ORIGINAL ARTICLE

Work-related Psychosocial Risks and Mental Health of Youths During the Covid-19 Pandemic

Harry Chong Wai Soon[1], Sharifah Norkhadijah Syed Ismail[1,2,3], Irniza Rasdi[1], Aida Soraya Shamsuddin[4], Nurulain Mustafa Udin[5]

[1] Department of Environmental and Occupational Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia.
[2] Malaysian Research Institute on Ageing (MyAgeing), Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia.
[3] Institute for Social Science Studies, Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia.
[4] Southeast Asia Disaster Prevention Research Initiative (SEADPRI), Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM), 43600 Bangi, Selangor, Malaysia.
[5] School of Chemistry and Environment, Faculty of Applied Sciences, Universiti Teknologi MARA (UiTM), 40450 Shah Alam, Selangor, Malaysia.

ABSTRACT

Introduction: Youth represent a significant part of the workforce globally. This study aimed to determine the effects of work-related psychosocial risk factors on mental health of working youth during the Covid-19 pandemic. **Materials and methods:** A cross-sectional survey was conducted from August to October 2021 on 307 working youths in Klang Valley, Malaysia. The Copenhagen Psychosocial Questionnaire version three (COPSOQ-III) and 7-item Generalized Anxiety Syndrome (GAD-7) were used to assess work-related psychosocial risk factors and mental health problems symptoms. Statistical analysis followed by Spearman correlation and multiple linear regression analysis were performed to determine associations between the variables. **Results:** The results showed most of the working youth experienced low workplace bullying, moderate workload, work-pace and work-life conflict, high support from supervisors and colleagues, and severe job insecurity. Most of the respondents had moderate sleep disturbance (55.0%), burnout (56.7%), stress (45.0%), depressive symptoms (59.0%), and anxiety (38.1%). Correlation between work-pace and stress show strong correlation with ρ = .623 ($p < .001$). The work-pace, work-life conflict, workplace bullying, and job insecurity accounted for approximately 37.5% of the variance in stress (Adjusted $R^2 = .375$, $F(4,302) = 46.913$, $p < .001$). Limitation: This study's limitations include the use of self-reported data from respondents, which makes misclassification feasible, and its cross-sectional design. **Conclusion:** Work-pace was identified as the strongest contributor to stress among working youth. The findings can be used by employers to raise the performance, commitment, and response of their workers to the Covid-19 pandemic by controlling work-pace, flexible work schedules, and mental health assistance.
Malaysian Journal of Medicine and Health Sciences (2024) 20(5): 149-160. doi:10.47836/mjmhs20.5.21

Keywords: Mental health, Occupational hazards, Work-related psychosocial risk factors, Working youth, Pandemic

Corresponding Author:
Sharifah Norkhadijah Syed Ismail, PhD
Email: norkhadijah@upm.edu.my
Tel : +603-89472643

INTRODUCTION

Work represents an individual's identity and role in society, which provides numerous advantages for the individual, such as income, dignity, a social network, a sense of purpose, and social support from coworkers, as well as being one of the most critical social determinants of health (1, 2). Workers, however, can be exposed to a variety of occupational hazards in the workplace, such as psychosocial, ergonomic, chemical, biological, and physical factors (1). Psychosocial risk factors at work are defined as interactions between the work environment, job content, organizational conditions, the workers' capacities, needs, culture, and personal extra-job considerations that may influence their health, work performance, and job satisfaction (3). Other sources of exposure include job insecurity, limited job control, high job demands, insufficient rewards for labor, bad supervisory and co-worker relationships, workplace bullying, and harassment (4-7).

Previous studies showed that young workers are more vulnerable to mental health problems (e.g., anxiety, depression, and stress) due to the changing nature of work, fewer opportunities to gain experience and credibility, and work-related psychosocial risk factors compared to their older peers (6, 8, 9). For instance, it was reported that younger construction professionals in South Africa who experienced high job demands and poor support

at work were more likely to experience high levels of psychological distress and, thus, poor mental health. This was because they felt a need to "prove themselves" and were uncertain about their organizational role, place, and available support (10). According to Shields et al. (2), young workers' transition from education to the labor force can be associated with the first onset of mental illness, with nearly half of lifetime mental illness beginning in the mid-teens and 75% beginning in the mid-twenties. Boschman et al. (11) stated that low job control, low involvement in decision-making, and low social support from their superiors lead to distress, depression, and post-traumatic stress disorder (PTSD) among Danish construction workers. These findings collectively emphasize the importance of understanding the interplay between work-related psychosocial risk factors and mental health effects, particularly among young workers undergoing significant life transitions. Although many studies focused on psychosocial hazards, specifically job demand, reward balance, demand-control-support model, and social support, there is a lack of studies associating the psychosocial risk factors with mental health effects among working youth.

Following the discovery of the SARS-CoV-2 virus that causes Covid-19, the disease rapidly progressed into a global pandemic, causing the World Health Organization (WHO) to declare a Public Health Emergency of International Concern (PHEIC) on this disease. According to Długosz (12), the young generation (ages 18 and 30) suffered the highest levels of distress (33%) during the pandemic. Additionally, Shi et al. (13) reported that the occupational exposure risk during the Covid-19 pandemic has contributed to the high prevalence of mental health conditions among healthcare and other essential workers in China. In Malaysia, Wong et al. (14) reported that there were highly reported symptoms of depression (59.2%), anxiety (55.1%), and stress (30.6%) among the general population aged 18 and above during the pandemic. While Shanmugan et al. (15) corroborated these findings, indicating a similar escalation of mental health symptoms in Malaysia, there remains a paucity of evidence regarding the specific impact of Covid -19 on work-related psychosocial risk factors and their association with mental health symptoms among the country's working youth.

Given the profound impact of the Covid -19 pandemic on mental health, particularly among young Malaysian workers, it becomes imperative to delve deeper into the intersectionality of work-related psychosocial risk factors and mental health symptoms during this challenging period. Therefore, this study aims to elucidate the specific work-related psychosocial risk factors prevalent among young workers and their associations with mental health symptoms amidst the ongoing pandemic. Investigating these relationships will provide invaluable insights into effective workplace management strategies and preventive measures tailored to mitigate the adverse impact of emergency events on the mental health and engagement of working youth.

MATERIALS AND METHODS

Study area and design

This cross-sectional study was conducted in the most developed region in Malaysia, known as Klang Valley, from August to October 2021. The Klang Valley is an urban agglomeration consisting of the Federal Territory of Kuala Lumpur, the Federal Territory of Putrajaya, and several adjacent districts of Selangor (Gombak, Petaling, Klang, Sepang, Kuala Langat, and Hulu Langat), with an estimated population of eight million in 2020. The Klang Valley encompasses roughly 2,832 square kilometers and is situated in the south-western region of the Malaysian Peninsula (16) (see Fig. 1). This region significantly contributes to Malaysia's economic growth due to its fast urbanization, population expansion, and industrial activities.

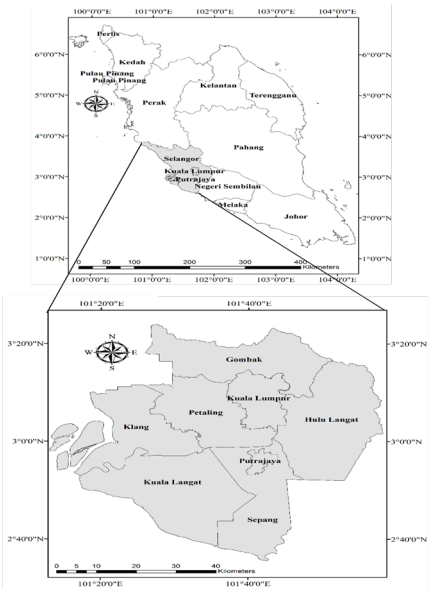

Fig. 1: Location of the study area (Klang Valley).

Participants

Working youth aged 18 to 30 years old and residents or working places in Klang Valley were the inclusion criteria for this study. However, during the screening phase, individuals with non-communicable chronic diseases (NCDs) were excluded from the study because the psychological symptoms were more prevalent among NCDs (17). Ethical approval was obtained from the Ethics Committee for Research Involving Human Subjects at Universiti Putra Malaysia (JKEUPM-2021-378).

Data confidentiality and privacy

Respondents were voluntarily invited to participate in the study. The study purpose and data collection procedures were communicated informed to the respondents before they provided consent to participate in the survey. Respondents' information was kept confidential by the researchers and was not made publicly available unless

disclosure was required by law. Only research team members are authorized to access your information.

Instrument

A set of questionnaires related to work-related psychosocial risk factors and mental health symptoms was adopted and modified from previous studies. The self-administered questionnaire was prepared in bilingual (English and Bahasa Malaysia). The questionnaire was modified from the Copenhagen Psychosocial Questionnaire version III (COPSOQ-III) (18) and the 7-item Generalized Anxiety Disorder (GAD-7) (19) by adding sociodemographic and work characteristics. The COPSOQ-III was selected because it is internationally accepted and widely used for assessing various psychosocial factors and mental health symptoms across diverse occupational fields (20). Mental health symptoms included in the COPSOQ-III are sleeping troubles, burnout, stress, and depressive symptoms (18). In this study, several scales in the COPSOQ-III were included. The scores on each scale were divided into three percentiles, using cut-off values of 1.33 and 2.66, respectively (21). For all work-related psychosocial risk factors, average scores of less than 1.33 were classified as low; average scores of 1.33 to 2.66 were classified as moderate; and average scores of more than 2.66 were classified as severe.

The 7-item Generalized Anxiety Disorder questionnaire (GAD-7) (19) was used to measure generalized anxiety disorder (GAD) among working youth. The GAD-7 has been tested and found to be a valid and reliable way to measure GAD symptoms in both psychiatric and general population samples (22-24). The seven items assessed are: 1) feeling nervous, anxious, or on edge; 2) being able to stop or control worrying; 3) worrying too much about different things; 4) having trouble relaxing; 5) being restless; 6) becoming easily annoyed or irritable; and 7) feeling afraid as if something awful might happen (22). Over the past month, the respondents self-rated their current symptoms. A higher score represented greater anxiety symptomatology.

A Likert scale from 0 to 4 was used for COPSOQ-III and GAD-7 to allow the respondents to choose the item according to: "0 = never or hardly ever (at least one time or none in a month)", "1 = seldom (at least one time in two weeks)", "2 = sometimes (at least one time in a week), "3 = often (two or three times in a week)", and "4 = always (almost every day in a week)".

Procedure

The bilingual questionnaire (English and Bahasa Malaysia) was developed using Google Forms and distributed by WhatsApp and social media platforms (Facebook, Instagram, and Twitter) using convenience sampling. The forms were electronically registered and made available to working youth in the Klang Valley. There was no incentive or remuneration to participate in the study. Participants who provided consent on the first page of the questionnaire could move on to the next section. The participants need to fill out all the questionnaires. The survey took between 10 and 15 minutes to be answered. All the people who took part signed a virtual form, giving the researchers permission to use their information. Fig. 2 highlights the flowchart of the sampling procedure.

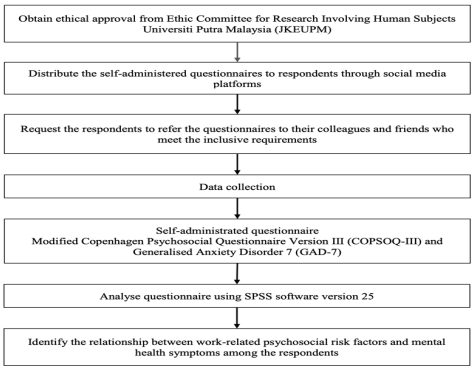

Fig. 2: Flowchart of the sampling procedure.

A pilot study was conducted to test the questionnaire's validity and reliability, with 10% of the sample size sharing similar characteristics with the study participants. A total of 23 respondents aged between 18 and 30 years old who are currently employed in Klang Valley were invited to the pilot study. The Cronbach's alpha values for all of the work-related psychosocial risk factors and mental health symptoms questionnaire range from 0.724 to 0.921, indicating acceptable to good internal consistency. There is no further amendment to the questionnaire based on the pilot results.

Data analysis

Data from the questionnaire was analyzed using SPSS version 25.0 software (IBM Corp., Armonk, New York, United States). A descriptive analysis (frequency, percentage, mean, and standard deviation) was used for the counting data. To determine data normality, Kolmogorov-Smirnov was performed. Non-parametric tests such as the Mann-Whitney test and Kruskal-Wallis were used for non-normal data to determine if there are statistically significant differences between two or more groups of an independent variable. The Spearman correlation is a nonparametric statistic used to test the strength and direction of the association that exists between two variables measured on at least an ordinal scale. Regression analysis was used to identify the associations between the variables.

RESULTS

Sociodemographic and work characteristics

Of the 307 respondents, 50.8% were female and 49.2% were male. Of these working youth, 50.5% were 18 to 23 years old, and 49.5% were 24 to 30. All respondents are Malaysian, with 45.3% Malay and Bumiputera, 39.4%

Chinese, and 15.3% Indian. Regarding education level, about 36.2% of respondents had bachelor's degrees. Most of the respondents are single (88.3%). Almost a quarter of the respondents currently reside in the Federal Territory of Kuala Lumpur (24.8%). Most respondents (38.8%) have a monthly income of MYR 2001 to MYR 3000 (462.66–693.64 USD) (Table I). The categorization of incomes into specific ranges, such as RM1000 to RM2000, RM2001 to RM3000, etc., serves as a practical purpose to make it easier to analyze and interpret the data. It provides a clearer picture of the distribution of incomes within the population being studied, and it is generally done with the aim of facilitating the analysis and data interpretation.

Table I: Sociodemographic and work characteristics of the working youth (n = 307).

Variables		n	%
Gender	Male	151	49.2
	Female	156	50.8
Age	18 to 23 years old	155	50.5
	24 to 30 years old	152	49.5
Nationality	Malaysian	307	100
Ethnicity	Malay and Bumiputera	139	45.3
	Chinese	121	39.4
	Indian	47	15.3
Education level	Secondary education	103	33.6
	Pre-university	23	7.5
	Diploma	56	18.2
	Bachelor degree	111	36.2
	Master degree	13	4.2
	Doctorate degree	1	0.3
Current residence	Federal Territory of Kuala Lumpur	76	24.8
	Federal Territory of Putrajaya	41	13.4
	Petaling District	62	20.2
	Gombak District	51	16.6
	Klang District	56	18.2
	Kuala Langat District	6	2.0
	Hulu Langat District	15	4.9
Marital status	Single	271	88.3
	Married	36	11.7
Monthly income, MYR (USD)	Below RM1000 (below 231.21 USD)	18	5.9
	RM 1001 to RM 2000 (231.45 – 462.43 USD)	57	18.6
	RM 2001 to RM 3000 (462.66 – 693.64 USD)	119	38.8
	RM 3001 to RM 4000 (693.87 – 924.86 USD)	93	30.3
	RM 4001 to RM 5000 (925.09 – 1156.07 USD)	13	4.2
	RM 5001 to RM 6000 (1156.30 – 1387.28 USD)	7	2.3

CONTINUE

Table I: Sociodemographic and work characteristics of the working youth (n = 307). (CONT.)

Variables		n	%
Occupation	Senior managements	7	2.3
	Production & operating workers	62	20.2
	Teacher & education related workers	11	3.6
	Engineers & related technicians	43	14
	Sales & related workers	81	26.4
	Office & administrative support workers	79	25.7
	Healthcare practitioners	12	3.9
	Others	12	3.9
Work sector	Manufacturing	69	22.5
	Infrastructure and communication	69	22.5
	Accountancy, banking and finance	16	5.2
	Wholesale and retail	58	18.9
	Healthcare	17	5.5
	Education	12	3.9
	Food, beverage and hospitality	62	20.2
	Others	4	1.3
Work from home	No	92	30
	1-2 days per week	75	24.4
	3-4 days per week	88	28.7
	5-6 days per week	52	16.9
Monthly income change during the pandemic	Remained unchanged	168	54.7
	Yes, it decreases	124	40.4
	Yes, it increases	15	4.9
Working hour	Less than 41 hours	182	59.3
	41 hours and above	125	40.7
Work overtime during this pandemic	No	190	61.9
	Yes	117	38.1
Overtime hour	1 to 6 hours	72	61.54
	6 hours and more	45	38.46
Working experience	Less than 1 year	78	25.4
	1 year to 5 years	183	59.6
	6 years to 10 years	26	8.5
	More than 10 years	20	6.5

For occupation, most respondents were sales and related workers (26.4%), followed by office and administrative support workers (25.7%). In terms of the work sector, the manufacturing sector (22.5%) and the infrastructure and communication sectors (22.5%) were the primary sectors. Nearly 60% of the respondents worked less than 41 hours per week, and the remaining 40.7% worked more than 41 hours per week. At the same time, around 61.9% of the respondents did not have any overtime during the Covid-19 pandemic. Among those who had overtime, 61.45% of the respondents worked an extra

1 to 6 hours per week. During the Covid-19 pandemic, 70% of the respondents were required to work from home. Around 54.7% of the respondents' monthly income remained unchanged during the pandemic; 40.4% had a decrease in their monthly income; and 4.9% had an increment in their monthly income when comparing their income before the pandemic. Based on their working experience, most respondents had 1 to 5 years of experience (59.6%) (Table I).

Work-related psychosocial risk factors and mental health symptoms among working youth

Table II shows the respondents' work-related psychosocial risk factors and mental health symptoms. Most of the respondents had a moderate workload (55.0%) with a mean score of 1.98±0.17, followed by work-pace (45.3%) (mean score: 2.25±0.09), and work-life conflict (40.1%) (mean score: 2.12±0.07). On the other hand, most of the respondents had high social support from their supervisor (65.8%) with a mean score of 2.79±0.05, followed by colleagues (42.7%) with a mean score of 2.33±0.08, but severe job insecurity (51.8%) (mean score: 2.61±0.05). Most respondents (74.9%) reported low levels of workplace bullying. For mental health symptoms, most of the respondents had moderate sleep disturbance (55.0%), burnout (56.7%), stress (45.0%), depressive symptoms (59.0%), and anxiety (38.1%).

Table II: Work-related psychosocial risk factors and mental health symptoms of the respondents (n = 307)

Work-related psychosocial risk factors		n	%	Mean score (SD)
Workload	Low	71	23.1	1.98 (0.17)
	Moderate	168	55.0	
	Severe	67	21.8	
Work-pace	Low	57	18.6	2.25 (0.09)
	Moderate	139	45.3	
	Severe	111	36.2	
Social support from supervisor	Low	32	10.4	2.79 (0.05)
	Moderate	73	23.8	
	High	202	65.8	
Social Support from colleagues	Low	50	16.3	2.33 (0.08)
	Moderate	126	41.0	
	High	131	42.7	
Job insecurity	Low	55	17.9	2.61 (0.05)
	Moderate	93	30.3	
	Severe	159	51.8	
Work-life conflict	Low	80	26.1	2.12 (0.07)
	Moderate	123	40.1	
	Severe	104	33.9	
Workplace bullying	Low	230	74.9	0.70 (1.12)
	Moderate	50	16.3	
	Severe	27	8.8	
Mental Health Symptoms				
Sleep disturbance	Low	71	23.1	2.00 (0.81)
	Moderate	169	55.0	
	Severe	67	21.8	
Burnout	Low	40	13.0	2.24 (0.09)
	Moderate	173	56.7	
	Severe	93	30.3	
Stress	Low	67	21.8	2.12 (0.07)
	Moderate	138	45.0	
	Severe	102	33.2	
Depressive symptoms	Low	53	17.3	2.06 (0.07)
	Moderate	181	59.0	
	Severe	102	33.2	
Anxiety	Low	80	26.1	2.15 (0.05)
	Moderate	117	38.1	
	Severe	110	35.8	

Association between work-related psychosocial risk factors and mental health symptoms among working youth

The bivariate analysis was conducted to verify the correlations between psychosocial risk factors and mental health problems (Table III). Strong correlation was found between work-pace and stress with ρ = 0.623 ($p < 0.001$). Other than that, Spearman correlation shows weak to very weak correlation degrees between psychosocial risk factors and mental health symptoms.

Table III: Correlation between work-related psychosocial risk factors and mental health symptoms among the respondents by Spearman's correlation (n = 307).

Mental health symptoms	Work-related psychosocial risk factors						
	Workload	Work-pace	Social support from supervisor	Social support from colleagues	Job insecurity	Work-life conflict	Workplace bullying
Sleep disturbance	0.129*	0.243**	-0.018	-0.041	0.164**	0.161**	0.162**
Burnout	0.099	0.237**	-0.055	0.161**	0.109	0.231**	0.134*
Stress	0.173**	0.623**	-0.103	0.058	0.168**	0.244**	0.101
Depressive symptoms	0.139*	0.226**	-0.024	-0.033	0.247**	0.207**	0.133*
Anxiety	0.164**	0.103	-0.044	-0.084	0.193**	0.160**	0.210*

Note: * significant at $p < 0.05$, **significant at $p < 0.001$

The Mann-Whitney of sociodemographic and work characteristics with work-related psychosocial risk factors and mental health symptoms among the respondents was done with the Mann-Whitney U test and Kruskal-Wallis test (Table IV). The Mann-Whitney U test showed that female respondents had significantly higher mean rank scores for job insecurity (163.31) than male respondents (144.38) (Z = -2.053, $p < 0.05$). All work-related psychosocial risk factors and mental health symptoms show no significant age differences between respondents. This is also similar for the respondents' marital status, working hours, and overtime hours per week.

Table IV: The comparison of sociodemographic and work characteristics with work-related psychosocial risk factors.

Variables		Workload			Work-pace			Social Support from Supervisor		
		Mean Rank	χ^2/Z	*p*	Mean Rank	χ^2	*p*	Mean Rank	χ^2	*p*
Gender	Male	150.940	-0.660[b]	0.509	149.57	-0.931[b]	0.352	157.01	-0.699[b]	0.484
	Female	156.960			158.29			151.08		
Age	Less than 24 years old	154.010	-0.003[b]	0.998	154.57	-0.122[b]	0.903	152.50	-0.357[b]	0.721
	24 and above	153.990			153.42			155.53		
Ethnicity	Malay and Bumiputera	158.140	5.951[a]	0.051	158.32	2.572[a]	0.276	160.65	4.632[a]	0.099
	Chinese	141.750			155.81			142.74		
	Indian	173.280			136.55			163.31		
Education Level	Secondary Education	153.320	7.951[a]	0.159	143.33	14.793[a]	0.011*	167.4	6.876[a]	0.230
	Pre-university	134.960			149.17			133.89		
	Diploma	168.320			137.73			144.98		
	Bachelor Degree	146.880			165.01			151.27		
	Master Degree	182.920			215.62			141.5		
	Doctorate Degree	274.000			252			206.5		
Current Residence	Federal Territory of Kuala Lumpur	158.630	2.159[a]	0.905	162.51	7.288[a]	0.295	152.13	3.086[a]	0.798
	Federal Territory of Putrajaya	152.680			131.2			162.9		
	Petaling District	151.580			169.66			161.18		
	Gombak District	153.410			147			145.37		
	Klang District	145.000			153.18			156.1		
	Kuala Langat District	175.330			131.5			129		
	Hulu Langat District	171.200			144.33			141		
Marital Status	Single	155.110	-0.670[b]	0.503	153.56	-0.257[b]	0.797	155.1	-0.710[b]	0.478
	Married	145.610			157.31			145.74		

CONTINUE

Table IV: The comparison of sociodemographic and work characteristics with work-related psychosocial risk factors. (CONT.)

Variables		Workload			Work-pace			Social Support from Supervisor		
		Mean Rank	χ^2/Z	*p*	Mean Rank	χ^2	*p*	Mean Rank	χ^2	*p*
Monthly Income (MYR)	Below RM1000	155.440	2.624[a]	0.758	141.44	7.484[a]	0.187	145.39	5.758[a]	0.330
	RM 1001 to RM 2000	168.000			146.32			164.79		
	RM 2001 to RM 3000	150.590			156.29			142.82		
	RM 3001 to RM 4000	151.720			148.94			163.54		
	RM 4001 to RM 5000	137.230			186.77			149.58		
	RM 5001 to RM 6000	155.710			216.29			159.71		
Occupation	Senior Managements	172.290	4.392[a]	0.734	198.43	18.067[a]	0.012*	159.71	3.432[a]	0.842
	Production & Operating Workers	145.870			136.42			160.13		
	Teacher & Education Related Workers	155.450			166			139.23		
	Engineers & Related Technicians	155.580			132.26			144.81		
	Sales & Related Workers	164.400			155.69			154.83		
	Office & Administrative Support Workers	145.060			156.42			156.59		
	Healthcare Practitioners	145.500			202.17			129		
	Others	175.500			210.33			167.75		
Work Sector	Manufacturing	146.960	2.999[a]	0.885	138.94	16.928[a]	0.018*	150.59	2.314[a]	0.940
	Infrastructure and Communication	165.830			154.61			151.07		
	Accountancy, Banking and Finance	155.500			191.19			143.06		
	Wholesale and Retail	151.480			133.98			160.21		
	Healthcare	148.350			196.35			143.71		
	Education	145.500			162.75			144.83		
	Food, Beverage and Hospitality	151.810			161.6			162.35		
	Others	185.500			220.75			159		
Work from home	No	156.800	0.744[a]	0.863	150.83	3.562[a]	0.313	157.1	5.006[a]	0.171
	Yes, 1-2 days per week	149.310			145.73			161.97		
	Yes, 3-4 days per week	151.550			153.41			139.37		
	Yes, 5-6 days per week	159.960			172.54			161.79		
Monthly income change during the pandemic	Remained unchanged	97.140	1.823[a]	0.402	90.69	0.938[a]	0.626	95.28	3.234[a]	0.198
	Yes, it decreases	105.000			93.85			107.08		
	Yes, it increases	93.960			100.28			93.25		
Working Hour	Less than 41 hours	148.600	-0.508[b]	0.611	148.9	-0.416[b]	0.677	154.15	-1.047[b]	0.295
	41 hours and above	153.230			152.81			145.24		
Work overtime during this pandemic	No	149.290	-1.315[b]	0.189	145.04	-2.439[b]	0.015*	155.21	-0.364[b]	0.716
	Yes	161.640			168.55			152.03		
Overtime hour	1 to 6 hours	58.380	-0.277[b]	0.782	57.42	-0.692[b]	0.489	62.63	-1.733[b]	0.083
	7 hours and more	59.990			61.52			53.2		
Working Experience	Less than 1 year	155.460	0.794[a]	0.851	168.01	3.623[a]	0.305	157.72	0.729[a]	0.886
	1 year to 5 years	154.280			148.85			151.06		
	6 years to 10 years	141.920			142.85			160.15		
	More than 10 years	161.400			160.95			158.38		

Note: [a] χ^2: Kruskal-Wallis test, [b]z: Mann-Whitney test, *: significant at $p < 0.05$.

The Kruskal-Wallis test showed a significant difference in anxiety between the respondents' ethnicities (χ^2 = 7.356, $p < 0.05$), with a high mean rank anxiety score among Indians (169.89) and Malay and Bumiputera (162.27) compared to Chinese (138.33). As for work pace (χ^2 = 14.793, $p < 0.05$), social support from colleagues (χ^2 = 21.132, p <0 .01), and burnout (χ^2 = 12.573, $p < 0.05$), there was a significant difference by the level of education. Burnout was significantly different by the current residence (χ^2 = 13.819, $p < 0.05$). The respondents' monthly income and income changes were not significantly affected by their workplace. Similar to education level, the respondents' work sector also shows a significant difference in work pace (χ^2 = 16.928, $p < 0.05$), social support from colleagues (χ^2= 20.529, $p < 0.05$), and burnout (χ^2 = 14.585, $p = 0.042$). Occupation, on the other hand, was significantly different from work pace (χ^2 = 18.067, $p < 0.05$) and social support from colleagues (χ^2 = 14.914, $p < 0.05$). Work from home, on the other hand, was significantly affecting the respondents' social support from colleagues (χ^2 = 14.48, $p < 0.05$) and burnout (χ^2 = 9.897, $p <$ 0.05). Lastly, the Kruskal-Wallis test showed that there was a significant difference in the social support from colleagues between different working experiences (χ^2= 8.009, $p < 0.05$), with a mean rank social support from colleagues score of 155.46 for less than 1 year of experience, 154.28 for 1 year to 5 years of experience, 141.92 for 6 to 10 years of experience, and 161.40 for more than 10 years of experience.

Table V illustrates the results of the stepwise linear regression to determine the potential predictors of mental health symptoms among working youth during the pandemic. Twenty-one independent variables were assigned into two blocks, which include sociodemographic, work characteristics and work-related psychosocial risk factors, to generate a regression model for each mental health symptom as the dependent variables. The result shows work-pace, work-life conflict, workplace bullying, and job insecurity accounted for approximately 37.5% of the variance in stress (Adjusted R^2 = 0.375, F (4,302) = 46.913, $p <$ 0.001). All predictors positively affect stress, with work-pace (β = 0.548) as the strongest predictor in this model.

Table V: Potential predictors of mental health symptoms among the respondents (n = 307).

Sleep disturbance				
Predictors	Standardized β	*p*	95% CI	
Work-pace	0.184	0.001	0.072	0.274
Workplace bullying	0.197	< 0.001	0.065	0.220
Job insecurity	0.169	0.002	0.048	0.217
	Adjusted R^2 = 0.099			

CONTINUE

Table V: Potential predictors of mental health symptoms among the respondents (n = 307). (CONT.)

Burnout				
Predictors	Standardized β	*p*	95% CI	
Education level	0.153	0.005	0.027	0.154
Monthly income	-0.198	< 0.001	-0.239	-0.072
Work-life conflict	0.209	< 0.001	0.081	0.254
Work-pace	0.180	0.001	0.066	0.277
	Adjusted R^2 = 0.136			
Stress				
Predictors	Standardized β	*p*	95% CI	
Work-pace	0.548	< 0.001	0.453	0.633
Work-life conflict	0.118	0.017	0.018	0.179
Workplace bullying	0.096	0.036	0.005	0.141
Job insecurity	0.099	0.039	0.004	0.160
	Adjusted R^2 = 0.375			
Depressive symptoms				
Predictors	Standardized β	*p*	95% CI	
Job insecurity	0.233	< 0.001	0.097	0.258
Work-pace	0.152	0.005	0.041	0.235
Workplace bullying	0.134	0.013	0.02	0.167
Workload	0.116	0.034	0.01	0.262
Marital status	-0.129	0.017	-0.566	-0.056
	Adjusted R^2 = 0.126			
Anxiety				
Predictors	Standardized β	*p*	95% CI	
Workplace bullying	0.266	< 0.001	0.149	0.345
Job insecurity	0.193	< 0.001	0.088	0.302
Workload	0.148	0.006	0.067	0.399
	Adjusted R^2 = 0.128			

DISCUSSION

This study revealed that work-related psychosocial risk factors were present among working youth in the Klang Valley during the Covid -19 pandemic. The respondents indicate that they experience low workplace bullying, moderate workload, work-pace and work-life conflict, high support from supervisors and colleagues, and severe job insecurity. Besides, they reported moderate sleep disturbance, burnout, stress, depressive symptoms, and anxiety problems. According to Barros et al. (7), the Covid-19 pandemic exacerbated workers' psychological vulnerability because of the increased pace and intensity of work, a lack of working-hours organization, and a lack of support and resources. This study reported severe job insecurity among working youth, which may be attributable to their uncertain future and a

lack of secure employment during the pandemic. High degrees of job insecurity may lead to low motivation and a decline in work quality. Besides, the transition to remote work without clear communication channels and supportive leadership during the pandemic has changed the organizational dynamics, affecting the workplace culture (25). This includes higher levels of stress and interpersonal conflicts caused by isolation, communication barriers, and blurred boundaries between work and personal life, which contribute to bullying behavior. Therefore, leaders who provide a supportive environment by prioritizing the well-being of their employees and ensuring transparent communication channels may reduce the prevalence of bullying (26). Conversely, authoritarian leadership styles and micromanagement may have exacerbated stress and hostility in the workplace.

The Covid-19 pandemic has significantly influenced the worldwide economy, resulting in an increased unemployment rate due to the ensuing economic recession. Consequently, many workers are at a greater risk of suffering from economic uncertainty and increased job insecurity, severely affecting their mental health and well-being (24). Essential sectors such as healthcare and retail encountered unique challenges during the pandemic due to increased work demands and exposure to the virus, which increased the stress level and the likelihood of workplace bullying (27). In contrast, non-essential sectors experienced layoffs and economic uncertainty, which elevated the level of job insecurity and competition for remaining positions. Furthermore, compliance with government policy and safety protocols to protect employees from Covid-19 transmission may have affected the workload distribution and employees' perceptions of job security (28).

The study by Barros et al. (7) also revealed that work pace and stress show the most significant association with mental health symptoms among working youth. Our findings align with previous studies on the impact of work pace on workers' stress. Work pace is related to work intensity, commonly measured based on the frequency that workers have to work at high speed and the allocation of effort to meet tight deadlines or manage high workloads (29). According to Mouno et al. (30), work intensity, which refers to the accelerated pace or amount of work, has adverse effects on the workers' well-being, health, and motivation. Low perceived control over the work environment in response to a demanding work pace can contribute to anxiety, depression, overwhelm, and other mental health symptoms among working youth. Moreover, studies on work intensity and its impacts have proliferated over the past decade, presumably due to the technological acceleration in working life, which is believed to be a cause of work intensity (30). In addition, because the Covid-19 epidemic has accelerated the adoption of digital technology, this technological acceleration may result in a future with an even higher work intensity (30, 31). Rantanen et al. (31) discovered that work intensity was highly correlated with cognitive stress symptoms for those with high competence, demand-related negative affectivity, and low multitasking preferences. Individuals with high levels of negative personality may be more susceptible to experiencing mental health symptoms in response to work-related stressors compared to those with lower levels of these traits. Additionally, strong social support systems act as buffers against workplace stressors, reducing the negative effects of a high work pace on mental health (32). Job resources such as autonomy and social support from employers and colleagues may contribute to effective management of workload and stressors, subsequently reducing the effects of a high work pace on mental health (33).

However, our findings on the relationship between work pace and stress are inconsistent with those of Javaid et al. (34). They found that work pace has a weak negative influence on stress among Malaysian industry workers. According to Javaid et al. (34), insignificant results may be due to their distinction between quantitative demands (i.e., a heavy workload) and work pace (i.e., high speed). Therefore, at one moment, workers may perceive that they have high quantitative demands rather than a high work pace, while at another time, they must maintain a high work pace rather than high quantitative demands. Meanwhile, Hansen et al. (35) stated that workers' self-selection of tasks could result in psychologically and physiologically distinct fatigue levels reported in male and female workers. Due to their view of the task, females who opt to work quickly may be more robust and healthier than their male counterparts (35).

Addressing workplace stressors at an early stage can help prevent the onset of mental health disorders among working youth, which is also critical for designing effective public health interventions such as awareness programs and stress management workshops. Organizations may benefit from productive and competitive young employees through implementing supportive work environments, flexible work arrangements, and training programs on coping mechanisms (36). Social policies addressing issues such as workplace bullying, excessive workloads, and job insecurity can contribute to safer and more equitable working conditions for young workers, which include adequate mental health support services and resources.

A limited study has examined associations between psychosocial risk factors and mental health, focusing on working Malaysian youth in various industries. Most of the previous studies conducted in Malaysia have focused on the general population or specialized occupational groups, such as healthcare workers. In addition, this study also focused on the young workers in the Klang Valley, the most developed region in Malaysia. Previous studies have shown that adult residents in urban areas

are more likely to be diagnosed with mental health disorders than adults who live in rural areas (37).

This study also encountered a few limitations. Firstly, we used self-reported data, for which misclassification is possible. Secondly, a cross-sectional study limits the determination of the temporal relationship between the independent variables and mental health problems to establish an actual cause-and-effect relationship. Thirdly, the pre-pandemic data on work-related psychosocial risk factors and mental health symptoms of participants was not accounted for, hindering a direct within-subjects comparison and evaluation of the pandemic's genuine effect on work-related psychosocial strain among our participants.

CONCLUSION

As a conclusion, this study demonstrated that most working youths experienced low workplace bullying, moderate workload, work-pace and work-life conflict, high support from supervisors and coworkers, and severe job insecurity. The result revealed that work-pace and stress were significantly associated with mental health symptoms. Eventually, the Covid-19 epidemic prompted the creation of research in the field of mental health. However, small numbers of researchers have sought to analyze the association between psychosocial risk factors and mental health among working youth. Our findings highlight the necessity of promoting a good support network to prevent mental health issues among working young and enhance their psychological well-being at work.

ACKNOWLEDGEMENT

The researchers would like to thank all working youth in Klang Valley who participated in this study.

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