8
100-			4	8	7	1		20
125-			.		2	1		3
150-			1	5	3	4		13
175-		1						1
200-		1		2	3	5	1	12
225-								0
250-					1	1		2
275-								0
300 & Over				2				2
Total	1	4	9	20	21	13	2	70

SOME FEATURES OF THE POSSIBLE SIGNIFICANT ASPECTS OF THE BIVARIATE RELATION BETWEEN NUMBER OF THE AVAILABLE HOUSE APPLIANCES AND WORK CONDITIONS [OWNERSHIP / WORKING FOR OTHERS]:

Table(24) exhibits a bivariate sample frequency distribution of the sample units distributed according to number of the available house appliances and work conditions variables.

As a result of performing a hypothesis test, chi-square test, for possible existence of some sort of dependency between the examined variables using a relevant contingency table, the null hypothesis of independence between such variables has not been accpted at all chosen levels of significance. That could refer to a possible existence of some sort of dependency between the two variables.

Meanwhile, it has not been possible to reject the null hypothesis of no association between the two variables using a nonparametric test of association, at all chosen levels of significance.

Table (24)
A Bivariate Sample Frequency Table of the Sample Units
Distributed According to Number of the Available House Appliances
and Work Conditions (Ownership / Working for others)

W.Cnds. No.of the Av.H.Apps.	Working for Others	Partnership	Mixture	Sole-Ownership	Total
1	1				1
3	1			3	4
3	4	1	2	2	9
4	9	5	1	5	20
5	4	10	2	5	21
6	3	8	1	1	13
7		1		1	2
Total	22	25	6	17	70

SOME   FEATURES   OF   THE   POSSIBLE   SIGNIFICANT   ASPECTS   OF   THE
BIVARIATE   RELATION BETWEEN WORK CONDITIONS [OWNERSHIP /   WORKING
FOR OTHERS] AND   NATURE OF THE USED MEANS:

Special care should be given when examining such a   relation
since   it could lead to a possible recent and future developments
in the specific fishing community under study, in particular, and
to fishing communities all over the country, in general.

Table(25)   exhibits   an   initial version   of   the   bivariate
sample   frequency   distribution of the sample   units   distributed
according to work conditions [ownership / woking for others]   and
the nature of the used means.

Table (25)
A Bivariate Sample Frequency Table of the Sample Units
Distributed According to Work Conditions(Ownshp/WfO)
and Nature of the Used Means

Nt.of the Usd.Means W.Cnds.	Small N-Mot. Boat	Small Motor Boat	Non-Motor Yacht	Motor Yacht	Ship	Total
W.for Othrs		4		16	2	22
Partnership	2	8		10	5	25
Mixture		2	1	3		6
Sole-Ownership	1	11	1	3	1	17
Total	3	25	2	32	8	70

Performing   a   chosen hypothesis test to test   for   possible
existence of dependency between such variables has suggested   not
to accept the null hypothesis of independence at all three chosen

levels of significance. This could indicate a possible existence of dependency between the two variables.

On the other hand, the results of performing a nonparametric test of association have suggested not to reject the null hypothesis of no association only at lowest chosen level of significance. However, such results have supported not to accept that hypothesis of no association at other chosen levels of significance and at any higher level of significance. In the same time, the sign of the used statistic could indicate a possible negative relation of the two variables.

CONCLUSIONS & RECOMMMMENDATIONS:

The conclusions and recommendations will be presented as follows:

CONCLUSIONS REGARDING SPECIFIC CHARACTERISTICS CONCERNING THE UNIVARIATE VARIABLES UNDER EXAMINATION:

(1) AGE:
The percentage of the young fisherman in the sample is higher than that of the fisherman in higher classes of age. The estimated confidence intervals of the corresponding population percentages reflect the same tendency.

(2) MARITAL STATUS:
The modal class of such a variable is that of the married fishermen. The sample percentage of the fishermen in this class is as three times as that of those who never get married. Such a tendency has been clearly shown in the estimated confidence intervals of the percentages of the same classes.

(3) EDUCATIONAL STATUS:
The sample percentage of illetracy is still high even though it is expected to be lower than that of the whole nation. In addition, those who don't have any formal certificate are close to two-thirds of the sample units. Such results have been reflected on the resulted estimated population percentages.

(4) COMMUNICATION:
Those who belong to the subset of higher than medium level of communication are less than one third of the whole group. While those who belong to the subset of medium level of communication represent little more than one half of the sample units. Naturally, such results have its reflection on the resulted estimated population percentages' confidence intervals.

(5) INCOME AND NUMBER OF THE AVAILABLE HOUSE APPLIANCES:
Distribution patterns of such variables are similar to those of communication variables that have been reported. Some additional remarks espicially with respect to income variables have been presented.

(6) NUMBER OF THE AVAILABLE HOUSE UTILITIES:
Only 20% of the sample units have reported a medium or higher level of number of the available house utilities' variable. The remarks noted with respect to this variable should be carefully considered espicially for future research.

(7) WORK CONDITIONS [OWNERSHIP / WORKING FOR OTHERS]:
Little higher than 70% of the sample units do own partially or solely the means they use in their work. The rest are totally working for others.

(8) NATURE OF THE USED MEANS:
It has been noted that 43% of the samlple units are using sample type of fishing means, while about 57% are using more advanced means. Such percentages have been reflected on the

resulted estimated confidence intervals concerning the same variable.
(9) The detailed analyses and the corresponding tables should be examined carefully along with such concluding remarks.

RELATION BTWEEN VARIABLES:

Exploring some features of the possible significant aspects of specific multivariate relations included in this research, it has been noted the following:

(1) As a result of the performed tests of independence, the study has suggested further research to examine the different aspects of possible existence of dependency between age variable and each of marital status, educational status and number of the available house appliances' variables; between marital status variable and each of educational status, number of the available house utilities, work conditions (ownership/working for others) and nature of the used means' variables; between educational status variable and each of work conditions (ownership / working for others) and nature of the used means' variables; between communication and income variables; between number of the available house appliances ' variable and each of number of the avialable house utilities and work conditions' variables, number of the available house utilities, and work conditions and finally between work conditions and nature of used means variables. The detailed discussion of most of such results have been presented earlier.

(2) Studying each possibility of the existence of a bivariate association between each pair of the variables involved in this research, using a set of relevant nonparametric tests, has led to the following results: a possible existence of such an association between age variable and each of marital status, educational status, income and work conditions' variables; between marital status and each of communication, number of the available house appliances, number of the available house utilities work conditions' variables; between educational status and each of communication; number of the available house utilitis and the nature of the used means' variables ; between communication and work conditions' variables, between income and each of number of the available house appliances and number of available house utilities and between work conditions and nature of the used means.

(3) The detailed coverage of the preceding analyses could be reviewed using the text and the appendix.

(4) Additional number of parametric hypothesis tests have been used and some of their relevant results have been reported.

(5) Further multidimensional and integrated types of research in the areas treated by such a paper should be covered in future research. This study claims to be a step towards that objective.

(6) Covering a variety of possible interrelated aspects of the multivariate relations, except for those that have been

treated, is out of the scope of this paper.
(7) Hopefully, a successful set of research papers in such areas
     will follow in the near future by the will of God.

APPENDIX
Major Results of Some of the Tests Used

Rel.	R	t	p	Sig.	X^2	Sig.
1, 3	P .708	8.273	p<10(-6)	Y	$X^2 = 27.157$	Y
	S .575			Y		
1, 4	P-.487	4.592	.00002	Y	$X^2 = 18.4$	Y
	S-.388			Y		
1, 5	p .007	.057	.955	N	$X^2 = 5.993$	N
	S .053			N		
1, 6	P-.158	1.322	.191	N	$X^2 = 3$	N
	a .162			Y		
1, 7	? .065	.538	.592	N	$X^2 = 5$, 6	Y
	S .102			N		
1, 8	P-.005	.342	.967	N	$X^2 = 4.3666$	N
	S .136			N		
1, 9	P .212	1.791	.078	N	$X^2 = 6.072$	N
	S .265			Y		
1.10	P-.210	1.769	.081	N	$X^2 = 5.513$	N
	S-.111			N		
3, 4	P-.323	2.812	.006	Y	$X^2 = 7.675$	Y
	S-.026			N		
3, 5	P .026	.216	.829	N	$X^2 = .098$	N
	S .203			Y		
3, 6	P-.028	.229	.819	N	$X^2 = 1.875$	N
	S-.125			N		
3, 7	P-.005	.040	.968	N	$X^2 = .021$	N
	S .167			Y		
3, 8	P .284	2.559	.013	Y	$X^2 = 6.993$	Y
	S .372			Y		
3, 9	P .261	2.227	.029	Y	$X^2 = 5.481$	Y
	S .356			Y		
3,10	P-.268	2.298	.025	Y	$X^2 = 3.914$	Y
	S .079			N		
4, 5	P .082	.681	.498	N	$X^2 = 2.678$	N
	S .166			Y		

4, 6	P .012	.097	.923	N	$X^2 = $	1.479	N
	S .020			N			
4, 7	P .075	.617	.539	N	$X^2 = $	.125	N
	S .081			N			
4, 8	P .163	1.361	.178	N	$X^2 = $	2.089	N
	S .164			Y			
4, 9	P-.192	1.611	.112	N	$X^2 = $ 11.938		Y
	S-.131			N			
4,10	P .340	3.065	.003	Y	$X^2 = $ 19.972		Y
	S .453			Y			
5, 6	P-.114	.617	.539	N	$X^2 = $	6.690	Y
	S-.119			N			
5, 7	P-.010	.0	.932	N	$X^2 = $	.097	N
	S .053			N			
5, 8	P-.069	.25	.471	N	$X^2 = $	3.361	N
	S-.026			N			
5, 9	P .254	2.166	.034	Y	$X^2 = $	5.511	N
	S .267			Y			
5,10	P .003	.024	.981	N	$X^2 = $	.157	N
	S .080			N			
6, 7	P .265	2.264	.027	Y	$X^2 = $	1.544	N
	S .290			Y			
6, 8	P-.136	1.134	.261	N	$X^2 = $	2.803	N
	S-.168			Y			
6, 9	P .067	.555	.580	N	$X^2 = $	1.496	N
	S .006			N			
6,10	P-.014	.114	.910	N	$X^2 = $	.562	N
	S .038			N			
7, 8	P-.115	.951	.341	N	$X^2 = $	6.410	Y
	S-.108			N			
7, 9	P-.035	.286	.775	N	$X^2 = $ 10.011		Y
	S .050			N			
7,10	P .010	.825	.412	N	$X^2 = $	4.054	N
	S .143			N			
8, 9	P-.153	1.274	.207	N	$X^2 = $ 12.397		Y
	S-.042			N			
8,10	P-.067	.558	.579	N	$X^2 = $	.508	N
	S .023			N			
9,10	P-.372	3.305	.002	Y	$X^2 = $ 12.252		Y
	S-.224			Y			

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