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A Study Of Technostress And Mental Health Among IT Professionals: Gender Analysis

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Abstract

The present research aimed to study technostress and mental health among IT professionals. The technostress is the stress caused because of an inability to handle technology in a healthy way. The Mental health is the state of the well-being of the mental aspect of an individual which define how the people cope with the stressors of the life, have the capacity to realize their abilities and also how much do they contribute to the society. In order to study the current variables, the technostress scale (Raghu Nathan & Raghu Nathan, 2002) and mental health inventory (Jagdish & Srivastava, 1983) was used. The study was conducted on the sample of IT professionals. The study employed 478 IT professionals (males and females) working in different IT companies in tricity, that is, Chandigarh, Panchkula and Mohali. The statistics used for the present research included t-test. The study concluded out on the basis of the results that organizations should use various therapeutic interventions, such as cognitive behavior therapy, behavior therapy, cognitive therapy and other alternative therapeutic intervention such as yoga, meditation, biofeedback for the good mental health and well-being of employees.

I. Introduction

Technostress is a word that denotes a stress because of the technology. The vast change in the environment at organizations has led to the increase in the technology related stress among IT professionals.

According to Sharma (2023), technology has become the important part in our lives. Though a lot of dependency upon the technology negatively effects the behavior, attitude and lifestyle of the people. As per the American Psychological Association, it was found out that 70% of the people in America significant high level of stress because of the use of the technology. The various dimensions of technostress are:

a. Techno Overload: This is the condition in which the users are forced to work with speed within the time frame.
b. Techno Invasion: This is the condition in which the users need to be contacted continuously at any time in which there is no specific boundary set between the work and personal life.
c. Techno Complexity: This is the condition in which the skills of the users are not sufficient enough and because of this inefficiency the user feels complex to handle the technology.
d. Techno Insecurity: This is the condition in which the user does not feel secure as the user may lose their job if not efficient enough to handle the technology effectively.
e. Techno Uncertainty: This is the condition in which the user feels uncertain regarding the regular updating of the technological software and the need can arise anytime.

The term Mental Health is explained by Substance Abuse and Mental Health Services Administration (2023) as emotional, psychological well-being and includes the way the person feels, think and the way the person handles stress and make choices in life. The mental health is an important construct which is important in every stage of life from being childhood and proceeds till the adolescence through the phase of adulthood. The way an individual precedes, the person experiences various kinds

of mental health problems which effect the person's mood, thought process and behavioral aspects. The dimensions of mental health are as following:

a. Positive Self-Evaluation: This dimension includes the confidence and other positive constructs about an individuals' self.
b. Perception of Reality: This dimension includes a wider outlook towards the world, basically perception towards the reality than the fantasy world.
c. Integration of Personality: This dimension includes the ability of an individual to understand people's emotions and to be able to take interest in the activities.
d. Autonomy: This dimension include working on own capacities for the own development of an individual.
e. Group Oriented Attitudes: This dimension includes an ability to be associated and work along with others.
f. Environmental Mastery: This dimension includes the capacity of an individual to be able to take responsibilities and to adjust effectively.

II. Review of Literature

Sommovigo et al. (2023) did a study on technostress and its impact on the psycho-physical health during the period of the COVID-19 pandemic. The study was done in Italy. The study was carried out on 266 Italian workers and the responses were collected through the online questionnaires. The result of the study showed that technostress was found to be positively related with the distress, work-life conflict and the loss of the loved ones during the COVID-19 pandemic.

Borle et al. (2021) did a study on techno stressors and its relation with the mental health. The study found out that the techno stressors such as techno overload and techno invasion were found to be most frequent stressors of technology. The techno stressors were found to be consistently linked with the health issues adversely.

Dragano et al. (2020) did a research to study the technostress and mental health at work. The study aim to study the consequences of the digital world in the present

world. It is important therefore to investigate that the stress at the work has led to decrease in the mental health of employees. The study have reported in the findings that the use of technology had led to the increase in the workload, decrease in creating balance between the work and the personal life and all this led to the psychobiological stressors. The study concluded out that the digital world has led to the increase and chances of the risks associated with the mental health of employees.

In a research study by Kumar et al. (2013) found out no significant differences between males and females teachers on the dimensions of mental health such as positive self-evaluation, perception of reality, integration of personality, autonomy, group oriented attitudes, environmental mastery and mental health.

A research study by Poona et al. (2016) found that males teachers had better mental health than the female school teachers on positive self-evaluation, autonomy, group oriented attitude and environmental mastery.

III. Methodology

Hypotheses

The following are the assumptions for the present research:

a. There exist no significant gender differences on Technostress and Mental Health among IT Professionals.
b. There exist no significant gender differences on the dimensions of Technostress among IT Professionals.
c. There exist no significant gender differences on the dimensions of Mental Health among IT Professionals.

Sample

The sample of 478 IT Professionals (196 Males and 282 Females) were studied on Technostress and Mental Health. The data was collected from different IT companies in and around tri-city, that is Chandigarh, Panchkula and Mohali.

IV. Research Tools

Technostress (Ragu-Nathan and Ragu-Nathan, 2002). The scale consisted of 24 items and items are scored on 5-point likert scale. The scores on the scale would range from 24-120. Higher the score indicating high level of technostress.

Mental Health Inventory (Jagdish & Srivastava, 1983). The inventory consisted of 56 items which consisted of true keyed and false keyed items. There is no time limit for the completion of the test and the test has 6 dimensions.

V. Statistical Analysis

The present research has been analyzed using the t-test. The t-test has been used to study the gender differences among males and females IT Professionals.

VI. Results and Discussion

The present study was carried out to study the gender differences on technostress and mental health. The hypotheses were proposed and following are the results and further discussion to it.

The first hypotheses stated that there exist no significant gender differences on technostress and mental health is partially accepted as the calculated t-ratio on technostress is significant at 0.05 level. The females were found to be high on technostress than the males IT Professionals. The t-ratio on mental health found to be insignificant.

The second hypotheses stated that there exist no significant gender differences on the dimensions of the technostress found to be partially accepted. The dimension of technostress such as techno complexity and techno uncertainty found to be significant. The dimensions such as Techno Overload, Techno Invasion and Techno Insecurity were found to be insignificant.

The third hypotheses stated that there exist no significant gender differences on the dimensions of Mental Health among IT Professionals found to be true as the dimensions of the mental health are insignificant.

Table 1 Mean, Standard Deviations and t-ratios comparing males and females on Technostress and dimensions of Technostress

Variables	Gender	N	Mean	Std. Deviation	Mean difference	Std. Error Difference	t-ratios
Technostress	Male	196	73.92	13.16	2.78	1.12	2.47
	Female	282	76.71	11.35			
Techno Overload	Male	196	7.90	2.95	0.003	0.27	0.01
	Female	282	7.90	2.86			
Techno Invasion	Male	196	25.19	5.23	0.46	0.47	0.99
	Female	282	25.66	4.96			
Techno Complexity	Male	196	20.70	5.24	1.44	0.45	3.15
	Female	282	22.14	4.67			
Techno Insecurity	Male	196	5.98	2.22	0.23	0.19	1.18
	Female	282	6.22	2.06			
Techno Uncertainty	Male	196	14.18	3.49	0.58	0.28	2.00
	Female	282	14.76	2.80			

t-value significant at .05 level = 1.96
t-value significant at .01 level = 2.59

The table 1 reveals difference between males and females among IT Professionals on the dimensions of Technostress. The sample size of males is N=196 and sample size of females is N=282. The mean of males is 73.92 and female is 76.71. The t-ratio came out to be 2.47 which is significant. The mean score of females is high on technostress than males.

The mean of the male is 7.90 and female is 7.90 on Techno Overload. The standard deviation of males is 2.95 and of female is 2.86 on techno overload. The calculated t-ratio came out to be 0.01 which is insignificant.

The mean of the male is 25.19 and that of female is 25.66 on Techno Invasion. The standard deviation of males is 5.23 and of female is 4.96 on Techno Invasion. The calculated t-ratio came out to be 0.99, which is insignificant.

The mean of the male is 20.70 and female is 22.14 on Techno Complexity. The standard deviation of males is 5.24 and female is 4.67 on Techno Complexity. The calculated t-ratio came out to be 3.15, which is significant at 0.01 level.

The mean of the male is 5.98 and that of female is 6.22 on Techno Insecurity. The standard deviation of males is 2.22 and of female is 2.06 on Techno Insecurity. The calculated t-ratio came out to be 1.18, which is insignificant.

The mean of the male is 14.18 and that of female is 14.76 on Techno Uncertainty. The standard deviation of males is 3.49 and of female is 2.80 on Techno Uncertainty. The calculated t-ratio came out to be 2.00, which is significant at 0.05 level.

In a research study by Lago-Urbano et al. (2023), technostress has been a variable suffered by many educational professionals. In an online survey of 771 teachers in Spain, it was found out that females experienced more technostress than males in general. In urban areas, the technostress among teachers was high among the higher educational stages of the teaching such as at secondary education level.

Masluk et al. (2023) did a research study on technostress, mental health and well-being. The goal of the research study was to study the technological aspects, associated stress and mental health. Since the pandemic effecting the globe, the increase in the use of the information technologies has brought up the light in relation to the increasing amount of stress and leading to the digital disconnections. The technostress effects both kinds of people, at one end are the ones who have limited

resources and do not perceive ICT as positive tool and at other end are the people, who lack in receiving the proper training and get frustrated because of the technology. It is also important to understand that the technology and digital world is an important instrument and a need of an hour.

Table 2 Mean, Standard Deviations and t-ratios comparing males and females on Mental Health and dimensions of Mental Health

Variables	Gender	N	Mean	Std. Deviation	Mean difference	Std. Error Difference	t-ratios
Mental Health	Male	196	142.28	7.52	1.11	0.65	1.69
	Female	282	141.16	6.68			
Positive Self Evaluation	Male	196	25.56	3.17	0.35	0.27	1.27
	Female	282	25.20	2.82			
Perception of Reality	Male	196	19.95	2.43	0.30	0.21	1.39
	Female	282	20.26	2.28			
Integration of Personality	Male	196	30.56	4.02	0.09	0.35	0.27
	Female	282	30.65	3.69			
Autonomy	Male	196	15.68	2.10	0.24	0.19	1.29
	Female	282	15.43	2.05			
Group Oriented Attitudes	Male	196	26.21	3.15	0.50	0.28	1.79
	Female	282	25.70	2.96			
Environmental Mastery	Male	196	24.41	2.85	0.43	0.26	1.63
	Female	282	23.98	2.85			

t-value significant at .05 level = 1.96

t-value significant at .01 level = 2.59

The Table 2 reveals difference between males and females among IT Professionals on the mental health and dimensions of Mental Health. The t-ratio was found to be insignificant on mental health. The mean of the male is 25.56 and that of female is 25.20 on Positive Self Evaluation dimension of Mental Health. The standard deviation of males is 3.49 and of female is 2.80 on Positive Self Evaluation dimension of Mental Health. The calculated t-ratio came out to be 1.27, which is not significant.

The mean of the male is 19.95 and that of female is 20.26 on Perception of Reality dimension of Mental Health. The standard deviation of males is 2.43 and of female is 2.28 on Perception of Reality dimension of Mental Health. The calculated t-ratio came out to be 1.39, which is not significant.

The mean of the male is 30.56 and that of female is 30.56 on Integration of Personality dimension of Mental Health. The standard deviation of males is 4.02 and of female is 3.69 on Integration of Personality dimension of Mental Health. The calculated t-ratio came out to be 0.32, which is not significant.

The mean of the male is 15.68 and that of female is 15.43 on Autonomy dimension of Mental Health. The standard deviation of males is 2.10 and of female is 2.05 on Autonomy dimension of Mental Health. The calculated t-ratio came out to be 1.29, which is not significant.

The mean of the male is 26.21 and that of female is 25.70 on Group Oriented Attitudes dimension of Mental Health. The standard deviation of males is 3.15 and of female is 2.96 on Group Oriented Attitudes dimension of Mental Health. The calculated t-ratio came out to be 1.79, which is not significant.

The mean of the male is 24.41 and that of female is 23.98 on Environmental Mastery dimension of Mental Health. The standard deviation of males is 2.85 and of female is 2.85 on Environmental Mastery dimension of Mental Health. The calculated t-ratio came out to be 1.63, which is not significant.

In a research study reviewed by Coveney (2023), women found out to have higher levels of depression and anxiety during their adulthood due to the biological and genetic factors whereas men were found to have higher degree of substance use disorders and to be involved in antisocial behaviours.

VII. Conclusion and Recommendation

In todays' world, the role of technology has become a crucial element in almost all kind of professional set ups. Due to the regular use, it is impacting the mental health of the professionals, especially among IT professionals. IT professionals are the ones who are looking after the technological advancements every day and every time and getting trained where the new software updates take place on regular mode. No doubt the work has become very hectic for IT professionals where they are supposed to be on toes every time due to the nature of their work. It can be concluded out that finally that the organizations should develop strategies so that employees could get certain amount of rewards and reinforcement in any way and various trainings should be provided on regular basis so that the mental health of IT professionals are not negatively influenced.

It can be further recommended to the organizations that those who have employees having high level of technostress can be reduced through counseling or other therapeutic interventions. The interventions include Cognitive Behavior therapy, behavior therapy, cognitive therapy and also other alternative therapies such as yoga, meditation, biodfeedback. It is very important for the organizations to look after their employees for their healthy mental health for their well-being.

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