

Statistical Study on the Incidence of Disease and Psychological Stress on Health

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Annotation: Through the results of the practical application, the following conclusions were reached:

1. From Table (1), it was found that there is a significant relationship between age and continuous stress that affects heart health.
 2. From Table (2), it was found that there is a significant relationship between nervous stress affecting mood and psychological pressures and thinking about it a lot leads to feeling tired.
 3. From Table (3), it was found that there is a significant relationship between psychological pressures and thinking about it a lot leads to feeling tired and nervous tension is not a dangerous matter.
 4. From Table (4), it was found that there is a significant relationship between a person who feels stressed and psychological pressure that keeps him alone until he calms down and stress and pressure lead to insomnia or lack of sleep.
 5. From Table (5), it was found that there is a significant relationship between stress and pressure that leads to insomnia or lack of sleep
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and stress and psychological pressures affect work productivity.

6. From Table (6) it is clear that there is a significant relationship between stress and pressure leading to insomnia or lack of sleep and exercising or physical activity relieves stress.
7. From Table (7) it is clear that there is a significant relationship between the increased chances of infection in the event of feeling due to a lack of immunity and some people feel toothache as a result of stress.
8. From Table (8) it is clear that there is a significant relationship between the effect of stress and psychological pressures on work productivity and psychological stress can negatively affect physical health.
9. From Table (9) it is clear that there is a significant relationship between exercising or physical activity relieves stress and stress and psychological pressure lead to difficulty in concentrating.
10. From Table (10) it is clear that there is no significant relationship between psychological stress can negatively affect physical health and continuous stress affects heart health.
11. From Table (11) it is clear that there is no significant relationship between gender and nervous tension affects mood.

Introduction:

Everyone experiences stress at times, and people can go through all sorts of stressful situations that can be part of everyday life. Stress can be low-level and there are many things you can do to help deal with stressful events, and simple steps you can take to deal with feelings of stress, tension or fatigue. Stress is the feeling that you are under abnormal pressure. This pressure can come from different aspects of the day, such as (an increase in workload, a transitional period, an argument between family, or new and existing financial concerns). You may find that it has a cumulative effect, where all the stressors pile on top of each other. During these situations, you may feel upset, and the body may create a response to stress, anxiety and irritability. This can cause a variety of physical symptoms, change the way you behave, and lead you to experience more intense emotions. Stress can affect people in many ways, both physically and emotionally, and to varying degrees. Stress affects people differently, and the causes of stress vary from person to person. The level of stress you feel comfortable with may be higher or lower than the level of other people around you. Emotions occur Stress usually occurs when we feel we don't have the resources to manage the challenges we face. Stress at work, school, or home, illness, or difficult or sudden life events can all lead to stress.

Identifying the research:

1. The importance of the research

The importance of the research lies in how to study and know the effects caused by stress and psychological pressures, which are one of the most common psychological disorders that affect individuals in general. There are many symptoms and signs that, although we notice them, we fail to realize that they are nothing but psychological pressures.

2. The problem of the research

Stress is one of the most common manifestations in life, but repeated exposure to psychological pressures has many effects on physical health. From this standpoint, the importance of the research lies in the following:

- 1) What are the effects of stress on physical health.
- 2) What are the repercussions of psychological pressure on physical health.

3. Research Methodology

The research methodology requires relying on the descriptive analytical approach used in studies that aim to monitor reality without interfering with the variables present in it, and to determine the relationships that can occur in it, and to identify all its negative and positive aspects, and the surrounding circumstances, it is considered an organized scientific effort to obtain information and data to describe the phenomenon of the subject of the study, and analyzes and interprets it and links its implications to reach conclusions that contribute to understanding reality, developing it and achieving the best results.

4. Research Hypothesis

The research aims to approve the following hypotheses :

H0: There is no statistically significant moral relationship between stress, psychological pressure and physical health.

H1: There is a statistically significant moral relationship between stress, psychological pressure and physical health.

5. Research Sample

We took the research sample from the students present at the Institute of Administration and from various departments, totaling 50 students who were randomly distributed in the field.

6. Temporal and spatial boundaries Spatial: Institute of Administration / Rusafa Temporal: 2023_2024

7. Research objective

The research objective is to reveal the most influential psychological pressures on physical health by identifying the level of psychological pressure in the sample studied, determining the extent of the impact of psychological pressure on physical health, identifying the most influential dimension of psychological pressure, and revealing the most appropriate strategies that can be followed to alleviate these pressures and their impact on physical health.

The concept of stress and psychological pressure

Stress and psychological pressure are two conditions that arise when an individual faces situations or challenges that require him to deal with them appropriately. These situations can be related to work, personal relationships, health, or any other aspect of his life. Stress and psychological pressure can lead to a range of physical and mental symptoms, such as anxiety, confusion, headaches, poor performance, and fatigue. Managing stress and psychological pressure includes using strategies such as physical exercise, deep breathing, time management, and positive thinking.

Definition of stress and psychological pressure:

Stress and psychological pressure are two conditions that arise from the challenges and difficult situations that an individual faces in his life. Stress is usually defined as a natural reaction that occurs in the body when faced with a situation that is considered imminent or unfamiliar. Psychological pressure is a feeling of intense tension or anxiety resulting from pressing psychological, emotional, or social demands. The sources of stress and psychological pressure vary between individuals, and the factors that affect them can include work pressures, personal relationships, health challenges, financial conditions, and social pressures. Dealing with these challenges properly can lead to positive personal growth and improved ability to adapt to difficult situations, while dealing with them ineffectively can lead to health and psychological problems such as anxiety, depression, sleep disorders, and chronic stress.

Reasons for studying psychological stress on physical health:

Studying psychological stress is important because it greatly affects physical health. Here are some reasons:

1. The relationship between psychological stress and physical health: When you experience psychological stress, the secretion of the hormone cortisol increases in the body, which may lead to disorders in the immune system and high blood pressure in the long term
2. Unhealthy lifestyle: Psychological stress can lead to changes in diet and lack of exercise, which negatively affects physical health
3. Sleep disorders: Psychological stress can affect the quality of sleep, which increases the risk of health problems such as obesity and heart disease
4. The effect of psychological pain: Psychological stress can lead to increased chronic pain, which increases the suffering of chronic diseases such as headaches and back pain.
5. The effect of stress on internal organs: Psychological stress can lead to increased pressure on internal organs such as the stomach and intestines, which increases the risk of digestive problems.

Hence, understanding and studying psychological stress is important to maintain physical health and take appropriate preventive measures.

The relationship between psychological stress and physical health:

The relationship between psychological stress and physical health is closely intertwined. Excessive psychological stress can negatively affect the body and increase the risk of chronic diseases such as heart disease, diabetes, and high blood pressure. It can also affect the quality of sleep and the immune system, which increases the chances of disease and stress. It is important to manage psychological stress in healthy ways such as exercising, learning breathing and relaxation techniques, and maintaining a strong social support network.

The most prominent psychological problems that affect health:

There are many psychological problems that can negatively affect general health, including

- Depression: A state of deep sadness and loss of interest in daily activities.
- Anxiety: Excessive anxiety and stress can affect the body and mind.
- Stress: The stress of daily life and pressures can lead to many health problems.
- Sleep disorders: Difficulty sleeping or intermittent sleep can affect general health.
- Eating disorders: Such as periods of overeating or undereating and eating disorders such as anorexia or emotional bulimia.

- Identity disorders: Difficulty recognizing oneself and problems building a healthy and stable identity.

Other mental disorders:

Such as personality disorders, disorders of nervous adjustment, and dissociative stress disorders. These mental problems can affect general health in various ways, including the physiological process of the body, daily life, and social relationships.

Effects of stress and psychological pressure on physical health:

Stress and psychological pressure can negatively affect physical health in several ways, including increasing the risk of chronic diseases such as heart disease and stroke, reducing the quality of sleep, reducing physical activity, increasing muscle tension, and affecting the immune system, which increases the chances of contracting diseases and infections.

Factors affecting stress:

The factors affecting stress depend on the person and the surrounding circumstances, and include psychological pressures, daily life demands, personal relationship problems, financial pressures, physical health factors, and the surrounding environment.

Negative effects of stress and psychological pressures:

Stress and psychological pressures can lead to many negative effects on mental and physical health, such as increased levels of the hormone cortisol in the body, which leads to an increase in blood pressure and the risk of heart disease and strokes, and can affect your sleep and mental and physical performance, and cause problems with concentration and memory and increase emotional tension and anxiety.

The difference between psychological pressure and stress:

Psychological pressure refers to the mental and emotional pressures that an individual experiences, including anxiety, tension, and psychological stress. Stress is a physiological response to external challenges or pressures, and may be a natural part of an individual's life and can be positive in some cases.

Practical side

Chi-square tests

Some notes about chi-square:

It is a statistical hypothesis test in which the distribution of the test statistics samples is a chi-square distribution. When the null hypothesis is true, or any convergent element is true, it can be conducted according to the closest chi-square distribution, with the optimal proximity to make the sample size large enough.

Test hypothesis

H0: The data is distributed in a certain distribution.

H1: The data has an unknown distribution.

Test statistic

$$\text{Chi-square distribution: } X^2 = \frac{\sum (O_i - E_i)^2}{E_i} \text{-----(1)}$$

With degrees of freedom ($v = k - 1 - m$).

M: Number of parameters estimated from the sample.

O_i: Frequencies of observed values for case i.

E_i: Frequencies of expected values for case i.

Below are some tables that show whether there is a significant relationship or not between some of the questions that were asked in a questionnaire consisting of 15 questions on a sample of 50 individuals

Table No(1) .Age * Continuous stress affects heart health

Crosstabulation					
		Constant stress affects heart health			Total
		No	sometimes	Yes	
Age	25-35	1	15	22	38
	36-45	4	5	1	10
	More than 46	0	2	0	2
Total		5	22	23	50

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.854 ^a	4	.001.
Likelihood Ratio	16.793	4	.002.
Linear-by-Linear Association	10.454	1	.001.
N of Valid Cases	50		

From Table (1) it is clear that the Chi-Square value is equal to (17.8549) and the sig value is (0.001) which is smaller than the significance level (0.05) and this means that there is a statistically significant relationship between the two variables and therefore we accept the alternative hypothesis H₁.

H₀: There is no significant relationship between (age * continuous stress affects heart health)

H₁: There is a significant relationship) age * continuous stress affects heart health

No. (2) Nervous tension affects the mood psychological pressures and thinking about them a lot leads to feeling tired

Crosstabulation					
		Psycho logical pressures and thinking about them a lot lead to feeling tired.			Total
		No	sometimes	Yes	
Nervous tension affects .mood	No	1	0	1	2
	sometimes	0	3	7	10
	Yes	0	11	27	38
Total		1	14	35	50

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	24.707 ^a	4	.000.
Likelihood Ratio	7.717	4	.103.
Linear-by-Linear Association	1.716	1	.190.
N of Valid Cases	50		

From Table (2) it is clear that the Chi-Square value is equal to (a24.707) and the sig value is (00.00) which is smaller than the significance level (0.05). This means that there is a highly significant statistical relationship between the two variables. Accordingly, we accept the alternative hypothesis H1.

H0: There is no significant relationship between) Nervous tension affects mood * Psychological pressures and excessive thinking about them leads to feeling tired

H1: There is a significant relationship) Nervous tension affects mood * Psychological pressures and excessive thinking about them leads to feeling tired.

Table No(3) Psychological pressures and thinking about them a lot lead to feeling tired * Nervous tension is not considered

Crosstabulation						
		Nervous tension is not a serious matter.			Total	
		No	sometimes	Yes		
Psychological stress and thinking about it a lot leads to feeling tired	No	0	1	0		1
	sometimes	4	3	7		14
	Yes	23	4	8		35
Total		27	8	15		50

Chi-Square Tests			
	Value	df	Asymptotic Significance 2-sided
Pearson Chi-Square	10.993 ^a	4	.027.
Likelihood Ratio	9.465	4	.050.
Linear-by-Linear Association	4.550	1	.033.
N of Valid Cases	50		

From Table 3, it is clear that the Chi-Square value is equal to (a10.993) and the sig value is (0.0027), which is smaller than the significance level of (0.05). This means that there is a statistically significant relationship between the two variables, and therefore we accept the alternative hypothesis 1H.

H0: There is no significant relationship between (psychological stress and thinking too much about it leads to feeling tired * Nervous tension is not a serious matter.)

H1: There is a significant relationship between (psychological stress and thinking too much about it leads to feeling tired * Nervous tension is not a serious matter.)

Table(4) A person who feels stressed and under psychological pressure stays alone until he calms down * Tension and pressure lead to insomnia or lack of sleep(

Crosstabulation					
		Stress and pressure lead to insomnia or lack of sleep.			Total
		No	sometimes	Yes	
A person who feels stressed and pressured stays alone until he calms down.	No	0	5	4	9
	sometimes	2	7	10	19
	Yes	1	2	19	22
Total		3	14	33	50

Chi-Square		Tests		
	Value	df		Asymptotic Significance (2-sided)
Pearson Chi-Square	9.577 ^a		4	.048.
Likelihood Ratio	10.416		4	.034.
Linear-by-Linear Association	3.789		1	.052.
N of Valid Cases	50			

From Table (4) it is clear that the Chi-Square value is equal to (9.577) and the sig value is (.048) which is less than the significance level (0.05) which means that there is a statistically significant relationship between the two variables and therefore we accept the alternative hypothesis H₁.

H₀: There is no significant relationship) The person who feels tension and psychological pressure stays alone until he calms down * Tension and pressure lead to insomnia or lack of sleep.

H₁: There is a significant relationship) The person who feels tension and psychological pressure stays alone until he calms down * Tension and pressure lead to insomnia or lack of sleep.

Table No(5) Tension and pressure lead to insomnia or lack of sleep * Tension and psychological pressure affect work productivity

Crosstab					
Count		Stress and psychological pressure affect work productivity.			Total
		No	sometimes	Yes	
Stress and pressure lead to insomnia or lack of sleep.	No	1	2	0	3
	sometimes	2	5	7	14
	Yes	0	10	23	33
Total		3	17	30	50
Chi-Square Tests					
	Value	df	Asymptotic Significance (2sided)		
Pearson Chi-Square	10.954 ^a	4	.027.		
Likelihood Ratio	12.121	4	.016.		
Linear-by-Linear Association	8.991	1	.003.		
N of Valid Cases	50				

From Table 5, it is clear that the Chi-Square value is equal to (10.954) and the sig value is (.027), which is less than the significance level (0.05). This means that there is a statistically significant relationship between the two variables. Therefore, we accept the alternative hypothesis H₁.

H₀: There is no significant relationship) Tension and pressure lead to insomnia or lack of sleep * Tension and psychological pressures affect work productivity.

H₁: There is a significant relationship) Tension and pressure lead to insomnia or lack of sleep * Tension and psychological pressures affect work productivity.

Table No(6) Tension and pressure lead to insomnia or lack of sleep * Exercising or physical activity relieves tension

Crosstab				
		Exercising or physical activity relieves stress.		Total
		sometimes	Yes	
Stress and pressure lead to insomnia or lack of sleep.	No	2	1	3
	sometimes	2	12	14
	Yes	3	30	33
Total		7	43	50

Chi-Square Tests			
	Value	Df	Asymptotic Significance 2-sided
Pearson Chi-Square	7.573 ^a	2	.023.
Likelihood Ratio	5.088	2	.079.
Linear-by-Linear Association	4.630	1	.031.
N of Valid Cases	50		

From Table 6, it is clear that the Chi-Square value is equal to (7.573) and the sig value is (.023), which is less than the significance level (0.05). This means that there is a statistically significant relationship between the two variables. Accordingly, we accept the alternative hypothesis H₁.

H₀: There is no significant relationship) Tension and pressure lead to insomnia or lack of sleep * Exercising or physical activity relieves tension.

H₁: There is a significant relationship) Tension and pressure lead to insomnia or lack of sleep * Exercising or physical activity relieves tension.

Table No(7) The chances of infection increase in the event of feeling due to a lack of immunity * Some people feel toothache as a result of tension

Crosstabulation					
		Some people feel toothache due to stress.			Total
		No	sometimes	Yes	
The chances of infection increase if you feel sick due to a lack of immunity.	No	5	10	0	15
	sometimes	12	3	1	16
	Yes	7	8	4	19
Total		24	21	5	50

Chi-Square Tests			
	Value	df	Asymptotic Significance (2sided)
Pearson Chi-Square	11.873 ^a	4	.018.
Likelihood Ratio	12.818	4	.012.
Linear-by-Linear Association	828.	1	.363.
N of Valid Cases	50		

From Table 7, it is clear that the Chi-Square value is equal to (a11.873) and the sig value is (018.0), which is less than the significance level (0.05). This means that there is a statistically significant relationship between the two variables. Therefore, we accept the alternative hypothesis 1H.

H0: There is no significant relationship) Tension and pressure lead to insomnia or lack of sleep * Exercising or physical activity relieves tension.

H1: There is a significant relationship) Tension and pressure lead to insomnia or lack of sleep * Exercising or physical activity relieves tension.

Table No(8) Tension and psychological pressures affect work productivity * Psychological stress can negatively affect physical health

Crosstab					
		Psychological stress can negatively affect physical health.			Total
		No	sometimes	Yes	
Stress and psychological pressure affect work productivity.	No	0	2	1	3
	sometimes	0	12	5	17
	Yes	1	7	22	30
Total		1	21	28	50

Chi Square Tests				
	Value	Df	Asymptotic Significance 2-sided	
Pearson Chi-Square	10.929 ^a	4	.027.	
Likelihood Ratio	11.489	4	.022.	
Linear-by-Linear Association	5.419	1	.020.	
N of Valid Cases	50			

From Table 8, it is clear that the Chi-Square value is equal to (a10.929) and the sig value is (027.0), which is less than the significance level (0.05). This means that there is a statistically significant relationship between the two variables. Accordingly, we accept the alternative hypothesis H1.

Ho: There is no significant relationship (Stress and psychological pressures affect work productivity * Psychological stress can negatively affect physical health

H1: There is a significant relationship) Stress and psychological pressures affect work productivity * Psychological stress can negatively affect physical health

Table No(9) Exercising or physical activity reduces stress * Stress and psychological pressure lead to difficulty in concentrating

Crosstab					
		Stress and psychological pressure lead to difficulty in concentrating.			Total
		No	sometimes	Yes	
Exercising or physical activity relieves stress.	sometimes	1	1	5	7
	Yes	0	4	39	43
Total		1	5	44	50

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.546 ^a	2	.038.
Likelihood Ratio	4.336	2	.114.
Linear-by-Linear Association	4.141	1	.042.
N of Valid Cases	50		

From Table 9, it is clear that the Chi-Square value is equal to 6.546 and the sig value is .038, which is less than the significance level of 0.05. This means that there is a statistically significant relationship between the two variables. Therefore, we accept the alternative hypothesis H1.

H0: There is no significant relationship (exercising or physical activity reduces stress * stress and psychological pressure lead to difficulty in concentrating)

H1: There is a significant relationship (exercising or physical activity reduces stress * stress and psychological pressure lead to difficulty in concentrating)

Table No(10) Psychological stress can negatively affect physical health * Continuous stress affects heart health

		Crosstabulation			
		Constant stress affects heart health			Total
		No	sometimes	Yes	
Psychological stress can negatively affect physical health.	No	1	0	0	1
	sometimes	2	12	7	21
	Yes	2	10	16	28
Total		5	22	23	50
		Value	Df	Asymptotic Significance (2-sided)	
Pearson Chi-Square		1.543 ^a	2	.462.	
Likelihood Ratio		1.930	2	.381.	
Linear-by-Linear Association		1.217	1	.270.	
N of Valid Cases		50			

From Table 10, it is clear that the Chi-Square value is equal to (1.543) and the sig value is (.462.) which is greater than the significance level (0.05). This means that there is no statistically significant relationship between the two variables. Therefore, we accept the null hypothesis H0.

H0: There is no significant relationship psychological stress can negatively affect physical health * Continuous stress affects heart health[

H1: There is a significant relationship psychological stress can negatively affect physical health * Continuous stress affects heart health

Table No(11) Gender * Nervous stress affects mood

Crosstab						
		.Nervous tension affects mood			Total	
		No	sometimes	Yes		
Gender	Male	1	4	20		25
	Female	1	6	18		25
Total		2	10	38		50

Chi-Square Tests			
	Value	Df	Asymptotic Significance 2-sided
Pearson Chi-Square	505 ^a .	2	.777.
Likelihood Ratio	508.	2	.776.
Linear-by-Linear Association	278.	1	.598.
N of Valid Cases	50		

From Table (11) it is clear that the Chi-Square value is equal to (a505. .0) and the sig value is (0777.) which is greater than the significance level (0.05). This means that there is no statistically significant relationship between the two variables. Therefore, we accept the null hypothesis H0.

H0: There is no significant relationship (gender * nervous tension affects mood)

H1: There is a significant relationship (gender * nervous tension affects mood)

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