

## Binary logistic regression to measure the impact of social support to ability for encounter problems (an applied study on the employees of princess Noura bint Abdul Rahman university)

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**Abstract:** This study aims to try to identify the extent to which the dual logistic regression model can be used to measure the impact of social support for individuals on the ability to face problems to verify the validity of the research hypotheses or not, taking into account the types of social support according to the research hypotheses

Family support, support for friends, information support and performance support (finance, work, interaction between others), where a questionnaire was prepared to serve the purposes of the research and distributed to a sample of 814 employees of Princess Noura bint Abdul Rahman who are over the age of 18, Among the most important results reached is that the use of logistic regression to represent the impact of social support on the ability to face problems was successful and highly efficient, as the results of the research showed that the explanation variance in the logistic regression model in the impact of social support on the ability of people to face problems 76% which is an very good ratio Also, all the results of the statistical tests of the model of the effect of support on the ability of the sample members to face problems give very good results, as all the results were in agreement with the research hypotheses that were established

**Keywords:** Social Support; Binary Logistic Regression; Encounter the Problems; Odd Ratio; Wald Statistic; Maximum Likelihood; Goodness of Fit.

### 1. Introduction:

Our Islamic religion urged us to social solidarity to maintain the building of society and establish it on sound bases. Perhaps the most meaningful expression of the meaning of social support is the hadith of the Prophet (PBUH) about social solidarity in saying: ((The believer with the believer is like building supports one another)), Narrated by al-Bukhaari, and the Prophet (PBUH) said the believers in their mercy and intimacy, such as the body, if a member of the body complained, all the body will falter to him with watchfulness and fever (Narrated by Muslim), and this is what is required to work on the safety of all the forces of members of society. (Abu Zahra, 1991)

In the current study, logistic regression was used to study the impact of social support and the ability to cope with problems, a model used to predict the probability of an event by fitting data to a logistic curve through several predictable variables that can be qualitative or quantitatively.

Logistic regression is widely used in medicine and social sciences as well as in marketing. Logistic regression is called other names in its various applications, such as: logistic model, general logistic model of entropy, and logistic regression is a model out of a set of models called general linear models.

### The Importance of Studying:

The importance of the study is to deal with the variables that determine the relationship between social support, pressures and problems, using logistic regression, these variables are of the utmost importance to the individual and society, because any disturbance in the personality of the individual will necessarily move to the society in which he lives and will leave a clear imprint.

- **Theoretical Importance:**

Social support has been of great importance to researchers due to the significance role it plays with individuals. Social support appears in different types such as family, friends, co-workers, school, club, etc. It also plays an essential role in reducing the negative effects of bad events and situations to which the individual is exposed.

A psychic health indicator that acts as a mediator to mitigate the negative effects of high pressure and various problems. (Sersi and Abdullah Al-Maqsoud, 2001)

- **Practical Importance:**

The practical importance lies in studying the nature of social support in its various dimensions and the extent of its contribution in providing assistance and guidance to individuals on a personal and social level, as well as emphasizing the positive role of social support in supporting backing the individual and protecting him from problems, using the logistic regression model.

(Gaballah and Haridi 2004) explained the word "support" as the amount of, cognitive, behavioral and material support that the individual receives through others in his social environment.

(Hussein, 2004) explained social support is the amount of what the individual is aware and what receive of suggestions, information and advice at the time of need from the family, teachers and peers (colleagues, friends) and the extent of the individual feeling that he is loved with a great care and appreciation by them in addition, he achieves his needs through interaction with them. (Madhoun, 2004), defined social support by the extent to which there are people whom the individual can trust and believe that they are able to care for him, love him and stand with him when needed. While (Ismail, 2004), social support is defined as all the supplies that others provide to the individual to help them encounter the pressures. Social support conveys the feeling that the individual is not alone in facing problems or threats, and social support comes from various sources including: family, husband or wife, friends and co-workers. Social organizations, and social relations are one of the most important sources so that they form an individual shield from deviations and isolation, which makes him live a self-quiet and tranquillity.

(Ahmed, 2009) argues that social support is the actual or perceived potential of resources available in an individual's social environment that can be used to help in times of distress, and an individual is provided with social support through a social relations network that includes all persons who have regular social contact in one way or another with the individual. The social relations network includes mostly family, friends and co-workers, and not all social networks are supportive, because supportive ones tend to support Health and well-being of recipient of support.

(Shuwaikh, 2007), defined social support as: It is the individual's awareness of the presence of people close to him and trusts them and care about him in times of crisis and provide him with various types of support, whether in kindness or in the form of appreciation and respect or in the form of financial support or in the form of intimate relationships with others, and the study (Hakima, Ahmed, Rachid, 2011) pointed to the importance of social support in achieving psychological and social harmony among unemployed youth in Algeria, the study concluded that there is a positive and statistically significant correlation between social support in its two encounters, family and friends and psychological compatibility of the individual in his personal - excitement-health - family - social dimensions, which shows the impact of social behaviour on health through social support.

The present study actually defines social support as (the total score obtained by the examined person on the social support scale that prepared for the purposes of the current study, where this degree refers to the arithmetic mean of the degree of social support in all dimensions, so that the scale consists of four dimensions (4) are (Family support -Support friends- Information support - Performance support (money, work or interaction with others)). (Roth & Cohen, 1986), identified two ways to address individual problems:

**First:** acquire personal and emotional knowledge and experience, and intimate behaviours that encounter the growth sources of threat that the individual encounters in his daily life to avoid negative effects that threaten his emotive balance.

**Second:** Examine the sources of social support he receive from others to ascertain its positives in facing the problems of daily life.

(Van Gundy 1991) also defines the problem as any situation that an individual perceives as a gap between what it is and what it should be.

The study (Twomey, 1991) emphasized the importance of the role of social support from the family and colleagues in mitigating the negative effects, resulting from stressful life events in the interaction of new students with university life at the University of Mexico City in the United States.

Abu Zeina (1994) points out that the problem is a situation encountered by the individual and needs a solution, where the individual does not see a clear or apparent way to reach the desired solution.

(Pretorius & Diedricks, 1994) also emphasized the role of social support that an individual receives in his ability to encounter and solve problems.

The study (Richman, Rosenfeld, & Bowen, 1998) aimed to compare teenagers who received low social support, and teenagers who received medium social support, with regard to their perceptions about their families, friends and school, and the results of the study found that adolescents who received low social support have a lot of academic and life problems such as lack of commitment to attend school, and the inability to make friends with others, also had less exposure to their feelings and self, and were less able to encounter family problems compared with adolescents who They received moderate social support, and a the study (Ali,2000), aimed at knowing the role of social support in the encounter of stressful life events and compatibility with university life, the study found that students supported by social support from their families are more able to academic and personal and emotional compatibility and were better able to encounter compressive life events compared with students not supported by social support with their families.

(Al-Atoum, Alawneh, Al-Jarrah and Abu-Ghazaleh, 2005) defined the problem as a situation that constitutes an obstacle to the individual, prevents him from achieving his goals, and causes him a state of imbalance , while the (Li & Yang study, 2009), aimed to examine an analysis model of the impact of social support, self-efficacy, emotional engagement , and motivation on problem-solving ability. The results of the study indicated that social support, self-efficacy, and emotional engagement act as predictors of capacity to solving the student's problems.

As (Isaksen, Dorval, & Treffinger, 2010), defined it as any situation that an individual perceives as a contradiction between current reality and desirable goals, creating a gap between what is actually achieved and what is hoped to be achieved.

The study (Sullivan, Pasch, Johnson, & Bradbury, 2010) aimed to reveal the impact of social support provided by friends on the ability to solve problems in newly married people, and the results found that positive social support from friends is linked to the ability of spouses to solve their life problems.

The study (Momani, Daoum, 2018) aimed to reveal the degree of possession of a sample of female university students for the problem-solving skills and to show the impact of the variables of social support and the academic level in the ability to solve problems, and the results indicated that there are differences with statistically significant in the ability to solve problems as a whole In two styles, the prowess and flinch, and self-confidence are attributed to social support.

### **The Study Problem:**

The individual encounters combined problems during their lifetime, which can hinder their progress in various areas of life, and these problems may be academic, economic or social, etc., if the individual does not find support and social support from people around him may live in great psychological pressure, resulting in some problems and mental disorders such as anxiety and depression, and since social support is an important source of effective psychosocial social support that the person needs, the volume of support and satisfaction level of this support affects how an individual perceives his life events and how to deal with them and their implications for their health( Cohen & Wills, 1985).

### **Objectives of the Study:**

The main objective of the study is to highlight the impact of social support on the ability to encounter the problems by examining and discussing the theoretical and applied importance of logistic regression in analysis due to the nature of the data that were collected, where the dependent variable is binary (ability to overcome problems or inability). In addition, a number of independent variables affecting it are as follows:

Age - Social Status - Educational Status - Financial Status - Social Support: Family Support - Friends Support - Information Support - Performance Support (Money - Work - Interaction with Others).

### **Study Hypotheses:**

The study is based on several hypotheses; by the meaning, the social support directly affects the ability to encounter problems.

- There is a statistically significant correlation between family support and the ability to overcome problems.
- There is a statistically significant correlation between supporting friends and the ability to overcome problems.

There is a statistically significant correlation between performance support (finance)

- work - interaction with others) and the ability to overcome problems.

- There is a statistically significant correlation between information support and the ability to overcome problems

### The Limits of the Study:

limits include the variables that govern the subject of the study, namely social support and its impact on the ability to encounter problems using logistic regression model at Princess Noor bint Abdul Rahman University.

- The spatial limits: Princess Nourah bint Abdulrahman University.
- The temporal limits: 2018 – 2019.

## 2. Methodological study and procedures

The descriptive analytical method was used to correspond with the nature of the present study, where the description of the phenomenon, which is the subject of the study and then analysed its data and the relationship between its components and the questions asked using the binary logistic regression model was used.

### Population of the Study and its Sample:

The study population consisted of members of Princess Nourah bint Abdulrahman University. A sample of 814 individuals were used for honest answers. These individuals were aged (18 years and above) and the sample was randomly collected.

### Study Tool:

References and published research were used as secondary sources for all data. The questionnaire was used as the primary source for data collection because it is suitable for the nature and objectives of the study.

### Use Binary Logistic Regression in Data Analysis:

Logistic regression is a model of estimating binary data when the dependent variable takes two values (either one or zero), and to illustrate this idea, suppose that the random variable is distributed by Bernoulli distribution, where he takes the value (1) if the person has the ability to encounter the problems, and takes the value (0) in the case of the inability to do so, assuming the event (capacity) is ( $p_i$ ), so:

$$p(y_i = 1) = p_i, \quad (0 \leq p_i \leq 1) \quad (1)$$

$$p(y_i = 0) = 1 - p_i = q_i \quad (2)$$

$$0 \leq E(Y_i/X_i = x_i) \leq 1 \quad (3)$$

In the case of a binary dependent variable or more one independent variable, the model takes the form of the following logistic function:

$$P_i = \frac{e^z}{e^z + 1} = \frac{1}{1 + e^{-z}} \quad (4)$$

$$\frac{P_i}{1 - P_i} = \frac{1 + e^z}{1 + e^{-z}} = e^z \quad (5)$$

Where:

$$Z = B_0 + B_1x_1 + B_2x_2 + B_3x_3 + \dots + B_kx_k \quad (6)$$

$B_0$ : The cutting point of the sampling axis

$B_1, B_2, B_3, \dots, B_k$ : Regression coefficients.

$p_i$ : The relied variable (dependent) when its value (1).

$X_i$ : it gets the values of independent variable.

$e$ : the basic of natural logarithm and almost equal (2.718).

$\frac{P_i}{1 - P_i}$ : called by preponderance ratio (odd ratio), it is the probability of event incidence divided by probability of not event incidence  $0 \leq odd \leq 1$ .

(odd) problem solution the lower and higher limits of the probability.

$$p = \frac{odd}{1 + odd} = \frac{e^{B_0 + B_1x_1 + B_2x_2 + B_3x_3 + \dots + B_kx_k}}{1 + e^{B_0 + B_1x_1 + B_2x_2 + B_3x_3 + \dots + B_kx_k}} \quad (7)$$

$$Logit = \log(odd) = L_i = \ln\left(\frac{P_i}{1 - P_i}\right) \quad (8)$$

$$Z = B_0 + B_1x_1 + B_2x_2 + B_3x_3 + \dots + B_kx_k \quad (9)$$

Where:  $-\infty < logit < \infty$

$L_i$ : it is the natural logarithm for preponderance ratio, so it is liner and written by indication the independent variables and by indication the coefficient of regression model.

The logistic regression is an effective way to explain the relation between the independent variables (the age, the social case, the educational case, the financial case, the friends support, the performance support by (money, work or interaction with the others, support by information) and the dependent variable ( the ability on problems facing), and it takes just two values, (1) in the case of the person encountered his problem and passed it due to

these factors, or (0) in a case of the person did not get any social supports, hence the person cannot encounter his problem.

The importance of the logistic regression appears when it is compared by the others statistical ways (linear regression), where the logistic regression is more powerful tool because it gives a test for factors moral, also it serves in knowing the effect value of independent variables on the dependent variable, where this dependent variable has two values, in addition it ranges the effect of the independent variables, this thing help in determination any factor from the factors (the age, the social case, the educational case, the financial case, the friends support, the performance support by (money, work or interaction with the others, support by information) has the most effect on (the ability to encounter the problems), also the logistic regression can also include the independent qualitative variables as well as the effect of interaction between these variables on the binary value dependent variable, and one of the main advantages of using logistic regression is that it is less sensitive to deviations from the normal distribution of study variables, compared to other statistical methods such as linear regression, also logistic regression can also override many constrained assumptions when using the least-squares method in linear regression. This makes logistic regression analysis the best method in the case of a dependent variable who has binary value.

(Lohr, 1999)(Agresti & Kateri, 2011)

There are some studies that used logistic regression in applied sciences, whether it is a binary or multiple dependent variable, such as the study (Abbas, 2012), which aimed to study the importance of using the logistic regression model in predicting marks that have dependent qualitative economic variables to get rid of statistical and conceptual problems that encounter the using the least squares method, to this end, 25 growing countries have been selected as a sample of research, relying on World Bank and UN data. One of the most important findings is that the use of a dual-response logistic regression model with bilateral dependent variables leads to the elimination of the three econometric problems, due to passing tests self-correlation, linear multiplicity and heterogeneity of contrast.

The study of Abu Fakhda (2013), which aimed to identify the most important variables related to the role of the child in the home environment in the governorate of Ramallah and Al-Bireh in Palestine, is attributed to the variability of the place of residence using logistic regression. The sample size reached (209) families, the results found that the child has a major role in participating in household tasks and this is related to the level of household income and its type.

The study (Khalil, 2016), which used logistic regression to determine the most important factors affecting the delay in marriage age in Saudi Arabia and the sample of the study consisted of 100 males and 100 females, and the results found that the most important factors affecting the delay in marriage age is the loss of one or both parents and the boy or girl is responsible for raising brotherhood as well as excessive ambition in the specifications of the partner as well as the individual's appreciation of the family he intends to form, friendship and mixing between the sexes through social networking sites and the boast of requirements of the marriage.

#### Estimation of the Log Model for Binary Data:

To estimate logistic regression coefficients, we can use the Maximum Likelihood Method, which is the most suitable method for linear and non-linear models, this method is known as iterative, because iterative calculations are repeated several times until the best estimate of the coefficients through which the observed data can be interpreted.

The Maximum Likelihood Method is used to calculate logistic coefficients in logistic regression, this method aims to maximize the value of Log likelihood, this indicates the possibility that these observed values of the dependent variable can be predicted by independent variables, and we note that the Maximum Likelihood Method are an iterative method starting with an initial value, and then this method determines the direction and magnitude of the change in the log coefficients that will increase the value of the probability logarithm. (Hayes & Matthes, 2009)

Logistic regression coefficients (non-standard logistic regression coefficient) can be interpreted, where the coefficient is denoted by the symbol (b), which matches to the non-standard coefficient in linear regression, and the coefficient (b) is used in the logistic regression to estimate the log odds where the dependent variable is equal to one by a certain probability is the independent variable coefficient. (Ghanem and Jaouni, 2011)

The explanatory power of the  $R^2$  model can also be tested using statistics ( $R^2_{Nagelkerke}$ ), ( $R^2_{COX-SNELO}$ ) for the purpose of testing the explanatory power of the logistic regression model, where this statistic is a measure of the improvement in the value of the square geometric mean for each view, and takes the following formula:

$$(R^2_{COX-SNELO}) = 1 - \left(\frac{L_0}{L_1}\right)^{\frac{2}{n}} \quad (10)$$

Where:

$L_0$  : The possibility function in the case of the model contains only the constant.

$L_1$  : The probability function in the case of the model contains all explanatory variables.

n: Sample size.

The statistic ( $R^2_{Nagelkerke}$ ), is the measure of improvement in the geometric average of each view, where the first unmodified metric ( $R^2_{COX-SNELO}$ ) cannot take the value one even if the model exactly matches the data, while the second modified ( $R^2_{COX-SNELO}$ ) allows the value of one by a simple modification, dividing the maximum possible value of the first by the following formula:

$$(R^2_{Nagelkerke}) = (R^2_{COX-SNELO}) / R^2_Z \quad (11)$$

$$R^2_Z = 1 - (LO)^{\frac{2}{n}}$$

For the measurement (Goodness of Fit) of the logistic regression model, the test (Hosmer - Lemeshow) is used, which is calculated according to the value  $\chi^2$ . (Hosmer Jr, Lemeshow, & Sturdivant, 2013)

To calculate the morale of the estimated parameters using the logistic model, a (Wald) statistic was used for each logistic regression coefficient corresponding to each independent variable to test the null hypothesis, which states (the effect of any logit coefficient is zero), and this statistic was calculated according to the following formula:

$$Wald = \left( \frac{b}{SEb} \right)^2 \quad (12)$$

Where:

b: The value of the logistic regression coefficient of the independent variable.

SE: The standard error value of the logistic regression coefficient of the independent variable.

Note that the statistical (Wald) tracks distribution  $\chi^2$  as the test is a two-party test, and the moral value of the corresponding parameters must be less than (0.05) in order to accept or reject the null hypothesis, ie, the independent variable has an effect in predicting Value of the dependent variable.

And to test the morale of the model as a whole, we used statistical (-2lnL) which follow the distribution of  $\chi^2$  which express the difference between the model that contains only constant and the model that contains all the variables independent, and this statistic is used to test the null hypothesis, which states that all the coefficients of the model are equal and contain all the variables except the constant, this test is parallel to the (F) test in the traditional regression, and It is compared with the tabular value of the  $\chi^2$  statistic with degrees of freedom (the difference between the number of parameters used in the model containing only the constant and the model containing all the independent variables). (Menard, 2002)

### 3. Study Model and Data Collection Mechanism

In order to achieve the objective of the study in practice, the data was collected through a survey of a sample size (815) person, were randomly taken from students and faculty members who were subjected to stress and psychological problems, in order to study the impact of social support on their ability to encounter problems, where (814) answers have been obtained, and a linear regression model has been developed that represents this relationship as follows:

$$P_i = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + \dots + B_k X_k$$

Where:

$B_0$  : Point cutting of the samples axis.

$B_1, B_2, B_3, \dots, B_k$ : Regression coefficients.

$P_i$ : The dependent variable (the ability to encounter the problems), takes the value of one or zero.

$X_i$ : It takes the values of independent variables (age - social status - educational status - financial status - family support - friends support - performance support - information support).

The questionnaire was used as a data collection tool and the questionnaire was validated for the purpose of the research, and appropriateness of expressions and their expression was verified by the first experiment on a sample of 100 people, also validity and reliability of the questionnaire was also verified by using the Cronbach's Alpha coefficient, which was as shown in Table (1).

**Table (1): Cronbach's Alpha Coefficient)**

Reliability Statistics	
Cronbach's Alpha	N of Items
0.918	24

Also, Cronbach's Alpha coefficient was measured for each phrase of questionnaire phrases (24 phrases), and the results was in table (2):

Table (2) shows the validity and firmness of the questionnaire (alpha-Kronbach coefficient) for all questionnaire phrases

Item–Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item–Total Correlation	Cronbach's Alpha if Item Deleted
My family is satisfied and it is a source of strength for me	92.4348	233.285	.601	.914
I feel i am important between my family members	92.4837	232.207	.593	.914
I have received a great deal of support from my parents since I was a child	92.6250	233.635	.488	.916
I get support for my family when I'm in problem	92.5272	231.956	.570	.915
I can express my personal opinions within my family	92.7609	228.762	.547	.915
Spending time with my family relieves my stress and helps me solve the problem	92.6250	230.389	.576	.915
I can ask my friends for help when I'm in problem	93.1902	229.117	.535	.915
I always find my friends around me when I need them	93.2663	227.770	.560	.915
My friends give me a feel that i am important and appreciate me	92.7609	230.861	.562	.915
My friends accept me despite any personal difficulties or mistakes	92.8261	231.226	.541	.915
Spending time with others at leisure relieves stress	92.4620	234.731	.510	.916
Spending time with my friends satisfies my need to belonging and communicate with others and helps me not to busy about problems	92.5543	234.631	.484	.916
I get financial support that helps me solve problems or overcome crises	93.1141	231.861	.525	.915

Table (3) explains response of the sample members about a question (did you have a problem and you pass it after you got one or all of types of social support (noticed above), where (622) members of the sample members can encounter the problems with the social supports that they got them, while (622) members of the sample members cannot encounter the problems because they did not get the social supports.

In other words, all individuals in the sample received one or more of the mentioned types of support. The research focuses on answering the question: Where they able to overcome problems after receiving this support? It was found that the percentage of 88% of the sample individuals who received one or more of the supports were able to overcome the problems.

**Table (3) shows the distribution of the sample in terms of ability to face problems after obtaining social support**

Classification Table <sup>a,b</sup>					
	Observed	Predicted			
		I overcame the problem		Percentage Correct	
		No	Yes		
Step 0	I overcame the problem	No	0	192	.0
		Yes	0	622	100.0
Overall Percentage					88.0

a. Constant is included in the model.  
b. The cut value is .500

Statistical Package for Social Science (SPSS) were used to analyse the binary logistic regression on the ability to encounter the problems, and the results of the model that contains all the variables refer to the stopping at the second try, where the estimation of its higher statistic  $-2\ln L = 97.05$ , and this is close to the previous try see table (4).

Where statistic ( $-2 \ln L$ ) is used to test the significance of the model as a whole, shows the difference between the model that contains only constant and the model that contains all independent variables, and is also used to test the null hypothesis. (Menard, 2002)

**Table (4): the value of the wald count**

Repetitions	-2 Log likelihood	Constant Coefficient	SE	B	Wald	d.f	sig
1	97.015						
2	97.015 <sup>a</sup>	.155	0.227	1.997	77.211	1	0.00

and it refers to the model quality, also the values (Cox & Snell R Square) (Nagelkerke R Square) in table (5) give the explained contrast ratio in the model of the logistic regression, since they have the same goal for calculation of determination coefficient in traditional liner regression model  $R^2$ , where its value %76 from the explained contrast in the dependent variable ( the ability to encounter the problems ), this was explained by the social supports, in additional the value of  $\chi^2$  refers to the morale of the relation in a level of morale %5, and this correspond the test F in the case of the traditional regression, with refer to the model quality we found that the result of the test is ( Hosmer and Lemeshow ).

Table (5) explains the value of its statistic (Hosmer and Lemeshow) equals to (0), so that it is completely corresponded, that refers to the equality the visible cases with predicted cases, and this refer to quality the corresponding of the model.

**Table (5): Hosmer and Lemeshow**

HGStep	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Hosmer and Lemeshow
1	97.015			
2	97.015 <sup>a</sup>	.185	0.757	0

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

**Table (6): Variables in the Equation**

		B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Age	.082	.550	.022	1	.882	1.085	.370	3.188
	Social	-.287-	.867	.110	1	.740	.750	.137	4.103
	Educational	-1.255-	1.315	.911	1	.340	.285	.022	3.752
	Finance	.195	1.466	.018	1	.894	1.215	.069	21.511
	S1	.528	.455	1.349	1	.246	1.696	.695	4.138
	S2	-.157-	.321	.239	1	.625	.855	.456	1.603
	S3	-.205-	.352	.340	1	.560	.815	.409	1.624
	S4	-.198-	.333	.355	1	.551	.820	.427	1.575
	S5	.214	.431	.247	1	.619	1.239	.532	2.884
	S6	.731	.372	3.871	1	.049	2.077	1.003	4.303
	S7	-.312-	.454	.471	1	.492	.732	.301	1.783
	S8	.967	.576	2.814	1	.093	2.630	.850	8.137
	S9	-.826-	.451	3.352	1	.067	.438	.181	1.060
	S10	-.109-	.456	.057	1	.811	.897	.367	2.192
	S11	-.744-	.519	2.053	1	.152	.475	.172	1.315
	S12	.131	.316	.172	1	.678	1.140	.613	2.119
	S13	.044	.300	.021	1	.884	1.045	.580	1.882
	S14	-.055-	.329	.028	1	.866	.946	.497	1.801
	S15	.003	.449	.000	1	.995	1.003	.416	2.419
	S16	.536	.394	1.856	1	.173	1.710	.790	3.700
	S17	-.109-	.354	.095	1	.757	.896	.448	1.794
	S18	-.167-	.322	.267	1	.605	.847	.450	1.593
	S19	-.387-	.364	1.129	1	.288	.679	.332	1.387
S20	.868	.444	3.829	1	.050	2.382	.999	5.683	
S21	-.406-	.300	1.833	1	.176	.666	.370	1.199	
S22	.297	.341	.759	1	.384	1.346	.690	2.624	
S23	.003	.394	.000	1	.994	1.003	.463	2.171	
Constant	2.097	4.244	.244	1	.621	8.145			

We notice from table (6) the morale of evaluated guides in test (Wald) for the evaluated model, where we found that the age and the case (social – educational – financial) have directly (growing) effect on the ability of the persons to encounter the problems, but their proportion is less than the proportion of the social support effect in indication level %5, and this corresponds with the hypothesis of the research. (Hosmer Jr, Lemeshow, & Sturdivant, 2013).

#### 4. The results and recommendations:

##### The Results:

- The using of logistic regression to explain the effect of the social support on the ability to encounter the problems was very proper.
- There is high importance for the effect of the social supports on the ability to encounter the problems.
- The explained contrast ratio in the model of logistic regression for the social support effect on the ability to encounter the problems is %85, and it is very good ratio to explain the contrast in the model.
- The corresponding of all results with the putted hypothesis.

##### The Recommendations:

Based on conclusions that we got, we can put the suggestions:

- We have to get more usefulness from model of logistic regression in simulation of data that have binary dependent variable, where it has very strong explanation, beside simple requirements, where it weeds out a lot of hypothesis that the traditional regression model contains them.
- The expansion in using the binary logistic regression in the social and economic studies, where all the previous utilizations was in educational and medical sciences.
- Utilization of logistic regression model to show the effect the lot of variables in the case of the dependent variable that takes more than one value, where the model has high efficiency in statistical evaluation in this case too.

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