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Influence of Psychological Distress and Sedentary Factors on problematic computer use and musculoskeletal complaints

[1]Abiha Tahir, [2]Aqeel Ahmad, [3]Muhammad Bilal Mustafa, [4]Muhammad Faizan Khan

[1]University of Central Punjab, Lahore.[2]UCP Business School, Faculty of Management Sciences, University of Central Punjab, Lahore. [3]PhD Scholar, Birmingham City Business School, Birmingham City University, UK. [4]UCP Business School, Faculty of Management Sciences, University of Central Punjab, Lahore.

*[4]Corresponding Author:*faizan.faizy44@gmail.com
*[3]Corresponding Author:*Muhammad.mustafa@mail.bcu.ac.uk

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Abstract: Musculoskeletal complaints and problematic computer use are the most common issues stated by workers who use computers in their work. This study is drawn upon the latest call by HR researchers that how musculoskeletal complaints and problematic computer use occur in workers, particularly at the workplace. Based on the cognitive behavioural model of problematic computers, using the self-control theory and the problem behaviour theory this study aims to examine the mediating role of social anxiety between psychological distress and problematic computer use. Methodology: For that purpose, we have collected the data from a random sample of 225 participants from the information technology (IT) industry while we have used Partial Least Square Structure Equation Modelling (PLS-SEM) for the data analysis. Findings: Findings of this study enclosure a significant role in the literature by clinging the puzzle of health and safety issues with the workers at the workplace. As well as connecting its dots with the HR department particularly. However, in Pakistan, participants reported that they are facing problems such as problematic computer use and musculoskeletal complaints because of psychological distress, social anxiety, and occupational factors. Research implications: Organization must develop standards to cope with such factors as psychological distress and social anxiety and occupational factors. Therefore, it will reduce musculoskeletal complaints and problematic computer usage among workers and improve health and safety at the workplace.

Keywords: Musculoskeletal Complaints, Problematic computer usage, Social anxiety, psychological distress, and occupational factors.

1.0 Introduction

The health and wellbeing of employees is the main factor in the success of any business organization. Recognizing the value of a healthy at the workplace can ensure that staff is healthy and happy (Boyd, 2004), especially when we consider the degree of the change in representative and the board attitudes. Furthermore, the essential objective of improving worker commitment through a variety of deliberately coordinated strategies guides our focus toward how human resource approaches and practices sway

upon work associations and workers with the help of occupational health and safety standards (Boyd, 2004).

Nowadays, working with computers, laptops, and mobiles is a standard practice of employees. Laptops are frequently utilized in organizations, health services, finances, training, management administrations, or commerce (Thomsen et al., 2008). Therefore, there is a need to make a report at workers' wellbeing at the workplace as well as to address the health issues caused by the extensive usage of computers and similar kind machines (Malińska & Bugajska 2010). The outcomes of research indicated that extensive laptop/computer users most often as griped of visual sensitivity fatigue and musculoskeletal objections (woods et al., 2005). Likewise, a recent study reported that call-focus representatives, software houses and university labs have as of late become the focal point of consideration in this field as they spend most of the work time in a situated position (Bontrup et al., 2019). Besides, research argues that as little advancements are possibly profitable for the expectation of musculoskeletal complaints (Bergqvist et al., 1995). Consistently, high levels of occupational sitting behavior are related to mortality, cardiovascular illness, and diabetes colon, endometrial, and lung and bosom and psychological issues such as depression and problematic computer usage (Coenen et al., 2017). According to, Hong et al., (2019) inappropriate computer usage can add to academic failure, personal disappointment in the day-by-day life, and miscreant fulfilment just as rest irritations, low confidence, high social anxiety, and increasingly depressions. Also the feeling of psychological distress leading you towards the isolation and problematic computer usage (Bore et al., 2016). So researches raising the question that How does psychological distress and sedentary occupational factors creating psychological issues like problematic computer usage mediating by social anxiety and physical issues like musculoskeletal complaints among human resources at the workplace?. In this study, we are going to research the conceivable connection between psychological distress, Problematic computer usage, Musculoskeletal complaints, Sedentary occupational factors, and the mediating role of Social anxiety under the table of HR.

Moreover, there is a lack of studies that discuss the effects of occupational and non-occupational factors on the health of the employees both physically and psychologically (Zahoor et al., 2016).Numerous studies discuss the possible antecedents and outcomes of musculoskeletal complaints and problematic computer usage at the workplace Malińska and Bugajska (2010). However, there is a lack of studies that empirically tested how physical and psychological factors create musculoskeletal complaints as well as problematic computer usage (Oh et al., 2017).Additionally, in Pakistani contexts, there are limited studies that investigated the relationship of health issues and their drivers particularly in services sectors (Ahmed et al., 2018).

Hence, our study focuses on the recent calls of the researchers (Hong et al., 2019; Coenen et al., 2017) to address the theoretical, empirical, and contextual gaps. The aim of our study it contributes a valuable addition to the health and safety issues in the workplace, and it may create a sense among management to address the OHS standards because the health of an employee is critical for the success of an organization.

1.1 Theoretical underpinning:problematic behavior theory suggest that there are environmental, personality, and behavior factors that can be effective and secure the adult's problematic behavior (Richard et al.,1968) As this theory supporting the behaviors like in my theoretical framework psychological distress is a personality behavior and sedentary occupational factors (SOF) and problematic computer use are an environmental behavior also musculoskeletal complaints are the behavior of body towards the ill mind.

Moreover, the Self-control theory, proposed by Michael Gottfredson and Travis Hirschi in A General Theory of Crime (1990),suggests that a person who has low self- control more inclined towards crime rather than the person with high self-control. So this theory supports my variables like as a person have low self-control more have the social anxiety and psychological problems which ultimately leads to physical problems rather than the person who have more self-control.

2.0 Hypotheses Development

2.1 Psychological distress, Social Anxiety and Problematic computer use

Psychological distress is concerned with strain, stress, and pain among employees and is related to the worker's mental health (Liu et al., 2019). Psychological distress also covers a wide range of psychological states, i.e. going from common sentiments of weakness, pity, and fears to issues that can get crippling. For example, depression, tension, extensive stresses, negative examinations, or social isolation are expected outcomes of psychological distress. One of the measurable results of psychological distress is social anxiety, which is referred to as the negative thoughts in the employee's mind regarding interacting with the group of people working in a departmental or a firm Hong et al. (2019). The employee with social anxiety live with dysfunctional beliefs such as less presentational skills and becoming the perfect performer in front of the social group at the workplace. So we can say that psychological distress is a state of emotions that building social interaction problematic, and this becomes intense because of different situations. For instance, psychological distress leads to pathological internet use (Hong et al., 2019). Thus, we can postulate the following hypothesis.

H1: Psychological distress enhances social anxiety among employees in organisations.

2.2 Social Anxiety and Problematic computer use

Liu et al. (2019) identified that socially anxious people are especially vulnerable to problematic internet use. As the psychological distress increases because of the mental state of a person, it may cause an employee for lessor social interactions within the department and mover towards Problematic computer usage. This technological usage may turn out to be progressively fundamental to present-day life for introvert employees, with the risks of extreme computer usage. Hong et al., (2019) found that socially anxious employees choose online correspondence as a more secure method for collaborating, because of more noteworthy power over self-introduction, diminished danger of negative assessment, and improved relationship quality. Thus we can say that social anxiety among employee is a huge indicator of problematic computer usage because negative desires during face to face interaction represented the connection between social anxiety and inappropriate technological use of computers and laptops at the workplace. So, the staff more conscious to interact with the colleague's, and the crowdy meetings are more inclined toward using computers and laptops because this could make their communication easy. Therefore, the employees who have the problem of social anxiety at the workplace are more adoptive for the chronic usage of computers and laptops.

H2: Socially anxious employees adopt problematic computer usage in organisations.

2.3 Social Anxiety as Mediator

It's imperative to take note that encountering mental trouble doesn't generally show the nearness of genuine psychological wellness but also physical symptoms. Accordingly, employees may gain weight and feel anger and other physical symptoms that can't be explained by a medical condition. For instance, decreased pleasure in sexual activities, fantasies, misbeliefs, reckless behaviour. So, such employees with shyness and less social skills may in general, see online means to avoid people as a helpful adapting technique and a good substitute for face-to-face social correspondence (Liu et al., 2019). For example, there are growing individuals, specific for timid youths with poor relational abilities, concentrating on associating on the internet as opposed to interfacing with the individuals present. In other words, we can theorise that social anxiety is a feeling of shyness and such employees don't want to interact with co-workers, and we can assume that social anxiety mediates the relationship between psychological distress and problematic computer use. Also, based on the discussion in the previous section; we can theorise that employee's psychological distress not only result in social anxiety and problematic computer usage, but also the social anxiety intervenes between psychological distress and problematic computer use (See, e.g. Hong et al., 2019; Malińska & Bugajska, 2010).

H3: Social anxiety mediates the relationship between psychological distress and problematic computer use.

2.4 Psychological distress and musculoskeletal complaints:

Psychological distress generally described that it is a feeling of stress pain, and anxiety. However, it is yet to be proven that Psychological issues result in psychical symptoms of gaining weight, stomach issue etc. or the inverse is true. That is why we have considered both outcomes due to psychological distress.

According to Hong et al. (2019) stated that which affects your efficiency of work. Psychological distress mostly leading to social fear, loneliness, and isolation because of the person's personality trait of thinking or reaction towards some situation (Hong et al., 2019). Psychological distress also creates some physical issues like headache, diarrhoea, constipation, and chronic pain especially low back pain (Hong et al., 2019).

Moreover, Hong et al., (2019) identify that psychological distress (or mental pain) is a term utilised, both by some emotional wellness professionals and clients of psychological wellbeing services, to portray a scope of side effects and encounters of an individual's internal life that are regularly held to inconvenience, befuddling or strange. This behaviour of an individual may lead to some physical issues like musculoskeletal complaints (Hong et al., 2019).

In other words, our body always reacts towards what messages it is receiving from the brain so our brain is controlling our body actions. Similarly, if a message comes from the brain of positive thoughts body reacts according to it. If negative messages are receiving from the brain, the body acts according to it. So if a person is suffering from psychological distress it will give negative emotions to the body which converts into body pain and misery and musculoskeletal complaints arise, so psychological distress have the positive impact son musculoskeletal complaints.

H4: Psychological distress among employees cause musculoskeletal complaints.

2.5 Sedentary occupational factors-problematic computer use

According to Coenen et al. (2017), significant levels of sedentary behaviour (SB) are related to negative wellbeing results. Innovation upgraded activities, for example, versatile applications, movement screens, inciting programming, writing, messages, and websites are being relieved to increase in sedentary behaviour (Coenen et al., 2017). Similarly, sedentary occupational factors are mostly related to sitting in a situated position from 7 to 8 hours sometimes more than 12 hours. This attitude is mostly working related office based where workers have to work on desk computers or laptops. Call centres and software houses or university departments are more inclined towards it Coenen et al., (2017).

In addition Hong et al., (2019) problematic internet use is addictive conduct over the top or ineffectively controlled distractions, desires, or practices in regards to computer use and ***web*** get to that lead to hindrance or trouble. Computer dependence has been reported and considered worldwide. Liu et al., (2017) stated that long sittings at one place leading workers towards problematic use of the computer as problematic inter use further defined with 5 dimensions of craving, withdrawal, dependence, loss of control, and consequences.

H4: Sedentary occupational factors have a positive effect on problematic computer use.

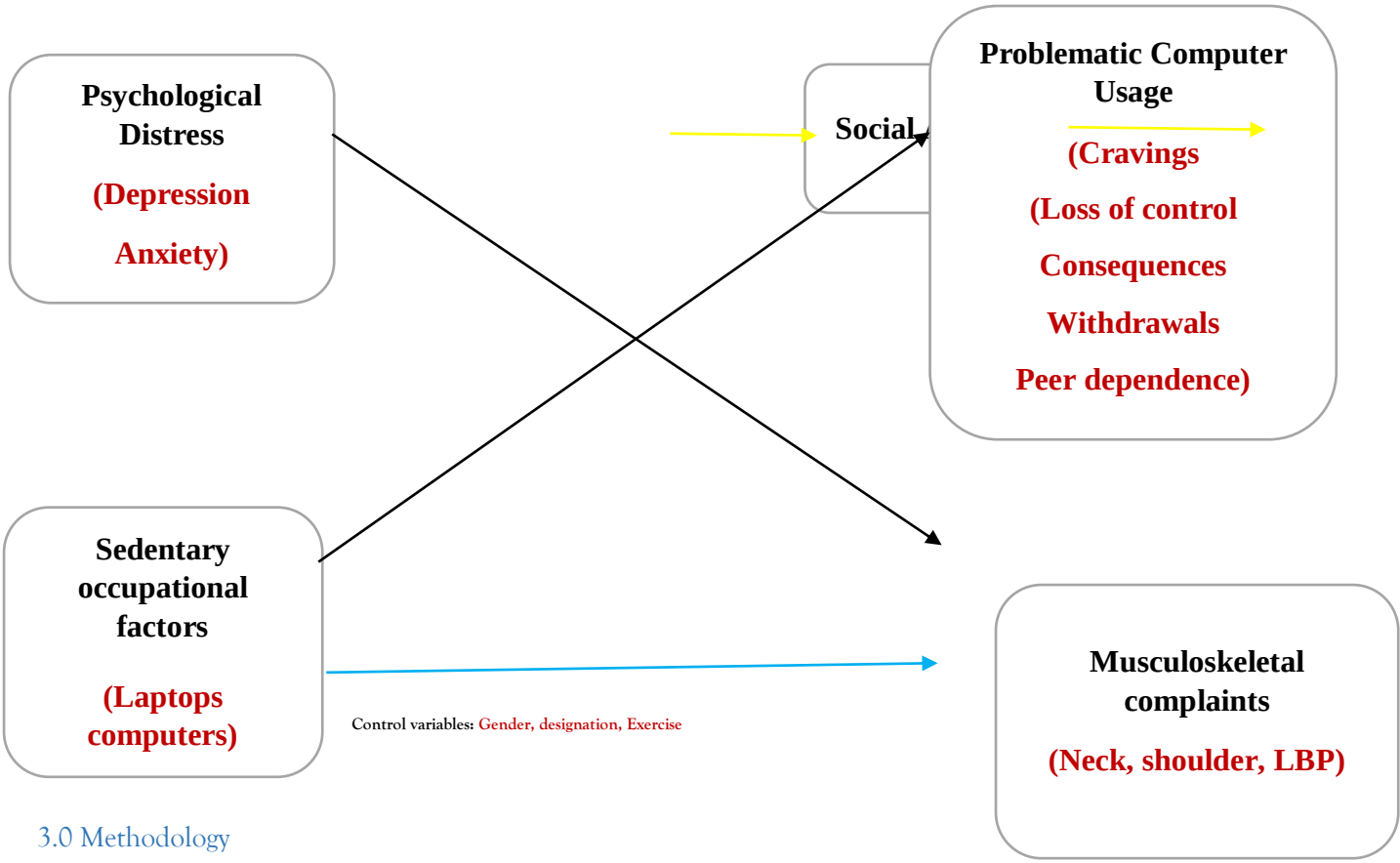
H7: Psychological distress has a positive relationship with problematic use.

2.6 Sedentary occupational factor-musculoskeletal complaints

According to Coenen et al., (2017) progressively over logical evidence spreading the mindfulness through various mechanisms of media that sedentary occupational factors are the dangers towards medical problems.

Besides, Berolo et al., (2011) defined that the use of technological devices is on the ascent that the open has a perception that internet use is connected with musculoskeletal pains, and that case reports and research focus thinks about to show this may be a zone of concern, an epidemiological assessment is advocated. Berolo et al., (2011) While the assessment shown in this was thusly planned to 1) Berolo et al., (2011) Decide the scattering levels of PIU use among a people of school adults, staff, and workforce. 2) Berolo et al., (2011) decide the flow of musculoskeletal symptoms of the farthest point, upper back, what's more, neck among a masses of school understudies, staff, and workforce. 3) Berolo et al., (2011) Survey the association between extents of contraption use and musculoskeletal reactions among these commonalities. Berolo et al., (2011) it is guessed that extents of higher consistently compact computer use are connected with progressively musculoskeletal complaints in the furriest point.

H8: Sedentary occupational factors have a positive relationship with musculoskeletal complaints.



3.0 Methodology

3.1 Sample and population

In this study, we are going to consider those organisations which have the rational of extensive use of technology like laptops and desk computers. In addition to it hence, my study is not organizationally based; it is based on the individualistic approach we are collecting a sample from person to person. Firstly the organisation is technological-based like software houses. Second, the employees must have extensive and late working hours on the computer. There are different organisations like call centres and university IT departments which have using computers. Still, we are considering our population from software houses as there are laptops that are frequently in use.

However, firstly we implement cluster sampling on the study as we received a software house list from the ministry of information technology of all cities of Pakistan then we picked 25 technology-based organisations of Lahore this cluster is based on the cities. Which have the employees more or less (2073) and we took a sample of 330 employees as referred by (Krejcie and Morgan 1970). After that, we apply simple random sampling as we randomly picked the employees. (https://stattrek.com/statistics/random-number-generator.aspx#error).

3.2 Data collection

As we have the list from the ministry of information technology of the software houses. Firstly we distributed 330 questionnaires to a random sample belongs to these sectors. In this study, we started the data collection and after conducting a pilot test on 10 organisations to ensure the reliability and validity of the instruments that have adopted from previous studies to measure the latent variable. A self-administrated, as well as an online questionnaire, has been developed by the researchers to collect the data because a self-administrated questionnaire is useful to collect the data, mainly when the unit of

analysis is individual. The questionnaire has been distributed personally and randomly to people using laptops frequently in the software houses. Our focus on collecting data personally and the rest of the data online. You can brief your purpose to collect data to the respondents so that the effect of non-response bias can be minimised (Bell et al., 2018).

The period of the survey has divided into two parts to reduce the sample biased error. Firstly, we distributed 200 questionnaires and we received 118 consummate responses. In the second round, we have distributed 130 papers and received 107 responses. So we have a total of 225 responses out of 330.

3.3 Instrumentation

This independent variable measured by Kessler psychological distress scale (Andrew and Slade, 2001), which is adapted and verified by the Chinese context (Zhou et al., 2008) the scale consists of two subsidiary dimensions which are anxiety and depression it consists of 10 items sample items" Did you feel tired out for no good reason?" participants responded to the items at 5 points Likert scale ranging from 1 (none of the time) 5 (all of the time).

To measure occupational factor we adopted 8-items scale form (Malińska et al., 2010) while items measure "frequency of using a portable computer" (every day, a few times, a week, and occasionally). "Number of work hours using a portable computer at weekdays" (<2, 2-4, 5-6,>6). Besides, we have adapted a musculoskeletal complaints scale (Kuorinca et al., 1987). This variable further defined by nine dimensions which are called locomotive organs included (neck, shoulder, upper back, elbows, low back, wrists\hands, hips, knees, ankles\feet). However, these dimensions measured by the dichotomous scale of (yes and no) answers and categorical scale for example "have you any time during the last 12 months had trouble (ache, pain, discomfort)" "have you had trouble during the last 7 days". Furthermore, the problematic computer has measured using the scale referred by (Foester et al., 2015) and tested by (Liu et al., 2019). This variable further defined by 5 dimensions with 10 items such as (craving, withdrawal, peer dependence, loss of control, and negative life consequences. however, these dimensions measured by 5 points Likert scale, ranging from 1(strongly disagree) to 5 (strongly agree). Similarly, to measure Social anxiety we have adapted 6-items scale from (Hong et al., 2019 which are measured through 5 points Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Finally, non-occupational factors scale from (Malińska and Bugajska 2010) while we have measured it by using a categorical scale for example age, (in years), body weight (in kilograms), and height (in centimetres).

3.4 Pilot test

Before starting the actual data collection, a pilot test has conducted on a small sample to ensure and check the validity and reliability of the instruments which lately, we are going to test the different constructs. Firstly to confirm the face validity of the items judgments and the opinions of the experts have been taken to attain the clarification of the instrument. At the same time, the expert-panel comprises two senior managers of the relevant field, three PhD students, and three assistant professors. After consulting the panel a refined self-administrated questionnaire distributed among ten organisations, we have received 20 questionnaires on which we have conducted a pilot test to check the reliability and validity of the items of the relevant construct.

4.0 Data Analysis

4.1 Response rate

In this research, we together quantitative data which has been collected from software houses in Lahore Pakistan randomly from any person who is using laptops extensively. However, self-administrative questionnaires were distributed personally as well as online. Total of 330 questionnaires distributed to

the organisations out of which we have received 225 responses. Moreover, some questionnaires around 20 were incompletely filled that we have excluded from the research.

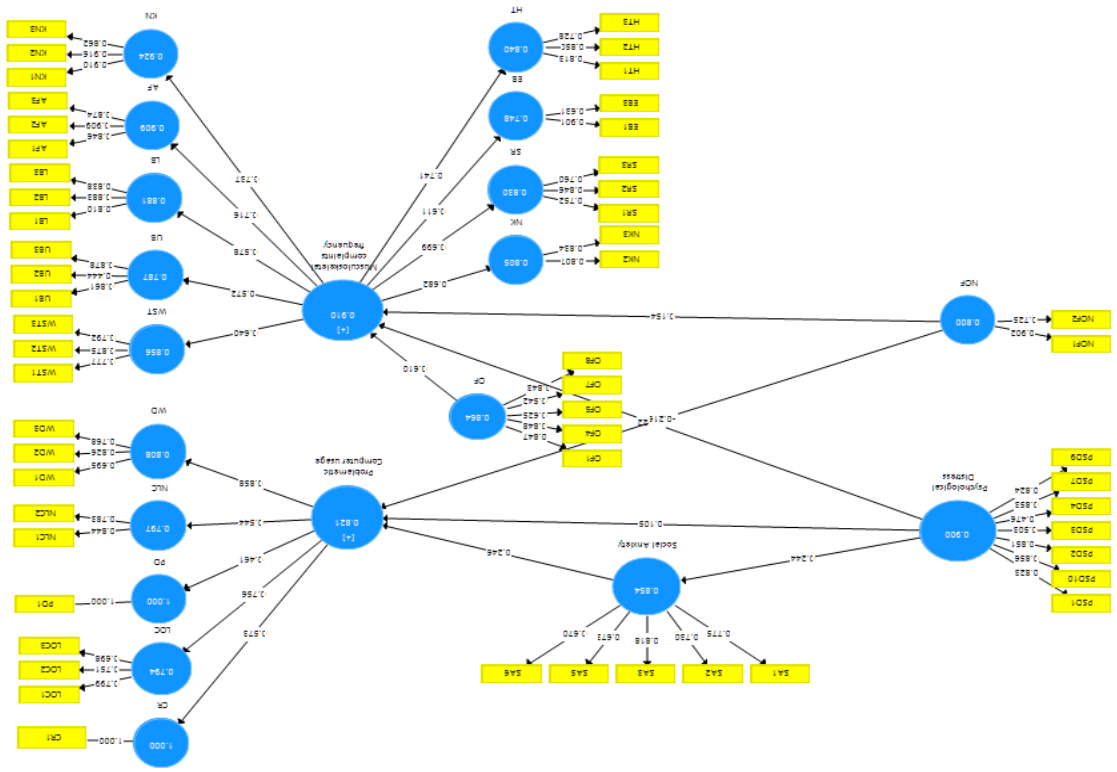
4.2 Initial data screening and preparing

To ensure that there is no multicollinearity problem exist among variables, some specific tests have been applied. These tests are VIF tests and tolerance. Although Hair et al., (2016) argue that the acceptance of the threshold value of tolerance is greater than 0.1 and the value of VIF less than 10. So the problem between variables exists if the correlation value increases above .90 and the multicollinearity problem does not exist if this value is less than .70.

4.3 The measurement model

The first step to be taken in PLS-SEM is to evaluate the measurement model (Outer model) to describe that how well all indicators/items loaded against related variables, In other words, it is the evaluation to analyse that, to what level the indicators are measuring the variable that is reliability. So with the help of PLS-SEM validity and reliability are two important things through which the outer model has assessed (Hair et al., 2016). There are numerous indicators to determine the validity and reliability comprising (1) using average variance extracted (AVE) the convergent validity could be evaluated (2) single item reliabilities (i.e. internal consistency reliability and indicator reliability by using composite reliability (3) the method of Fornell-Larcker and indicators outer loading the discriminant validity could also be evaluated.

Figure 1 Algorithm



ANNEXURE 1

Table 1

First Order	Second order	Items	Loadings	CR	AVE	Cronbach's alpha
PCU				**0.821**		**0.757**
	PD	CR1	1	1	1	1
	WD	WD1	0.692	0.808		0.641
		WD2	0.827			
		WD3	0.769			
	PD	PD1	1	1		1
	LOC	LOC1	0.80	0.794	.563	0.61
		LOC2	0.754			
		LOC3	0.694			
	NLC	NLC1	0.841	0.797	.663	0.793
		NLC2	0.787			
SA	Uni-Dimensional	SA1	0.774	**0.854**	**0.541**	**0.796**
		SA2	0.729			
		SA3	0.818			
		SA5	0.675			
		SA6	0.672			
PSYD	Uni-Dimensional	PSD1	0.822	**0.9**	**0.575**	**0.871**
		PSD2	0.852			
		PSD3	0.503			
		PSD4	0.475			
		PSD7	0.854			
		PSD9	0.824			
		PSD10	0.856			
MUC				**0.91**		**0.897**
	NK	NK2	0.807	0.805	.513	
		NK3	0.834			
	SR	SR1	0.751	0.83	.620	0.695
		SR2	0.846			
		SR3	0.760			
	EB	EB1	0.901	0.748	.606	
		EB3	0.631			
	WST	WST1	0.777	0.856	.665	0.747
		WST2	0.875			
		WST3	0.792			
	UB	UB1	0.861	0.787	.570	0.624
		UB2	0.444			
		UB3	0.879			
	LB	LB1	0.810	0.881	.713	0.798
		LB2	0.883			
		LB3	0.838			
	HT	HT1	0.813	0.84	.637	0.714
		HT2	0.850			
		HT3	0.728			
	KN	KN1	0.910	0.924	.803	0.877
		KN2	0.916			

		KN3	0.862			
	AF	AF1	0.846	0.909	.769	0.849
		AF2	0.909			
		AF3	0.874			
SOF	Uni-Dimensional	SOF1	0.845	**0.863**	**0.566**	**0.80**
		SOF4	0.847			
		SOF5	0.626			
		SOF7	0.544			
		SOF8	0.842			
NOF	Uni-Dimensional	NOF1	0.933	0.791	0.67	0.626
		NOF2	0.670			

Note=PD=psychological distress, NOF=non occupational factors, SA=social anxiety, PCU= problematic computer use, MSC=musculoskeletal complaints, OF- occupational factors.

The table shows that the value of composite reliability and Cronbach's alpha exceeded the threshold level of .70. However, the values of Cronbach's alpha lies between (0.757 to 0.897) and composite reliability (0.821 to 0.90) against all measures constructs and their dimensions which shows that all the instruments used in this research are highly reliable and internally consistent. Whereas the value of AVE against all constructs exceeded the threshold level of 0.50.

4.4 Discriminant validity

In this study, we are also using the same criteria. It is essential to note that discriminant validity established the value of the square root of the AVE of every variable is greater than the highest of this variable with any other variable in the study (Hair et al., 2016; 2015).

Discriminant validity

	PD	NOF	SA	PCU	MSC	OF
PD	**0.758**					
NOF	-0.094	**0.818**				
SA	0.244	0.038	**0.735**			
PCU	0.185	-0.217	0.263	**.751**		
MSC	-0.221	0.309	0.121	0.032	**.731**	
OF	-0.139	0.236	0.062	0.004	0.663	**0.753**

Note=PD=psychological distress, NOF=non occupational factors, SA=social anxiety, PCU= problematic computer use, MSC=musculoskeletal complaints, OF- occupational factors.

In the above table, we can be seen that the value of the correlation of each variable with any other variable is greater, which shows that the discriminant validity of every variable is well established.

4.5 The structural model

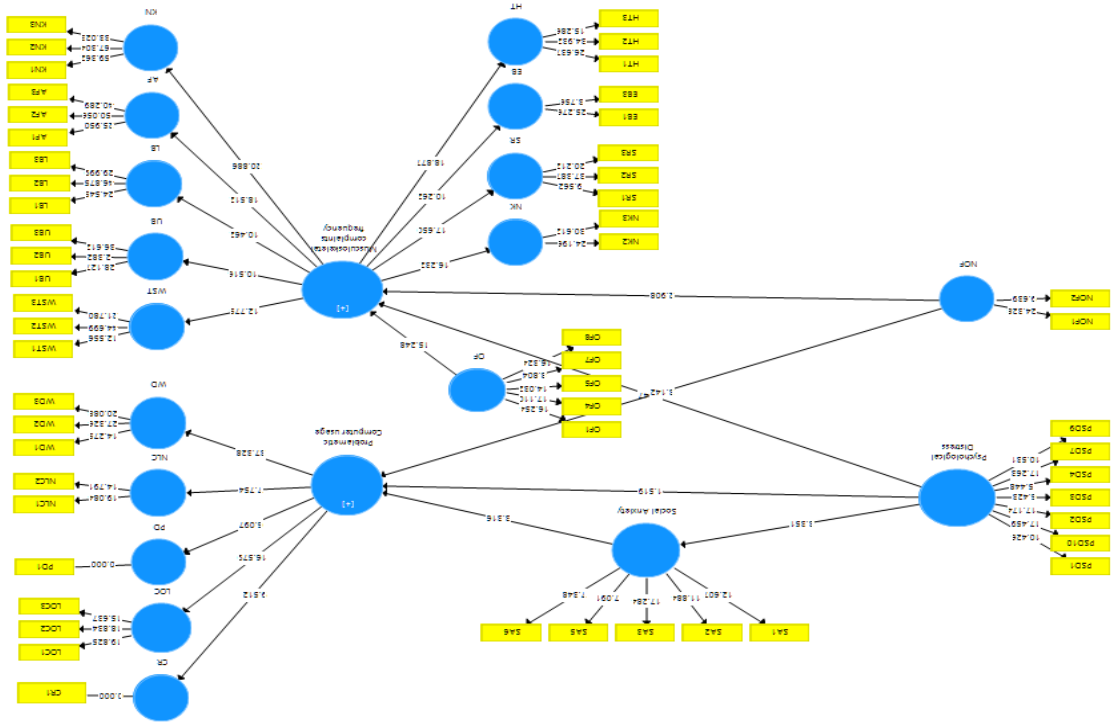
4.5.1 direct and mediation relationships

A systematic analysis of the structural model was carried out to provide a detailed picture of analysis. So, in the first step, direct relationships between the dependent and independent variables are described and analysed. After that, the mediation relationships are also visualised and examined, However, the PLS-SEM algorithm is used to describe the size of the path coefficient whether PLS-SEM bootstrapping analysis conducted to explain the significance and importance of the relationship among variables.

Meanwhile, a total number of the cases have been taken as per original and 300 was used as a bootstrapping sample (Hensler & Sarstedt 2013; Hair et al., 2015).

Concerning the H1 table 4.3 shows that psychological distress (PSYD) has a positive and significant effect on social anxiety (SA) (B=.243, t=3.49, p<.01) so the H1 is accepted. Same as H2 (SA) has a positive and significant effect on problematic computer use (PCU) as their values are (B=.231, t=3.00, p<.01) so the H2 is accepted.H3 is also accepted as table 4.3 shows that psychological distress (PSYD) have positive and significant relationship towards musculoskeletal complaints (MUC) (B= -.131, t=2.23, p<.01).

Figure 2 Direct and mediation hypotheses



Aligning with the above H4 as in the table sedentary occupational factors (SOF) have a positive and significant relationship towards problematic computer use (PCU) as their values are (B=.013, t=.17, p<.01) so H4 is accepted. H7 is psychological distress (PSYD) has a positive and significant effect on problematic computer use (PCU) their values are (B=.128, t=1.68, p<.01) so H7 is accepted. The direct relationship of H8 is also accepted as table 4.3 shows that sedentary occupational factors (SOF) have a positive and significant relationship with musculoskeletal complaints (MUC) (B=.646, t=16.3, p<.01).

Direct and mediation paths

Hypotheses /paths	Beta	SE	t value	Sig	Decision	VIF	F^2	Effect	Q^2	R^2
									.124	.479
H1:PSYD:→SA	.243	.07	3.49	.001	Supported	1.00	.065	Small		

					Supported	1.07		
H2:SA:→PCU	.231	.077	3.00	.003			.063	Large
H3:PSYD→MUC	-.131	.059	2.23	.026	Supported	1.02	.028	Small
					Supported			
H4:SOF→PCU	.013	.072	0.17	.001		1.08	.666	Large
					Supported	1.63		
H7:PSYD:→PCU	.128	.076	1.68	.020			.269	Medium
					Supported	1.08	.043	
H8: SOF→MUC	.646	.04	16.3	0.00				Small
H5:PSYD→SA→ PCU	.056	.023	2.42	.016	Supported			

Note=PD=psychological distress, NOF=non occupational factors, SA=social anxiety, PCU= problematic computer use, MSC=musculoskeletal complaints, OF- occupational factors.

As the above mediation relationship is also described in table 4.3 which shows that the mediation relationship is accepted which is hypothesis H5 and their values are (B=.056, t=2.42, p<.01) so H5 is accepted.

5.0 Discussion

The objectives of the study were to a) To determine the mediating role of social anxiety between psychological distress and problematic computer use; b) To analyses the conceivable connection between psychological distress, problematic computer use and musculoskeletal complaints; c) To investigate the connection between sedentary occupational factors, musculoskeletal complaints and problematic computer use

So, the first H1 hypothesis is the psychological distress has a positive and significant relationship towards social anxiety. So by the statistical analysis, this hypothesis accepted and supported in this study. In addition to it, this hypothesis also approved by different researches (Hong et al., 2019). Psychological distress is frequently installed concerning strain, stress, and pain. It is related to internal mental health Liu, Hong, Ding, Oei, Zhen, Jiang & Liu (2019). Psychological distress becomes intense because of different situations (ding et al., 2019). Some researchers also supported this notion that psychological distress leads to pathological internet use. According to Sheng, et al., (2019) psychological distress covers a wide range, going from ordinary sentiments of weakness, pity, and fears to issues that can get crippling, for example, depression, tension, extensive stresses, negative examinations, or social isolation. So the study proves that whenever a person has psychological distress related to his mental health a bad health will leads a person towards social anxiety he avoids contact with people he feels uncomfortable to merge in social gatherings.

Moreover, we have our second hypothesis, which is social anxiety has a positive and significant relationship towards problematic computer use. Hence this hypothesis is also accepted in this research. In addition to it, past researchers are also in favour of this hypothesis (Hong et al., 2019). As internet use turns out to be progressively fundamental to present-day life, the risks of extreme use are likewise getting clear. According to Liu et al., (2019) earlier research recommends that socially anxious people are especially vulnerable to problematic internet use. Hong et al., (2019) stated that this weakness may identify with the impression of online correspondence as a more secure method for collaborating, because of more noteworthy power over self-introduction, diminished danger of negative assessment, and improved relationship quality. Oei & colleagues (2019) social anxiety was affirmed as a huge indicator of problematic computer use while controlling for depression and social anxiety. so socially anxious people more inclined towards isolation using problematic computer use.
Additionally, in hypothesis, H5 and social anxiety have a mediating role between psychological distress and problematic computer use. In the context of Pakistan, this supposed hypothesis also confirmed by past researchers. So these three hypotheses lie under this objective which is accepted and become significant through statistical analysis and our objective is achieved.
Furthermore, our third hypothesis H3 is psychological distress has a positive and significant relationship towards problematic computer use. So by the statistical analysis, it is approved and supported that our supposed hypothesis is true also past researchers accepted this relationship through their research. Psychological distress generally described that it is a feeling of stress pain and anxiety. According to Hong et al., (2019) stated that which affects your efficiency of work. Psychological distress mostly leading to social fear, loneliness, and isolation because of the person's personality trait of thinking or reaction towards some situation (Hong et al., 2019). Psychological distress also create some physical issues like headache, diarrhoea, constipation, and chronic pain especially low back pain (Hong et al., 2019).

Moreover, Hong et al., (2019) identify that psychological distress (or mental pain) is a term utilised, both by some emotional wellness professionals and clients of psychological wellbeing services, to portray a scope of side effects and encounters of an individual's internal life that are regularly held to inconvenience, befuddling or strange. This behavior of an individual may lead to some physical issues like musculoskeletal complaints (Hong et al., 2019).

Also, the H7 in which psychological distress has a direct and significant relationship towards problematic computer use accepted. According to Hong et al.,(2019) psychological distress, frequently referred to as mental pain, is characterised as "any scope of indicators and experience identified with an individual's inside life; sentiments of being angry, confounded, or strange." Hong et al .,(2019) describes while everybody encounters an incidental absence of vitality or centre and even feels annoyed now and again, mental trouble regularly has an increasingly significant impact on a person. Indeed, mental trouble can go with dysfunctional behavior. Never the less, Hong et al., (2019). Stated people with shyness and less social skills may in general see online means to avoid people as a helpful adapting technique and a sound substitute for face-to-face social correspondence (Liu et al., 2019). In other words, social anxiety or feeling shy and don't want to interact with people mediate the relationship between psychological distress and problematic computer use. So these two hypotheses lie under this objective these hypotheses accepted and become significant so our objective is achieved.
As far as H4 is concerned which is sedentary occupational factors have a positive and significant relationship towards musculoskeletal complaints. It is also accepted and supported in this research. Sedentary occupational factors are mostly related to sitting in a situated position from 7 to 8 hours sometimes more than 12 hours. This attitude is mostly working related office based where workers have

to work on desk computers or laptops. Call centres and software houses or university departments are more inclined towards it Coenen et al., (2017).Liu et al., (2017) stated that long sittings at one place leading workers towards problematic use of the computer as problematic inter use further defined with 5 dimensions of craving, withdrawal, dependence, loss of control, and consequences.

As the statistical results of H8 also accept it positive and significant this is the relationship towards sedentary occupational factors towards musculoskeletal complaints the past research has also accept it positively related and significant (Malińska and Bugajska, 2010). According to Coenen et al., (2017) progressively over logical evidence spreading the mindfulness through various mechanisms of media that sedentary occupational factors are the dangers towards medical problems. Coenen et al., (2017) stated that Research from Australia proposes that a lion's share of individuals doesn't have the information about these perils and the essential control measures. So the resultantly we are ignorant of national or global ergonomics and occupational wellbeing and security authority strategies that are legitimately hitting these dangers. Coenen et al., (2017) describes the point of this examination is to have neglect on the ongoing ergonomics and occupational factor security and wellbeing approaches identified with word sedentary occupational factors conduct. So, these two hypotheses lie under this objective which is accepted and become significant so our objective is achieved.

6.0 Conclusion

In conclusion, the findings of this study enclosure a significant role in the literature by clinging the puzzle of health and safety issues with the workers at the workplace as well as connecting its dots with the HR department particularly in Pakistani services organisations. As we come to know with the statistical findings that psychological distress and social anxiety are revealing in the society as Pakistan is also an underdeveloped country, and the people are negatively stressed because of different issues. Which is leading them towards isolation and negative consequences of using laptops. Use of the technology extensively also increasing the health issues which is related to their bodies and mostly they are unaware that it is because of the extensive or negative use of laptops and the latest technology gadgets. So this research revealed that organisations should get aware of this situation to handle human resources with care. Organisations based on human's these are the humans that convert an organisation to an institute so they need to be careful about it. Finally this research will be very beneficial that every organisation needs health and safety managers separately in the HR department so that they only work on the health and safety of the workers at the workplace to get more and more productive work from them for the betterment of organisations.

6.1 Limitation and future research

Our study has a couple of limitations as nobody can be perfect and these limitations could be addressed by future researchers. First, this study conducted in the context of Pakistan and particularly in its city Lahore, however, future researchers are encouraged to replicate the research in other cities of Pakistan because there is need to give awareness in other cities about the importance of health and safety of the workers at work places. Second, we have only catered to the software houses in this research as a services sector the future researchers can conduct this research in other services sectors like universities or hospitals. Third, because of the time constraints, we adopted a cross-sectional research design while future researchers are encouraged to adopt a longitudinal research design to enhance the vigour of the findings. Future researchers are also encouraged to use different variables like (maladaptive cognitions, problematic mobile phone use, shyness, muscle activity, relatedness needs satisfaction on technology

devices) that are causing psychological or physical health issues in both services and the industrial sector. Moreover, future researchers are also encouraged to take different samples must be tested before the findings can be generalised to other groups. In addition, the current study treated problematic computer use as a whole without differentiating the specific use of laptops or desktops future researchers can indulge more importance into craving tendency of explicit services and functional applications. Finally, only self-reported data has been collected for this study to make this study more rigours future researchers can take various measures like third party observations to reduce biases and enhance reliability.

6.2 Theoretical contribution

As discussed earlier our best effort to fill the theoretical, empirical, and contextual gap collectively. As u know that, many organizations facing occupational health and safety issues (Zahoor and his colleagues 2016). According to Malińska and Bugajska (2010) because of the sedentary behavior and psychological distress organizations

have to cater to these issues from the physical point of view (Berolo, Wells, and Amick 2011). Similarly, at a psychological point of view but these two issues have not studied together so by the study of the literature we come to know that the antecedents of the physical and psychological health issues were not discussed collectedly (Zahoor, Chan, Masood, Choudhry Javed and Utama, 2016). In addition to it, Oh, park and boo (2017) argue that there is a need to identify how physical and psychological factors affect the output, particularly at the workplace. So, in this study, we research these two facts collectively to make our study more comprehensive and valuable to fill this gap with the help of a theoretical framework. Furthermore, numerous studies discuss the possible antecedents and outcomes of musculoskeletal complaints and problematic computer usage at the workplace (e.g. see Malińska and Bugajska (2010). However, there is a lack of studies that empirically tested how physical and psychological factors create musculoskeletal complaints as well as problematic computer usage (Oh, Park and Boo 2017). So, in this research, we empirically tested how psychological and physical factors are creating health issues at the workplace to fill this empirical gap. Moreover, where Pakistani context is a concern, there are limited studies that investigated the relationship of health issues and their drivers particularly in services sectors (e.g. see Ahmed, Shaukat, Usman, Nawaz, and Nazir, 2018). So, in this study, we particularly cater to the services sector to ensure the relationship between health issues and their drivers to fill this gap in Pakistan.

6.3 Managerial contribution

In Pakistan, Shaikh (2015) there is very little research has been done on health and safety issues. However, in countries like Pakistan, most of the research on health and safety issues of employees has been done on factory workouts (e.g. see Shaikh, 2015). Although, it is viewed as one of the most critical businesses as far as its commitment to monetary development (Zahoor et al., 2016). Yet, besides, it also affects the Occupational Safety and Health (OSH) of the workers (Zahoor et al., 2016).

Similarly, (Ahmed et al., 2018) stated in this study that the latest research of OSH standards and their practices in the construction area of Pakistan. Which shows that the result of the study discloses both employees and the worker's low know-how about the OSH standards and there is nobody following these standards. Although, these standards are very important for not creating dangerous health injuries (Ahmed et al., 2018).These studies revealed that there is a massive gap in the research about the OSH standards because in the context of Pakistan these standards are not implementing rather it is a factory sector or service sector.

So, our study now gives the organisations this awareness that how they can implement these health and safety standards for the wellbeing of the workers at work places. Second it contributes that how the HR department think that human resources are more valuable to take care of them so that organisation can get possible and ultimate productivity for the organisation from them. Moreover not only industrial labour needs these health and safety standards also services sector workers need these facilities. Also our study contributes to the management to get aware of their workers too about the health and safety standards and make them agreed by the workshops to follow these rules for their safety.

REFERENCES

Ahmed, I., Shaukat, M. Z., Usman, A., Nawaz, M. M., & Nazir, M. S. (2018). Occupational health and safety issues in the informal economic segment of Pakistan: a survey of construction sites. *International journal of occupational safety and ergonomics*, *24*(2), 240-250.

Bore, M., Pittolo, C., Kirby, D., Dluzewska, T., & Marlin, S. (2016). Predictors of psychological distress and well-being in a sample of Australian undergraduate students. *Higher Education Research & Development*, *35*(5), 869-880.

Boyd, C. (2004). *Human resource management and occupational health and safety* (Vol. 26). SUNY Press.

Bontrup, C., Taylor, W. R., Fliesser, M., Visscher, R., Green, T., Wippert, P. M., & Zemp, R. (2019). Low back pain and its relationship with sitting behaviour among sedentary office workers. *Applied ergonomics*, *81*, 102894.

Bergqvist, U., Wolgast, E., Nilsson, B., & Voss, M. (1995). Musculoskeletal disorders among visual display terminal workers: individual, ergonomic, and work organizational factors. *Ergonomics*, *38*(4), 763-776.

Coenen, P., Gilson, N., Healy, G. N., Dunstan, D. W., & Straker, L. M. (2017). A qualitative review of existing national and international occupational safety and health policies relating to occupational sedentary behaviour. *Applied ergonomics*, *60*, 320-333.S

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.

Hair, J. F. (2015). *Essentials of business research methods*. ME Sharpe.

Hong, W., Liu, R. D., Oei, T. P., Zhen, R., Jiang, S., & Sheng, X. (2019). The mediating and moderating roles of social anxiety and relatedness need satisfaction on the relationship between shyness and problematic mobile phone use among adolescents. *Computers in Human Behavior*, *93*, 301-308.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610.

Kuorinka, I., Jonsson, B., Kilbom, A., Vinterberg, H., Biering-Sørensen, F., Andersson, G., & Jørgensen, K. (1987). Standardised Nordic questionnaires for the analysis of musculoskeletal symptoms. *Applied ergonomics*, *18*(3), 233-237.

Liu, R. D., Hong, W., Ding, Y., Oei, T. P., Zhen, R., Jiang, S., & Liu, J. (2019). Psychological distress and problematic mobile phone use among adolescents: the mediating role of maladaptive cognitions and the moderating role of effortful control. *Frontiers in psychology*, *10*.

Malińska, M., & Bugajska, J. (2010). The influence of occupational and non-occupational factors on the prevalence of musculoskeletal complaints in users of portable computers. *International Journal of Occupational Safety and Ergonomics*, *16*(3), 337-343.

Oh, H., Park, H., & Boo, S. (2017). Mental health status and its predictors among call center employees: A cross-sectional study. *Nursing & health sciences*, *19*(2), 228-236.

Shaikh, B. T. (2015). Private sector in health care delivery: a reality and a challenge in Pakistan. *Journal of Ayub Medical College Abbottabad*, *27*(2), 496-498.

Thomsen, J. F., Gerr, F., & Atroshi, I. (2008). Carpal tunnel syndrome and the use of computer mouse and keyboard: a systematic review. *BMC musculoskeletal disorders*, *9*(1), 1-9.

Woods, V. (2005). Musculoskeletal disorders and visual strain in intensive data processing workers. *Occupational medicine*, *55*(2), 121-127.

Zahoor, H., Chan, A. P., Masood, R., Choudhry, R. M., Javed, A. A., & Utama, W. P. (2016). Occupational safety and health performance in the Pakistani construction industry: stakeholders' perspective. *International Journal of Construction Management*, *16*(3), 209-219