ORIGINAL ARTICLE

Quality of Work Life (QWL) and Riding Behaviour Among Civil Servants in Klang Valley

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ABSTRACT

Introduction: The number of road accidents involving workers was on the rise, with more than 30,000 cases recorded and 76.9% involved motorcyclists and pillion riders. Despite of numerous studies have been conducted to explore the causes of this worrisome condition, little is known on the influence of working quality to riding behaviour. **Methods:** This cross-sectional study involved 187 riders (male: 66.3%; female: 33.7%) with average age was 33 years were randomly selected civil servants in Putrajaya, Kuala Lumpur, and Selangor. Self-administered questionnaire was used to collect information on socio-demographic and working background, riding experience, quality of working life (WRQoL) and riding behaviour (SMRBQ). **Results:** The most prevalent unsafe riding behaviour reported was tailgating the vehicles in front (88.2%) and speeding (70.6%). In multiple linear regressions, being male ($\beta = 0.16$, $p = 0.03$), type of motorcycle ($\beta = 0.14$, $p = 0.04$), and stress at work ($\beta = 0.20$, $p < 0.01$), predict erroneous riding. Whereas, lower educational level ($\beta = 0.17$, $p = 0.02$), stress at work ($\beta = 0.19$, $p = 0.01$), and lower job satisfaction ($\beta = 0.15$, $p = 0.04$) predict poorer helmet use behaviour. Also, male and younger riders reported to have higher level of time and money opportunistic riding behaviour. **Conclusion:** Findings of the study suggests that riding behaviour can be improved by increasing the quality of working life among workers such as work related stress, job satisfaction and also control at work. Thus, program planner should consider WRQoL in designing intervention related to road safety program.

Keywords: Quality of work life (QWL), Riding behaviour, Civil

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INTRODUCTION

Malaysia has recorded a very high number of road accident that give big impact to the economy and social well-being. Especially, the accident that involved workers with the loss of critical manpower and productivity (1). According to the Social Security Organization, there were 35,195 commuting accidents occurred in 2018 and 76.9% involved motorcyclists and pillion rider. Commuting accident has been defined by International Labour Organization as an accident occurring on the habitual route, in either direction between the place of work or work-related training and: (i) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration; which results in death or personal injury (2). Generally, accident during commuting to work continuously give worrisome by its increasing numbers of cases for the last five years (3).

The level of motorization and growth in motorcycle population of this country have rapidly increase, it may play a central role related to high number of motorcycle accident (4). Studies on motorcycles accident have shown that rider behaviour, type of motorcycle depend on their characteristic, roadway, environmental and traffic factors, and overexposure of motorcycles at intersections were factors that contributed on the motorcycle risk accident (5). In addition, literature has reported human factors such as bad attitudes or driving habits, level of health and behavioural problem of workers were the most common causes of commuting accident in Malaysia. It been reported that motorcycle riders who's practice risky and violation behaviour tend to have more accidents (6).

There are several problems related to motorcycle riding behaviour such as unskilled rider (7), traffic violation (4), aggressive behaviour, etc. Numerous studies have been conduct to explore factors that influence motorcycle

riding behaviour. Finding of a previous study showed that riding behaviour is commonly be influences by the socio demographic factor such as age and gender (6). It already been identified that young motorcyclist as high-risk and vulnerable population causing accident involving motorcycles (8). Despite of rider age and gender, there are other some potentially information associated with riding behaviour or accident risk (9). Therefore, current researches are beginning to collect information related to riding behaviour or accident risk such as studies were conducted to predict collision risk among commuter motorcyclist and worker who working more shift hours (10).

Previously, studies were conduct between work-related factors to measure of stress and self-reported rates with the driving pattern and showed significant associations (11). Stress and productivity are effect by the factors of quality of working life (QWL), poor QWL cause worker to have a high stress levels and low productivity (12). Based on Transport Statistics Malaysia 2018, the average daily traffic in Klang Valley is more than 100 000, due to this high traffic the rate of stress level among road user has been increase. Evidence has shown that stress indicate someone to take more risk while driving (11). Despite the various study on the association between stress and driving/riding behaviour, there have been very limited studies exploring the association between riding behaviour and QWL.

In Malaysia, there has been lack of study that provide scientific evidence in order to know better about the risk factors that may influence road accident among workers in immigration department even though this issues of riding behaviour have been increasingly publicized in commercial. At the end of this research, a baseline data will be provided on riding behaviour among the workers to assist in identifying the risk factors of road accident. Thus, this present study intends fill the knowledge gap in measuring the association between quality of working life with the riding behaviour among the officers in the Immigration Department of Malaysia. It is important to have good understanding of the problem. This could provide better improvement and appropriate modification of existing practices, policies and related procedures. The dependent variable of this study was the riding behaviour while several independent variables such as socio-demographic factors, working background factors, riding experience and at last, quality of working life were assumed to have significant association with the riding behaviour of the respondents.

MATERIALS AND METHODS

Study design, study location and sampling

This cross-sectional study was held at Immigration Department of Malaysia. The Immigration Department of Malaysia is under Ministry of Home Affairs which provides services to Malaysian citizens, permanent residents and foreign visitors that has about 177 branch/ location entire Malaysia (15). In this study, four branch/ location has been purposely selected with the consent of Immigration Head of the Federal Officer which were Jabatan Imigresen Putrajaya, Jabatan Imigresen Negeri Selangor, Pejabat Imigresen Wilayah Persekutuan Jalan Duta, Kuala Lumpur and Pejabat Imigresen Cawangan Lapangan Terbang Antarabangsa Kuala Lumpur (KLIA). Based on the inclusion criteria, the respondent must have Malaysian nationality, age between 18-60, have a valid motorcycle license and they need to ride motorcycle to work regularly; to be precise, at least once a week, to select them from four location stated a simple random sampling method was used. While, a person who has drug and alcohol addiction and drive a car/ using other transportation to work was excluded from this study. The minimum sample size required was 184 respondents has been calculated by using a scientific formula (Lemeshow et al., 1990) and this study obtain 187 as overall respondents.

Instrumentation and Data Collection

Data collection used a self-administered questionnaire in Bahasa Malaysia version which include of five part which were (i)sociodemographic information of respondents; (ii)working background information; (iii) riding experience while travelling to and from work; (iv)working condition and (v) riding behaviour. The validation of the translation from original English version have been double check by professionals from the Department of Environmental and Occupational Health, Faculty of Medicine and Health Sciences, UPM. Firstly, information regarding age, gender, educational level, marital status, household income, number of dependences, smoking status and alcohol consumption as respondent's socio-demographic characteristic was revealed in the first section of questionnaire. In term of working background, department, current position, year of employment, average working hours per day, average working days per week, participation in shift work and working type were determined. While, for riding experience part, the respondents were asked about average distance of travelling from house to workplace, average of time taken travelling from house to workplace, traffic condition, history of accident involvement in the past 5 years and type of motorcycle used.

For working condition part, for assessing quality of working life of the respondents the original version of Work-related quality of life (WRQoL) Scale in English was used which covered six major domains; Control at work (CAW), General well-being (GWB), Home-work interface (HWI), Job career satisfaction (JCS), Stress at work (SAW) and Working conditions (WCS) with total of 24 question. Additional 3 questions were added in this part to assess the practice of the respondents on safety and health aspects. Likert scale been use to rate how respondents strongly agree with each statement start from 1=Strongly Disagree; 2= Disagree; 3=Neutral;

4=Agree and 5=Strongly Agree. The score for each dimension is calculated by finding the average of the items contributing to that domains.

Questionnaire to measure the motorcycle riding behaviour of the respondent was adapted from the previous study (16). There were 23 questions in this part which can be categorized into three factors which were factor 1: Unfit erroneous riding, intrusive and exhibitive behaviours including items; 1-15, factors: time and money opportunistic behaviour including items 26-21 and factor 3: helmet use behaviours including items 22 & 23. The scale score was ranged from one to six as been calculated by each item score divide by the number of items. Therefore, higher score shows that the behaviour described were frequently done (17).

The designed questionnaire was translated into Bahasa Melayu (BM) from its original English version and have been double checked for the validation of the translation. Researcher distributed the questionnaire one by one together with both oral and written informed consented forms. Time given for respondent to answer the questionnaire was 20 minutes and they did it mostly during free time and resting time. Data were collected within 4 weeks and all data remain private and confidential.

Statistical analyses

IBM SPSS Statistic Version 22 was used to perform the data management and analysis. Firstly, all continuous data were checked for normality test and completeness before further statistical analysing. Descriptive analysis was carried out for describing socio-demographic, working background and riding experience of the sample population. The Spearman rho correlation test was used for the association within variables. Since there are data not normally distributed, non-parametric test which are Man Whitney and Kruskall Wallis test were used to compare among different groups. For the normal data, Independent T-test and one-way ANOVA to compare among different groups. Multi linear regression was used to predict factors for riding behaviour.

Ethical Consideration

Human subject's permission was gained first from the Research Ethics Committee of Universiti Putra Malaysia (UPM) before the start of any collection. Each respondent was given a consent form to read and sign before answering the questionnaire. The consent states that the participation of this study is voluntarily, and participant can withdraw from it as they will.

RESULTS

Reliability Test for Work-Related Quality of Life (WRQoL) Scale and Short Motorcycle Riding Behaviour Questionnaire (SMRBQ)

A reliability test was used to measure if the questionnaire instrument was reliable, or not. The internal consistency of the score scales for WRQoL and SMRBQ used in this study were good, reliable and acceptable (Cronbach's ά-coefficient > 0.7). For this questionnaire the value for Cronbach's ά-coefficient was 0.841 for Work-Related Quality of Life (WRQoL) Scale and 0.930 for Short Motorcycle Riding Behaviour Questionnaire (SMRBQ).

Sociodemographic, Working Background and Riding Experience

The total number of respondents were 187 with 93.5% response rate. Most of the respondents were males (66.3%), age within 30-39 years old (51.3%), married (74.3%), held certificate/diploma (54.0%), and majority of the respondent have income more than RM 3000.00 (56.1%). Most of the respondent did not consume alcohol (98.4%) and were non-smoker (72.7%). For working background, most of the respondents have working experience of 1-5 years (40.1%), work for more than 8 hours daily (70.1%), non-shift workers (90.9%), work for 5 days in a week (80.7%) and worked actively (41.2%) (Table I).

Meanwhile, for the riding experience information, majority of the respondents were travelled within the distance of 1-29 km (80.7%), time taken for travelling from home to workplace was more than 30 minutes (58.3%). Most of them reported that they were facing slow but still moving traffic condition (42.2%) when commuting to and from workplace and home. About 55.6 % of the total respondent stated that they possessed more than 10 years duration of riding licence. There was 28.9% of respondents answered that they involved in the accident within the past 5 years. For the type of motorcycle used, majority of the respondent were riding underboned/moped type of motorcycle's (51.9%). The distribution of riding experiences among respondents is shown on Table II.

Riding Behaviour

Riding behaviour was the dependent variable that was measured in this study. Record from this study showed the most relevant unsafe riding behaviour was tailgating the vehicles in the front (88.2%) and speeding (70. 6%). Based on the previous study (9), riding behaviour can be categorized into three factors which are Unfit erroneous riding, intrusive and exhibitive behaviours including questions number 1-15; Time and money opportunistic behaviours including questions number 16-21 and Helmet use behaviours including items 22 & 23. The analysis has shown that most of the respondents tend to conduct unfit erroneous riding, intrusive and exhibitive behaviours with the mean score of (24.52±8.36), followed by time and money opportunistic behaviours (11.40 ± 4.23) and helmet use behaviours (3.35 ± 1.59) as shown in Figure 1. Due to this currently study setting in Malaysia, only wearing-related item was measure cause the mean score of helmet usage is low.

Table I : Distribution of sociodemographic and working background information (N = 187)

Variables	f(%)
Age	
20-29 years old	61(32.6)
30-39 years old	96(51.3)
40 and above years old	30(16.0)
Gender	
Male	124(66.3)
Female	63(33.7)
Marital Status	
Single	45(24.1)
Married	139(74.3)
Divorce	3(1.6)
Educational Level	
No education	1(0.5)
SPM	64(34.2)
Certificate/Diploma	101(54.0)
Bachelor and above	21(11.2)
Household Income (RM)	
Less than RM3000	82(43.9)
More than RM3000	105(56.1)
Number of Dependences	
0-3	142(75.9)
4-7	45(24.1)
Alcohol Consumption	
Yes (1)	3(1.6)
No (2)	184(98.4)
Smoking	
Yes (1)	51(27.3)
No (2)	136(72.7)
Working Experience	
Less than 1 year	12(6.4)
1-5 years	75(40.1)
6-10 years	26(13.9)
More than 10 years	74(39.6)
Average Working Time (Hours/day)	
5-8 hours (1)	56(29.9)
More than 8 hours (2)	131(70.1)
Shift working	
Yes (1)	17 (9.1)
No (2)	170(90.9)
Working Type	
Not Active (1)	14(7.5)
Moderately Active (2)	40(21.4)
Fairly Active (3)	49(26.2)
Active (4)	77(41.2)
Very Active (5)	7(3.7)

Table II : Distribution of Riding Experience among Respondents (N = 187)

Variables	f(%)
Distance to Workplace (km)	
1-29.9 km	151(80.7)
30-59 km	29(15.5)
60-90 km	7(3.7)
Time travelling to Work (Minutes)	
Less than 30 minutes	78(41.7)
More than 30 minutes	109(58.3)
Traffic Condition	
Smooth (1)	69(36.9)
Slow but still moving (2)	79(42.2)
Congested (3)	39(20.9)
History of Accident Involvement	
Yes (1)	54(28.9)
No (2)	133(71.1)
Years of Valid Motorcycle Licence	
Less than one year	6(3.2)
2-5 years	28(15.0)
6-10 years	49(26.2)
More than 10 years	104(55.6)
Type of Motorcycle	
Motorbike (1)	47(25.1)
Moped/underboned (2)	97(51.9)
Scooter (3)	43(23.0)

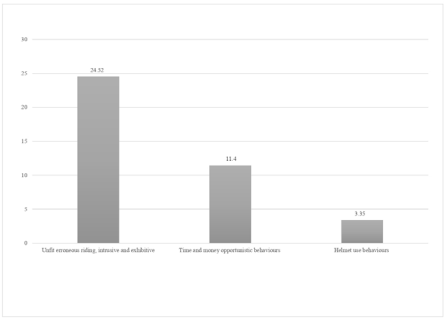

Figure 1 : Distribution of three different factors of riding behaviour (N = 187)

Relationship between the Socio-demographic Factors, Working Background and Riding Experience with Riding Behaviour

Spearman Rank Correlation test was run to find the association between the socio-demographic factors, working background and riding experience with riding behaviour. Result showed that socio-demographic factors such as marital status and alcohol assumption did not significantly associated with riding behaviour. Age was found significantly correlated with riding behaviour where older person had more erroneous riding than the youngest (rs=276, P=0.00). On the other hand, T-test showed that between male and female also correlated with riding behaviour. With regard to working background, there were no significant relationships between shift working and working type with riding

behaviour. There was significant but weak association between working experience (rs=163, P=0.25) and riding behaviour in such way that experienced worker led to better riding behaviour of the respondents.

For riding experiences, there were no significant relationship between average distance to workplace, traffic condition, history of accident involvement with riding behaviour, types of motorcycle used and time taken for travelled from home to workplace with riding behaviour. Only variable on of the years the respondents had acquired their motorcycle licence has significant relationship ($p<0.05$) with riding behaviour.

Relationship between Quality of Working Life with Riding Behaviour

In this study, the association between the quality of working life with riding behaviour were measure using Spearman Correlation Test. Result showed, the correlation between the total Work-related quality of life and riding behaviour was positive for factor 1, but negative for both factor 2 and 3 and does not statistically significant at 0.05 level. From of the six domains of work-related quality of life, stress at work (SAW) were significantly correlated the factor 1 and 3 of riding behaviour. Job and Career Satisfaction has a positive significant correlation with factor 3. Control at work has a significant positive correlation with Factor 1 and 2 (Table III).

Multiple regression was run to study the relationship within work-related quality of life and riding behaviour based on the factors of socio-demographical characteristics, working background and riding experiences. Those variables that are found significant in bivariate analyses are included in this analysis. Result show that after considering several factors including gender, type of motorcycle and stress at work were found significantly related with unfit erroneous riding, intrusive and exhibitive behaviours. While factors such as low educational level, stress at work and job career satisfaction were found significantly related with helmet use behaviour. This model explained 23%, $F(8,178) = 6.52$ of the total variance in unfit erroneous riding, intrusive and exhibitive behaviours and 13%, $F(5,181) = 5.31$ of the total variance in helmet behaviour (Table IV and Table V).

Table III : Relationship between Quality of Working Life with 3 factors of Riding Behaviour (N = 187)

			Unfit erroneous riding, intrusive and exhibitive behaviours (Factor1)	Time and money opportunistic behaviours (Factor 2)	Helmet Use behaviours (Factor 3)
1.	Job, Career Satisfaction (JCS)	correlation	-0.056	-0.122	-0.177*
		sig	0.449	0.096	0.015
2.	General well-being (GWB)	correlation	0.056	-0.086	-0.132
		sig	0.444	0.241	0.071
3.	Working Condition (WCS)	correlation	0.060	0.045	-0.031
		sig	0.413	0.543	0.676
4.	Home Work interface (HWI)	correlation	-0.098	-0.083	-0.098
		sig	0.180	0.260	0.181
5.	Stress at Work (SAW)	Correlation	0.225**	0.144	0.179*
		sig	0.002	0.050	0.014
6.	Control at Work (CAW)	correlation	0.183*	0.141	-0.012
		sig	0.012	0.054	0.876
7.	Total Score WRQoL	correlation	0.053	-0.050	-0.096
		sig	0.467	0.498	0.192

Spearman rho correlation, **Correlation is significant at the level 0.01(2 tailed); *significant at 0.05 (2 tailed)

Table IV : Multiple regression for predicting unfit erroneous riding, intrusive and exhibitive behaviours (N = 187)

	B	SE	β	sr^2
(Constant)	14.736	10.553		
Age	-0.228	0.130	-0.203	-0.130
Gender	-2.857	1.282	-0.162	-0.165
Alcohol consumption	5.467	4.510	0.082	0.090
Average Working Time	1.577	1.231	0.087	0.096
Years of Valid License	-0.116	0.132	-0.103	0.066
Type of Motorcycle	-1.728	0.843	-0.144	-0.152
Stress at Work (SAW)	1.009	0.345	0.195	0.214
Control at Work (CAW)	0.708	0.362	0.133	0.145

Table V : Multiple regression for predicting helmet use behaviours (N = 187)

	B	SE	β	sr^2
(Constant)	7.284	1.374		
Age	-0.027	0.018	-0.128	-0.115
Educational level	-0.412	0.170	-0.173	-0.177
Total monthly income	0.000	0.000	-0.105	-0.094
Stress at Work (SAW)	0.184	0.071	0.188	0.188
Job career satisfaction (JCS)	-0.091	0.045	-0.151	-0.151

DISCUSSION

Workers need to improve their riding behaviour to lower the accident risk and prevent any traffic accident to happen. Although it is important to control accident risk and prevent traffic accident, improving of riding behaviour has been observed among workers. In this present study, the influence of the socio-demographic, working background, riding experience and quality of working life on the behaviour of the respondents during riding a motorcycle was studied. T-test showed that between male and female also correlated with riding behaviour. This finding can be support with previous studies where its related to involve in road accident, motorcyclist's age and gender that have influence a few of crash outcomes such as the risk of fatal injury. Fatally injury was common between male and elderly motorist compare with female and in the younger age ranges (13,14). On the other hand, having low educational level indicates riding behaviour. Finding of studies (15) found that educational level and age are significantly correlated to mortality rate whereas the youth and uneducated or low educated people suffer more fatal road traffic accident. An improvement can be done by giving this group of people a better understanding regarding road safety.

Besides, this study also has found significant difference of mean in riding behaviour scores between different types of motorcycle. Numbers of worker using motorbike and scooter are smaller compare to the underboned/ moped's type. Thus, different numbers in motorcycle type will indicate motorcyclist riding behaviour which can lead to accident. Most of the motorcyclist have their own preferences to select certain type of motorcycle whereas it have varied in design and performance capability. However, one of the factor having risky riding like speeding is affected by motorcycle performance capability. As acknowledge, motorcycle type also contributes in fatal crash risk. Based on the study (16), death rates have been compare between two types of motorcycle which is super sport or motorbike and standard motorcycles. The result show riding with standard motorcycle have lower death rates.

Next, poor quality of working life influence the riding behaviour. Among the six factor of the work-related quality of life scale, having stress at work (SAW) was found tend to unfit erroneous riding, intrusive and exhibitive behaviours (r-0.225) and poor helmet use behaviour (r=0.179) respectively. Higher level of stress gives effects such as easily get tired, fatigue and prone to sickness (17), therefore it become possible reason due to stress correlate with more erroneous driver. Meanwhile Job, Career Satisfaction (JCS) was found to have negative weak correlation (r=-0.177) with the helmet use behaviour factor. JCS reduce the usage of helmet due job satisfaction definition itself. It is known as certain responses of emotion and behaviour of individual towards their (18) whereas not used helmet is a negative emotional reaction and behaviour. Since there is no literature that has been focusing solely on the impact of the quality of life and riding behaviour of a person, it is difficult to relate the finding of this study with the previous works. However, a few studies have been found to be relatable in the context of road safety issue. In Brazil, a comparison within the quality of life and ability to work of taxi driver concluded that having worse self-perceived quality of life (QOL) give effect to their work ability (19).

Additionally, shift working and working type did not significantly contribute towards riding behaviour. In this study, respondents were work in shift which involve morning and night shift workers. This finding is contradicted with some research that have found shift working could increase the possibility of accident especially when they are working on the night shift. Previously, in actual driving they have found that night-shift workers tend to drive dangerously and almost faces

accident during driving due to overnight work, where the level of drowsiness is high (20). Their result showed that night-shift workers will be in danger if they have longer commuting distance. This result could be agreed since majority of the respondents did not work on shift.

Based on our findings, 23% of variance in the erroneous riding behaviour been contributed by gender, type of motorcycle and stress at work while education level, job career satisfaction and also with stress at work were significantly contributed towards helmet use behaviour. This research been acknowledging as a new study that access QWL and riding behaviour. There were several limitations in the current study. This study has been conduct among Immigration officers in Klang Valley. Thus, results from study cannot be generalized to the whole worker population. Other studies, who wish to determine commuting riding behaviour should have aim to identify those workers frequently commute to work using motorcycles.

CONCLUSION

In conclusion, findings from this study have found that the fact being male, having lower educational level and types of motorcycle used contributed towards improving riding behaviour. Finding also shown that stress at work (SAW), Job and Career Satisfaction and Control at work indicates riding behaviour that need to improve QWL. Therefore, increasing the QWL among workers can improve their riding behaviour. In the end, these finding might be of relevance in designing road safety programme and intervention to make changes on the rate of accident involving motorcycle in Malaysia associated with the riding behaviour. In order to ensure the wellbeing of workers in Malaysia, a proactive approach should be taken due to this issue. Involvement of all authorities are necessary to make an improvement on safety and health aspect especially rate of road accident.

ACKNOWLEDGEMENT

This research was supported by Universiti Putra Malaysia and authors thank the management of Immigration Department of Malaysia for the collaboration in this study.

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