

International Conference on Social Sciences & Humanities (ICOSH-UKM2012)
Theme: Knowledge for Social Transformation & Development in the 21st Century

ROLE OF SENSATION SEEKING AND AGGRESSION ON RISK RIDING BEHAVIORS AMONG MOTORCYCLE STREET RACERS IN MALAYSIA

Rozmi Ismail, Normah Che Din, Ong Lee Lee, Norhayati Ibrahim, Fauzi Sukimi

ABSTRACT

In Malaysia, Illegal motorcycle street racers (locally known as Mat Rempit) is a well known phenomena. Racing on the public roads and performing dangerous stunts action not only endangered themselves but also threaten other road users. This article examines the relationship between impulsive traits, sensation seeking, aggression and risk taking behaviors among illegal motorcycle street racers in Malaysia. Some 564 motorcyclists (identified as Mat Rempit) were interviewed and requested to complete self-reported questionnaires on aggression, sensation seeking, and risky riding. This study found that the Mat Rempit who participated in illegal street racing scored higher on aggression, sensation seeking, and risk taking behaviors as compared to the group of respondents not involved. Results also revealed that those higher on overall impulsive sensation seeking traits also scored relatively high on aggression and risky riding. Regression analysis showed aggression, and sensation seeking behaviors contributed to 16.1% of the total variance in risky riding. This study suggested that effective enforcement as well as special rehabilitation program is needed for this group.

Key words: motorcycle street racing, Mat Rempit, impulsive, sensation seeking, aggression, risky riding.

INTRODUCTION

In Malaysia those who involve in illegal motorcycle street racing known as Mat Rempits. Mat Rempit is a well-known phenomenon in the general population. Recently, this activity is spreading as it can be seen in all cities across Malaysia. Weekend nights or public holidays are the time where we can see a group of Mat Rempit (sometime thousands) congregated at the traffic light at a downtown intersection to makeshift start line. Mat Rempit usually modified their motorcycles for racing purposes to achieve higher speed and increase the noise. In addition to racing, they also perform dangerous stunts at high-speed. Street racing has a long history in the popular culture and many songs and films idolize street racing. One of the first was *Rebel Without a Cause* with James Dean. More recently, two films, *The Fast and the Furious* in 2001 and a remake in 2003, portray street racing as a valiant sport. The percentage number of male

adolescent participated in this activities is increased, and score of them were detained by police. The fatality rate has surged in recent years and crucial. Illegal racing phenomena also reported in other countries, for example in the USA approximately 804 people (majority were young males aged 15 to 25 year olds) were killed in racing-related crashes between (Knight et al., 2004).

Traditionally, street racing is seen as a youthful activity and strongly associated with rebellion against parents, society, and authorities (Leigh, 1996; Ismail and Borhanuddin (2010), speeding, driving recklessly and aggressive (Vaaranen, H., & Wieloch, 2002), involved in traffic violation, road rage, well as violation of social norms and values (Parker & Stradling, 2001). Recent study by Ismail & Borhanuddin (2009) found that *Mat Rempit* not only refer to individual who participates in illegal street racing but it represents the tip of the iceberg of a bigger problem. Such activities associated with stealing motorcycles and cars for spare parts, vandalism, substance abuse, house breaking, snatch theft and rape.

Despite the alarming issues and problems related to *rempit* activities, very limited research have focuses on *Mat Rempit's* behaviors In Malaysia. Most of the study by Ismail (2006), and Ismail and Ibrahim (2007) focused on socio-demographic and the characteristics of youth involved in this activity. A study by Ismail and Ibrahim (2007) using a sample of 200 illegal street racers found that majority were Malay (aged between 17 to 28 years old). Street racing or *merempit* is very significant for them because it is a place for cheap entertainment; to release their anger, for interaction purposes and building a community based on sharing similar target, interest and way of life. Individuals who joined *Mat Rempit* groups developed an informal organization and formed subculture (Ismail and Ibrahim, 2007).

Most of the studies conducted by the western researchers mainly focused on illegal car racing because motorcycle was not very popular in this culture. For example study by Leal & Watson (2011); Tranter & Warn (2008) on Australian street racing offenders found that majority of them had reported having bad driving records in the last 3 years prior to the offence. In New Zealand and Europe studies have found that young people who reported street racing also reported engaging in other risky behaviours and criminal activity, such as drinking, drug use, and risky driving (Falconer & Kingham 2007; Vaaranen & Wieloch, 2002). Fergusson and colleagues (2003) showed that street racing was associated with deviant peer affiliations, substance abuse, and criminal activity among their longitudinal sample of 18- to 21-year-old New Zealanders. Bina et al. (2006) studied Italian adolescents and found that young males who involved in street racing and other risky driving activities were more likely to engage in antisocial behaviours. Warn et al. (2004), in their study on New Zealanders male students aged between 15 and 24 years, found that sensation seeking was directly associated with illegal street racing, risky driving, and positive attitudes towards speeding.

Other studies found that young male drivers are typically those identified as frequently involved in racing and tend to violate traffic regulation (Knight et al., 2004;

Leigh, 1996; Vaaranen & Wieloch, 2002). Other researchers have found that illegal racing activities related to personality traits such as impulsivity, aggression and hostility (Beirness, 1993; Deffenbacher et al., 2001), social deviance (West et al., 1993), errors and violation (Parker & Stradling, 2001). Sensation seeking was a significant determinant of the choice of risky activities such as motorcycling racing, parachuting, skydiving, adventuresome travel and cigarette smoking (Conolly, 1981; Rossi & Cereatti, 1992; (Zukerman, Ball, & Black, 1990; Calhoun, 1988).

The problem of illegal street racing is especially remarkable for adolescents and young adults. Despite the considerable media attention paid to illegal street racing, very few scientific studies have been conducted to identify street racers, to map recent trends over time, and to identify the best methods for controlling street racing. This study is aimed to examine the relationship between impulsive traits, sensation seeking, aggression and risk taking behaviors among illegal motorcycle street racers in Malaysia.

METHOD

This study employed a survey method (questionnaire and face to face interview) to investigate the relationship between latent construct such as impulsive sensation seeking, aggression, and risky riding.

Sample and participants

A total of 564 male adolescents identified as *Mat rempits* participated in the study. They were selected using snowball sampling method with the assistance of the group leader to identify their members. Their age is between 13-36 years (mean = 19.88 years, SD = 2.985). About 97.3% of them were Malay, 2.5%, the rest were identified as Chinese and Indian.

Instruments

Participants were interviewed and asked to fill out self-reported questionnaires. The questionnaires used in this study were Sensation seeking, aggressive behavior and risky riding. The 19 items self-report impulsivity sensation seeking of Zuckerman et al., (1993) was used to measure impulsivity (a lack of planning and tendency to act impulsively without thinking) and sensation seeking (a general need for thrills and excitement, a preference for unpredictable situations and friends and the need for change and novelty). The subjects were asked whether they agree with what was describe in the items using a dichotomy scale “yes” or “no”. These scale was reliable (alpha Cronbach are $\alpha=0.68$ for impulsivity and $\alpha=0.92$ for sensation seeking). The violation sub-scale of the Driver Behavior Questionnaire (DBQ) (Reason, et al.,1990) was used to assessed risky riding behavior. There were 19 items measuring violation behavior while riding a motorcycle using a five-point scale ranging from 1 (not at all) to 5 (very often). This questionnaire has been proven to be reliable ($\alpha= 0.93$). Whereas Aggression behavior was assessed

using Buss & Perry Aggression Questionnaire consisting of 4 subscales: Physical aggression (9-items), verbal aggression (5-items), Anger (7 items) and Hostility (8-items). All subscales were found to be reliable (Cronbach's alpha $\alpha=0.78, 0.77, 0.76, 0.77$ and 0.78 respectively).

RESULTS AND DISCUSSION

Surprisingly, responses from the question whether or not they like to be labeled as *Mat Rempit*, majority of the participants do not like to be labeled as *Mat Rempit*. Only 25.5% of the respondents were proud as *Mat Rempit*, and this group admitted that they frequently participated and organized illegal racing. Socio-demographic profile of participants is presented in Table 1. Standard multiple regression was also performed to predict risky riding based on aggression, impulsivity and sensation seeking.

Table 1 Socio-Demographic profile of participants

Demographic variables		Frequency	Percentage
Age	11-15 years	24	4.3
	16-20 years	335	59.4
	21-25 years	183	32.4
	26-above	22	3.9
Level of education	Primary School	22	9.9
	Secondary School	76	13.5
	SPM level	327	58.0
	A level	24	4.3
	Degree/diploma	101	17.9
	Others	14	2.5
Occupation	Student	231	40.9
	Operator	37	6.6
	Office boy	43	7.6
	Despatch	36	6.4
	Mechanic	51	9.0
	Jobless	166	8.2
	Incomes	No income	257
	Below RM 500	90	16.0
	RM 501 - RM 1000	135	23.9
	RM 1001 - RM 2000	67	11.9
	RM 2001 and above	15	2.6

Respondents were asked about their riding experience (i.e. the age in which they began to ride a motorcycle on the road). Majority of the participants ($n = 319, 65.2\%$) indicated that they started riding at the age of 13-15 years, 32.6% started at the age of 16-18 years while only 2.2% started riding at the age of 19years.

The t-test analysis was performed to compare aggressive level of subjects who frequently participated in illegal racing and who did not participated in illegal racing. Descriptive

statistics for the measures of aggression is reported in Table 2. The mean scores for each subscale, and the overall scores indicated that physical aggression is highest among subjects who are involved in street racing ($M=25.04$, $S.D. = 4.970$). The mean for hostility is slightly lower, followed by anger and verbal aggression. There is significant difference in physical aggression ($t=2.739$, $p<.01$) between these two groups.

Table 2. Result of Aggression Questionnaire

	Frequently participated in illegal racing (n=103)		Not frequently participated in illegal racing (n=459)		t
	M	S. D	M	S. D	
Physical Aggression	24.75	5.767	23.05	5.627	2.739*
Verbal Aggression	13.94	3.832	13.61	3.453	.869
Anger	18.75	5.060	17.93	4.627	1.592
Hostility	22.17	5.656	22.35	5.480	-.293
Aggression	79.27	16.995	76.69	15.543	1.477

* $p < .01$

The results of impulsivity sensation seeking scale (Table 3) showed that frequent racers reported significantly higher impulsivity sensation seeking ($M = 11.11$) than infrequent racers mean=9.0 ($t(103)=3.264$, $p<.001$). For the risky riding (violation) showed a significant difference between these groups, where frequent street racers reported significantly higher violation than non-frequent street racers ($t(103)=8.337$, $p<.001$)

Table 3. Result of Impulsivity Sensation Seeking Scale and Risky riding

	Frequently Involve in street racing (n=103)		Not frequently in street racing (n=459)		t
	M	S. D	M	S. D	
Sensation seeking	7.73	3.036	6.05	2.746	5.488**
Impulsivity	3.40	1.470	2.94	4.991	.907
Impulsivity sensation seeking	11.11	3.906	9.00	6.213	3.264**
Risky riding	36.81	16.141	23.25	14.631	8.337**

** $p < .001$, * $p < .05$

Bivariate correlations revealed a significant positive relationship between overall aggression and self-reported risky riding ($r=.253$, $p<0.001$). The correlations between trait impulsive sensation seeking, aggression and risky riding showed that those higher on overall trait impulsive sensation seeking perceived relatively high level on aggression ($r=.210$, $p<0.001$) and risky riding ($r=.333$, $p<0.001$).

In order to investigate to what extent impulsive sensation seeking and aggression predict risky riding, multiple regression analysis was carried out. The dependent variable was self-reported risky riding and the predictor variables were impulsive sensation seeking and aggression. These predictors were entered via stepwise into the regression equation, so that the strongest predictor was selected first, followed by the second. The results presented in Table 5 showed that impulsive sensation seeking and aggression significantly predict risky riding 16% of the total variance.

Table 5. Summary of multiple regression analysis to predict risky riding

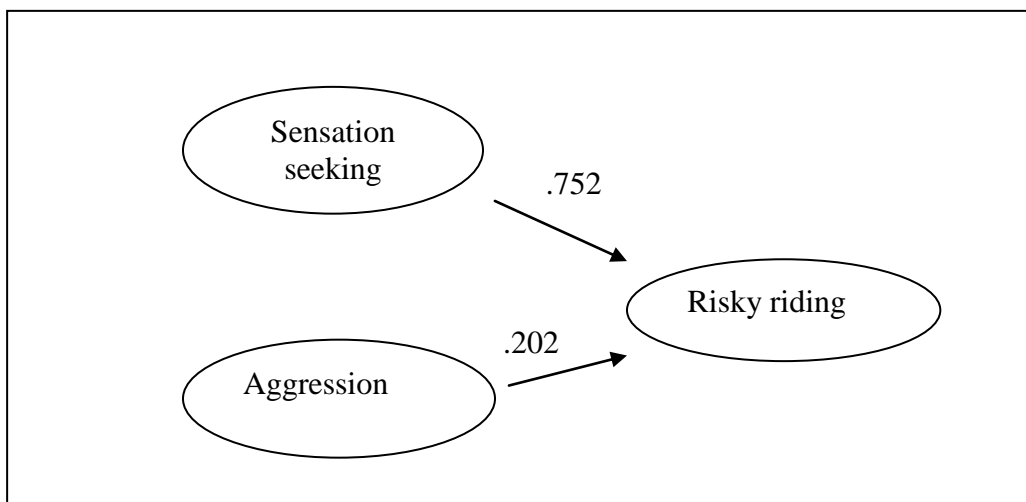
	B	Risky riding F	Total R ²	β
Constant	-3.690	34.704**	.161	
Impulsive sensation seeking	.752			.285**
Aggression	.202			.202**

**p< .001, *p<.05

The present study tested the practical assumption that impulsive sensation seeking and aggression contribute to risky riding behaviors. The study also showed motorcyclists who frequently participated in illegal racing tend to be physically aggressive and scored high on impulsivity sensation seeking scales. Results of regression analysis revealed that risky riding behaviour related to aggressive traits and sensation seeking as illustrated in the figure 1 below.

$$\text{Risky Riding} = -3.690 + (.752) \text{impulsivity sensation seeking} + (.202) \text{aggression}$$

Figure 1: Relationship between sensation seeking, aggression and risk riding



CONCLUSIONS

Road traffic accidents do occur unexpectedly. Accidents statistics from the Royal Malaysia police consistently shown that majority of the death are motorcyclist. *Mat rempits* and Illegal street racing activities now became a menace in Malaysia. However, study revealed that those who joined the groups do not like to be labeled as Mat rempit because the word rempit has negative connotation. But they joined the group for the sake of socialisation and enjoyment. Results of this found that those who participated in illegal street racing tend to have aggressive and impulsive traits. This finding is in accordance with previous studies who found that automobile drivers who committed driving violation tend to be aggressive. According to our study, risky riding behaviors are influenced by peer-group especially when they are congregated. This study suggests that in order to counter this behavior, special program should be implemented to tackle those involved in illegal racing.

ACKNOWLEDGMENT

This research was supported by Fundamental Research Grant Scheme (FRGS) no. SK/10/2009/GLKK program, which is funded by Ministry of Higher Education and University Kebangsaan Malaysia.

REFERENCES

- Beirness DJ. Do we really drive as we live? The role of personality in road crashes. *Alcohol Drug Driving*. 1993; 9: 129-143.
- Bina M, GrazianoF, Bonino S. Risky driving and lifestyles in adolescence. *Accid Anal Prev*.2006;38:472–481.
- Buss AH, Perry M. The Aggression Questionnaire. *Journal of Personality and Social Psychology*.1992;63:452-459.
- Calhoun, L.L. Explorations in the biochemistry of sensation seeking.*Personality and Individual Differences*. 1988: 9: 941-949.
- Deffenbacher, J.L., Lynch, R.S. Oetting, E.R., Yingling, D.A.. Driving anger: Correlates and test of state-trait theory.*Personality Individual Differences*, 2001;31: 1321-1331.
- Fergusson, D. M., Horwood, L. J. & Swain-Campbell, N. R. (2003). Cannabis dependence and psychotic symptoms in young people. *Psychological Medicine*. 33, 15-21.

- Ismail,R, Borhanuddin, B. Pendefinisian Semula Konsep Mat Rempit. *Journal Psikologi Malaysia*.2009: 29.
- Ismail, R.,& Ibrahim, N. 2008. *Mat Rempit Menace (Illegal Street Motorcycle racers) in Malaysia: A Study of Psychological Profile of Mat Rempit in Malaysia*. Paper presented at the 4th International Conference on Traffic & Transport Psychology, Capital Hilton Washington, USA, 2008: August 31st.
- Ismail,R.& Ibrahim,N. Faktor-faktor mempengaruhi keterlibatan remaja dalam perlumbaan haram dan hubungannya dengan jensi personaliti, sokongan sosial dan *coping skill*. *Laporan Akhir Penyelidikan: Institut Penyelidikan Pembangunan Belia Malaysia*, 2007: Kuala Lumpur: Institut Penyelidikan Pembangunan Belia Malaysia, Kementerian Belia dan Sukan.
- Jessor, R. Risky driving and adolescent problem behavior: an extension of problem behavior theory. *Alcohol Drugs Driving*. 1987: 3: 1–12
- Knight, S., Cook, L.J, Olson, L.M. The fast and the fatal: street racing fatal crashes in the United States. *Inj Prev*. 2004;10:53–55.
- Leal, N.L., Watson, B.C. The road safety implications of illegal street racing and associated risky driving behaviours: an analysis of offences and offenders. *Accid Anal Prev*. 2011;43:1547–1554.
- Leigh, A. Youth and street racing. *Current Issues in Criminal Justice*, 1996:7: 388-393
- Parker & Stradling, (2001). Influencing Driver Attitudes and Behaviors. DETR, *Road Safety Research Report* No. 17.
- Rossi, B. & Cereatti, L. The Sensation Seeking in mountain athletes as assessed by Zuckerman's Sensation Seeking Scale. *International Journal of Sport Psychology*, 1992: 24: 417-431.
- Tranter, J. & Warn, P. Relationships between interest in motor racing and driver attitudes and behavior amongst mature drivers: An Australian case study. *Accident Analysis and Prevention*, 2008; 40: 1683–1689
- Vaaranen, H., & Wieloch, N. (2002). Car crashes and dead end careers: leisure pursuits of the Finnish subculture of the kortteliralli young street racing. *Nordic Journal of Youth Research*.2002:10:42-58.
- Vingilis E, Smart. R.G. Street racing: a neglected research area? *Traffic Inj Prev*. 2009;10:148–156.

Vingilis, E., Smart, R.G., Eginald G., Mann, R. E., Paglia-Boak, A. Gina, S., Adlaf, E.M.
Prevalence and Correlates of Street Racing Among Ontario High School Students.
Traffic Inj Prev. 2011: 12: 443–450,

West, R., Elander, J. French, D. Mild social deviance, type-A behavior pattern and
decision making style as predictor's self-reported driving style and traffic
accident risk. *British Journal of Psychology.* 1993: 84: 207-219.

Wong, J.T., Chung, Y.S. & Huang, S.H. Determinants behind young motorcyclists' risky
riding behavior. *Accident Analysis Prevention.* 2010: 42: 275-281

Zukerman, M., Ball, S., & Black, J. Influences of sensation seeking, gender, risk
appraisal, and situational motivation on smoking. *Addictive behaviors.* 1990: 15:
209-202.

Rozmi Ismail
Centre for Youth Empowerment
Universiti Kebangsaan Malaysia
E-mail: rozmi@ukm.edu.my

Normah Che Din
Health Psychology Program, Faculty of Health Sciences,
Universiti Kebangsaan Malaysia,
Bangi 43600,
Selangor, Malaysia

Ong Lee Lee & Norhayati Ibrahim
School of Psychology & Human Development,
Universiti Kebangsaan Malaysia,
Bangi 43600,
Selangor, Malaysia

Fauzi Sukimi
School of Social & Environmental,
Faculty of Social Sciences and Humanities,
Universiti Kebangsaan Malaysia,
Bangi 43600,
Selangor, Malaysia