Journal of Social Sciences & Humanities

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Pertanika is an international peer-reviewed journal devoted to the publication of original papers, and it serves as a forum for practical approaches to improving quality in issues pertaining to tropical agriculture and its related fields. Pertanika began publication in 1978 as the Journal of Tropical Agricultural Science. In 1992, a decision was made to streamline Pertanika into three journals to meet the need for specialised journals in areas of study aligned with the interdisciplinary strengths of the university.

The revamped Journal of Social Sciences & Humanities (JSSH) aims to develop as a pioneer journal for the Social Sciences with a focus on emerging issues pertaining to the social and behavioural sciences as well as the humanities, particularly in the Asia Pacific region. Other Pertanika series include Pertanika Journal of Tropical Agricultural Science (JTAS); and Pertanika Journal of Science and Technology (JST).

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Editorial Statement

Pertanika is the official journal of Universiti Putra Malaysia. The abbreviation for Pertanika Journal of Social Sciences & Humanities is *Pertanika J. Soc. Sci. Hum.*

Pertanika Journal of

SOCIAL SCIENCES & HUMANITIES

A special issue devoted to
Youth Development

Pertanika Editorial Office

Publisher

Preface

Realising the importance of youth participation in building a strong nation, Malaysia has engaged its young people by encouraging them to play meaningful roles in decision-making on issues that are relevant to them. Despite these efforts, Malaysia's young people continue to face many challenges that continue to shape their current and future outlook. As key players in the nationwide effort to contribute to the well-being of Malaysia's younger generations, youth researchers across the country continue to engage in relevant, high-quality research aimed at better understanding the intricate lives and unique challenges facing Malaysia's youth. This special issue journal is one example of this ongoing work. The articles included in this special issue provide a diverse array of scientific findings and perspectives useful for anyone who is devoted to the betterment of young people in Malaysia.

The articles included in this special issue touch on a broad array of pertinent youth-related issues. Articles on contract farming among youth, ICT utilisation and its impact on the income of young fishermen, and youth and the brackish water cage culture industry all stress on the importance of economic and career development in industries typically deemed as traditional and outdated by many youth. The articles presented attempt to refute this assumption by highlighting the economic and career potential of such endeavours. Other highly relevant issues such as love, religiosity, women, violence and the phenomenon of transgender youth touch on social aspects of being young and youth culture that are in dire need of address by researchers in addition to what is presented in the popular media. Key national issues such as young people's readiness to accept racial diversity are also explored in the article 'Challenges in the Social Environment Landscape: Readiness of Youth in Embracing Diversity,' which addresses a timely topic following the recently concluded PRU 13 election. Another important article on one of the nation's flagship youth development programmes is an evaluation of the National Service Programme (PLKN) on self-resilience among programme participants. The findings show that successful youth development programmes are those that are well-structured and can bring communities and youth together to value, support and encourage youth to contribute to the society at large. To ensure that the strengths and potential of Malaysian youth are being utilised properly, it is necessary to go beyond the mere provision of a sound formal educational grounding. A broader range of structured opportunities and sincere relationships with adults is needed to complement formal educational processes in promoting a healthy young generation and developing in them a sense of individual pride, responsibility and purpose.

This special issue thus addresses a broad range of issues while maintaining a clear focus on the need for comprehensive community responses in meeting challenges to contemporary youth development. This is to ensure that both young people and their communities benefit from youth involvement in the larger society.

Last but not the least, this issue is a concerted effort made possible with the help of many. Specifically, we thank Dr. Nayan Kanwal, the Chief Executive Editor and his dedicated Pertanika team at the Journal Division, UPM Press, for their generous guidance and commitment.

Haslinda Abdullah,
Bahaman Abu Samah, and
Steven Eric Krauss

Guest Editors

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Youth Development

SOCIAL SCIENCES & HUMANITIES

Factors Influencing Acceptance of Contract Farming Among Youth

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ABSTRACT

Modern farming methods like contract farming have a great potential in ensuring the sustainability of the agricultural sector. Undoubtedly, youth, being the pillar of society, have an important role in ensuring the survival of agriculture globally. Hence, this study attempts to gauge the level of acceptance of youth towards contract farming and to determine the factors that will have an impact on their level of acceptance. A survey using quantitative methodology was the medium used to collect data from a total number of 400 undergraduates from four tertiary institutions in Malaysia. Data obtained were analysed using the SPSS software. Results showed that the respondents had a high positive acceptance of contract farming while further analysis showed that the significant predictors of acceptance of contract farming were attitude, knowledge and belief. The study also portrayed that education is important in motivating our youth to take up agriculture as a source of livelihood. Relevant exposure to knowledge, information and belief, will enable our youth to participate in the agriculture sector appropriately.

Keywords: Acceptance, contract farming, Malaysia, sustainability, youth

INTRODUCTION

Historically, it is undeniable that the agricultural sector worldwide is one of the important contributors in the development process of many countries. However, this sector continues to face numerous challenges; among the critical challenges are implementation of policies to make agricultural activities sustainable and a sound income provider for those who venture into it. Despite these challenges, many countries still faithfully believe that this sector is important as evidenced by

the huge national budget allocations for the upgrading of the agricultural sector. In Malaysia, the government acknowledges that this sector is relevant and allocated almost USD1.6 billion in the 2011 budget for agricultural activities as well as set up more agriculture agencies and programmes that was hoped would boost the development of the agriculture sector.

To ensure the sustainability of the agricultural sector, contract farming is one of the modern agricultural methods that a country can implement; of late, policy makers, development planners, extension agents and researchers have been advocating contract farming as an important tool to overcome the various problems facing the agricultural sector. A great number of activities are available in the form of contract farming; among them are the planting of vegetables and fruit as well as the rearing of cattle and poultry.. According to Da Silva (2005), even though the issue of contract farming is not something new, it has actually grown significantly due to changes and trends that have an impact on agricultural systems globally. In line with present global trends, Malaysia too is recording dramatic changes in the consumption habits of its people owing to the rise of fast food outlets either local or international, emerging giant hypermarkets and wider opportunities for international trade in fresh and processed products. Consequently, in Malaysia, the need to implement contract farming has become an important issue, and there is an urgency to develop contract farming further.

CONTRACT FARMING AND ITS ATTRIBUTES

Generally, the concept of contract farming means an agreement between farmers or primary producers and marketing or processing firms (commonly known as the buyer). where at the core of such arrangements is the pledge by the producers to provide an agricultural commodity at a specified time and price and in specified quantities to a known buyer (Singh, 2005). Further, according to Morrison *et al.* (2006) in the last three decades, contract farming has become an increasingly characteristic organisational form in the global agrifood system, facilitating linkages between farmers and purchasers. Hence, the purchaser would support production in supplying the inputs, providing technical advice and purchasing the commodity and on the other hand, the producers, as pre-determined by the purchasers, would provide a specific commodity in specified quantities and quality standards.

As mentioned above, the concept of contract farming requires a certain form of agreement between the producers and the buyers, and as such, there exists a contractual arrangement. Such arrangements vary in intensity according to the depth and complexity of the transactions. Minot (1986) classified the format of contract farming into three areas, namely "market specification", "resource providing" and "production management". In the first modality, the grower and buyer agree to terms and conditions for future sales and purchase of a crop or livestock product.

On the other hand, in the second modality, based on the marketing arrangements, the buyer agrees to supply selected inputs, including on occasions, land preparation and technical advice. Finally, under a "product management" contract, growers agree to follow recommended production methods, input regimes and cultivation and harvesting specifications.

On top of that, according to Mansur *et al.* (2009), there are also different types of models that elaborate further on the concept of contract farming; among them are the centralised model, the nucleus estate model, the multipartite model, the informal model and the intermediary model.

In the centralised model, the marketing arrangement is a vertical coordination where the sponsor purchases the crop from farmers and processes and markets the products. Quotas for farmers are normally distributed at the beginning of each growing season, and quality is tightly controlled (Eaton, 2001). On the other hand, the second model as stated by Mansur *et al.* (2009) is the nucleus estate model where the sponsor of the project owns and manages an estate plantation, which is often fairly large in order to provide some guarantee of throughput for the plant. The third model, the multipartite model, which usually involves many types of agencies, is the intermediary model where middlemen act as intermediaries between the company and the farmer. The fourth model, the informal model, according to Mansur *et al.*, applies to individual entrepreneurs or small companies who normally make simple, informal production contracts with

farmers on a seasonal basis, particularly for crops such as fruit. The final model is the intermediary model, which sees the presence of middlemen between the company and the farmer, and these middlemen according to Mansur *et al.* could pose a problem since the direct link between the sponsor and producer could be disconnected.

YOUTH INVOLVEMENT IN AGRICULTURE

Undeniably, youth play an important role in the sustainability of the agricultural sector since ageing farmers dominate the workforce in this sector. A thorough search of the existing literature showed that the number of youth involved in agriculture is cause for alarm. According to Hassan and Azril (2009), the average age of farmers in Malaysia exceeds 46 years of age. Another study by Norsida (2007) provided similar information i.e. most farmers were 55 years of age and above and only less than 26% of farmers were aged 15-40 years. In line with this, much effort will be required to encourage more youth to participate actively in agriculture, which could lead to the benefit of reduced unemployment among youth. It is heartening to note that even though, according to Man (2008), youth in Malaysia have a negative perception towards agriculture, they do believe that hard work and relentless effort combined will be able to transform agriculture into a profitable industry. Identifying modern ways and means will help to attract more youth to pursue agriculture as their source of living. Thus, we believe that contract farming with

its unique mechanism has the potential to motivate more youth to participate in agricultural activities. It is evident in many countries that contract farming is able to provide the necessary supply of raw meat products, vegetables and fruit for sale and consumption, and consequently, many small agriculture firms are able to maintain a steady income.

DETERMINANTS OF YOUTH ACCEPTANCE OF CONTRACT FARMING

Many earlier studies investigated factors that influence youth to accept and participate in farming activities; one of these constructs is attitude. In general, a positive attitude will lead to better acceptance and a negative attitude will lead to negative acceptance. A study done by Gidarakou (1999) proved this; he noted that generally, most youth have a negative attitude towards farming and this resulted in difficulties for youth to accept farming as a vocation. However, a study completed by Kumar (2007) contradicted what was stated by Gidarakou (1999); Kumar noted that the benefits that farming can offer the community will be to increase youth acceptance of farming. In this study, Kumar noted that, lately more farmers in India have a positive attitude towards farming because of price protection on their crops. The study done by Kumar is in line with an earlier study that Mann and Kogl (2003) carried out, in which it was found that adequate monetary gains through farming results in creating a positive attitude towards farming, and, consequently,

acceptance of farming activities are further boosted.

Knowledge is another important predictor variable related to acceptance of contract farming among youth. According to studies done by Shaban *et al.* (2006), James (2004) and Frick *et al.* (1995), knowledge is paramount in enabling people to accept agriculture as their source of livelihood. Among the highlights of their findings is that adequate farming literacy knowledge will enhance acceptance of agriculture, as this will lead them to embark on new technologies that will assist them in improving productivity; many people refuse to acknowledge what agriculture can offer due to lack of knowledge of its benefits.

Yet another significant factor that influences the development of new farming strategies such as contract farming is the consistent support received from various stakeholders. As mentioned by Wheeler (2008) and Guo *et al.* (2005), the support received from the government, extension agents, media and contractors is important for farmers to accept contract farming. Further, it noted that farmers who ventured into contract farming expressed their desire to receive support in terms of price control, management of farm from agricultural officers and information on latest technology.

Apart from that, another significant factor that acts as a determinant of acceptance of contract farming is the role of belief. Adrian *et al.* (2005) stated that belief influences farmers' acceptance of modern farming methods; consequently, it should be recognised that if youth can place

a high level of trust in contract farming as an instrument that will yield benefits for them, that trust would be a great boost for them in accepting involvement in contract farming activities.

Based on the above arguments, this study embarked on an investigation of the level of acceptance of contract farming among youth in Malaysia and its influencing factors, in order to understand further the phenomenon of motivating younger generations to participate in agriculture.

METHODOLOGY

The study collected data through a survey where the dependent variable was acceptance of contract farming while the four-predictor variables were attitude, knowledge, belief and support. Previous literature was the reference used to construct the items for these variables, and professional academicians in the field of agriculture validated them. The target population of this study was local university students with background knowledge of agriculture, economics and other relevant subjects. Four hundred students from four zones in Malaysia participated in the study. Prior to that, a pre-test was carried out to ensure the reliability of the items. For data analysis, this study utilised descriptive statistics such as percentage, frequency, mean and standard deviation. It also employed inferential statistics like Pearson Product Moment and Multiple Linear Regression to determine the correlation of constructs and the influence of predictor variables.

RESULTS

Respondents' profile

A large majority of the respondents in this study were females (70.8%). This is consistent with the current situation in Malaysia whereby female students are the dominant group in the institutions of higher learning. Findings from this study also noted that more than four fifths of the respondents (90.0%) were Malay. The age of 40.2% of the respondents' was between 20 and 21 years old, with the mean age being 20.78 years old. Three quarters of the respondents (75.0%) were pursuing degree courses. Data, presented in Table 1, showed that 31.8% of the respondents spend between RM300 and RM400 a month, with the mean score of RM395.85. Half of them were pursuing agricultural courses (50.0%); the majority live in urban areas (59.5%); slightly more than three quarters come from families that have an agricultural background; and more than half of the respondents (54.8%) have received information concerning contract farming (Table 1).

Level of acceptance of contract farming

Next, the focus is on the respondents' acceptance of contract farming. As presented in Table 2, a large majority of respondents (71.8%) had a high positive acceptance of contract farming. Twenty-eight point two per cent (28.2%) of the respondents moderately accepted contract farming. It is interesting to know that none of the respondents had a low level of acceptance of contract farming. This is a good indicator

TABLE 1
Socio-demographic of Respondents (n=400)

Variables	Frequency	Percentage	Mean	SD
Gender				
Male	117	29.2		
Female	283	70.8		
Ethnicity				
Malay	360	90.0		
Chinese	15	3.8		
Indian	14	3.5		
Others	11	2.7		
Age			20.78	1.53
18-19 years	111	27.8		
20-21 years	161	40.2		
22-24 years	128	32.0		
Zone (location of university)				
Northern	100	25.0		
Central	100	25.0		
East Coast	100	25.0		
Southern	100	25.0		
Level of most recent education received				
Degree	300			
Diploma	100			
Monthly expenditure (value in Ringgit Malaysia, RM)			395.85	217.18
<200	57	14.2		
201-300	102	25.5		
301-400	127	31.8		
>401	114	21.5		
Courses taken				
Agriculture	200	50.0		
Economic	100	25.0		
Others	100	25.0		
Locality				
Rural	162	40.5		
Urban	238	59.5		
Family background (regarding agriculture) (n = 381)				
Have	79	19.8		
Do not have	302	75.5		
Received information regarding contract farming				
Yes	219	45.2		
No	181	54.8		

TABLE 2
Overall Level of Acceptance of Contract Farming

Factors	Frequency	Percentage	Mean	SD
Acceptance			7.29	1.15
Low (1.0-3.33)	0	0.0		
Moderate (3.34-6.67)	113	28.2		
High (6.68-10.0)	287	71.8		

TABLE 3
Factors Affecting Acceptance of Contract Farming (n = 400)

Factors	Frequency	Percentage	Mean	SD
Belief			7.67	1.25
Low (1.0-3.33)	0	0.0		
Moderate (3.34-6.67)	76	19.0		
High (6.68- 10.0)	324	81.0		
Knowledge			7.54	1.25
Low (1.0-3.33)	2	0.5		
Moderate (3.34-6.67)	105	26.2		
High (6.68- 10.0)	293	73.3		
Support			7.53	1.31
Low (1.0-3.33)	1	.2		
Moderate (3.34-6.67)	93	23.2		
High (6.68- 10.0)	306	76.6		
Attitude			7.33	1.38
Low (1.0-3.33)	3	0.8		
Moderate (3.34-6.67)	119	29.8		
High (6.68- 10.0)	278	69.4		

for the future of agriculture in Malaysia, as the respondents believed that innovative agricultural methods would prompt them to embark in agricultural activities.

Factors affecting acceptance of contract farming

On the other hand, Table 3 indicates the mean scores obtained for the four independent variables; the highest mean score was for the construct of belief (M=7.67, SD=1.25), followed by knowledge (M=7.54, SD=1.25), support (M=7.53, SD=1.31) and attitude (M=7.33, SD=1.38).

One of the important objectives of this study was to inspect if there was a relationship between acceptance of contract farming and selected independent variables. To achieve this, Pearson Product Moment correlation was employed.

TABLE 4
Relationship Between Independent Variables and Acceptance of Contract Farming

Variables	r	p
Attitude	0.667	.0001
Knowledge	0.621	.0001
Support	0.583	.0001
Belief	0.524	.0001

TABLE 5
Factors that Contribute to Acceptance of Contract Farming Using Multiple Linear Regressions

Independent variables	Beta	t	p
Constant		5.823	.0001
Attitude	0.388	8.220	.0001
Knowledge	0.229	4.423	.0001
Belief	0.159	3.519	.0001

The data shown in Table 4 indicates that all the four independent variables, namely, attitude (r=.667), knowledge (r=.621), support (r=.583) and belief (r=.524), have a significant and positive relationship with attitude towards contract farming. Based on the data obtained, it can be seen that there is a moderate linear relationship between attitude and acceptance of contract farming (r = .667), knowledge and acceptance towards contract farming (r = .621); support and acceptance towards contract farming (r = .583); and belief and acceptance towards contract farming (r = .524).

Predictors of Acceptance of Contract Farming

Further analysis of the data was done via multiple linear regression to reveal the significant contributors among the predictor variables in explaining acceptance of contract farming. The results of the multiple linear regressions performed as in Table 5 showed that only three independent variables gave the best prediction for acceptance towards contract farming and explained about 53% of variation in acceptance of contract farming. The three variables were attitude, belief and knowledge.

DISCUSSION

The results showed that respondents who have better attitude towards contract farming would have better acceptance of contract farming. The results here are consistent with a number of past studies that emphasised on relationship between attitude and acceptance. Stobbelaar *et al*. (2007) and Hyttia and Kola (2006) have proved that attitude brings changes to people's acceptance of contract farming. Usually, a positive attitude towards something will drive people to accept new ideas.

The data presented in Table 5 also showed that there was a significant and moderate relationship between knowledge and acceptance of contract farming; youth with a higher level of knowledge of contract farming were predicted to have better acceptance of contract farming. The importance of knowledge is undeniable in creating positive acceptance of contract farming. Knowledge holds the main key to everything, and can be a catalyst of development for anybody who possesses it. Begum (2005) in his study noted that possession of technical knowledge would play a major role in driving someone to accept contract farming.

A significant and moderate relationship also occurred between belief and acceptance of contract farming. Based on the results obtained, it can be inferred infer that youth with a positive belief in contract farming will show a better level of acceptance. Duncan *et al.* (2004) noted that belief would play a significant role in intensifying acceptance and knowledge of youth regarding agriculture. The more youth believe that agriculture will generate profits, the higher their level of acceptance of contract farming. Osborne and Dyer (2000) hold a similar view; they stress that positive belief will result in positive attitude towards agriculture and will drive youth to accept contract farming.

CONCLUSION

Agricultural sustainability relies to a certain extent on youth involvement as a catalyst to boost novel farming methods such as contract farming. This study was able to identify significant factors that could predict acceptance for contract farming, with the major ones being attitude, knowledge and belief. Youth need to possess a positive attitude to foster their participation in agricultural activities and need to have a positive mind-set that that can encourage them to feel inclined towards farming. Further, youth should perceive knowledge and beliefs as integral to their participation in farming activities. Hence, the results display useful information for policy makers to utilise education as a tool to increase youth's positive attitude towards farming. Based on the findings of this study, this paper recommends that introducing more specific contract farming related courses at the tertiary level would lead to an increase in awareness and acceptance of contract farming among youth. This will pave the way for more youth to get involved in innovative farming activities, making agriculture attractive and maintaining its sustainability.

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Challenges in the Social Environment Landscape: Readiness of Youth in Embracing Diversity

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ABSTRACT

This article discusses the readiness of youth of various races in Malaysia to celebrate diversity in the daily social landscape of society. Youth are at the forefront in facing the challenges of addressing diversity in a multicultural community. The readiness of youth to face diversity is measured using questionnaires. This study involves a total of 600 respondents from secondary schools and higher education institutions. The results showed that generally, the level of respondents' readiness to accept diversity was high. There were significant differences found in terms of gender, ethnicity and residential locations in which the respondents had their upbringing. The findings were consistent with findings from earlier studies.

Keywords: Diversity, social environment, youth readiness

INTRODUCTION

The social landscape of the Malaysian society is facing challenges, especially when viewed from the perspective of young people's readiness to accept diversity. Youth forms the largest entity in any society.

The ethnic relations incidents in Malaysia have so far been much dominated by the younger generation. Who can determine the stability of ethnic relations in Malaysia in the future, if a younger generation who does not celebrate diversity is to inherit the country? This question needs to be considered because Malaysia consists of a multi-ethnic society.

Multi-ethnicity often leads to diverse ethnic differences. The manner by which

differences are addressed often escalates into polemics because considerations on diversity can sometimes lead to a reasonable level of skepticism from members of the community. The underlying rationale for celebrating diversity can certainly be questioned, if cynical views of the community surface, due to the fact that a diverse society is laden with religious and cultural sensitivities. What is it in a diverse community that can lead to the 'allowing and condoning of views' that can lead to religious and cultural tensions such as insulting the sanctity of places of worship and questioning the purpose of religious and cultural activities of other ethnic groups?

In celebrating diversity, the range of manifestations of the fundamental should not be confused by having the differences highlighted (Abdul Latif, 2005). In reality, the various ethnic groups of Malaysia have differences. Like it or not, such differences cannot be avoided. However, Abdul Latif explains, this fact does not mean that all differences should be celebrated. He adds that we can vary accordingly, even physically, but should not differ in the choice, knowledge, preferences and cooperation in activities that contribute to national integration.

According to Hroch, there is a significant difference between the awareness of ethnic identity and nationalism (Hroch, 2000). Anderson (1983) found that only the identity of the ideology of nationalism is seen as the organising framework of the concept of race as well as of important political value, while ethnic identity is a vague concept in terms

of "imagined community." Thus, celebrating diversity needs to be characterised as constructive for strengthening national integration. It is not a "concession" that can be handed over as a governing tool to a party. Malaysia has chosen accommodation instead of assimilation as the basis of nationalism; this practice according to Shamsul Amri (2008) widens the gap in separation or ethnic segregation more significantly in Malaysia.

YOUTH'S READINESS LEVEL TO CELEBRATE DIVERSITY: POST REVIEW

In principle the authors view the level of inter-ethnic relations as a possible predictor of the willingness to celebrate diversity. Weak inter-ethnic relations have an impact on readiness to celebrate diversity. Therefore, we can interpret the readiness of youth in Malaysia in accepting diversity by studying research into ethnic relations and national integration. Until May 2007, there were 133 studies on ethnic relations and national integration that had been carried out in Malaysia (Abdul Rahman & Nor Hayati, 2009). In the context of youth, studies on the readiness of youth to accept diversity involves many categories of samples of high school students as well as those in institutions of higher education.

In the context of youth in higher learning institutions (IHL) in Malaysia, gaps and ethnic polarisation, according to Abdullah (1984), are likely to exist if the student does not use existing opportunities to communicate with fellow students from

other ethnic groups. Abdullah (1984) found that the degree of interaction among students is high and exists across ethnic groups. He found that university students tended to ask less for advice or help from other ethnic groups because it involved a high emotive value other than feeling it was difficult to engage in discussion. This study found that real ethnic polarisation existed among youth pursuing higher education in Malaysia.

A study by Sanusi (1989) found that closer interaction among university students through activities did not lead to better communication or cross-ethnic relations. His research found a number of situations that led to ethnic polarization among students in higher education centers, such as the low degree of interaction between various ethnic groups of students, the tendency of choosing the same ethnic friends, lack of discussion on political, economic and social issues, prejudices and stereotypes, and student activities across ethnic groups.

Mohd Rizal and Thay's study (2008) on samples of university students in Malaysia showed that inter-ethnic relations in the daily lives of students were not that satisfactory. Their study found that 63% of respondents surveyed indicated that they preferred to eat at their own tables with friends of the same ethnicity. The study also showed that respondents were not ready to discuss problems with partners from other ethnic groups. Mansor (2001) stated that the degree of individual ethnicity would determine the behaviour of a person, whether influenced by ethnic background or not. Individuals with deep feelings for their ethnicity would manifest ethnic inclinations in their behaviour.

According to the literature reviewed, one could argue that ethnic polarisation does occur among youth in Malaysia. Such polarisation results in poor ethnic relations among youth. The former Prime Minister of Malaysia, Tun Dr. Mahathir Mohamad, during the opening of Universiti Tunku Abdul Rahman in 2002, expressed concern over ethnic polarisation, especially among the younger generation, and noted that Malaysia was still not united in the real sense (Lee, 2004). Indeed, inter-ethnic relations are fundamental for the individual to be able to celebrate diversity and to strengthen integration.

Youth represent a major segment of the Malaysian population (Mohd. Jamil, 1994), and therefore their willingness to celebrate diversity is crucial to integration and is an appropriate requirement. Asnarulkhadi (2009) stated that in demographics, youth are significant in forming the political (electoral), social (cohesion) and economic (human capital) sectors. In reality, a state of "stable tension" (Shamsul Amri, 2008) is apparent in Malaysian society. This situation also carries the meaning of 'agreeing to disagree', which often becomes the default consensus in difficult situations; in Malaysia, it is necessary if ethnic diversity is to be celebrated, especially among the youth.

METHODOLOGY

This study utilised quantitative methods. Data was collected via questionnaires that

the respondents themselves administered. A total of 600 respondents were selected via purposive sampling. The sampling involved two categories of youth i.e. secondary school students and students from selected higher education institutions around the Klang Valley, Malaysia. The sample selection criteria took into account demographic factors such as the location of the educational institutions. The field studies took six months, from October 2010 to March 2011. Data were analysed using descriptive and inferential statistics. Mean scores and standard deviations measured the readiness of youth to celebrate diversity. Based on selected demographic factors, independent t-tests were used to see whether there were significant differences in the readiness of youth to celebrate diversity.

SURVEY RESULTS AND DISCUSSION

Profile of Respondents

Table 1 summarises selected demographic profiles of the respondents. Forty point two percent of the respondents were males while the rest (59.8%) were females. The respondents were grouped into three age categories. A majority of the respondents (52.5%) were early youth (13-19 years old), 46.8% were middle youth (20-25 years old) and the rest (0.7%) were in the category of end of youth (26 years old). The percentage of ethnic sample by categories of *Bumiputera* and non-*Bumiputera* were nearly of equal proportions, where *Bumiputera* representation was 58.0% while non-*Bumiputera* representation was 42.0%. Respondents who reported their

religion as Islam made up (58.0%) of the total group, Buddhism (19.7%), Hinduism (10.3%), Christian (9.0%) and other (3.0%). Accommodation response showed that 55.3% of the respondents grew up in urban areas while 44.7% were raised in rural areas.

TABLE 1
Demographic Profile of Respondents (n=600)

Background	Percent
Gender	
Male	40.2
Female	59.8
Age	
Early youth (13-19 years)	52.5
Middle youth (20-25)	46.8
The end of youth (26 years)	0.7
Ethnic	
Bumiputera	58.0
Non-*Bumiputera*	42.0
Religion	
Islam	58.0
Buddhism	19.7
Hinduism	10.3
Christian	9.0
Other	3.0
Place grew up	
City	55.3
Rural	44.7

Readiness to Celebrate Diversity

A 5-point Likert Scale measured the readiness of respondents to celebrate diversity as follows: (5) Very unsuitable, (4) Not suitable, (3) Not sure, (2) Ideal and (1) Very suitable. The respondents' level of preparedness as a whole was determined by calculating the mean and the total divided by the total social environment variables that were developed to produce the overall mean. Results showed that respondents have a high willingness [M=4.1841, SD=.62683]

to celebrate diversity in the landscape of everyday social parameters. Table 2 refers to determination of mean readiness level based on the overall mean score reported for the respondents' level of readiness.

TABLE 2
Determination of Mean Readiness Level (n=600)

Stage	Mean
Low	1.00-2.33
Moderate	2.34-3.66
High	3.67-5.00

Descriptive analysis (Table 3) showed that all the respondents had higher mean levels of willingness to celebrate diversity in the landscape of social parameters The most commonly reported variables were "Appreciating the contribution of each regardless of ethnic background in national development" [M=4.3500]; "Helping those in need regardless of ethnicity" [M=4.3000] and "Respect for other ethnic cultural taboos" [M=4.2367]. The findings showed a positive response on the readiness to celebrate diversity in the social parameters of multi-racial Malaysian society.

Independent t-test was used to see whether there were significant differences in the level of preparedness to celebrate diversity among the respondents based on gender. The analysis showed no

TABLE 3
Distribution of Mean and Standard Deviation
Readiness Level of Youth to Celebrate Diversity (n=600)

No.	Variables	Mean	S.D
1.	Discuss issues of inter-ethnic relations with individuals of other ethnicity	4.0233	0.90967
2.	Taking into account the views of all ethnic groups in decisions that involve the interests of all ethnic groups	4.2337	0.83734
3.	Help the poor regardless of ethnicity	4.3350	0.83503
4.	Allow family members to participate in programmes that involve multi-ethnic groups	4.0933	0.94840
5.	Inculcate positive attitude towards the welfare of cross-ethnic groups	4.1983	0.81860
6.	Strive to know the basics of how to live with other ethnic groups	4.0783	0.92752
7.	Shopping at stores run by other ethnic groups	4.1033	0.99212
8.	Create opportunities that encourage interaction to help each other across ethnic groups	4.1683	0.87632
9.	Respecting the cultural taboos of other ethnic groups	4.2367	0.84371
10.	Encouraging the potential of various ethnic groups to strengthen solidarity	4.1750	0.86349
11.	Help those in need regardless of ethnicity	4.3000	0.84332
12.	Championing a variety of issues without choosing ethnic communities	4.0735	0.97868
13.	Eating together with friends of different ethnic groups	4.1467	0.92552
14.	Can tolerate neighbours/friends of other faiths without compromising own religious principles	4.2600	0.90946
15.	Appreciate the contribution of each, regardless of ethnic background, in national development	4.3500	0.76713

significant differences in readiness and celebration of diversity based on gender: male [M=4.1397, SD=.66437]; female [M=4.2139, SD=.59941; *t*(600)=-1423 *p*=.155]. Table 4 summarises the findings on differences in respondents' willingness to celebrate diversity by gender using independent t-test.

TABLE 4
Comparison of Respondents' Willingness to Celebrate Diversity by Gender (n=600)

Profile	N	Mean	S.D	*t*	*p*
Gender					
Male	241	4.1397	.66437	-1423	.155
Female	359	4.2139	.59941		

This study, however, found that there were significant differences in readiness to celebrate diversity in the social parameters between *Bumiputera* and non-*Bumiputera* ethnic groups. The findings indicate that the readiness of Bumiputera to celebrate ethnic diversity was higher [M=4.2322, SD=.55790] compared with non-*Bumiputera* ethnic groups [M=4.1177, SD=.70693; *t*(600)=2215 *p* =.027]. Table 5 summarises the findings on differences in respondents' willingness to celebrate diversity based on ethnicity using independent t-test.

TABLE 5
Comparison of Respondents' Readiness to Celebrate Diversity Based on Ethnicity (n=600)

Profile	N	Mean	S.D	*t*	*p*
Ethnic					
Bumiputera	348	4.2322	.55790	2215	.027
Non-*Bumiputera*	252	4.1177	.70693		

The findings of the study (Table 6) also revealed that *Bumiputera* readiness to celebrate diversity of the majority is high (60.8%), while non-Bumiputera showed the scores on the readiness to celebrate diversity of the majority is low (66.7%). The findings are consistent with the findings by Nobaya *et al.* (2008), who concluded that there were early signs that indicate youth in Malaysia, especially Malay *Bumiputera*, were more than ready to celebrate the ethnic diversity than non-*Bumiputera* youth. In studies that measured the implications of youth involvement with the campaign on solidarity via television channels, Nobaya *et al.* (2008) found that the implications of involvement are much higher among *Bumiputera* youth compared with non-*Bumiputera* youth in terms of level of thinking and feeling.

During interaction between ethnic groups, there are times when individuals may emphasise the objectivity of their own ethnic identity as a symbol of race, religion, language and origin (Vera *et al.*, 1996). The implication is that, ethnicity becomes a feature, quality and condition of inter-ethnic interaction. According Girles and Johnson (1986), if the individual feels strongly about an issue and the issue as something that is important for his/her ethnic identity, then the individual will interact based on ethnic norms and not be guided by the social norms of the general public.

TABLE 6
Distribution of Readiness to Celebrate Ethnic Diversity (n=600)

Readiness	Ethnicity (%)	
	Bumiputera	Non-Bumiputera
Low	33.3	66.7
Simple	44.4	55.6
High	60.8	39.2

The findings of this study as summarised of Table 7 tend to explain that there is a significant difference in the respondents' level of preparedness and acceptance of diversity in society based on the social environment in which the respondents grew up. The study found significant differences between the respondents who grew up in rural areas [M=4.2522, SD=.55606] as having a higher level of preparedness in accepting diversity compared to respondents who grew up in the city [M=4.1291, SD=.67441; t(600)=-2401 p=.017].

We can deduce that youth who grew up in rural areas are more willing to celebrate diversity compared to youth raised in the cities. Ibrahim (1980) studied the appreciation level of national identity among students of various races in Malaysia. Based on selected secondary school students in urban and rural areas, he developed items that he classified as indicators of national identity. Ibrahim (1980) found that for youth in rural areas, commitment to national identity tended to be higher than for youth in urban areas.

However, most research shows that ethnic relations are closely related to the level of integration (Abdullah, 1984). Interaction factors as mentioned by Abdullah

(1984) can also be understood from the point of celebrating diversity. This is because integration in a community is determined by whether the community members have the opportunity to interact with members of other races (Abdullah, 1984).

The writers are of the opinion that the factor of where youth grew up should relate to other environmental conditions that exist in determining readiness to celebrate diversity. Moreover, it is sometimes quite difficult to measure the celebration of diversity in a particular time or situation. According to Mohamad Zaini (2005), unity among members of the community is an abstract and elusive concept that is also too sensitive to changes in value transformation, norms and interests in the environment.

In fact, there are other studies that show that there is a combination of several factors that may contribute to unity but bear a negative relationship probability with regards to celebrating diversity. Yew et al. (1990) found that inter-ethnic communication and mass media exposure does not contribute to unity. According to them, factors such as education, language ability and the perception of ethnicity also have a negative impact on cohesion.

There are views that consider communication as a key mechanism to manage ethnic differences and conflicts in a constructive manner (Kim, 1986); however, previous studies still show that the level of preparedness to celebrate diversity depends on how the data were collected. In this study, although the opportunity to interact with other ethnic groups among the

TABLE 7
Comparison of Respondents' Willingness to Celebrate Diversity by Location (n=600)

Profile		n	Mean	S.D	*t*	*P*
Place in which respondents grew up	City	332	4.1291	.67441	-2401	.017
	Rural	268	4.2522	.55606		

respondents who grew up in rural areas was less than with the respondents who were raised in the city, yet findings show that rural youth's readiness to accept diversity is high. However, the findings do not conclusively suggest that respondents who grew up in urban areas are not ready to celebrate diversity.

CONCLUSION

Celebrating diversity is the foundation of harmonious ethnic relations. This study found that there was still a gap in the availability of diversity celebration, especially among the younger generations in Malaysia. The findings clearly showed *Bumiputera* youth did have a high level of readiness to celebrate diversity compared to non-*Bumiputera* youth. Different levels of readiness were also closely related to the study findings; the level of readiness of youth who grew up in rural areas was higher than that of youth who grew up in the city. The relationship is due to the geographical factors in Malaysia's population in that rural areas are more dominated by indigenous people, especially ethnic Malays. It is, therefore, not unreasonable to say that the findings are consistent with past studies on celebrating diversity. A study of ethnic relations in Peninsular Malaysia by Yew *et al*. (1990) found that unity between ethnic

Malays and Chinese is low. The question that arises is which are the main ethnic groups that contribute to this low-level unity? Simply put, which ethnic group is not ready to contribute to celebrate diversity and enhance the level of unity? Perhaps more appropriately, the high level readiness among *Bumiputeras* to celebrate ethnic diversity should be simultaneously supported by non-*Bumiputera* ethnic groups in Malaysia. Evidently, research has shown that early signs do exist that describe the readiness gap in celebrating diversity among youth of various ethnic groups in Malaysia. Therefore, more should be done to see the integration of increased diversity in Malaysia. If Malaysia takes no concrete measure, the country can be confronted with a youth group that has problems in celebrating diversity.

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PERTANIKA
JOURNALS

Exploring the Levels of Knowledge, Attitudes and Environment-Friendly Practices Among Young Civil Servants in Malaysia

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ABSTRACT

Today's younger generations will determine the future and progress of the country. It is therefore important to create and nurture mature behaviour in younger generations towards the environment. Such behaviour is vital to ensure that the environment is continually protected and conserved. Exploring the levels of knowledge, attitudes and environment-friendly practice in young civil servants is an initial step in designing an environmental programme that will empower youth in leading and promoting recycling as one environment-friendly response to a threatened environment. To achieve this purpose, this study utilised the Knowledge, Attitudes and Practice (KAP) Model to examine the levels of knowledge, attitudes and workplace recycling practice among young civil servants. The study involved 244 young civil servants randomly selected from administration or management divisions in 25 government agencies aged between 20 and 40 years. The findings reveal that the level of knowledge and attitudes among the young civil servants on recycling was remarkable. However, the level of recycling practice at the workplace is moderate. Both recycling knowledge and attitudes are predictors of workplace recycling practice among young civil servants. Thus, any intervention programme involving youth to improve recycling should consider these results as a basis in designing a programme that can equip youth with some abilities and skills in proper recycling methods. With this knowledge, they can inspire their colleagues to actively participate in office recycling practices. In addition, these well-trained young civil servants can also be appointed to become change agents in promoting, educating and enhancing recycling practices in their neighbourhood. Civil servants not only serve the people, but can also lead

in voluntary community environment-friendly activities. Indeed, they should be encouraged to do so.

INTRODUCTION

The progress of a country always depends on its present-day younger generations. Without mature younger generations (youth), the future of a country becomes uncertain. Realising the importance of youth's role and contribution, each year, the Ministry of Youth and Sports, Malaysia organises the National Youth Celebration. For instance, in May 2011, the Ministry of Youth and Sports organised a programme to converge a million youth in Putrajaya to indicate that the present younger generations are relevant in determining the progress of the country at present and in the future. The government believes that only with a clear direction can well-nurtured younger generations guarantee the survival and success of the country. Former Prime Minister, Tun Dr. Mahathir, set Vision 2020 as a road map and goal for shaping Malaysia into a developed nation. Thus, today's younger generations have to strive to achieve that aspiration while embracing environment-friendly practices that will ensure the preservation of Mother Nature for the benefit of all Malaysians.

The deterioration of the natural environment is a worldwide concern as it has direct implications on human well-being now and in the future. Malaysia launched her first nationwide recycling campaign thirteen years ago in November 2000 The recycling campaign was a programme that embedded a three-component practice, namely 'Reduce, Reuse and Recycle' (3R's). Although the Ministry of Housing and Local Government (MHLG) was the main anchor of this campaign, other stakeholders such as concessionaires, manufacturers, NGOs and resident associations were also actively involved. The purpose of the campaign was to foster recycling habits with messages typically stressing on the principle of sorting and separating household waste and to enhance public participation in reducing waste generation at the source. This campaign also involved various age groups including youth.

For the purpose of youth development programmes and activities in Malaysia, the youth age is set as 18 to 25 years (Ministry of Youth and Sports, 1997), but the National Youth Development Policy of Malaysia suggests youth as people aged 15 to 40 years. The United Nations defines youth as people aged between 15 and 24 years. In order to accommodate both national and international definitions of youth and the purpose of this study, the proposed age for youth is set between 20 and 40 years. The suggested age group falls within the recommended age range. Basically, this study considers this age group of youth as mature members of society who are working, vibrant and active. This age group is more suitably engaged as a social

change agent. Most importantly, an intensive youth empowerment programme can help increase knowledge and enhance the right attitudes and behaviour on recycling. As such, this initiative can become a turning point to further improve present and future quality of life. With greater youth participation in recycling programmes, the prospect of achieving the goal of creating an environment-friendly community by 2020 is brighter.

LITERATURE ON YOUTH RECYCLING BEHAVIOUR

Although a lot of research focusses on pro-environmental behaviour studies that focus on youth remain rare. Of late, studies on youth environment-friendly programmes have begun to flourish. The focus of these studies include youth participation and leadership (Carleton-Hug, 2003), youth environmental motivational factors (Lee, 2008), green living (Rahim *et al*., 2012), environmental attitudes and knowledge (Chib, 2009; Oweini & Houri, 2006) and environmental action (Schusler *et al*., 2009). Generally, youth pro-environmental behaviour studies have been conducted in different perspectives.

A study conducted by Carleton-Hug *et al*. (2003) assessed youth participation and leadership in various environmental and social activities involving 450 Polish teenagers. They found that Polish youth have participated in few activities, predominantly litter clean-up efforts, and only a small minority of youth has acted as organisers of actions. Lee (2008) examines Hong

Kong female adolescents' perception on motivational factors to engage in more private-sphere environmental behaviour. Among the motivational factors highlighted are environmental concerns, perceived responsibility and perceived effectiveness of environment-related behaviour. The study also reveals that knowledge on environmental problems is insufficient to motivate youngsters to act, and attitudes towards the environment also cannot motivate them to protect the environment (Lee, 2008). Rahim *et al*. (2012) conducted a survey on 320 respondents to assess the perception of Malaysian youth on the concept of green living in advertising. The results show that Malaysian youth have some awareness of the concept of green living. Despite the exposure to green advertising, green-living practice among youth is low. Due to a lack of a comprehensive understanding of the concept, the implication on their specific knowledge on green living is low. However, Ling-yee (1997) argues that even if people have little knowledge about the environment, they would still exhibit a strong emotional attachment to environmental well-being. People may still exhibit a strong positive attitude towards the environment, and specific knowledge can further strengthen their attitudes and their environment-friendly practice. Chib *et al*. (2009) conducted a study on Singaporean youth pro-environmental attitudes and found that exposure to environmental messages proved useful in encouraging learning among youth. Indeed, message exposure provides them with some information and

knowledge of the environment.

Studies have shown that past recycling behaviour is a better predictive factor of future recycling behaviour and past recycling behaviour shows double the effect of attitudes on the intent to recycle (Biswas *et al*., 2000). Furthermore, a study by Haldeman and Turner (2009) reveals that 28% of the recycling rate of the residents in piloted areas was already in the action stage, which would require less effort to get them to increase the rate to 50%, as compared to residents in low participating areas. Fazio and Zanna (1981) support this argument and articulate that attitudes based on direct experiences with the attitudes object are stronger and more accessible (easier to retrieve) compared to indirect experience attitudes. It also means that people's previous experiences, either attained directly or indirectly, do guide their practice. A study by Perets, Tonn and Folz (2005) shows that recycling participation rates increased when people value recycling programmes as convenient to practice. Furthermore, the tendency for people to believe or value something as good or beneficial is greater. Oweini and Houri (2006) argue that although attitudes are requisites for positive action, attitudes alone may not push an individual into action. Although numerous studies examined people's environment-friendly behaviour, few focussed on youth, and little is also known about the levels of recycling knowledge, attitudes and practice among youth, especially among young civil servants. Hopefully, this study can provide some insights into what is needed to engage young civil servants in promoting and improving recycling practice at the workplace.

According to Pruneau *et al*. (2007), to facilitate full youth participation in the sustainable development of their community, the young need to progressively develop some knowledge and skills: evaluating the local environment, predicting and managing risks, solving environmental problems, sustainable decision-making and planning for the future. Hungerfold and Volk (1990) stipulate that knowledge of action strategies and skill in action implementation are two important modifiers of environmental behaviour. According to Borden and Serido (2009), youth became active participants in their community when they felt connected with the programme especially in making decisions and supporting relationships among adults in the programme. It also made them feel recognised. Thus, youth will require more diverse opportunities to authentically engage in environmental and social actions since few are willing to take leadership roles (Carleton-Hug *et al*., 2003). In addition, Schusler *et al*. (2009) posits that young people's tangible contribution to positive environmental and community changes is also indicative of measures of success.

According to LeRoy *et al*., (2004), training of youth is a critical component in promoting youth leadership, and social supports are necessary for the programme's success. To facilitate the development of

youth empowerment programmes, one area that needs exploration is the current levels of recycling knowledge, attitudes and practice among youth.

RESEARCH PROBLEM

A recycling programme was adopted as a main communication campaign and strategy to change people's mindset regarding the environment and to enhance recycling practice among citizens. The modes of communication strategies such as advertisements, publicity and interpersonal communication varied. In other words, everyone was encouraged to actively participate in the programme. Mass media was the primary vehicle used to communicate this pro-environmental behaviour by educating and fostering public participation. With sufficient recycling knowledge and the right attitudes, people were expected to engage in recycling practices voluntarily.

Recycling is no longer a new concept to Malaysians because the government has widely promoted this concept since its launch as a national campaign in November 2000. The Ministry of Housing and Local Government (MHLG) initiated this campaign with strong support from stakeholders such as local governments, concessionaires, manufacturers, non-governmental organisations (NGOs), and resident associations. According to Wee, Indera Syahrul and Jamaluddin (2006), MHLG has declared the recycling programme a failure, mainly in terms of changing people's mindset and behaviour,

due to its limited success. In other words, Malaysians refuse to put recycling into practice although they are aware that recycling can lessen the effect of waste on the environment. There is also indication that there still are citizens who are unaware of recycling, its necessity and its benefits. Nevertheless, other local studies have shown that even though the percentage of recycling is low, some segments of society do accept and practise recycling (Mohd Badruddin, 2004; Murad & Siwar, 2007; Irina, 2006). Returning to the failure of the environmental awareness programme to take root in society, it is the scope of this research to ask: Is this failure relevant to Malaysian youth participation too? What are their levels of recycling knowledge, attitudes and practice, especially among young civil servants? Can young civil servants be change agents who voluntarily help the government to improve environment-friendly practice?

THEORETICAL BACKGROUND

Generally, the media highlights and communicates environment-friendly messages from time to time and, at the same time, enhances awareness and educates the public. Arguably, this communication effort is able to improve people's knowledge and modify their attitudes before they can adopt new recommended practices. In other words, the extent that communication influences an audience's knowledge, attitudes and practice determines the effectiveness of the communication.

According to the Knowledge, Attitude and Practice (KAP) Model, persuasive

communication influences a person's knowledge, attitudes and practice, and the pattern of the interaction between the variables is different (Valence, Parades, & Pope, 1998). This model focusses on the cognitive, affective and behavioural aspects which contribute to the ultimate outcome of the communication effect. Persuasive communication is considered effective when the level of people's knowledge increases, attitudes change and practice improve.

Knowledge is associated with cognition; it refers to mental performance actions such as perceiving, remembering, learning, recalling and predicting during information processing (Blumenthal (1977). People tend to process a message by organising it in whole or in part based on knowledge they already possess. Knowledge can be in the form of general knowledge or specific knowledge. According to DiEnno and Hilton (2005), knowledge about the environment relates to the formation of positive attitudes towards the environment. The study by Folz and Hazlett (1991) supported the view that recycling knowledge is important; they argue that although people show a strong willingness to continue the practice over time, specific knowledge on what to recycle and how to sort, store and collect recyclables remains critical for recycling programmes to succeed. In other words, specific knowledge is more prominent than general knowledge for a recycling programme to succeed.

Attitudes are simply affective responses to an object that depend on a person's beliefs and values (Bohner&Wanke, 2002). Affection relates to the sense of liking

or feelings that people experience which may or may not concern a particular object or event. Beliefs refer to the subjective probability estimation of an object or idea necessary to attain a relevant goal (Wyer & Albarracin, 2005) or a person's subjective perception of how something performs based on different attributes depending on personal experience, advertisement and discussion with people (Kerin, Hartley and Rudelius, 2009).

Although up-bringing relates to the socialisation process and previous experiences, attitude formation depends on the way an individual has been brought up and his/her prior experiences. According to Donahue and Miller (2006), people's attitudes are derived from three main sources: socialisation (the learning of object attitudes, values and behaviours early in life), direct contact (experiences) and indirect contact (mediated). This study defines attitude as a person's disposition of favourable or unfavourable (beliefs) with a relational judgement (values) towards the idea which is also guided by his/her prior experiences including upbringing. Furthermore, Kerin, Hartley and Rudelius (2009) postulate that attitude is influenced by upbringing and shaped by beliefs and values that are taught. This is why people sometimes find it hard to change existing attitudes and practices.

Behaviour changes the final communication-intended outcome. Behaviour denotes specific action, but not all behaviours are visible in a physical activity. This is because behaviours can be learned,

practised and perfected through cognitive and affective processes (Heimlich & Ardoin, 2008). According to Albaracin, Johnson and Zanna (2005), behaviour refers to the overt actions of an individual which can be observed. Heimlich and Ardoin (2008) postulate that people always act consistently with their values, beliefs, understandings, culture, socialisation, upbringing and training. However, behaviours are not static in nature, and people will continually adjust their existing practices by adopting appropriate behaviours for various reasons (Heimilich & Ardoin, 2008). In addition, people need to have some knowledge (information or fact) and/or belief (values, feelings, opinion or attitudes) before they are convinced that the action is worth the effort and the effort (cost) is worth the gain (benefits) (Kotler, Roberto, & Lee, 2005). In short, people will act if they personally feel enriched when performing the desired behaviour or when they are at risk. Thus, the level of environment-friendly practice is worth studying because the result will be useful as a guide to design better empowerment programmes for youth. The main objective of this paper is to examine and discuss the levels of knowledge, attitudes and recycling practice among young civil servants at their workplace. In addition, this paper also tries to empirically confirm that the knowledge and attitude variables are important influences on recycling practice.

METHOD

Respondents

This study involves young civil servants who are working in the administration or management departments of 24 ministries and one agency under the Prime Minister's Department. These government agencies are located in Putrajaya and Kuala Lumpur.

Procedure

This study employed the quantitative survey method. For the purpose of the researcher's doctorate thesis, a total of 360 survey questionnaires were distributed to civil servants working in 24 ministries and one agency under the Prime Minister's Department from April 28 to June 30, 2011. Out of 360 questionnaires, 320 completed questionnaires were returned. However, only 244 respondents fell into the age group of 20-40 years. The respondents represented two main categories, management and professional (Grade 41-54), while the supporting staff represented the supervisory (Grade 22-36) and clerical levels (Grade 17).

The main objective of this study was to determine the levels of knowledge, attitudes and practice on recycling among young civil servants at the workplace in Malaysia. The questionnaire was completed in English and translated into Bahasa Malaysia. However, only the Bahasa Malaysia version was utilised in this study. Prior to the survey, a list of names was gathered from the respective agencies involving civil servants in the three grades of service to determine the total number of respondents. Then, the number of respondents was proportionately identified for each agency according to their grades of service. Based on the number

and name list obtained for each grade, the respondents were randomly selected. A representative from each agency assisted in distributing the questionnaires to the respondents chosen. Despite spending a day at the respective agency office, the researcher could not retrieve all the questionnaires. As some officers and staff were not available or were busy during the researcher's visit to the respective offices, the researcher applied the 'drop-and-collect' method. The data were carefully keyed in and scrutinised to identify any missing values and outliers.

Instruments

The instrument was a 41-item survey, measuring respondents' perceptions of civil servants' knowledge, attitudes as well as their workplace recycling practice. This instrument focussed on three constructs with individual dimension. Recycling knowledge construct is represented by general knowledge and specific knowledge while, recycling beliefs, value and up-bringing measure the recycling attitude construct. However, only a single dimension represents workplace recycling practice.

Recycling knowledge: Civil servants' recycling knowledge was measured in two dimensions, namely general knowledge on the environment (six items) and specific knowledge on recycling (nine items). A 5-point Likert scale ('don't know', 'not sure', 'slightly sure', 'sure' and 'absolutely sure') measured the responses. Samples for general-knowledge items include

"Recycling practice can reduce the global warming effect" and "Recycling can save energy". Samples for specific knowledge items include "Know which type of item should go in which coloured bin" and "Know how to separate items according to the types of waste." Cronbach's alpha for this set of items were .879 and .892 respectively. Table 2 presents the mean and standard deviation of each dimension.

Recycling attitude: This was a 17-item scale that measured civil servants' perceptions about their attitude on recycling beliefs (six items) and up-bringing related to recycling, (five items) using a 7-point Likert scale ranging from absolutely disagree (1) to absolutely agree (7). However, recycling value items (six items) were measured using a semantic differential scale with a 7-point scale. The sample items include "Recycling practice is something that is bad (1) to good (7)" and "Recycling practice is something that is not practical (1) to practical (7)". The sample item for beliefs wass "Nothing can be done with recycled items" while the sample item for up-bringing was "Family always remind me not to pollute the environment". Cronbach's alpha for the scale were .873, .937 and .902 respectively (see Table 2).

Recycling at workplace: Respondents were asked to indicate the frequency of their participation in office recycling practices based on 10 items measured on a 7-point Likert scale ranging from never (1) to very frequent (7). The questionnaire was adapted from a list of environment-friendly office practices guide published in the Environment Department of Malaysia's

booklet. Sample items include "Separate and keep recycling material before selling them off". Cronbach's alpha for the scale was .859 (see Table 2).

RESULTS

Descriptive statistics were used to describe the results of the study. Table 1 presents the profile of the respondents. Table 2 presents the means and standard deviation for each construct dimensions except for workplace recycling practice while Table 3 summarises the levels of civil servants' recycling

knowledge, attitudes and practice.

Respondents' Profile

About 66% of the respondents of the survey were females and the average age of the respondents across the sample was 30 years old. More than half (58.2%) of the respondents were married. Most of them had served the government for less than four years (66.8%). Nearly half (49.7%) of the support staff groups were STPM and diploma holders. However, there were six (6) respondents from the clerical

TABLE 1
Univariate Analyses for Socio-demographic Characteristics of Respondents

Variable	Management & Professional (Grade 41-54) n = 65	Supervisory Group (Grade 22-36) n = 34	Clerical Group (Grade 17) n = 145	Total (N=244)
Gender				
Male	38	10	35	83 (34%)
Female	27	24	110	161 (66%)
Age				
20 to 24	1	1	9	21 (8.6%)
25 to 29	24	11	59	94 (38.5%)
30 to 34	24	9	51	84 (34.4%)
35 to 40	16	13	16	45 (19.4%)
Educational level				
SRP/PMR	-	-	1	(0.4%)
SPM	-	3	57	60 (24.6%)
STPM	-	4	21	25 (10.2%)
Diploma	-	24	63	87 (35.7%)
Bachelor's degree	56	-	6*	62 (25.4%)
Master's degree	9	-	-	9 (3.7%)
Marital status				
Single	24	10	66	100 (41.0%)
Married	40	24	78	142 (58.2%)
Divorced	1	-	1	2 (0.8%)
Working experience				
2 years or less	31	11	59	101 (41.4%)
3 to 4 years	20	6	36	62 (25.4%)
4 to 5 years	8	3	29	40 (16.4%)
6 to 7 years	4	7	15	26 (10.7%)
9 years or above	2	7	8	15 (6.1%)

Note: * contract staff employed to carry out clerical works under the unemployed graduate scheme

group who held a degree qualification. They joined the government civil service under the unemployed graduate scheme. Most respondents had at least two years's working experience. The information in Table 1 presents the respondents' socio-demographic characteristics.

Recycling knowledge: Based on a 5-point Likert scale, the results suggest that civil servants' general knowledge on environment is high: more than 80% of civil servants indicated having a high level of general knowledge (M=4.26). The results also show the level of specific knowledge among the civil servants as high (60%), but the mean score for specific knowledge is slightly low (M=3.71). The results demonstrate that a majority of civil servants possess more general knowledge on the environment and its relation to recycling than specific knowledge on recycling. It is not surprising that the level of general knowledge of none of the respondents was reported as low while their specific knowledge was low to almost none (0.4%). It is most likely that these respondents had adequate exposure to recycling and found it easy to understand the general information about the environment, and lacked specific information on recycling that tended to be technical.

Recycling attitude: Recycling attitude dimensions are measured using a 7-point Likert scale. The results show that more than 80% of the civil servants obtained a high level of recycling values (M=5.86). Although, the level of recycling beliefs among the civil servants was high, only 60% of the civil servants indicated a high level of recycling beliefs compared to recycling values. In addition, the mean for recycling beliefs is lower (M=5.00) than for recycling values, but is higher than recycling upbringing (M=4.67). The results also show that nearly half (49.6%) of the respondents had a moderate level of recycling upbringing as compared to about 45% reported to obtain a high level of recycling upbringing. This result indicates that civil servants' upbringing process contributed a smaller impact to their attitudes than did their recycling beliefs and values.

Recycling practice: Recycling practice was also measured using a 7-point Likert scale. The results show that most of the civil servants had a moderate level of recycling practice. About 55% of the young civil servants indicated a moderate level of recycling practice (M=4.76). However, only 3% of the respondents indicated a low level of recycling practice. Nevertheless, the number of respondents who scored a high level of recycling practice is also encouraging (42%). The overall results suggest that there is a need to develop an intervention initiative to increase the participation level of young civil servants in workplace recycling programmes as more than half of them can be encouraged to practise recycling. Table 3 presents the details of the results on the level of the recycling practice of civil servants.

Multi-Linear Regression Model of Recycling Practice: To support the above results, an additional statistical test was conducted to examine the relationship

TABLE 2
Means and Reliability of Recycling Knowledge, Attitudes and Practice

Items	Likert Scale	M	SD	Alpha
Recycling Knowledge				
General Knowledge (6 items)	5	4.2652	.54714	.879
Specific Knowledge (9 items)	5	3.7148	.47578	.892
Attitude				
Beliefs (6 items)	7	5.0073	1.13368	.873
Values (6 items)	7	5.8634	.97171	.937
Up-bringing (5 items)	7	4.6697	1.04731	.902
Office Recycling (10 items)	7	4.7650	.92657	.859

TABLE 3
Levels of Recycling Knowledge, Attitude and Recycling Practice

Items	Level	Frequency	%
	Low	0	0.0
General Knowledge	Moderate	38	15.6
	High	206	84.4
	Low	1	0.4
Specific Knowledge	Moderate	93	38.1
	High	150	61.5
	Low	13	5.3
Beliefs	Moderate	82	33.6
	High	149	61.1
	Low	2	0.8
Values	Moderate	37	15.2
	High	205	84.0
	Low	13	5.3
Upbringing	Moderate	121	49.6
	High	110	45.1
	Low	7	2.9
Office Recycling	Moderate	134	54.9
	High	103	42.2

between dependent variable (recycling practice) and two independent variables (recycling knowledge and recycling attitude). For the purpose of this analysis, both general knowledge and specific knowledge dimensions combined to form a single knowledge construct. Similarly, three dimensions (recycling beliefs, values and upbringing) form the recycling attitude construct. This study assumes that both knowledge and attitudes constructs have influence on civil servants' workplace recycling practice. Multi-liner regression analysis was conducted to test the above

assumption.

The ANOVA results in Table 4 reveal that the F-statistic (F=37.049) is large and the corresponding p-value is significant (p< 0.001). This indicates that the slope of the estimated linear regression model line is not equal to zero, confirming that there is a linear relationship between recycling practice and the two predictor variables.

The results of the multi-linear regression analysis confirmed that the respondents' recycling knowledge and recycling attitudes had a direct influence on their recycling practice. Based on standardised coefficients, the beta coefficient for recycling knowledge was 0.277. Similarly, the beta coefficient for recycling attitude was 0.295. The R-squared is used to explain the variation in recycling practice. The R-squared of 0.235 implies that the two predictor variables explain about 23.5% of the variance in the recycling practice. Although the contribution of these two predictor variables to recycling practices is relatively small, the relationship between both dependent variables and independent variables is significant. Table 5 presents the results. This additional test reconfirmed that both recycling knowledge and recycling attitudes were predictor variables of recycling practice. In other words, to increase the levels of recycling practice among young civil servants, their levels of recycling knowledge and attitudes towards recycling must subsequently be increased too.

DISCUSSION

Recycling Knowledge

Recycling knowledge is vital for youth to adopt the practice of recycling. Without sufficient knowledge (ideas and skills), they cannot perform the recommended tasks to

TABLE 4
ANOVA Results

Model		Sum of Squares	Df	Mean Square	F	Sig.
1.	Regression	49.060	2	24.530	37.049	0.000
	Residual	159.565	241	.662		
	Total	208.626	243			

* Significant at 0.001

TABLE 5
Estimates of Coefficients for Model Recycling Practice

Model	Beta (Unstandardised Coefficients)	Std. Error	Beta (Standardised Coefficients)	t	p-value
Constant	0.180	0.551		0.326	0.745
Recycling Knowledge (X_1)	0.636	0.144	0.277	4.423	0.000*
Recycling Attitude (X_2)	0.394	0.083	0.295	4.720	0.000*

Notes: R = 0.485; R^2 = 0.235; Adj. R^2=0.229   * Significant at 0.001

practise recycling. The results show that the level of recycling knowledge among young civil servants is quite encouraging and most of the civil servants were found to have a high level of general knowledge and specific recycling knowledge. However, the percentage of young civil servants obtaining a high level of general knowledge is greater than the percentage for specific knowledge. In addition, the mean score for general knowledge is also higher than for specific knowledge.

It is most likely that the general public receives more exposure to general issues related to recycling rather than to specific information on recycling. People may know, hear or read more general information related to recycling programmes. Unfortunately, they may have little exposure to information on specific recycling. Therefore, their level of knowledge on specific recycling is slightly low. In addition, specific knowledge focussing on ideas and skills related to recycling may sound technical. In this case, individuals will require more specific information about recycling rather than general or common issues related to recycling. For instance, they know that waste can contribute to air or water pollution and is very much related to global warming. Nevertheless, they lack knowledge of practical ways to manage this problem. In addition, there is a need to develop more specific knowledge on recycling and share this with the public. At the same time, more programmes related to specific recycling are required to enhance the participation of civil servants in recycling. In this context,

recycling campaign messages should not only focus on efforts to encourage people to recycle, but must also identify ways to recycle in the right and proper manner. In addition, information on the mechanism of the recycling system must be clear and easy to adopt.

The results of this study contradict slightly with Ling-yee's (1997) argument that knowledge is not crucially important because people can still exhibit commitment to the environment even with a low level of knowledge. On the other hand, Folz and Hazlett (1991) posit that specific recycling knowledge is crucial for environment-friendly practices to succeed. The information used to specifically inform and teach youth how to reduce waste and help to clean the environment through recycling is crucial. At this juncture, a few non-governmental organisations (NGOs) carry out efforts to educate youth on recycling. The Malaysian government rarely airs such specific recycling information on a continuous basis through national television channels (RTM 1 and RTM 2) or private television channels (TV3, NTV7, TV8 and TV9). Such programmes should also demonstrate steps on recycling and reusing other materials such as plastics, paper or glass. There is a possibility that such efforts can increase youth recycling knowledge and, at the same time, instil the right recycling attitudes among them. According to Latifah, Mohd Armi and NurIIyana (2009), at least 20% of municipal waste can be diverted from landfills if every citizen supported this programme. Thus, to get youth's support

and active participation in recycling, there is a need for a concerted effort by the government and NGOs. Another solution is to design a programme that can provide youth with specific recycling skills and the ability to inspire their peers or colleagues to be more environmental-friendly.

Recycling Attitude

Attitude towards recycling also influences people to participate actively in recycling programmes. The study reveals that half of the young civil servants surveyed have a high level of beliefs and values towards recycling. The number of respondents with high beliefs towards recycling is very encouraging. Besides, more than 80% of the civil servants reported to have greater values towards recycling. Thus, we can expect young civil servants who demonstrate a positive recycling attitude to practise recycling regularly at the workplace. The percentage of respondents reported to have a low level of recycling beliefs and values is extremely low. Thus, it is important to uplift the level of their recycling attitudes. The efforts taken towards this end should be able to influence people in their emotions, especially on their beliefs and values towards recycling. In addition, the study also reveals that these young civil servants attached high value towards recycling such as that recycling is good, practical, interesting and necessary. Understandably, their beliefs on recycling and their upbringing may also influence their attitudes. Simultaneously, those already familiar with environmental

concerns will find it easier to adopt the practice as stipulated by Haldeman and Turner (2009) that lesser efforts are required when people already have the experience of doing the recommended practice.

The results indicate that the upbringing level among young civil servants is moderate. Although the percentage between moderate and high is almost equal, the results suggest that the respondents were less exposed to recycling practices. Changing youth attitude is a challenging task because youth attitude is formed and accumulated throughout the upbringing process and depends on what they believe about and what value they attach to the recycling programme. Therefore, the message of the programme must include the element of emotions. It is important to let people feel involved and associated with their interest so that the chances of their altering their attitude are greater. Appointing and empowering several well-trained young civil servants to voluntarily lead recycling activities is a very interesting proposition and sounds practical and viable as a means to achieving this end.

Recycling Practice

Success or failure of a recycling programme depends on the practice. The higher the level of practice, the greater the success achieved. In this study, the recycling practice among young civil servants is good, as out of 244 respondents, 64.3% demonstrated a moderate level of participation in recycling practice. About 3% of young civil servants are not that much involved in recycling; the

percentage is extremely small compared to those with high level of workplace recycling practice. With the current trend of recycling practice, youth's participation in recycling may also reflect the overall Malaysia recycling rate. It is highly probable that the failure of nationwide recycling campaigns is related to moderate youth participation. However, certain and specific measures can improve the recycling level among civil servants.

It is understood that the main role of civil servants is to provide services to the public; however, they could also be trained and assigned as voluntary change agents to enhance the recycling practice. Once they go through the empowerment programme and with the skills they have, they can voluntarily help the government to spearhead the recycling practice among their colleagues and neighbours.

Besides developing knowledge and skills, the recycling empowerment programme also promotes youth leadership and environment-friendly behaviours. Furthermore, the study shows that not many are willing to take leadership roles and organise environmental friendly activities (Carleton-Hug *et al.*, 2003). Therefore, the programme not only focusses on specific knowledge of recycling and the correct recycling attitudes, but also on leadership skills. Through the proposed empowerment programme on environment-friendly behaviours, several objectives can be achieved such as: (1) promoting good recycling habits among youth, (2) encouraging today's youth to recycle in

their neighbourhood and communities, (3) increasing the adoption of sustainable behaviour to reduce a wide range of environmental issues such as air pollution, climate change and water pollution, and (4) continually raising the level of recycling knowledge, attitudes and practice among youth. In addition, there is a need to expand environment-friendly practices such as saving energy and minimising water consumption. More recycling activities are also required such as making handicrafts from recycling materials, minimising waste by encouraging staff to use reusable food containers, setting concrete resolutions of supporting eco-friendly behaviour and actively generating income from office waste. Staff can use the monetary incentive obtained for their welfare club. Besides, this initiative is a sound practice and according to the suggestion by Kotler, Roberto and Lee (2005), that people who obtain some knowledge and beliefs are convinced when their action is worth the effort and their effort (cost) is worth the gain (benefits).

Finally, the relationship between the two predictor variables (recycling knowledge and recycling attitudes) and recycling practice is positively significant. The results further confirm that in order to improve recycling practice among young civil servants in the workplace, their specific recycling knowledge needs further improvement. At the same time, their attitudes towards recycling must be strengthened as well to ensure that recycling becomes a permanent practice at the workplace and at home. Since upbringing is crucial to attitude

formation, more recycling activities should be introduced to school children so that early exposure to recycling will establish an environment-friendly culture in Malaysia.

CONCLUSION

Generally, this study indicated that the levels of recycling knowledge and attitudes among young civil servants at the workplace are high. However, the recycling practice among them was moderate. Thus, necessary steps are required to produce a better outcome. The results indicate that present-day younger generations do know enough about the environment they live in but are willing to respond accordingly. However, this response depends on their knowledge and attitudes towards the recommended practice. It is strongly believed that with the imagination, ideas and energy youth have, the vision to create an environment-concerned society by 2020 is brighter. With these positive aspects, the chances of creating a healthier environment and a chance for all to adopt a green lifestyle are also greater. However, the effort to embrace youth as change agents must continually be pursued by the Ministry of Youth and Sports, since it has 'all rights' on youth development programmes in this country. It is time for the ministry to integrate a pro-environmental mindset in all youth empowerment programmes and to nurture the younger generation as future watchdogs for any environmental violations as well as to protect the environment.

The relevant government agencies should work hand in hand with the Ministry of Youth and Sports to specifically develop and create environment-friendly empowerment programmes. An aggressive effort from the relevant government agencies and NGOs is crucial in sustaining the practice of recycling among youth. At the same time, commitment from media organisations to support this campaign from time to time is vital, and this initiative can be done on the platform of corporate social responsibility. The effort to reach targetted youth groups in the country may be limited unless the government or NGOs help to finance recycling campaigns. One important measure to consider is to assign young civil servants (youth) to be voluntary change agents to enhance and improve the current level of recycling participation among their peers and in their neighbourhood.

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Youth and Brackish Water Cage Culture Industry:
A Recipe for Success

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ABSTRACT

The aquaculture industry plays an important role in strengthening the socio-economic aspects of the community in providing job- and income-generating opportunities. The Brackish Water Cage Culture has been identified as one of the potential enterprises within the aquaculture industry that can aid in this. The involvement of youth in this industry is important to ensure the industry's success. This industry may also effectively help to solve the problem of unemployment, especially among youth. The main objective of this paper is to discover the potential benefits and problems faced by youth in the brackish water cage culture industry. Literature and document analyses provide the data in this qualitative study. Findings from this study revealed a number of potential benefits from this industry, which includes business and employment opportunities. This paper also highlights several potential problems and discusses issues related to capital and competitiveness in the industry. This paper goes on to suggest a number of recommendations that the authorities can consider to further develop this industry.

Keywords: aquaculture industry, Brackish Water Cage Culture Industry, youth, youth development, Fisheries Industry Development

INTRODUCTION

Agriculture is acknowledged as an important sector in Malaysia. The Ninth Malaysia Plan, for example, slotted this sector as the third income generator for the country. The Tenth Malaysia Plan allocated a sizable sum of funds for the agriculture sector mainly for

its development and for the uplifting of the socio-economic status of the agricultural community. The Plan also identified the fisheries industry as one of the essential branches of the agriculture sector. This industry has successfully created more than 125,000 employment opportunities for the community and generated more than RM100,000,000 in income. Currently, sea-fishing remains the main contributor towards marine sources of protein. However, the aquaculture industry is expected to become more prominent in fulfilling protein demand in the future. Within a period of 10 years (1996-2005), Malaysian aquaculture managed to produce a total of 439,475.59 metric tonnes of cultured fish. As depicted in Fig.1, aquaculture had its highest productivity in 2005 (62,006.61 metric tonnes). In terms of income generation, aquaculture in Malaysia has experienced a roller-coaster trend for the past 10 years

(1996 to 2005); market price instability was a possible cause of this (Fig.2).

As shown in Fig.3, the main contributor towards aquaculture productivity is cockle culture, which contributes 35% of the overall production. The state of Perak was the top producer of cockles with more than 47,000 tonnes while Johor and Selangor were, respectively, the second and third highest cockle producers in the country; both states produced more than 17,000 tonnes (Department of Fisheries Malaysia, 2005). Apart from cockle culture activities, brackish water cage culture (BWCC) is among the main aquaculture activities in Malaysia. Brackish water pond culture contributes 20% of overall aquaculture productivity while BWCC contributes 6% of the overall productivity. Apart from its contribution towards national productivity, the aquaculture industry will be able to address unemployment among youth.
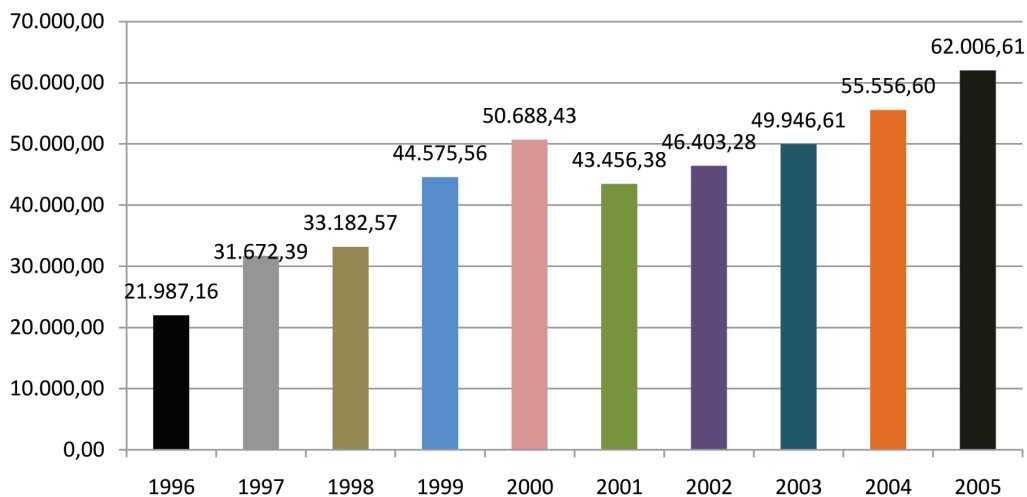
Sources: Department of Fisheries Malaysia (1996-2005)

Fig.1: Productivity of All Aquaculture Systems in Malaysia (in metric tonne)
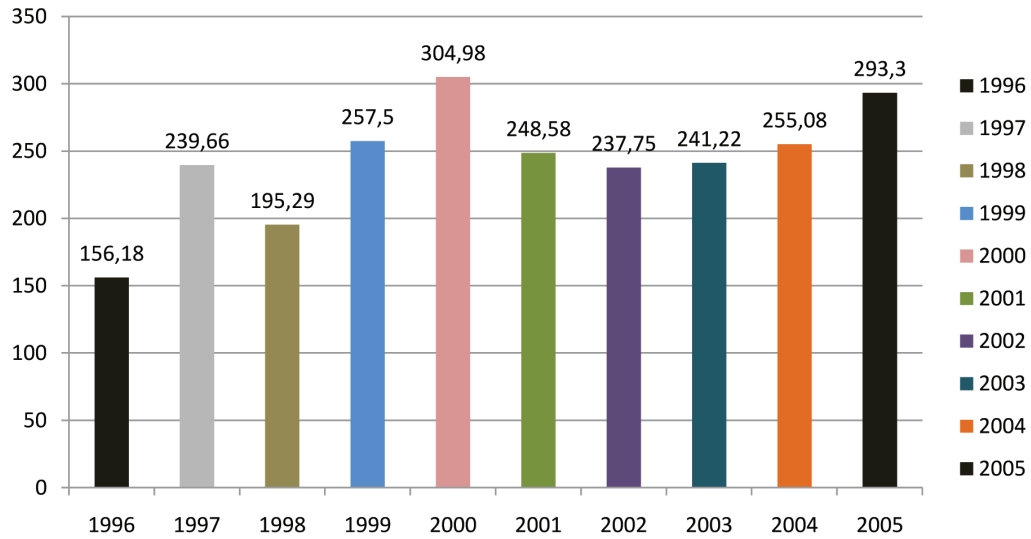
Source: Department of Fisheries Malaysia (1996-2005)

Fig.2: Income Generated from All Aquaculture Systems in Malaysia (in Ringgit Malaysia)
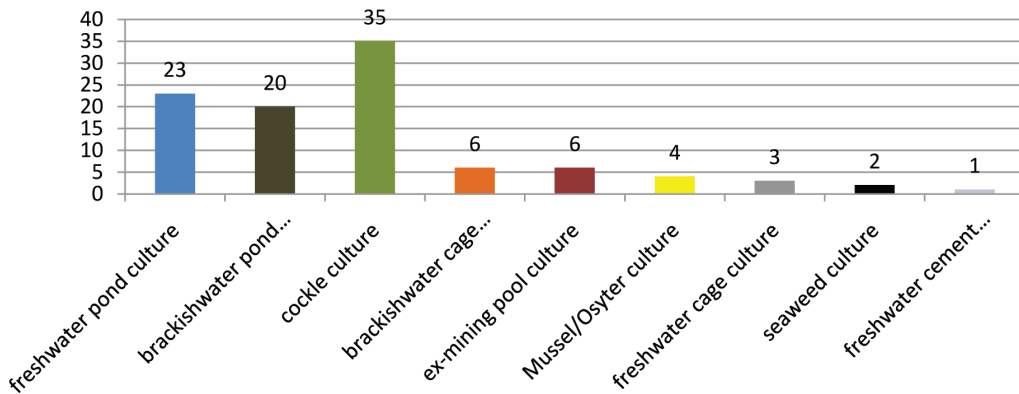
Department of Fisheries Malaysia (2005)

Fig.3: Distribution of Aquaculture Systems Activities (in percentage)

Based on the official website of the Malaysia Institute for Youth Development Research Centre, in 2008, youth constituted almost half of Malaysian citizens, and this has contributed vastly to the massive unemployment rate among youth. The latest statistics show that the current rate of unemployment among youth in Malaysia is 4%. As such, agriculture is a possible viable option in overcoming unemployment among youth in Malaysia. Previous studies revealed that the agriculture industries have a lot to offer to the community and, hence, should be sustained. Moreover, the ageing farming population in Malaysia may not be adequately replaced in the future as the

younger generation seems disinterested in agriculture (Norsida, 2007). Hassan *et al.* (2009) and Shaffril *et al.* (2010) revealed that the average age of farmers in Malaysia exceeded 40 years old. Hence, efforts to persuade youth to take part in the agriculture industry are crucial.

METHODOLOGY

The methodology used for this paper is the qualitative approach via document and literature analyses. Among the literature used were journals by local and foreign researchers that focus on the socio-economic benefits of involvement in aquaculture. In addition, recent statistics on aquaculture provided by the Department of Fisheries (DOF) were also referred to. However, the writer's experience in running the brackish water fish cage culture system for more than a decade is the main source of reference for this paper.

FINDINGS

Potential of Brackish Cage Culture (BWCC) Industry to Youth

Business opportunities

The BWCC could provide business opportunities for interested youth (Schwantes, *et al.*, 2009 and De and Saha, 2007). Apart from being an income-generating venture, it is anticipated that youth involvement in this industry can further equip youth with knowledge and expertise in fish rearing along with entrepreneurial skills and expertise that are critical for youth development. Consequently, other business

opportunities could emerge from BWCC such as tourism, food business and other downstream activities that use fish products. BWCC can promote the concept of agro-tourism whereby local or international tourists can visit the cage culture, hence providing learning opportunities and experiences to the community (Luck, 2009).

The emergence of rural industry

Youth's involvement in BWCC contributes a huge potential in strengthening and developing the rural industry. In tandem with rural industry development, BWCC could offer bigger opportunities for business and employment (De and Saha, 2007). Perhaps seeing their friends' success in this industry could motivate, persuade and encourage them to join the industry. Furthermore, as a rural industry, BWCC is expected to attract investment and support from the private and government sectors and, consequently, it could provide more consistent income for youth (Newfoundland and Labrador Canada, 2011). The produce from aquaculture can spin off commercial products such as snacks and frozen foods. In addition, it will be able to generate upstream and downstream industries.

More sustainable and friendly use of the environment

A bigger portion of the world's fisheries are at unhealthy or unsustainable levels. The Food and Agriculture Organization of the United Nations (FAO) revealed that in April 2005, nearly a quarter of the oceans' wild fish

stocks were lightly or moderately exploited and still offered some scope for further fisheries expansion; slightly more than half were fully exploited, 16% were over-exploited, 7% were depleted and 1% were recovering from depletion and had no room for further expansion. Youth involvement in BWCC is a possible mechanism for a more sustainable and consistent supply of fish. This can be realised based on the fact that youth involvement in brackish water fish cage culture industry offers opportunities for a growing aquaculture sector which has a huge possibility to relieve the pressure on wild fish stocks, provided that market demand for farmed fish is as great as the demand for wild fish (Moffitt, 2004).

Juliet (2005) in her study revealed that fish cultured in cage have less harmful impact on the ecosystem than some particularly deleterious fishing techniques such as ocean trawling that damages the ocean substrata. Involvement in this industry could make youth more creative in using idle land and unused environment sources. Unused land, for example, could be developed as a place for rearing fingerlings. Ahmad Faiz *et al*. (2010) in their study found that some BWCC entrepreneurs have initiated their own remedy from the available natural sources to treat most of the infected cultures. The aquaculture industries, especially those conducted in rivers, encourage entrepreneurs to preserve the environment. Nonchemical substances or toxins released into the river help to preserve the river; otherwise, their cultures could be affected by pollution.

Development of positive value among the entrepreneurs and the community

Involvement in this industry would develop a more positive perception on agriculture and aquaculture industry among youth (Ngazi, 2004). It motivates them towards a positive physical and mindset transformation towards this industry. The study done by Ahmad Faiz *et al*. (2010) found that BWCC was able to attract more youth and, interestingly, all of them expressed interest in and commitment to BWCC activities, which was not evident before their involvement in BWCC. In addition, Ahmad Faiz *et al*. (2010) also found that BWCC was able to create more positive values among the entrepreneurs. Through their participation in this industry, it was noted that the entrepreneurs possessed a high level of self-confidence and independence and that had developed a sense of belonging to the group as a result of their involvement in cage culture activity. Moreover, the culture of knowledge and experience sharing was instilled and cultivated among the entrepreneurs.

Employment opportunities

Examples from around the world have proven that the aquaculture industry is able to provide opportunities. China recorded that 4 million people were working in the aquaculture industry on a full-time basis. Similarly in Vietnam, this industry is presently providing jobs for more than 700,000 people and, has been able to create an average annual household income of over USD1000 (FAO, 2003). Malaysia

can gain similar results. If the community, especially the youth, are willing to take up this business opportunity, it will create more job opportunities for them. Availability of more employment opportunities is essential for a better quality of life among youth (Yassin *et al.*, 2011). More job opportunities in this industry are available to local youth whereby the opportunities abound not only to educated and experienced youth but also to the less educated and less experienced youth (Irz *et al.*, 2007). Apart from this, BWCC is one of the potential mechanisms to overcome the unemployment problem among youth, especially new graduates (Boi, 2008; Muir, 2005; Bardach, 1997). Addressing unemployment issues among graduates has become a crucial agenda for the government, due to the fact that in 2010, there were 364,200 people who were still unemployed in Malaysia; BWCC can definitely be one of the answers to solving this problem.

Problems Expected to be Faced by Youth Who Are Interested in Brackish Cage Culture Industry

Lack of capital

Lack of capital is the main problem faced by all kinds of businesses, and the aquaculture industry is no exception. Without adequate capital, entrepreneurs face difficulties in their operations (The Ohio State University South Centres, 2010). Maintaining a rolling capital is important to ensure that they can run their business and, most importantly, sustain their business. In BWCC, entrepreneurs should consider a number of costs in their

budget. The pressure on the increasing cost of pellets, cage culture materials, workers' salary, drugs and fingerlings are almost unavoidable. Ahmad Faiz *et al.* (2010) revealed that the pellet price is one of the main problems that impede aquaculture entrepreneurs' success, and the situation may become worse if they do not have enough financial support. Apart from this, entrepreneurs need quality materials such as lumber for constructing cages, quality cage nets and fingerlings; all these place financial demands on the operations. Nevertheless, entrepreneurs can solve such problems if they are able to control the input needed for this business. Financial support in the form of loans or grants can offset the problem related to the lack of capital (The Fish Site, 2011).

Lack of knowledge and information

Knowledge and information are the keys to success. Arguably, knowledge and information are the main key for youth to succeed in the aquaculture industry such as BWCC (Mazur and Curtis, 2008). Without these two elements, difficulties could arise especially in discovering opportunities and becoming aware of the potential of the industry. Sharing of knowledge and information with more experienced entrepreneurs could be one of the main solutions to this problem. The absence of knowledge and knowledge sharing may pose challenges and obstacles for youth as they may have to adopt a trial-and-error method, and this can potentially be very costly. Knowledge and information on

marketing are also essential for success, thus creating a need for business networking. For youth who wish to participate in BWCC, technical and marketing knowledge are critical at the planning and development stage of the enterprise.

Theory vs. practicality. Challenges could arise for youth who want to put into practice aquaculture knowledge and skills in the real world. This is one of the problems that new graduates, in particular may face. For example, graduates in aquaculture and biotechnology may not be ready to apply the knowledge and skills they learned in university to ensure the success of the aquaculture project (Ahmad Faiz *et al*., 2010).

Difficulties in getting loan to expand the business

Bank loans are available for those who are interested in running BWCC. Nonetheless, the process of getting the loan usually involves a lot of bureaucracy, and this could result in difficulties for interested youth; such a situation becomes more challenging if they do not have experience in dealing with such applications (Ahmad Faiz *et al*., 2010). A bank loan is important as it provides financial strength and assists entrepreneurs to shift from the status of sustenance to commercialisation. Due to difficulty in getting a bank loan, their business cannot be insured.

Networking and marketing

As mentioned earlier, youths can expect to encounter these two common problems.

They can also expect to meet difficulties in building connections especially in creating cooperation with bigger and established businesses. Gaining confidence among consumers, retailers and wholesalers for their products is another networking challenge. Apart from this, interested youth should have the ability to deal with the middleman who may cut down their profits and, in turn, increase their production costs (Shang, *et al*. 1998).

Challenges from experienced entrepreneurs and big companies

It is difficult for a new player to compete with the seasoned players. One of the problems that youth need to tackle in the early stage of their business is competition from the big "players" and those who have vast experience in this industry (Emerson, 1999). As the products of the "seasoned" and "experienced" are well accepted among consumers, the new "player" should develop sound strategies for winning consumer acceptance and confidence in their products.

Difficulties in finding a suitable location

Finding a suitable location for productive aquaculture production is also an essential factor in this industry (Frankic and Hershner, 2003). An unsuitable location will pose problems related to the early deaths of fingerlings, and this will result in monetary, time and energy loss (Halide *et al*., 2009). An understanding of the water system and the environment is vital. These include a number of factors such as the climate, seasons, water flow, water quality, existing

industries, predators, competitors and thieves.

Other factors

It is important that aquaculture entrepreneurs feel concerned if factories exist in nearby areas. Effluents from factories (toxic waste and chemical contents) pose a threat to fingerlings and fish; disease and early death are among potential threats (Cao *et al.*, 2007). Globalisation has its pros and cons. Globalisation creates a wider market for entrepreneurs in the aquaculture industry; it also gives rise to more competition for local entrepreneurs through the entry of foreign products (Gene Barrett *et al.*, 2002). For example, operators can now source for fingerlings from other countries, but at the same time, they have to compete with foreign producers who offer competitive prices for the same products.

DISCUSSION

Youth involvement in BWCC offers some advantages for youth and the industry. Apart from this, it provides meaningful year-round employment and a reason for youth to remain in their rural communities. However, to gain such benefits, first, youth have to overcome problems and obstacles. Development agencies can play their role in helping youth overcome such problems. In seeking adequate capitals to start the business, youth may take advantage of the many financial channels prepared by both the government and private agencies. Agro Bank, for example, has programmes that provide loans for interested youth.

Fisheries-related agencies such as the Department of Fisheries Malaysia and the Fisheries Development Authority of Malaysia are ever ready to provide financial and technical assistance to youth. The relevant agencies can conduct courses and seminars that can help youth increase their aquaculture knowledge and skills. Besides providing training courses and seminars for them, youth may find it beneficial to embark on joint ventures or cooperation with experienced entrepreneurs and private companies in this industry. A mentorship programme is an effective avenue for experienced entrepreneurs to educate and train interested youth (Ahmad Faiz et. al., 2010).

In Malaysia, marketing agencies such as the Federal Agriculture Marketing Authority (FAMA) have their strengths in seeking a wider and sustainable market, and can offer good assistance to interested youth. FAMA can assist to realise opportunities to enter a bigger market such as the Halal Hub (Halal Market in Malaysia) or hypermarkets such as Mydin, Giant, Tesco and Carrefour. Perhaps these retail channels with better marketing networks can help to realise and control the input price. This, hopefully, will reduce the cost of going through a middleman, which burdens entrepreneurs. Apart from marketing and networking, a positive attitude towards BWCC should exist among interested youth. To run BWCC, it is important to motivate interested youth; they should possess high self-esteem and be independent, dedicated and persistent in developing the aquaculture industry.

CONCLUSION

Data gained from the above analysis revealed that BWCC could offer relatively substantial benefits for youth. Nonetheless, to reap these benefits, a number of problems and obstacles must first be tackled. There are several incentives offered by this industry which directly and indirectly benefit youth and the environment. The main potentials offered by this industry to youth are business opportunities, employment opportunities, the emergence of a rural industry and a sustainable community. It is also environmentally friendly and develops positive values towards the aquaculture industry among youth. Among the possible problems interested youth may encounter are lack of knowledge and information, theory versus practicality, difficulty in securing a loan to expand their business, networking and marketing, challenges from big and experienced companies, difficulty in finding suitable locations and other factors such as control of input and globalisation.

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ICT Utilisation and Its Impact on the Income of Young Fishermen in Malaysia

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ABSTRACT

In order to meet the increasing demand for marine sources, superior offshore technologies have begun to be utilised. This study aims to discover the impact of ICT utilisation on the income of young fishermen. This is a quantitative study wherein a multi-stage random sampling approach was used to select a total of 121 registered fishermen as respondents. The data were collected using a pre-tested questionnaire. Mobile phones emerged as the most-used piece of ICT equipment among young fishermen, followed by GPS and echo sounders. Further analysis confirmed that usage of GPS and echo sounders is related to the income of young fishermen. Surprisingly, however, the study concluded that mobile phones – the most-used ICT device among young fishermen – have no significant association with the income of these young fishermen. This paper suggests a number of recommendations, and these can aid concerned parties to strategise more consistent methods to encourage young fishermen to use ICT.

Keywords: Fisheries Industry Development, ICT, income, socio-economic development, young fishermen

INTRODUCTION

Although arguments abound that the fisheries industry has a detrimental effect on the environment (Kennelly, 2003; Knudsen, 2003), there is considerable speculation on the positive impact of ICT in developing the fisheries industry. Recent statistics show

that there are 129,622 registered fishermen in Malaysia (DOF, 2010), and this number is currently increasing. We expect the growing availability of ICT will benefit fishermen economically (Abu Hassan *et al.*, 2011; Singh & Bharati, 2010).In Malaysia, agricultural industries, including fishing, are facing inadequate support from the younger generation (Hassan *et al.*, 2009; Man, 2008). According to Shaffril *et al.* (2010), only 33% of fishermen in Malaysia are considered "young". Nevertheless, despite the small number of young fishermen, they are expected to be the main beneficiaries of ICT, as according to the MCMC (2011), young people are the main users of ICT in Malaysia.ICT has long been widely utilised across the country, and its contribution towards the productivity of the fisheries industry is undeniable. ICT has a lot to offer the industry, particularly in terms of strengthening fishermen's socio-economic status. In previous studies (Abissath, 2005; Salia *et al.*, 2011; Ifejika *et al.*, 2007), ICT has been proven to increase fishermen's productivity and income, enhance their safety, widen their markets, ease information-sharing and exchange processes among them. This study attempts to shed light on the potential impact of ICTs, such as geographical positioning systems (GPS), sonar, radar, echo sounders, mobile phones and wireless sets, on the income of young fishermen.

LITERATURE REVIEW

Rapid technological evolution has enabled ICT to be adapted to fishing activities.

Advanced tools such as GPS, sonar, echo sounders, radar, mobile phones and wireless sets are crucial for the fishing industry today.

Though ICT is typically related to the internet and the computer, it actually covers a wide range of tools. Noor Sharifah (2006) stated that ICT involves processes such as accessing, recording, organising, handling and presenting information by utilising appropriate and suitable tools and software. Within the scope of this definition, doubtlessly, devices such as GPS, sonar, echo sounder, radar, wireless sets and mobile phones can be labelled as ICT tools.

GPS is one of the most popular tools used by Malaysian fishermen (Omar *et al.*, 2011). Previously, most local fishermen employed indigenous skills, such as utilising flags and mountains, to mark their fishing spots; however, with the availability of GPS, the marking process has become very easy. GPS offers vital information such as latitude, longitude, and altitude, and guides fishermen to the exact marked location, day or night. In addition, this tool is able to provide information on surface speed and sunrise and sunset times and contains an odometer and accuracy warning system.

The popularity of echo sounders and sonar among local fishermen is gradually increasing (Ghee-thean *et al.*, 2012). Both sonar and echo sounders are vital tools in detecting schools of fish. Sonar provides information relating to the extent, density, depth, movement, species and size of all fish shoals. In addition, information regarding the sea bottom, such as depth, contours, slopes and stones, can easily be gained. Such

information helps fishermen to steer clear of any underwater obstacles. Echo sounders are another ICT tool used to detect fish, though they provide a smaller map of the fishing area compared to sonar. According to the Department of Fisheries Malaysia, local fishermen have been using echo sounders since the 1960s. In the current market, echo sounders cost less than sonar, and this has made them more popular with fishermen. Echo sounders are capable of examining the depth of the water, the condition of the sea bed and the location of fish.Typically, the radar is embedded within big ships, particularly C0 and C2[1] boats. The radar is vital in the sense that it can improve the fishermen's safety while they are at sea. It offers a warning system which is capable of picking up any environmental threats. Moreover, it navigates clear of underwater hazards and notifies fishermen of any approaching vessels that are navigating the same route. Some advanced radars are also able to function exactly as sonar and echo sounders.

Mobile phones are another crucial tool in the modern fishing industry, and local fishermen should utilise their advantages. Most Malaysian fishermen own this tool due to its affordable price and beneficial functions. According to Omar *et al.* (2011), among the major benefits of mobile phones within the fishing industry is that they can enhance the fishermen's safety when the men are at sea. In addition, mobile phones are commonly used by fishermen to

[1]C0 and C2 boats refers to deep-sea boats; they are operated within the range of >12.1 miles nautical

exchange information with their dealers and colleagues as well as with fisheries officers.

IMPACT OF ICT ON FISHERMEN'S INCOME

ICT has been proven to significantly enhance agricultural productivity (Hassan *et al.*, 2009; Samah *et al.*, 2009). As one of the branches of agriculture, the fisheries industry has utilised the advantages of ICT as it develops. Undoubtedly, ICT is one of the catalysts for improving the quality of life and eradicating poverty among fishermen (Toluyemi and Mejabi, 2011; Mogothlhwane *et al.*, 2011). The use of sonar and echo sounders, for example, ease the search process. Typically, ships installed with such tools return to the jetty with fully loaded marine catches. Sonar and echo sounders function as fish detectors, since they can detect schools of fish and guide fishermen to the precise fishing spots. This ability results in higher productivity and lower consumption of fuel, since fuel is not wasted during the process of identifying a suitable fishing location. In addition, such technologies will minimise the time and energy required for fishing itself, which will result in lower costs in terms of crew members' salaries. These advantages thus reduce operational costs and eventually increase the fishermen's income.

GPS can also boost fishermen's income. Previously, most fishermen used flags, mountains/hills and birds to mark their location and identify fishing spots, but they are now able to use GPS, which works at

the touch of a button to navigate them to an exact spot. Although GPS cannot detect schools of fish, it offers similar socio-economic advantages as sonar and echo sounders in terms of minimising fuel, time and energy consumption, which in turn reduces operational costs and increases their income (Abu Hassan *et al*. 2011).

Possessing good and timely knowledge is crucial in meeting market demands; consequently, mobile phones and wireless sets also have a fairly strong impact on fishermen's income (Salia *et al*., 2011). These tools enable collaboration and knowledge management between the fishermen and their dealers and colleagues as well as with fisheries officers (EMCC, 2004). Regardless of time and place, mobile phones and wireless sets help fishermen to strengthen their marketing activities and respond to market and customer demands (Abraham, 2007). In addition, such tools enable fishermen to contact their dealers either by voice call, MMS or SMS even before they arrive at the jetty; this provides them early opportunities for bargaining. In addition, a study conducted by Mittal *et al*. (2010) identified that mobile phones and wireless sets assist fishermen to exchange information regarding market prices and fishing locations with their colleagues and fisheries officers. Again, this will reduce their expenditure on fuel as they can obtain information on the exact fishing location from their colleagues or fisheries officers. In addition, these tools allow fishermen to reach the best spots and the people who offer the best prices for their catch.

METHODOLOGY

This is a quantitative study in which a total of 121 registered young fishermen were selected as respondents. This study employed a multi-stage simple random sampling approach. In the first stage, out of five zones in Malaysia, four zones were randomly selected, namely the northern zone, southern zone, central zone and east coast zone. In the second stage of the sampling, based on the selected zones, a state was randomly selected to represent each state; the selected states were Kedah (northern zone), Johor (southern zone), Perak (central zone) and Terengganu (east coast zone). In the third stage of the sampling, based on the selected states, a fishery district was also randomly selected to represent each state where a total of four fishery districts, namely Langkawi Island (Kedah), Larut-Matang (Perak), Mersing (Johor) and Kuala Besut (Terengganu), served as points of focus. The instrument used for this study is a questionnaire, which was developed based on past studies and has already been pre-tested. The pre-test resulted in a Cronbach alpha value of .949, which exceeds the requirement suggested by Nunally (1978). Originally, the instruments for this study consisted of four parts, namely demographic factors, ICT usage on the ships/boats, variables affecting ICT usage among fishermen on the ships/boats and variables affecting ICT usage among fishermen at home. However, for the purpose of accomplishing the objective of this paper, the study focussed on the demographic factors and ICT usage

on the ships/boats. To facilitate the data collection process, a number of trained and experienced enumerators were hired. This study employed the survey method to obtain the information needed. For each respondent, the enumerators took an average of 30 minutes to complete the survey. Assistance given by fisheries officers, jetty leaders and village leaders eased the data collection process. To fulfil the objectives of the study, the research team employed suitable and relevant analyses such as frequency, percentage, mean, standard deviation and Pearson correlation.

RESULTS AND DISCUSSION

The fisheries industry is often dominated by those over 40 years old, and few under this age are involved. This study identified only 121 fishermen who are younger than 40 (Table 1). The number of young fishermen in Malaysia is still considered as relatively low; in fact, nearly half (43.8%) of the fishermen are below 40, aged between 35 and 40 years, and only a few (9%) are very young (15-19 years). For young fishermen, the average income from fishing is around RM881 per month and this is considered low. However, some fishermen earn more than RM1,500, while others earn as much as RM10,000. It is possible that the young fishermen who earn this higher income use ICT, and this paper will discuss that possibility.

Although these fishermen are young, they are relatively highly experienced in fishing. This study found that 42.1% of them have worked for 11-20 years as fishermen.

The majority (76.9%) are active in Zone A and often stay out at sea for 16-30 days a month.

TABLE 1
Profile of Young Fishermen (N=121)

Profile	Percentage
Gender	
Male	97.5
Female	2.5
Race	
Malay	95.9
Chinese	4.1
Age (years)	
20-24	9.1
25-29	20.7
30-34	26.4
35-40	43.8
Mean	32.45
Standard deviation	5.54
Min.	20
Max.	40
Fishing income (RM)	
<500	34.7
501-1000	52.9
1001-1500	7.4
>1500	5.0
Mean	881.16
Standard deviation	1251.04
Min.	200
Max.	10,000
Fishing experience (years)	
<5	11.6
6-10	32.2
11-20	42.1
>21	14.0
Mean	13.46
Standard deviation	6.97

cont'd Table 1

Average days spent at sea per month	
1-15	24.0
16-30	76.0
Mean	19.6
Standard deviation	4.80
Fishing zone category	
Zone A[1]	76.9
Zone B[2]	14.0
Zone C0	9.1
Zone C2	0.0

Use of Communication Technology Among Young Fishermen

Table 2 shows the level of usage of communication technology among the young fishermen. The study categorises the level of usage into three categories namely low (only using it for 1-2 days in a week in their fishing operation), moderate (only using it for 3-5 days in a week in their fishing operation) and high (using it 6-7 days in their fishing operation). Generally, the usage of GPS, sonar, wireless sets, echo sounders and radar is low. Only mobile phones are used extensively (80.2%). Thus, this study gives the impression that ICT has yet to receive full support from young fishermen. This can have negative implications on their catch. The young fishermen also depend on traditional systems for activities such as weather forecasting, detecting areas with a lot of fish and networking. This is a worrying situation because the current fisheries sector will fail to thrive to its full potential if fishermen do not use ICT extensively. Although many young fishermen use mobile phones, usage is very limited in terms of enhancing their catch; instead, mobile phones are primarily used for messaging and communication, and are not adequate for detecting weather conditions and fish locations, or for enhancing safety at sea and marketing. This low usage of ICT also has implications on the young fishermen's income (Table 3).

TABLE 2
Usage of Communication Technology Among Young Fishermen

Communication technology	Usage Level (%)		
	Low	Medium	High
GPS	73.6	1.7	24.8
Sonar	86.8	1.7	11.6
Wireless set	85.1	3.3	11.6
Echo sounder	82.6	1.7	15.7
Radar	96.7	.8	2.5
Mobile phone	2.5	17.4	80.2

Relationship Between ICT Usage and the Income of Young Fishermen

This analysis identified significant and positive correlations between GPS usage and young fishermen's income. It indicates that frequent usage of GPS enables fishermen to earn more (Table 3). Therefore, there is a possibility that a low income can be improved with minimum usage of GPS. Further analysis has shown that there are two young fishermen in the study who earn RM10,000 per month: both are active users of GPS; this shows that GPS usage can have a positive impact on young fishermen's income. The results gained are unsurprising, as they agree with those found by Abu Hassan *et al*. (2011). As mentioned earlier, GPS enables fishermen to mark out and navigate to selected fishing locations.

This gives them the chance to maximise their catch, thus generating more income. In addition, GPS minimises the cost of fuel due to its ability to guide the fishermen to the exact marked fishing location. This ability reduces the time spent on the fishing operation; less time wasted means less fuel consumed.

In addition, the usage of echo sounders was found to have a significant and positive relationship to the young fishermen's income, which again is unsurprising as it is in tandem with the study by Ghee-Thean *et al.* (2011). As clarified earlier, echo sounders are fish detectors. Like GPS, they enable fishermen to navigate to an exact location and thus maximise their catch, which in turn generates more money.

Although most of the respondents have mobile phones, the study revealed that, surprisingly, this tool has no significant correlation with income, despite the fact that this technology is popular among fishermen (Abraham, 2007; Ifejika *et al.*, 2007), has superior capabilities for exchanging information and provides enhanced marketing opportunities. everal aspects contribute towards this finding; for instance, Omar *et al.* (2011) emphasised that local fishermen do not have enough knowledge of the marketing functions of mobile phones, and use them mainly for safety purposes. According to Omar *et al.* (2011), Malaysian fishermen need mobile phones as mobile phones can act as communication tools if the fishermen face any emergencies (such as engine break-

downs, natural threats etc.). In Malaysia, many fishermen still rely on traditional means of selling their catches i.e. they use the services of intermediaries (locally called "taukes"), and hence, fail to use the mobile phone for marketing purposes.

TABLE 3
Correlation Test Between ICT Usage and the ncome of Young Fishermen

ICT	r	P
GPS	0.194*	0.033
Sonar	-0.081	0.375
Wireless set	-0.059	0.521
Echo sounder	0.209*	0.021
Radar	0.023	0.800
Mobile phone	0.017	0.849

RECOMMENDATIONS

Based on the findings of this study, a number of recommendations are highlighted here. As the mobile phone is the most-used ICT device among young fishermen, these fishermen will need more exposure to the marketing functions of this technology. This is crucial, as several previous studies have confirmed that the mobile phone impacts fishermen's income significantly (Abraham, 2007; Abissath, 2005); however, a similar result was not found in this study, and among the possible reasons for this is the fishermen's ignorance of the multi-functions of the mobile phone, particularly to assist them to market their catch.

As GPS was found to have a positive correlation with young fishermen's income, its utilisation should also be encouraged and promoted. This can be done through

courses and seminars; as stressed by Abu Hassan *et al.* (2009), frequent participation in ICT courses and seminars will create consistent ICT usage among members of the community. In addition to courses and seminars, a specific institute could be established in which the main aim would be to educate and expose fishermen to offshore technologies, particularly GPS.

CONCLUSION

In almost any career, development is impossible if the rapid progression of ICT is not taken into account. ICT can assist in daily activities, especially in terms of improving work efficiency that can subsequently increase revenue. This also applies to the fisheries industry. Fishermen, especially young fishermen, should embrace ICT to help them increase their monthly income. This study concludes that the relatively low-income earned by young fishermen at present is due to the low usage of ICT in their daily fishing activities. There is a significant positive correlation between ICT usage (specifically GPS and echo sounders) and the monthly income of young fishermen. However, this study has also identified that not all ICT usage has a significant relationship to fishermen's income: sonar, wireless sets, radar and mobile phones are insignificant in terms of affecting the monthly income of young fishermen.

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ENDNOTES

[1]Zone A fishermen are also known as coastal fishermen, small-scale fishermen operating within the range of 0.1 to 5.0 nautical miles.

[2]Zone B fishermen are also known as coastal fishermen but they operate within the range of 5.1 to 12.0 nautical miles.

The Impact of the National Service Programme on Self-resilience Among Youth in Malaysia

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ABSTRACT

Physical activities, besides having a positive impact on health, are also effective in improving strength, bravery and resilience in individuals. In Malaysia, there are a number of physical programmes designed with this objective in mind such as the National Service Programme. Compared with other physical programmes, the physical module in the National Service Programme is quite different due to its longer duration. The main objective of the physical module in the National Service Programme is to enhance self-resilience among the trainees; this study aims to discover the effectiveness of such a module in enhancing self-resilience among the participants and attempts to provide answers to these main questions: How much self-resilience is gained by the trainees? Is there any difference in their self-resilience before and after they joined the physical training module? This is a quantitative study in which a total of 362 trainees were selected based on multi-stage sampling. The data collection process covered two stages (pre- and post).Based on the analysis done, it was found that most of the trainees had a moderate level of self-resilience in the pre- and post test. The results demonstrated that the physical module was able to enhance the trainees' self-resilience based on the significant difference identified in the mean score of the pre- and post tests. It is therefore recommended that the National Service Programme in Malaysia be implemented for a longer period of time and that the period for physical training be extended to give more room for new and challenging activities.

Keywords: National Service Programme, physical training, self-resilience, youth

INTRODUCTION

The National Service Programme, also known as *Program Latihan Khidmat Negara* (PLKN) is a mandatory national service in

Malaysia. The programme is developed specifically for Malaysian youth aged 18 years old and above. PLKN covers a period of three months and consists of three series of recruitment per year. This programme was run for the first time on 16 February 2004 throughout Malaysia. At that time, however, it operated without a permanent training camp. A year after its establishment, the authorities constructed a total of five PLKN training camps in selected states. PLKN has four main modules: (1) physical module, (2) nation-building module, (3) character-building module, and (4) community service module. Each module aspires to achieve different objectives. These combined objectives contribute to PLKN's main goal, which is to strengthen the spirit of patriotism, solidarity, volunteerism, being active, applying intelligence and self-confidence among youth in Malaysia (PLKN, 2012).

The physical module of the PLKN programme, which concentrates on physical fitness and self-resilience, is an important element of the programme and should receive due attention. According to Davis (2000), physical fitness in the context of sport is the ability of an individual to meet various physical and physiological needs of the activity without causing a state of extreme exhaustion. Physical training is a process of repetitive exercises performed involving the elements of learning and adjustment. Its main purpose is to enhance the body mechanism for fitness and thus prime the body to avoid injuries (Baungartner & Jackson, 1991). Nonetheless, according

to Hashim (2004), within the scope of the PLKN physical training manual, physical training refers to all outdoor activities such as jungle trekking, canoeing or *kayaking*, abseiling, flying fox and other activities that require high resilience and physical and mental strength, as well as the spirit of cooperation and self-confidence.

Meanwhile, an individual's ability to exert control over a situation in order to solve problems effectively in the short-term is often related to self-resilience (Elizabeth, 2007). Resilience is a process that involves knowledge and experience. Individuals need to be tested and trained to exert control over a situation, while remaining calm, motivated and avoiding anxiety at the same time (Boyd and Hrycaiko, 1997). In this research, self-resilience is a variable used to look at trainees' ability when under pressure and their ability to control emotions in the face of discomfort, tiredness, hot weather and extreme situations. Self-resilience is a crucial element for the individual; according to Sontroem and Morgan (1989) only those with high self-resilience would be able to go through this process.

Physical training carried out in hot weather will cause individuals to feel anger and become depressed. Nonetheless, involvement in physical training and mental challenges will strengthen the individual's level of resilience and confidence (Petruzzello and Landers, 1994). According to Yahya *et al.* (2005), more than 2496 PLKN trainees in the northern Malaysian state of Kedah found that physical training could increase their level of resilience. The results showed

an increase in the mean value from 54.56 at pre-test to 55.41 at post test. In addition, according to McDonalds and Hodgdon (1991), physical training and activities such as aerobics and abseiling had negative associations with anxiety. Additionally, Gruber (1986), who conducted his study involving 150 trainees of Sandhurst Military College, England found that students who follow an active physical exercise regimen have higher self-resilience compared to trainees who are simply active. Apart from this, McDonalds and Hodgdon (1991) found significant differences in the levels of active adolescent mental and physical conditions in training activities based on the factors of age and gender. However, there were no significant differences found for the intermediate and adult age groups. An earlier study in Malaysia showed the difference in self-resilience on gender and location among PLKN trainees (Yahya *et al*., 2005). Besides that, an adventurous lifestyle is identified as playing an important role in evaluating self-resilience due to the fact that the relationship between lifestyle and mental resilience is significant (Sanstroem and Potts, 1996). Adventurous activities such as swinging bridge crossing, six-foot wall crossing, graduated balance walk, monkey rack, tarzan swing, tunnel, cargo net, barbed wire crawl, fidget ladder, abseiling and flying fox can lead to the strengthening of self-resilience in individuals.

Hence, this study tries to identify the effectiveness of the physical module in the National Service Programme in Malaysia. The study will explore the level of self-resilience among the trainees and will compare the differences in their self-resilience before and after undergoing the programme.

MATERIAL AND METHOD

In Malaysia, there are 13 states with 83 PLKN training camps. This study employed a multi-stage random sampling involving a total of 362 trainees as respondents. The instrument used for this study was a set of questionnaires that was pre-tested earlier among 30 trainees. The pre-test resulted in a Cronbach Alpha value of .79, thus exceeding the threshold of 0.70 recommended by Nunally (1967) and indicated that the instrument used for this study was reliable. The data collection process covered two stages: (1) pre-test that ended during the first week of the start of the programme and (2) post test that ended in the last week of the programme. The questionnaire included a total of 10 items; for each item, respondents chose answers based on a 5-point Likert scale. Factor analysis divided these items into two categories: (1) self-resilience during a challenging situation, and (2) self-resilience through a variety of emotions. To fulfil the objectives determined earlier, SPSS software was used to perform a descriptive analysis to obtain the percentage, mean and standard deviation. Paired sample t-test was performed to define the different levels of the two categories before and after trainees had undergone the physical training.

RESULTS

Table 1 presents the socio-demographic profile of the respondents. Respondents were divided into four groups and each group consisted of an almost equal number of trainees. Unity is one of the main focusses of the government, and the training in PLKN is the medium used to promote it. The selected trainees came from different ethnic groups and religions. This study involved four main ethnic groups, namely, Malay (61.2%), Chinese (26.2%), Indian (11.6%), and Others (0.8%). Apart from this, most of the respondents were Muslim (61.6%) while a minority were Hindu (11.0%). Moreover, there was an equal distribution of respondents in terms of gender with a total of 50.3% of the respondents being males while 49.3% were females.

TABLE 1
Socio-demographic Profile of Respondents (n= 362)

Factor	Frequency	Percentage
Group		
Alpha	82	22.7
Bravo	87	24.0
Charlie	96	26.5
Delta	97	26.8
Ethnicity		
Malay	222	61.3
Chinese	95	26.2
India	42	11.6
Other	3	0.8
Religion		
Muslim	223	61.6
Christian	14	3.9
Buddhism	85	23.5
Hindu	40	11.0

cont'd Table 1

Gender		
Female	180	49.7
Male	182	50.3

The questionnaire provided to respondents consisted of 10 items to measure their level of self-resilience. To meet the objective determined earlier, these 10 items were employed in two stages: in the first stage (pre-test) the trainees received the questionnaires one week after the programme started and, in the second stage, trainees received the questionnaires a week before the programme ended. To each of the items asked, the respondents gave their answers based on a 5-point Likert scale (1=strongly disagree, 2= disagree, 3= moderately, 4=agree, 5= strongly agree).

Table 2 shows the items used to measure the trainees' self-resilience. The items were divided into two aspects namely 1) self-resilience during challenging situation, and 2) self-resilience through a variety of emotions. On the aspect of self-resilience during a challenging situation, during the pre-test, the item, "I persevere to face discomfort in training than at home", recorded the highest mean scored (M=3.36). Similarly, the highest mean score recorded during the post test was for the item, "I am willing to march in the hot weather" (M=3.45).However, the item, "When someone asked me to do push up, I was willing to do it" had the lowest mean score for pre- and post analysis (pre: M=2.72; post: M=3.09). For the second category, the item, "I persevere to face any challenges during the training" and "I do not like

outdoor activities because it is tiring", scored the highest mean score with *M*=3.74 (pre-test) and *M*= 3.72 (post test). Apart from this, the lowest mean score recorded was for these items: (1) "I am not the type of person who gets worried and anxious easily" (*M*= 3.16), and (2) "I remain calm when I face frustration or defeat" (*M*: 3.37).

TABLE 2
Self-resilience on Each Item (Pre- and Post)

Item	Mean	
	Pre	Post
Self-resilience during challenging situation		
• I am willing to march in the hot weather	3.21	3.45
• I persevere to face discomfort in training than at home	3.36	3.44
• When someone asked me to do pumping, I was willing to do it	2.72	3.09
Self-resilience through a variety of emotions		
• I persevere to face any challenges during training	3.70	3.74
• I do not like outdoor activities because they are tiring*	3.72	3.71
• I am afraid of wild animals even though they are caged*	3.44	3.53
• Sometimes I am scared without any reason*	3.35	3.48
• I can accept criticism from my friends even though it hurts	3.36	3.47
• I am not the type of person who gets worried and anxious easily	3.16	3.43
• I remain calm when I face frustration or defeat	3.30	3.37

(* is a negative item)

The level of self-resilience was calculated using the mean summated score of the 10 items. The scores were categorised into three levels namely low, moderate and high for scores from 1-2.33, 2.43-3.66 and 3.67-5.00 respectively. Table 3 shows that for the first (1) category and the second (2) category, most respondents possessed a moderate level of resilience at both levels: pre-test: (1) 50.0% and (2) 58.3%; and post-test: (1) 42.8% and (2) 54.7%.

Based on Table 4, both self-resilience categories recorded a significant difference before and after the programme ended; the analysis done proved this significant difference as follows: for self-resilience during a challenging situation (*M*= 3.10, *SD*= 1.01) for pre-test and for posttest (*M*= 3.33, *SD*= 1.02; *t* (362)= 4.140, *p*= .0001), while for self-resilience tested based on a variety of emotions, the analysis performed resulted as (*M*= 3.43, *SD*= 0.64) for pre-test and for post test (*M*= 3.53, *SD*= 0.61; *t* (362)= 3.060, *p*= .001 (Table 4). From the activities, trainees had the chance to involve themselves in adventurous activities such as wall climbing and flying fox to test their courage, marching in the sun to test their patience level as well as climbing and jumping from high walls to reduce their fear; hence all these activities tested the trainees and thus, trained them to exert control over the situation, while remaining calm, being motivated and being courageous (Boyd & Hrycaiko, 1997). Eventually, such physical activities can improve their resilience level even further; the study done by McDonald and Hodgon (1991), supports the findings

TABLE 3
Level of Self-resilience

Level	Percentage		Mean		S.D	
	Pre	Post	Pre	Post	Pre	Post
Self-resilience during a challenging situation						
Low (1-2.33)	26.8	22.4	3.10	3.33	1.01	1.02
Moderate (2.34-3.66)	50.0	42.8				
High (3.67-5.00)	23.2	34.8				
Self-resilience through a variety of emotions						
Low (1-2.33)	4.1	1.9	3.43	3.53	0.64	0.61
Moderate (2.34-3.66)	58.3	54.7				
High (3.67-5.00)	37.6	43.4				

recorded in this paper, that physical training such as marching in the sun, abseiling and crashing into barriers can improve resilience in individuals.

TABLE 4
Comparison of Self-resilience

	Mean	S.D	t	p
Self-resilience in a challenging situation				
Pre-Test	3.10	1.01	4.14	.000
Post Test	3.33	1.02		
Self-resilience based on a variety of emotions				
Pre-Test	3.43	.64	3.06	.001
Post Test	3.53	.61		

DISCUSSION

The results given in Table 3 show that the percentage of trainees in the three levels (lower, moderate and highest) was different at both stages (pre-test and post test). For instance, in the first category, it can be seen that the lower and moderate levels had decreased (low: 26.8 to 22.4 and moderate: 50.0 to 42.8) while the highest level improved (high: 23.2 to 34.8). The mean score for each item in the first category

had also increased. For example: "I am willing to march in the hot weather" (3.21 to 3.45), "When someone asked me to do push up, I was willing to do it" (3.36 to 3.44) and "I persevere to face discomfort in training here than at home" (2.72 to 3.09). This situation can be accounted for by a number of reasons. Firstly, activities such as jungle trekking, flying fox and abseiling are able to build leadership skills, mental resilience and confidence (McDonald & Hodgdon, 1991). In addition, PLKN provides the trainees with a new environment which is highly challenging and demanding and, consequently, offers the trainees the right environment for the improvement of self-resilience. As the module stretched over a long period, the trainees also had the opportunity to get to know each other, practise mutual assistance among themselves and share food and equipment to achieve their common goals or mission and in the process they were able to achieve success as a team (Smith, 2000). It may seem that youngsters today tend to be pampered with

luxury and have most things available and ready for them; this conditioning may have led to occasions of complaining among the trainees when the numerous difficulties presented in this module confronted them. However, the physical training offered in this module offered them the chance to learn how to adapt to unpleasant and difficult situations.Physical training that includes adventurous activities requires the group to display strength in facing these challenges; hence they need more than one teammate in order to achieve the goals of each activity (Kozub & Button, 2000). Trainees who have undergone this programme stand to become more disciplined and can improve their levels of resilience in facing challenges; initially, the trainees might not want to get involved in physical training because of the challenges perceived i.e. hot weather, discomfort, pain etc., but a few months into the training programme, most of them would see a reduction in fear and reluctance and a rise in self-confidence. It is clear that the physical training in PLKN brings much benefit to youth; in addition, it enhances courage in youth so that they become bold enough to withstand future challenges besides possessing near perfect health and mind (Saxena *et al.*, 2005). This result is consistent with the philosophical tenets of the country, introduced in 1970 and, further enhanced in the Vision 2020 that are important in developing the country (Abdul Rahman, 1997).

Based on the findings of this study, it is highly recommended that the National Service programme in Malaysia be extended for a longer period. It will be beneficial to allocate a longer time period for physical training which will give more time for new and challenging activities such as those provided in survival camp. Doubtlessly this will provide the trainees a chance to feel challenged and pressured, and subsequently, significantly improve and enhance their level of self-resilience. In addition, selecting more youth to participate in the national service programme will allow the benefits of this programme to be enjoyed by a greater number of the country's youth.

CONCLUSION

The results obtained from this study showed that the physical training in the National Service programme has a good input in that it improves the trainees' level of self-resilience. Overall, most of the trainees have a moderate level of self-resilience. To ensure significant improvement in the future, all stakeholders should improve the aspects pertaining to the inputs in the module and facilities as well as provide experienced trainers so that trainees will be able to gain better from a holistic physical training module.

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Youth and Telecentres in Community Building in Rural Peninsular Malaysia

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ABSTRACT

This paper aims to investigate the factors that affect telecentres in community building in the perspective of youth in rural Peninsular Malaysia. The perspective of youth on developing a model for telecentres in community building is important as: 1) youth are at the forefront of adoption of new technology, 2) youth as a group are the highest number of users of telecentres, and 3) youth are tasked with the responsibility of building up the community in the near future. This paper employed a cross-sectional survey method to achieve the study objectives. Data collected were from 313 youth randomly selected from the users of Medan Info Desa (MID) and Program Internet Desa (PID) telecentres in rural Peninsular Malaysia. The results of the Structural Equation Modelling (SEM) analyses show that the proposed model explains 47% variability on the influence that telecentres have in community building from the point of view of youth. Furthermore, all independent variables including information, telecentre and community characteristics were significantly related to the influence telecentres have in community building; characteristics related to information form the more powerful predictor. Possible measures that the government and donor agencies can implement as implied from these findings are also discussed.

Keywords: Community characteristics, community building, ICT, information characteristics, telecentre, telecentre characteristics, youth

INTRODUCTION

Information and communication technology (ICT) has become one of the significant driving forces of the economy, a nation's politics and its cultural and

social development. Development of ICT presents many new opportunities as it breaks down the barriers to knowledge and information exchange (Chapman & Slaymaker, 2002) and it is a major source of capacity building (Nor Iadah *et al*., 2010). This is more specifically true for the young generation who need new knowledge, skill and abilities to help them become successful. Thus, development of ICT presents many new opportunities for young people as they are so often at the forefront in adopting technology innovation and need support so that they do not feel isolated (Gómez, Hunt, & Lamoureux, 1999, p. 15). Telecentres in rural Malaysia provide physical space that aims to improve the community's ICT literacy level and bring about access to knowledge and information resources with regards to health, agriculture, commerce, education, general development and local governance. Telecentres also raise community participation in e-commerce, e-government and online activities and, lastly, empower rural communities economically and socially via the use of ICT (Norizan, 2009). Zulkefli and Sulaiman (2009) investigated the impact of Kedai Kom telecentres on community building in Malaysia and found that it led to a general improvement in the community's well-being. They argued that "the new form of multi-channel distribution and communication of information does sustain and generate community social capital, particularly social cohesion or solidarity" (p. 83). Rural communities can work at home and at telecentres; this will help to attract more youth to work in local areas, reducing rural youth migration to the cities (Norizan, 2009). Thus, this research focusses on youth, who form a major percentage of the Malaysian population; it also focusses on ICT that needs to be strongly linked to the aspirations of youth and the need for motivation and initiatives to effectively support youth in their empowerment.

Literature on this subject provides useful information on telecentres and ICT implementation, outcomes, (R.W. Harris, 2007; Nor Iadah, *et al*., 2010; Paik & Kakroo, 2007; Roger, 2007; Salleh & Musa, 2008; Siti, Musa, Narimah, & Jusang, 2008; Zulkefli, Sulaiman, & Faziharudean, 2009) and sustainability (Zulkefli, *et al*., 2009) in Malaysia. Nevertheless, there is little evidence on the effect of telecentres and ICT on community building (Nor Iadah, *et al*., 2010; Zulkefli & Sulaiman, 2009), especially among youth. It is important to investigate the effect of telecentres on community building; Harris (2001) conducted a study on this in different countries including Malaysia, and his study further supports this view. He implied that there is a need to extend a new theory of telecentre success beyond the organisation to that of the community and to use this as a means to community building. This is consistent with Davis (2003) who looks at community technology centres as the catalyst for community changes. Davis argued that community technology centres could serve as new public places that engage diverse groups of people and contribute towards building a local community.

Harris' (2001) model of telecentre success forms the theoretical basis of this study; it is a comprehensive model that was developed based on the experiences of Asian countries, including Malaysia. Harris' model considers information characteristics, telecentre characteristics, community characteristics and context as factors influencing telecentre success which would consequently lead to community development. Thus, using the afore-mentioned theoretical foundation in this study, information characteristic, telecentre characteristics and community characteristics were considered as independent variables. However, context was not included in the framework of this paper. In fact, the Malaysia National Information Technology Council (NITC) started the National IT Agenda (NITA) in 1996 to provide the framework and foundation for the use of ICT and to transform Malaysia into a value-based knowledge society by the year 2020. To bridge the digital divide (BDD), Malaysia, via several ministries and private initiatives, allocated a substantial amount of investment to connect every Malaysian citizen to the internet superhighway by setting up 1,945 telecentres in all its 13 states including Sabah and Sarawak (Norizan & Jalaluddin, 2008).

According to Zahurin *et al.* (2009), a number of challenges such as lack of encouragement, imbalanced categories of users, inappropriate operation hours, insufficient IT training programmes, inappropriate physical facilities and lack of manpower plague the operations of telecentres in Malaysia. Nevertheless, discussion on the information characteristics and telecentre characteristics is lacking. The information provided by telecentres must be demand-driven and needs to have relevant and useful content. According to Harris (2001), information should be useful, usable, local and relevant to the user's needs, and this further establishes the importance of two dimensions of information characteristics in this study, including access to local content and content relevant to community needs.

One of the important factors in explaining the effect of telecentres on community building is how the community perceives telecentre characteristics and telecentre services. From Roger's point of view, five attributes of innovation including i.e. compatibility, relative advantage, observability, complexity and trialability will explain the rate of adoption (Rogers, 2003). As mentioned by Roman (2003), three most significant perceived characteristics of innovations in the context of telecentres include compatibility, complexity and relative advantage. In this study, based on the reviewed literature, telecentre characteristics were measured in terms of telecentre location, telecentre network infrastructures and functions and type and quality of services. Location is a key factor in telecentre success (Bailey & Ngwenyama, 2009), and directly affects access and use (Etta & Parvyn-Wamahiu, 2003). Close proximity of telecentres to the users is one of the relative advantages of telecentres; it involves low-cost and saves money and

time compared to services situated far from the rural community (Kumar & Best, 2006). Telecentre network infrastructures include all the ICT equipment needed such as personal computers with servers, monitors, fax machines, video conferencing equipment, printers and scanners (Jauernig, 2003). Etta and Parvyn-Wamahiu (2003), reiterated that inadequate physical facilities pose a major obstacle to telecentre usage, while type and quality of services will promote higher usage. When users of telecentres find that the various types of telecentre services (such as e-government services, computer education, email and voice chat) are offered at lower cost and higher quality, they will prefer telecentre services to other alternatives.

In order to encourage community building through ICT, paper planning must be done on a clear understanding of the community and its social system. It is important to understand the interests, needs, constraints and aspirations of the community (Harris, 2007). Bailey (2009) argued that understanding the social context is significant in ensuring that telecentres provide appropriate services to its stakeholders. Mancini and Marek (2004) argued that understanding the community requires knowledge of community resources and needs as well as must involve key community members in programmes and show respect for community members. Thus, in this study the community characteristics are community participation, community need, and community resource and capabilities.

METHODOLOGY

The sample population of this study consisted of users of Medan Info Desa (MID) and Program Internet Desa (PID) telecentres in Peninsular Malaysia. MID centres were established with the objective of encouraging community ownership, empowerment and sustainability. The concept of the MID project is based on a government-led and community-managed model. PID, on the other hand, aimed to provide computing facilities to increase computer usage among communities residing in the rural parts of the country (Nizam, 2005). This study selected youth as respondents as they represent a large percentage of the Malaysian population. Often, youth are at the forefront in adopting technology innovations, and it is important to link ICT to youth community aspirations, motivation and initiatives to effectively support their empowerment. The multi-stage cluster sampling method was used to select the study sample. In the first stage, the four states of Perak, Kedah, Terengganu and Johor were randomly selected to represent central, northern, east coast and southern Peninsular Malaysia, respectively. In the second stage, three criteria were selected, namely, being active, possessing enough experience and with at least three years of activity to form the basis of choice of telecentres in the selected states. The cut-off point of users' age was decided according to Mohammed (2004) who defined youth in Malaysia as individuals whose ages are from 16 to 40 years. Finally, the data collected from 313 users of MID (48.6%) and PID

(51.4%) telecentres in rural Peninsular Malaysia were randomly selected from the 12 MID and 11 PID telecentres respectively.

The survey instrument consisted of demographic information and four constructs. Whyte (2000) and other relevant literature provide the basis for developing the information characteristics and community characteristics scales. The information characteristics scale investigates accessibility and relevance of information. The community characteristics scale incorporates community resources, needs and community participation. Three main sources namely Whyte (2000), Prado (2009) and Akbulut *et al*. (2007) were the basis for developing the telecentre characteristics scale. The telecentre characteristics scale includes location, infrastructure and type and quality of services. The telecentre community building scale was based on Ferlander (2003), which Zulkefli and

Sulaiman employed in a recent study (2009). The community building scale consists of items such as "Improve work related skills" and "Find employment/ job creation". Since the instruments were adopted from various sources, special consideration was taken to ensure the face and content validity of the instruments. A panel of experts consisting of academicians from the Institute for Social Science Studies, Universiti Putra Malaysia, endorsed the face and content validity of the instruments. In addition, this study utilised the Structural Equation Modelling (SEM) to assess the construct validity of the instruments. Convergent validity of each construct was assessed using the first-order CFA; the results show an acceptable level of construct validity, in which all standardised factor loadings and the average variance extracted (AVE) were more than .5. The measurement model was used to check the discriminant validity of constructs.

TABLE 1
Distribution of Respondents by Gender, Age and Level of Education (n= 313

Variables	Frequency	Percentage
Gender		
Male	140	44.7
Female	173	55.3
Age (mean=22.13)		
16-25 years	238	76
26-35 years	75	24
Educational qualification		
Never been to school	1	.3
Primary school	3	1
Lower Malaysian certificates (PMR)	20	6.4
Malaysian education certificates (SPM)	150	47.9
Higher Malaysian education certificates (STPM)	49	15.7
Diploma	54	17.3
Bachelor's degree (Ijazah)	36	11.5

RESEARCH FINDINGS

Profile of Respondents

Table 1 shows that more than half (55.3%) of the respondents were females, while 44.7% were males. Out of 313 respondents, a good majority (76%) were in the age group between 16 and 25 years old, and 24% were in the age group between 26 and 35 years old, and the average of the respondent age was 22.13 years. With respect to respondents' educational qualification, the majority (71.2%) were below diploma level. Nearly half (47.9%) of the respondents had SPM (Malaysian Certificate of Education) qualification and only 17.3% of the respondents had diploma or degree qualifications (Table 1).

The Measurement Model

Before evaluating the fittingness of the structural model, it was necessary to define a measurement model to verify the construct validity of each research instrument which comprised individual indicators. For this purpose, this study employed CFA to assess the structural model fit, convergence validity and discriminate validity. Based on the Goodness-of-Fit indices, a measurement model test reveals a relatively good fit between the data and the proposed measurement model. Assessment of the measurement model indicated that although the model did not fit well with the significant chi-square (1374.684, p>.05) test, the baseline comparisons fit indices of CFI (.907); IFI (.908) and TLI (.900) significantly exceed the minimum cut-off

value (0.9). In addition, the RMSEA was 0.053, which falls within the recommended range of acceptability (between 0.03 and 0.08) (Hair, Black, Babin, & Anderson, 2010). This proves that the measurement model has a good fit with the data.

The convergent validity of the instrument was also verified based on standardised factor loading, average variance extracted (AVE) and construct reliability (CR). The results showed that all indicators of each latent construct had high standardised factor loadings (values ranged from 0.560 to 0.895), and all were significant at 0.001. The AVEs for all constructs exceeded the minimum criterion of .50, indicating that indicators (Table 2) explain most of the variances. Further, the construct reliabilities were more than 0.7 for all the constructs indicating a high internal consistency among the indicators (Table 2).

The results of correlation estimates between the constructs in the measurement model, revealed a significant correlation between the constructs in the model. The results also showed that the squared of correlation estimates between two constructs were less than AVE for each construct and portrays a high discriminant validity of measure constructs verified.

The hypothesised Telecentre in Community Building Model Among Youth

The Structural Equation Modelling (SEM) was used to examine the contribution of each independent variable (information characteristic, telecentre characteristic and community characteristic) toward

TABLE 2
AVE, Correlations and Construct Reliability Estimates

Variable	AVE	1	2	3	4
1. Information characteristics	.624	.929			
2. Telecentre characteristics	.500	.480***	.868		
3. Community characteristics	.532	.468***	.700***	.919	
4. Community building	.590	.436***	.616***	.579***	.920

Note: *** P<.001; Diagonal elements are construct reliabilities
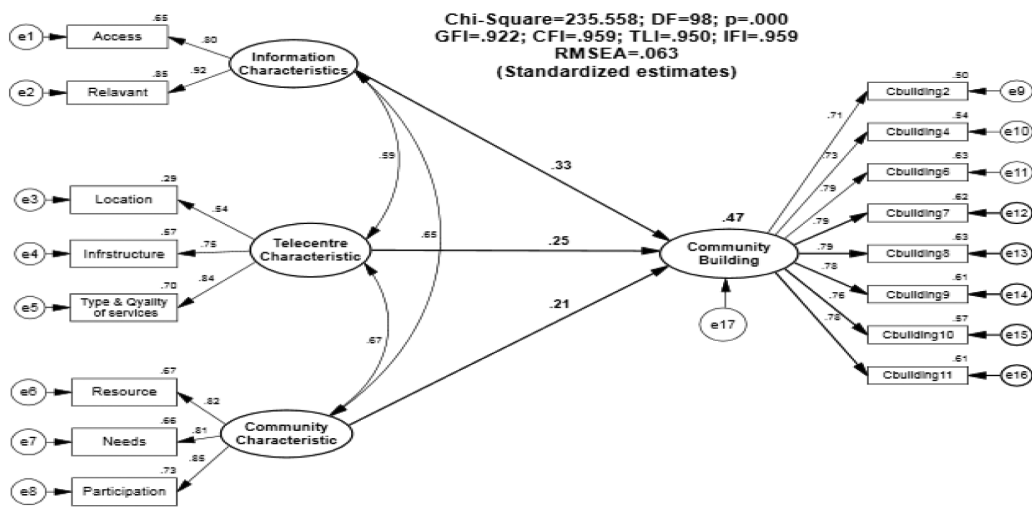
Fig.1: Hypothesized Telecentre in Community Building Model Among Youth with Standardised Estimates

the prediction of telecentres community building among the youth. The results as presented in Figure 1 indicated that the data fit the model with; χ^2 (98)=235.558, p=.000, GFI=.922, CFI=.959, TLI=.950, IFI=.959, RMSEA=.063. The Goodness-of-Fit indices of structural model showed that the GFI, CFI, TLI and IFI significantly surpass the cut-off value (0.9). In addition, the RMSEA was 0.063, which is less than the recommended (0.08).

The hypothesised telecentre community building model among the youth comprised the following hypotheses.

H1: There is a significant relationship between information characteristics and telecentres in community building among the youth. As illustrated in Figure 1 and Table 3, the information characteristics' latent construct (consisting of two parcelled indicators, namely, access to local content and content relevant to respondents' needs) was found to have a significant relationship with telecentres in community building (β=.329, C.R.=4.533, p=.000). The result showed that when an information characteristic goes up by 1 standard deviation, community building

goes up by 0.329 standard deviations. Thus, the results supported H1. This finding concurs with the results of previous research which considered access to local content and content relevant to community needs as critical for telecentre success (Bailey & Ngwenyama, 2009; Best, Thakur, & Kolko, 2009; Colle, 2004; Etta & Parvyn-Wamahiu, 2003; Islam & Hasan, 2009). Thus, to be meaningful in the daily lives and work of youth in rural communities, ICT projects must incorporate relevant content (Bridges, 2006).

H2: There is a significant relationship between telecentre characteristics and benefits of telecentres to community building among youth. The results in Fig.1 and Table 3 show that there is a significant relationship between telecentre characteristics' latent construct (including three parcelled indicators of infrastructure, type and quality of services and location) and telecentres in community building (β=.250, C.R.=3.236, P=.001). Therefore, these findings supported H2.

Consistent with present research results on the significant role of the location dimension of telecentre characteristics in community building, Ngwenyama (2009) emphasised that location is a key factor for telecentres to succeed. This finding also supports an earlier research by Kumar and Best (2006) which claimed that spatial location and operation of telecentres can significantly improve their social diffusion. The infrastructure dimension of telecentre characteristics that is important in explaining the benefits that telecentres offer

in terms of community building is further supported by a study by Meddie (2006) that indicated that the key factor for success and sustainability of telecentres is availability of infrastructure. Based on a sample of 60 ICT project supervisors in rural areas of Malaysia, Jusang *et al*. (2009) revealed that the success and failure of an ICT project largely depends on increased equipment. Furthermore, the findings of this study on the influence of type and quality of services are congruent to Best *et al*.'s (2009) findings that indicated that one of the main reasons which lead to sustainable realisation of telecentre objectives is appropriate services provided by telecentres. Based on their study on Malaysian telecentres, Zahurin *et al*. (2009) indicated that good delivery and quality services will contribute towards telecentres' success and sustainability.

H3: There is a significant relationship between community characteristics and usage of telecentres in community building among youth. The results of the structural model, as depicted in Figure 1 and Table 3, indicated that there was a significant relationship between telecentre success and community characteristics' latent construct that comprises three parcelled indicators i.e. community resources and capabilities, community need and community participation in community building (β =.209 , C.R.= 2.675, p=.007). Therefore, these findings support H3. These results support previous research findings that focussed on relationships between the community characteristics (such as considering the community needs

and resources) and telecentre success or sustainability (Bailey & Ngwenyama, 2009; Clark, 2001; Gnaniah, Yeo, Songan, Zen, & Hamid, 2004; R. W. Harris, Kumar, & Balaji, 2003; Rideout & Reddick, 2005; Roman & Colle, 2002; Simpson, 2005). Further, the results on the relationship between participation as a dimension of community characteristics and telecentre community building are supported by Rao (2008) that establish that the success of telecentres in the community is dependent on community participation (Rao, 2008). Consequently, telecentres would not be able to establish community building if there were no programme meeting the needs of the community at large (Norizan & Jalaluddin, 2008) and no participation among them.

CONCLUSION

The research framework provides evidence in support of a theoretical framework that predicts that telecentres contribute to community building by explaining a 47% variance. Therefore, we can conclude that telecentre activities and resources could strengthen the skills and abilities of youth to take effective action and leading roles in developing their communities or in community building.

Among the factors that influence telecentres' contribution to community building are the information characteristics that show the highest standardised regression weight (β=.329) and had the highest significant contribution in predicting that telecentres influence community building among youth. Thus, although ICTs are powerful tools of information dissemination, to achieve the target of community building through ICT usage, telecentres must provide information that is local and relevant to human resources and capital among young people who form a major percentage of the Malaysian population. Information can empower young people to participate in decision-making, exchange ideas with their digital peers and improve the quality of life of the people. Further, the significant contribution of telecentre characteristics to community building imply that telecentre locations, appropriateness of infrastructure and adequate type and quality of telecentre

TABLE 3
Regression Weights in the Direct Hypothesised Telecentre Community Building Model Among Youth

Hypothesised relationships		Unstandardised regression weights B	S.E.	Standardized regression weights Beta	C.R.	P
Information characteristics	→ Community building	.240	.053	.329	4.533	.000
Telecentre characteristics	→ Community building	.271	.084	.250	3.236	.001
Community characteristics	→ Community building	.173	.064	.209	2.675	.007

services are influential in community building in the perspective of youth.

In the point of view of youth, the significant relationship between community characteristics and the influence of telecentres in community building show that rather than merely provide technological systems, donor agencies should focus on understanding the community's needs, capabilities, resources and, more importantly, community participation from the planning stage of telecentre establishment up until the community can manage telecentres independently. Therefore, it is crucial that the telecentre team works closely with the community, especially the young generation, in order to develop rapport and trust.

This study is important in bridging the gap in the body of knowledge pertaining to the benefits that telecentres have on community building by establishing valid and reliable criteria as indicated in the measurement model; although there has been a rising volume of literature on telecentres, most of it only covers telecentres' success at the organisational level and in meeting the objectives of telecentres. The findings of this study can be discussed with donor and government agencies involved in the development-oriented telecentres; these agencies should consider the information on telecentre and community characteristics which youth view as critical. The results of such a consideration are beneficial to various groups that are directly or indirectly involved in the planning, execution, evaluation and use of ICT projects to enhance greater usage of telecentres in community building.

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Malaysian Graduates of Middle-Eastern Universities: Perspectives on Human Capital Development

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ABSTRACT

Malaysian youth who graduate from Middle-Eastern Universities are important and suitable human capital for Malaysia as they are equally knowledgeable and skilful as any local or western university graduates. In fact, the additional components in their study programmes such as Islamic philosophy, principles and ethics based on the al-Quran and *Hadith* form the foundation for integrity and accountability. Science, technology and Islamic knowledge are critical ingredients of human capital development in any organisation to ensure high productivity embedded with integrity, professionalism and accountability. The main purpose of this study was to determine the factors affecting human capital development among Malaysian graduates of Middle-Eastern universities. The factors identified were their preparation before leaving for their studies, their studying practices, their academic achievements, their personality development and their experiences (good and bad) while they were in Middle-Eastern universities. This study used the quantitative design on 386 Malaysian graduates who graduated from Middle-Eastern universities; these graduates were serving in several government and private-sector agencies. The findings indicated that all the independent variables had significant positive relationship with the dependent variable, that is, the process of human capital development with r values ranging from .280 (preparation before going to Middle-Eastern universities) to .546 (personality development). The findings of this study

suggest that Malaysian graduates of Middle-Eastern universities are an important source of human capital that can steer the future development of the nation alongside their peers who graduate from local and western universities.

Keyword: Human capital, Islamic education, Malaysian graduates, Middle-Eastern universities

INTRODUCTION

Malaysian youth who graduate from Middle-Eastern universities are an important source of human capital for the nation as their knowledge and skills are as good as those of any local or western university graduates. Malaysia needs human capital that is educated and trained in the sciences, technology, economics and management, along with Islamic studies, to achieve and maintain developed-nation status from now and through the years past 2020 according to the country's social, economic and political mould. Building human capital is a continuous process that is achieved through training and lifelong learning which enhances the intellectual, economic and social capacities of an individual to create wealthy, progressive and stable organisations. Therefore, human capital is the total sum of investment in activities such as education and training, health and migration that enhances an individual's productivity in the labour market (Kiker, 1966; Becker, 1964; Schultz, 1961 & 1962). More recently, this concept has been extended to include non-market activities such as commitment, motivation and satisfaction (OECD, 2001).

Enhancing the intellectual, economic and social capacities of individuals forms the basic tenets of human capital development. Intellectual capital development is the process of acquiring knowledge and skills in a discipline (e.g. engineering), becoming competent in using latest technology to perform tasks with high creativity and innovativeness and producing high quality products. The economic capital development of an individual relates closely to developing employability traits such as ICT competence, entrepreneurship skills, multi-lingual fluency and soft skills mastery which bring about work satisfaction. Social capital, on the other hand, addresses social factors such as social networking, social support systems, institutions building, trust and norms (Coleman, 1988). It is generally acknowledged that collective action may be established with a greater degree of ease in a community of workers with well-accumulated social capital (Coleman, 1988; Putman, 1993).

The importance of human capital in nation building is that it is a "value of workers". The most valuable of all capital is investment in human beings, so-called human capital (Marshall, 1890). This value is produced from the effort invested in time and energy and money spent by workers to gain skills and knowledge required for their working tasks (Adam Smith, 1776). Colleges and universities provide a good opportunity to use a resources-in-network approach to developing social capital. Once they arrive on campus, students may need to rebuild, redirect or refine their social capital in order to exert suitable effect

on achievement or other college-level outcomes (Martin, 2009). Peer networks have the highest effect early in university life. Campus network could support students to enter pathways to professional careers i.e. school teachers, religious teachers, public speakers and motivators. Social networks on campus could also provide information about the programmes as well as assistance with the application process, accommodation, local culture, personal development, academic achievement and gaining new experiences. This relationship is different from family relationships, and personal contacts are likely more important while preparing to study abroad (Martin and Spenner, 2009).

The Quran (al-Baqarah, 2:30-33) mentions that God created human beings to become *khalifah* (vicegerent); a unique position endowed with authority delegated from God to man to fulfil "consciously" (not by force) the divine patterns on earth. To support this mission of being a *khalifah*, God has endowed mankind with the highest intellectual capacity among all creation. God created man with knowledge to support his mission as *khalifah* on earth. With knowledge and intellectual ability to think, a human being is able to discover the basic laws of the universe and, at the same time, employ different resources of the universe for his purpose. Trust (*amanah*) embodies the role of a *khalifah*. *Amanah* (trust) is a concept that implies that in all his actions, man should choose to prosper the earth by making the best use of available earthly resources and fully utilising the

virtues inherent in him to discover the earth (Mohamed Aslam & Hafas, 2009). As an employee, man can avoid becoming involved in corruption and abuse of power if he follows the basic tenets of human capital based on his role as *khalifah*, which emphasises trust, accountability and professionalism.

In developing positive *akhlaq* (good and acceptable) human capital in Malaysia, Islamic education enhances the individual's strength to focus on balancing internal and external pressures in dealing with challenges and temptations (Ahmad Munawar *et al.*, 2011). Za'aba, quoted by Asmah (2009), said that unwavering *aqidah* (practice) and *akhlaq* are not inherited but achieved via training and practice with strict adherence to the *Quran* and *Hadith*. Ibn Khaldun, as quoted by Muhsin Mahdi (2001), emphasised that positive human behaviour development would depend on how far a human being was willing to exploit his thoughts to gain knowledge.

The majority of Malaysian youth who graduate from Middle-Eastern universities specialise in Islamic studies (Syari'a, Usul Fikh and Usuluddin) and only a small percentage of them pursue medicine, dentistry and engineering. Most of those who major in Islamic studies are primary and secondary schools teachers who go on to teach Islamic subjects. They are, by and large, instrumental in moulding young minds to become good and responsible future citizens by inculcating good behaviour (*akhlaq*) based on *al-Quran* and *Hadith*, besides educating and exposing

students to Islamic knowledge, practices and ethics, which together form the foundation to building future human capital with the necessary characteristics of integrity, accountability and professionalism.

The objective of this study was to determine whether Malaysian graduates of MiddleEastern universities are important human capital for nation building. Human capital in this study is defined as having three basic components i.e. intellectual capital, economic capital and social capital (dependent variable). Factors that influence intellectual capital, economic and social capital (human capital) are the independent variables of the study. Based on the literature and experiences of the authors dealing with graduates of Middle-Eastern universities, it can be concluded that five factors combine to influence human capital development. They are: (1) preparations prior to embarking on a study programme in Middle-Eastern universities; (2) Adaptability while studying at Middle-Eastern universities; (3) academic achievements in Middle-Eastern universities; (4) personality development during the stay in the Middle East; and (5) experiences acquired while studying in Middle-Eastern universities.

OBJECTIVE OF THE STUDY

The objectives of the study are:

i. To explore the experiences of graduates of Middle-Eastern universities prior to their leaving for their studies, the adjustments made while studying in a different environment, and their academic achievement, personality development and the experiences;

ii. To determine the levels of human capital development comprising intellectual, economic and social capitals of graduates of Middle-Eastern universities; and

iii. To determine the relationships between the independent variables (graduates' experiences) and the dependent variable (human capital development).

METHODOLOGY

The study used survey questionnaires to collect data from Malaysians who have graduated from Middle-Eastern universities. The study was carried out in seven (7) states in Malaysia: Johor (southern zone), Selangor and Federal Territory, Kuala Lumpur (central zone), Kedah (northern zone), Terengganu and Kelantan (eastern zone) and Sarawak (East Malaysia). The populations of this study were graduates of Middle-Eastern universities residing in the selected seven states, while the sample was randomly chosen with the help of the Division of Islamic Education, Ministry of Education, Malaysia.

The researchers developed the instrument for this study based on the research focus and the study objectives. The study used a 4-point Likert scale: 1=strongly disagree; 2=disagree; 3=agree; and 4=strongly agree. The questions were developed to measure preparation before going abroad, accommodation while studying in the MiddleEastern Universities, academic achievement, character building while

studying, bad and good experiences while studying and the creation of human capital development. In addition, the respondents had to choose and prioritise three statements in ranking order from each variable in their perspective. The data collection process took place in each respective state using the group method, where the respondents answered the questionnaires and researchers were present to help clarify questions that might be read as being vague. A total of 386 respondents participated in the study. After data collection ended, data analysis was immediately carried out using SPSS version 17.

FINDINGS AND DISCUSSIONS

Respondents' Profile

The percentage of respondents selected from the seven (7) states were about the same, with Johor, Terengganu and Selangor at the top of the list at 19.2%, 16.1% and 15.8% respectively. Almost half (46.4%) of the respondents were between 30 and 35 years old, made up of 54.4% males and 45.6% females. A high majority (94.3%) were married and had a Bachelor of Arts degree (99.5%). Egypt was the most popular destination for study among the respondents (77.5%), followed by Jordan (18.1%) and Saudi Arabia (2.6%). A good majority of the respondents (93.5%) indicated that their work now was relevant to the field of study they had pursued (see details in Table 1). Most of the respondents received loans from the Federal and State government agencies while they were studying. Some received tithes (*zakat*) from State governments as well as from individuals from within

Malaysia and abroad. Two thirds (66.3%) of the respondents indicated that the financial aid they received had been sufficient while 31.9% had faced financial difficulties.

TABLE 1
Respondent Profile (n=386)

Respondent Profile	Freq.	%
Location		
Selangor	62	16.1
Johor	40	10.4
Kelantan	51	13.2
Terengganu	61	15.8
Kedah	74	19.2
Federal Territory, Kuala Lumpur	44	11.4
Sarawak	54	13.9
Age		
<30 years	41	10.6
30 – 35 years	179	46.4
36 > years	166	43.0
Gender		
Male	210	54.4
Female	176	45.6
Marital Status		
Married	364	94.3
Single	22	5.7
Level of Study		
BA	384	99.5
Master	2	0.5
Country of Study		
Egypt	299	77.5
Jordan	70	18.1
Saudi Arabia	10	2.6
Morocco	4	1.3
Iraq	2	0.5
Type of Work Relevant to Field of Study		
Yes	361	93.5
No	25	6.5

Preparation before Leaving for Study in Middle-Eastern Universities

The respondents answered questions related to their experience of preparing themselves for the study programme in the Middle-Eastern universities. Some of the preparations included attending a competency training programme in the Arabic language and understanding the basics of Arabic culture and application for financial aid. Slightly more than one third (35.5%) of the respondents indicated that they had not fully prepared while 18.1% said that they had been ready. They also suggested that learning and becoming competent in the Arabic language, both written and oral, was very important. An intensive language training programme conducted between three (3) and six (6) months provided them with the opportunity to learn the Arabic language. In addition, an orientation programme was also organised for them to discover and understand Arabic culture and the education system followed by Middle-Eastern universities (Table 2).

Adaptation While Studying in Middle-Eastern Universities

The respondents related their experiences in adapting to a new environment. Student adaptation to a different culture can be seen as both psychological (coping with teaching and learning), and socio-cultural (learning what it takes to "fit in" with the new culture and foreign language) (Ward, 2001; Ward, Bochner, & Furnham, 2001; Ward & Kennedy, 1999). Ostensibly, these two types of adaptation support one another, with certain caveats (Berry, 2005). The study found that only 16.6% of the respondents had adapted quickly while 39.9% were slow in adapting to the new environment (Table 3). The longer they took to adapt and to adjust, especially in the teaching and learning environment, the longer it tool to achieve academic excellence. The Malaysian

TABLE 2
Preparation before Leaving for the Middle-Eastern Universities

Preparation	Freq.	%
Not prepared	137	35.5
Moderately prepared	179	46.4
Prepared	70	18.1

x̄: 23.2   SD:2.7   Range: 9-28

Ranking of Importance of Factors Contributing to Preparation Before Leaving for Middle-Eastern Universities in the Respondents' Perspective	
Preparation Before leaving	Priority
Compulsory for students to attend intensive Arabic Language study for at least three months	Extremely important
Achieve at least a 65% competency score in oral and written Arabic Language	Important
Institute an orientation programme to expose students to Arabic culture and teaching and learning system in Middle-Eastern Universities	Equally important

Student Association and the Malaysian Student Department helped by organising talks on the education and administration systems followed by Middle-Eastern universities to quicken the acclimatisation process of new students. This was to allow the new students to better understand the needs and requirements of their new learning environment. New students were also encouraged to make friends with local students so that they could learn the Arabic language faster and therefore, be able to perform well academically. All these contribute towards helping new students to settle down as quickly as possible and be reasonably accommodative to the demands and challenges of the local community.

Academic Achievement

Table 4 indicates that 45.1% of the respondents did not achieve satisfactory academic results while 17.6% had a good standing academically. To achieve a good academic standing, the respondents suggested that all students (new and senior) must attend all classes and tutorials, and consult professors/lecturers regularly, especially to clarify lectures which they did not understand. A mentor-mentee system where senior students with a good academic standing take care of new students would also help to boost the new students' confidence besides offering a conducive and committed learning environment. This aligns with what Martin (2009) indicates i.e. that peer networks could provide information to facilitate academic success such as choosing suitable classes, consulting lecturers whenever they do not understand the lecture notes, sharing course material and being aware of campus programmes.

Positive Personality Development

Personality development in the school/university environment is usually associated with students' involvement in co-curricular

TABLE 3
Adaptation to a New Environment

Adaptation	Freq	%
Slow in adapting	154	39.9
Moderately fast in adapting	168	43.5
Fast in adapting	64	16.6
x̄: 23.1 SD:2.6 Range: 8-28		

Ranking of Importance of Factors Contributing to Adaptation to a New Environment in the Respondents' Perspective	
Adaptation to a New Environment	Priority
Malaysian Student Associations and Malaysian Student Department to organise talk by university officials on academic and administrative matters	Extremely important
Make new friends from local students to learn the Arabic Language and get tips on academic matters	Important
New students should settle down quickly to accommodate to the demands and challenges of the local community	Equally important

TABLE 4
Academic Achievement

Academic Achievement	Freq.	%
Not satisfactory	174	45.1
Satisfactory	144	37.3
Good	68	17.6
x̄: 23.9 SD:2.5 Range: 14-28		
Ranking of Importance of Factors Contributing to Academic Achievement in the Respondents' Perspective		
Academic Achievement	Priority	
Students should attend all classes	Extremely important	
Students should consult lecturers when they do not understand the lectures	Important	
Develop mentor-mentee system between senior students and new students	Equally important	

activities or activities outside of the classroom setting. Data in Table 5 indicate that 18.4% of the respondents were active in co-curricular activities and had developed positive personality traits, especially in carrying out leadership functions. About half (47.2%) of the respondents had yet to develop a positive personality. There were suggestions by respondents that students could develop positive personality and leadership traits by enrolling in leadership courses organised by the Malaysian Student Department in collaboration with student associations.

Experience (Good/Bad) while Studying in Middle-Eastern Countries

A good majority (83.1%) of the respondents had come across distinctive experiences while studying in the Middle-Eastern countries. Students had good experiences acquiring in-depth formal and non-formal knowledge, especially from events

conducted in mosques, outside lecture hours in the evenings and at the weekend. In fact, the non-formal education provided breadth and depth in understanding Islamic concepts and application which could not be covered in formal classroom situations. On the other hand, students had bad experiences coping with manners exhibited by people of different cultures, which they deemed as not being acceptable to most Malaysian students (see Table 6).

Development of Economic Capital

One of the components of human capital development relates closely to the employability (or marketability) of graduates. Directly or indirectly, employability of graduates contributes to the economic development of a nation. The data in Table 7 indicate that slightly more than half (53.1%) of the respondents contributed directly to the economic development of Malaysia immediately upon graduation

TABLE 5
Personality Development

Personality Development	Freq.	%
Not satisfactory	182	47.2
Satisfactory	133	34.5
Good	71	18.4

x̄: 23.7 SD:2.6   Range: 14-28

Ranking of Importance of Factors Contributing to Personality Development in the Respondents' Perspective	
Positive Personality	Priority
Regular leadership courses organised by Malaysian Students Department in collaboration with student associations to provide knowledge on leadership responsibilities	Extremely important
Provide opportunities to students to lead programmes organised by Malaysian Student Department	important
Students sit on committees to plan, implement and evaluate programmes organised by Malaysian Student Department	Equally important

TABLE 6
Experiences (Good/Bad) While Studying

Experience	Freq.	%
A little	143	37.0
Moderate	178	46.1
A lot	65	16.8

x̄: 25.3 SD:2.4   Range: 16-32

Ranking of Importance of Good/Bad Experiences While Studyingin the Respondents' Perspective	
Experiences	Priority
A lot of opportunities to acquire knowledge outside of classroom setting	Extremely important
I am proud to have been able to acquire knowledge in the land of the prophets.	Important
I value the experiences I acquire from Islamic history found in Middle-Eastern countries.	Equally important

while the rest (46.9%) gained employment within a year after graduation. Malaysias who graduated from Middle-Eastern universities should acquire ICT knowledge and skills, master the English language and participate in training programmes conducted by ministries and government agencies to improve their marketability.

Development of Social Capital

The second component in human capital development is social capital development. Social capital relates to the individual's ability to positively interact with others such as peers, superiors or subordinates. The skills involved in social capital development include communication, problem solving, decision-making, leadership and team

TABLE 7
Level of Economic Capital Development

Economic Capital Development	Freq.	%
Low	181	46.9
Moderate	139	36.0
High	66	17.1
x̄: 22.8 SD:2.7 Range: 10-28		
Ranking of Importance of Factors Contributing to Economic Capital Development in the Respondents' Perspective		
Economic Capital Development	Priority	
Graduates of Middle-Eastern universities must acquire knowledge and skills in ICT.	Extremely important	
Graduates of Middle-Eastern universities must be competent in the English language to improve employability.	Important	
Graduates of Middle-Eastern universities must participate in training programmes conducted by ministries and government agencies to improve employability traits.	Equally important	

TABLE 8
Level of Social Capital Development

Social Capital Development	Freq.	%
Low	211	54.7
Moderate	49	12.7
High	126	32.6
x̄: 58.7 SD:6.4 Range: 25-72		
Ranking of Importance of Factors Contributing to Social Capital Development in the Respondents' Perspective		
Social Capital Development	Priority	
I appreciate and value ideas and comments from other people in discussions about a programme or a problem.	Extremely important	
I keep an open mind in listening to differences in views from peers.	Important	
I treat all peoples alike regardless of their status.	Equally important	

work with others to strengthen and improve social networking of high performing organisations. Table 8 shows the level of social capital development among graduates of Middle-Eastern universities. Slightly more than half (54.7%) had low social capital skills while about one third (32.6%) had high social capital skills. In the respondents' perspective, graduates of the Middle-Eastern universities should appreciate ideas and comments from others and be open-minded in listening to differences of opinion. Of equal importance is the fact that as government officials, they should treat all people alike regardless of status.

Development of Intellectual Capital

Intellectual capital is the third component of human capital development which focusses on knowledge and skills acquisition to function efficiently and effectively in carrying out tasks for personal as well as for organisational productivity. Intellectual capital development is closely related to lifelong learning, where an individual learns and acquires the latest technology and keeps abreast with latest developments in his/her field of interest, which forms the basis for creative and innovative inventions for personal, organisational and national benefits. About 40.2% of the respondents in this study acquired low intellectual capital capacity while 19.9% and 39.9% acquired moderate to high intellectual capital capacity respectively (Table 9). Youth who graduated from Middle-Eastern universities have a vast potential to develop into credible human capital if their intellectual capacities are broadened to include knowledge and skills in ICT, competency in the English language (in addition to the Arabic language) and relevant soft skills. They have all the potential to do so.

Relationship between the Dependent Variable and the Independent Variables

Table 10 shows the relationship between human capital development with five (5) independent variables. The relationship is significant at 0.05 level with 'personality development' having the highest r value of .546 among the independent variables, followed by 'academic achievement' (r = .440), 'adaptation while studying in a different environment' (r = .421), 'experiences (good/bad) while studying in Middle-Eastern universities' (r = .401) and 'preparation before leaving for study in Middle-Eastern universities' (r = .280). These relationships indicate that the variables

TABLE 9
Level of Intellectual Capital Development

Intellectual Capital Development	Freq.	%
Low	155	40.2
Moderate	77	19.9
High	154	39.9

$\bar{x}$: 46.3 SD:5.0   Range: 19-52

Ranking of Importance of Factors Contributing to Intellectual Capital Developmentin the Respondents' Perspective

Intellectual Capital Development	Priority
Intellectual capacity through knowledge acquisition is important to an individual and the nation.	Extremely important
With knowledge and skills one can help oneself but, more importantly, one can help others.	Important
Knowledge is the basis for one to be creative.	Equally important

selected for this study were appropriate and relevant in explaining the objectives of the study. Regression analysis was carried out to determine which particular variable(s) contributed the most to explain the variance on human capital development.

Data in Table 11 indicate that three variables i.e. 'adaptation while studying in Middle-Eastern universities', 'personality development' and 'experiences (good/bad) while studying in Middle-Eastern universities' contributed to the variance in human capital development. Together, the three variables explained 39% (R^2=0.39; $F(5,100)$ =14.43; $p<0.001$) of the variance in human capital development of Malaysian youth who have graduated from Middle-Eastern universities.

CONCLUSION, IMPLICATIONS AND RECOMMENDATION

This study focusses on three components of human capital development i.e. economic capital, social capital and intellectual capital. The three capitals are closely related to investments in education and training as well as to lifelong learning in order to remain productive and competitive in a challenging global market. In developing a dynamic and progressive workforce, the study shows that learning in a classroom situation (formal) and outside of classroom situations (non-formal) are both important as they ensure a dedicated and committed human capital who are willing to go the 'extra mile' to achieve personal, organisational and national goals. Graduates of Middle-Eastern universities

TABLE 10
Relationships between Human Capital Development and the Independent Variables

	Human capital	Preparation before leaving	Adaptation while studying	Academic achievement	Personality development	Experience (Good/Bad) while studying
Human capital						
Pearson Correlation	1	.280**	.421**	.440**	.546**	.401**
Sig.		.000	.000	.000	.000	.000
N	386	386	386	386	386	386

** Correlation significant at 0.001 (1-tailed)

TABLE 11
Regression Analysis of the Variables

Variables	Beta	t	Sig.
Preparation before leaving	-.042	-.447	.656
Adaptation while studying	.338	3.371	.001*
Academic achievement	.016	.160	.873
Personality development	.262	2.621	.010*
Experiences (good/bad) while studying	.229	2.491	.014*

Note: R^2=0.39; $F(5,100)$ =14.43; $p<0.001$

are no different from graduates of local or other western universities in terms of knowledge and competencies.

In fact, graduates of Middle-Eastern universities have an advantage over their counterparts from local or western universities in that they learn Islamic subjects based on the al *Quran* and *Hadith* which promote integrity and accountability and demand the highest level of professionalism in their dealing in everyday life. The education system followed by Middle-Eastern universities integrates these qualities in the study curricula. Having been exposed to these qualities, Middle-Eastern universities graduates tend to demonstrate honesty, reliability, productivity and quality in whatever task assigned to them.

Proficiency in the Arabic language is a must for students who wish to study in Middle-Eastern universities. They go through intensive training in the Arabic language and must obtain a minimum B grade in the language before they can be accepted into any Middle-Eastern university. Orientation programmes are essential for prospective students to understand Arabic culture and the foreign education system, especially the assessment system. Alumni from Middle-Eastern universities can also share their experiences and give "tips" to prospective students. One important implication drawn from this study is that a systematic and formal arrangement by relevant agencies is a consideration that is worth the effort of pursuing to prepare prospective students before they embark on a study programme in Middle-Eastern universities.

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Discipline With Love: Ethnic Differences in the Prevalence of Corporal Punishment, Parental Love and Their Effect on Juvenile Delinquency

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ABSTRACT

Theorists have proposed a causal link between corporal punishment and child aggression. Unfortunately most of this research does not include control variables for parental connectedness, which may exacerbate or buffer the effects of corporal punishment. Further, a recent debate in the literature on the role of corporal punishment in different cultural contexts and its effects on the outcome of children's development raises the question of whether these findings are appropriate for populations other than western and middle-class. Methodological limitations of most previous research narrow down the scope in understanding how the experience of corporal punishment relates to adjustment and whether the effects of corporal punishment differ across ethnic groups. Data analysed was from a sample of 477 Dutch and Moroccan-Dutch boys. The results of this study show that corporal punishment is associated positively with violent delinquency for both Dutch and Moroccan-Dutch boys. For Moroccan-Dutch boys, parental connectedness when added to the analysis contributed significantly to the variance on violent delinquency, with maternal connectedness being moderately significant for violent delinquency. However, the addition of emotional warmth for both father and mother for Dutch boys was non-significant. The results suggest that it is important to explore the link between corporal punishment and delinquency within the context of the parent-son relationship. In addition, this study identifies the need to further look at the cultural contexts in which corporal punishment occurs.

INTRODUCTION

Parenting risk factors have consistently been highlighted by previous research as significant childhood predictors of juvenile delinquency (for a review see Hoeve *et al.*, 2008; Loeber & Stouthamer-Loeber, 1986; O'Brien & Scott, 2007; Stormshak, Bierman, McMahon, & Lengua, 2000). One of the most important child-rearing variables often linked to delinquent behaviour is parents' use of corporal punishment (CP) (Gershoff, 2002). In this study, parental use of CP is differentiated from physical abuse, and CP is defined as the "*use of physical force with the intention of causing a child to experience pain but not injury, for purposes of correction or control of the child's behavior*" (Straus & Donnelly, 2001, p4). Although researchers generally agree on the adverse effects of physical abuse on the outcome of children's development, there is controversy over the risk status of CP with respect to juvenile delinquency in children (Benjet & Kazdin, 2003; Topcuoglu, 2011). Some have found that children subjected to CP tend to be more aggressive than children whose parents use alternative disciplinary strategies (Ateah, Secco, & Woodgate, 2003; MacMillan *et al.*, 1999; Patterson, Reid & Dishion, 1992; Straus, 1991; Turner & Muller, 2004) and often commit violent crimes as adults (Swanson *et al.*, 2003; Widom, 1989), while others suggest that CP and violent delinquency are not related, after taking into account that parental connectedness influences emotional warmth and involvement (Afifi, Brownridge, Cox, Sareen, 2006; Larzelere,

2000; Porter, 2008). Unfortunately most of this research does not use controls for the afore-mentioned dimensions of parental behaviour (Afifi *et al.*, 2006). This omission is surprising because parental connectedness in childhood and adolescence is usually associated with juvenile offences (Bowlby, 1969; Veen *et al.*, 2011; Wampler & Downs, 2010). In addition, harsh parental disciplinary strategies during childhood have often been linked to disruptions in the parent-child relationship; therefore, it is possible that such disruptions may contribute to violent offences, above and beyond the experience that CP inflicts (Porter, 2008). For example, DeVet (1997) found that for girls, parental relationship partially mediated the association between CP and poor psychological well-being. For boys however, CP was not related to negative adjustment outcomes, although CP by fathers was negatively associated with the father-son relationship. Lansford *et al.* (2004) and Rosemond (2005) found some evidence that physical spanking by a loving parent had no negative consequences for children. In another study, only in the context of low maternal support, CP is predicted to increase over time in aggressive and violent behaviour in children (McLoyd & Smith, 2002).

Recent debates in the literature on the role of CP in different cultural contexts and its effects on children's developmental outcomes raise the question of whether these findings are appropriate for populations other than western and middle-class (Lansford *et al.*, 2004; McLoyd & Smith,

2002). Evaluating ethnic differences on the effect of CP on juvenile delinquent behaviour is important. Understanding of whether the experience of CP relates to violent delinquency and whether the effects of CP differ between ethnic groups is up to now limited due to methodological limitations of a lot of previous research. For example, contextual factors such as low socioeconomic status, family stressors and large family size, all correlated with ethnic minority status, may make parents less flexible, thereby increasing the likelihood that they would resort to CP to gain child compliance (Ateah *et al.*, 2003).

This study seeks to expand understanding of the relationship between CP, parental connectedness and violent delinquency. Furthermore, this study explores if parental connectedness contributes significantly to the development of violent delinquency above and beyond CP; this study also examines the influence of ethnic differences on the effect of parental connectedness on the relationship of CP and violent offences.

RESEARCH QUESTIONS

In the Netherlands, Moroccan-Dutch boys contribute to the highest crime rates compared to other ethnic groups (De Jong, 2007; Jennissen, Blom, & Oosterwaal, 2009); they are about four times more often charged with violent offences as would be expected from their estimated proportion of the population (Broekhuizen & Driessen, 2006). To our knowledge only a few empirical studies on CP have examined the effect of CP in relation to parental connectedness

among different ethnic minority groups in general, or among Moroccan-Dutch youth in particular. Therefore, this study seeks to explore the relationship between CP and violent delinquency in a sample of nearly 500 Dutch and Moroccan-Dutch boys. The mechanisms previously described suggest two possibilities: (1) parental connectedness has a direct influence on the development of violent delinquency; or (2) parental connectedness has an indirect influence on the development of violent delinquency. In addition, it is possible that ethnic differences have an influence on the effect of parental connectedness on the relationship of physical disciplining and subsequent violent offences.

METHOD

Participants and Procedure

Data on 477 Dutch and Moroccan-Dutch adolescent boys in the Netherlands form the basis of this analysis. In the Netherlands, the authorities categorise the population as native and non-native or autochthonous and allochthonous. These definitions come from the Centraal Bureau voor de Statistiek [CBS, Statistics Netherlands], and are widely used in the media and everyday language. Non-native inhabitants are further categorised into non-Western and Western and further stretched per generation. Allochthonous are initial first-generation migrants. A second-generation allochthonous is born in the Netherlands, but at least one parent was born abroad. Children from this generation are often referred to as third-generation allochthonous. However, the

aforementioned definitions are not neutral. Stretching this definition to second and third generations makes it a discursive impossibility for descendants of Moroccans to ever become Dutch. Therefore, in this study, adolescents were classified into ethnic categories according to their responses on a single item in the questionnaire: "What is your ethnicity?" Those who responded as Dutch were placed in the Dutch group. Those who designated themselves as Moroccan or Moroccan-Dutch were placed in the Moroccan-Dutch group.

Sample was recruited in two ways. First, respondents were selected from a school sample (N =379) from five high schools from different cities in the Netherlands. Second, with the goal of oversampling delinquent boys (cf. Loeber *et al.*, 2005) participants among boys were recruited and subjected to supervision order, either at the time of the study or in the period preceding the study (N=113), in two (regionally operating) youth probation offices located in the same part of the Netherlands and serving in the same cities as the participating schools. The boys recruited were all suspected or convicted of a criminal offence, but were not in custody nor sentenced to prison. They were school-going youth who all lived with one or both of their parents.

An information letter describing the study was sent to parents who could indicate if they did not wish that their son should participate. Participants were informed that the information provided in the questionnaire would remain confidential and that they were free not to participate

in the research. Inclusion criteria were (a) sufficient reading ability to complete self-report measures (b) age between 15 and 18 years old. As no background information of the non-participants was available, possible non-response bias could not be estimated.

Measures based on the adolescent self-reports provided the indicators for constructs entailing child and perceived parent characteristics. An ongoing debate concerning the relative merits of self-reported delinquency and official statistics in testing the relationship between family factors and delinquency exists (Juby & Farrington, 2001). However, self-report measures provide a widely preferred method of measuring juvenile delinquency in research on family dynamics (Wells & Rankin, 1991). While reliance on official reports might introduce layers of potential bias between actual behaviour and the data (e.g. a substantial amount of crime is not reported; many crimes reported or brought to the notice of law enforcement agents are not officially recorded), self-reports of delinquency are considered as the data source nearest to the actual behaviour (Thornberry & Krohn, 2000).

A member of the research staff was present while the participants completed the questionnaire but did not look at the participants' responses unless the subject asked for help. The participants' anonymity was maintained by ascribing identification numbers to the questionnaires rather than names. At the project site, surveys were judiciously inspected for validity (e.g. incomplete sections or identical responses to

every item). Fifteen boys were subsequently disqualified because they failed the initial validity check. Five boys did not complete the questionnaire; the remainder either filled in identical responses to every item (2) or filled in 'abnormal' high scores on all juvenile delinquency items (8) (for example, stating that he committed each offence a thousand times). All the boys came from the school-sample: 12 of them were Dutch; the mean age was 16.01 (SD=0.91); their socio economic status ranged from medium to high, and nine reported living with parents.

Measures

Demographics

Participants had to indicate their age on a single item: "What is your age?" A measure of social class was captured through the participant's rating of his family's wealth. Responses given ranged as: very rich, quite rich, medium rich, not so rich, not rich. Finally, participants were also asked to indicate their family structure by answering the following question: "Which of the following 'home situations' applies best to you?" 'I live with…' Responses to this item were given as (1) both parents, (b) my father, (c) my mother, (d) both parents at different addresses, (e) other.

Ethnicity

Adolescents were classified into ethnic categories according to their responses on a single item in the questionnaire: "What ethnical group best describes you?" (see also Dekovic, Wissink, & Meijer, 2004).

The present analysis only included those adolescents who designated themselves as Dutch or Moroccan-Dutch. Dutch boys served as the reference category in all regression models in this research.

History of corporal punishment

Assessment of the history of CP was via 5 items of the *"Unpleasant and Nasty Incidents Questionnaire"* (Dutch: Vragenlijst Vervelende en Nare Gebeurtenissen, VVNG). This questionnaire is based on the *Dating Violence Questionnaire* (Douglas & Straus, 2006) and the *Parent-Child Conflict Tactics Scales* (CTSPC; Straus, Hamby, Finkelhor, Moore & Runyan, 1998). The boys were also asked how often during the past year their parents had used CP, including pinching, slapping, or hitting with their hand. This study also considered the CP incidence committed in the past year. The alpha coefficient for this scale was 0.78, indicating good reliability (Kline, 1999; Murphy & Davidshofer, 1998).

Parental Connectedness

Parental relationship was measured by the *"EMBU"*. The EMBU consists of two parallel questionnaires concerning relationships with fathers and mothers, each with 56 items, and using a 4-point Likert scale. The EMBU provides four factorially-derived subscale measures: Rejection, Emotional Warmth, (Over) Protection and Favouring Subject (cf. Arrindell *et al.*, 1983b; Arrindell & Van der Ende, 1984). The present study only

used the scale of Emotional Warmth (19 items for father and mother respectively), to measure connectedness. The scale of emotional warmth assessed the degree of warmth and closeness in the parent-adolescent relationship and the extent to which parents were seen as giving warm and loving attention, helping the child with projects that were important to him/her without being intrusive, aiding the child through problems in a way best for him/her, having a high regard for the child's point of view, and where the child felt able to confide in his/her parents and to ask for help, and was intellectually stimulated. Alpha coefficients ranged from α=0.80 for maternal connectedness to α=0.87 for paternal connectedness, both indicating good reliability (Kline, 1999; Murphy & Davidshofer, 1998).

Violent delinquency

Violent delinquency was assessed using the Youth Delinquency Survey done by the Research and Documentation Centre of the Dutch Ministry of Security and Justice (2005), a self-report measure of delinquent behaviour by the youngsters, comprising six categories of specific criminal acts: Internet offences (six-item index), drug offences (three-item index), discrimination (four-item index), vandalism (seven-item index), property offences (ten-item index of moderate to serious property offences) and violent offences (nine-item index of moderate to serious violent acts). Questions related to minor and frequently occurring offences e.g. "fare dodging in public transport", "vandalism" or "shoplifting" and also to serious and less frequent ones e.g. "burglary", "robbery" or "hurting someone with a weapon". For each offence, the youngster was asked whether he had 'ever' committed it (lifetime prevalence) and, if so, 'how often in the previous 12 months' (number of incidences in the previous year). For the present analysis only the number of violent incidents committed in the previous year was considered. The alpha coefficient for the scale violent delinquency was 0.81, indicating good reliability (Kline, 1999; Murphy & Davidshofer, 1998).

Social desirability

Since it is possible that there will be a cultural variance in the willingness to self-disclose socially undesirable behaviour (e.g. Junger-Tas, 1996), the social desirability scale from the "Dating Violence Questionnaire" (Douglas & Straus, 2006) was used as a control. The scale consists of 13 items using a 4-point Likert-type scale (i.e 1=strongly disagree, 2=disagree, 3=agree and 4=strongly agree) on behaviours and emotions that are slightly undesirable but true for almost everyone such as 'There have been occasions when I took advantage of someone' and 'I sometimes try to get even rather than forgive and forget'. The more a respondent denied these items, the more likely the respondent was trying to avoid admitting the undesirable criminal behaviours that were the focus of this study. Scale reliability of the social desirability measure in this study was fair as the alpha coefficient was 0.63. In general, an

alpha coefficient of 0.60 or higher is the minimum level considered acceptable in the case of short instruments used (Murphy & Davidshofer, 1998), although some methodologists apply a stronger standard of at least 0.70 (Kline, 1999).

RESULTS

Initial Analyses[1]

Table 1 shows the characteristics of the study participants. More than three quarters of the sample identified themselves as Dutch (76.5%) and the remainder as Moroccan-Dutch (23.5%). Participants of this study ranged in age from 15 to 18, with a mean age of 15.77 years (SD=0.86). Almost 12% of the sample indicated their family's socio-economic status as low, rating their family's wealth as not (so) rich. By far, most boys reported that they lived with both parents (84.7%). Significant differences between the groups were found on the variables age (t=-4.07, p=0.000) and socio-economic status (χ^2 (4) = 63.67, p = 0.000). To identify any potential confounders a control was necessary for the analysis; the variables described were checked to see if any were significantly related to the dependent variable, violent delinquency. Socio-economic status was found to significantly correlate with violent

delinquency (r=0.11, p<0.05). However, since the size of this correlation was small, following the guidelines of Cohen (1988), it was not further analysed.

Next, the frequency of having committed a violent act in the past year was examined by ethnic group. On average, Moroccan-Dutch boys (1.82, SD=2.58) reported committing significantly more violent acts in the past year than their Dutch peers (0.79, SD=1.37) (t=4.08, p=0.000). Given the possibility of cultural variance in willingness to self-disclose socially undesirable behaviour (e.g. Junger-Tas, 1996), a social desirability scale served as a control. The overall mean score on social desirability was 32.56 (SD=4.74). No significant differences in mean scores were found between the two groups (t=-0.83, p=0.41).

Independent t-tests

Furthermore, we examined the descriptive statistics of the independent variables. Subjects' mean sum score on CP was 7.7 (*SD*=4.27, range 5-33) indicating that on average, the boys in the sample experienced CP by a variety of severe disciplining behaviours (e.g. pinching, slapping, hitting with the hand). On average, Moroccan-Dutch boys reported a higher frequency of CP than their Dutch peers (9.6, *SD*=4.88 compared to 7.2, *SD*=3.90 respectively, *t*=0.47, *p*=0.000). As for parental connectedness, Dutch boys reported significantly higher levels of emotional warmth for their father and mother respectively, than did Moroccan-Dutch boys (*t*=7.34, *p*=0.000 and *t*=6.81, *p*=0.000 respectively) (see Table 2).

[1]All analyses were performed on the total sample as well as the school and offender sample separately. Similar patterns in results (although effect sizes differed) in the separate samples were found as in the total sample, indicating that the results from the total sample did not suffer from sample selection bias. The report on the results of the separate samples have been omitted to save space. They are available upon request.

TABLE 1
Sample Characteristics

	Dutch (N = 365)		Moroccan-Dutch (N = 112)				
	M	SD	M	SD	t	P	D
Age	15.67	0.77	16.10	1.04	-4.07	0.00	-0.47
Social desirability	32.46	4.75	32.88	4.71	-0.83	0.41	-0.09
Violent delinquency	0.79	1.37	1.82	2.58	-4.08	0.00	-0.50
	% (N)		*% (N)*		χ^2	*P*	*V*
Socio-economic Status					63.67	0.00	0.37
Very rich	4.4% (16)		1.8% (2)				
Quite rich	34.8% (127)		7.1% (8)				
Medium rich	54.5% (199)		62.5% (70)				
Not so rich	5.2% (19)		20.5% (23)				
Not rich	1.1% (4)		8.0% (9)				
Family structure					9.88	0.13	0.14
Both parents	81.9% (299)		93.8% (105)				
My father	1.4% (5)		0.9% (1)				
My mother	5.5% (20)		2.7% (3)				
Parents at different addresses	10.1% (37)		2.7% (3)				
Other	1.1% (4)		0.0% (0)				

Note. Discrepancies between totals when summed up reflect rounding errors.

TABLE 2
Means, Standard Deviations (SD) of Independent Variables (N = 477)

	Dutch boys		Moroccan-Dutch boys	
	M	SD	M	SD
Corporal punishment[***]	7.2	3.90	9.6	4.88
Parental connectedness				
Emotional warmth -- Father[***]	59.7	13.82	45.7	18.49
Emotional warmth -- Mother[***]	61.0	11.86	49.5	16.62

Significant differences between Dutch and Moroccan-Dutch boys, using *t* tests
*p < .05. **p < .01. ***p < .001

Hierarchical Regression Analyses

A positive and significant correlation was found between the scores on frequency of CP and violent delinquency (r=0.37, p<0.01). A negative and significant correlation was found between the scores on emotional warmth -- father and violent delinquency (r=0.34, p<0.01) and on emotional warmth -- mother and violent delinquency (r=0.35,

p<0.01), respectively. These correlations were all medium-sized (Cohen, 1988).

Next, a hierarchical regression analysis was performed with violent delinquency as the dependent variable. Given the number of conceptually related independent variables under consideration in this model, a correlation matrix of all predictor variables was scanned. Field (2009) identifies multi-

colinearity if correlates are above 0.90. There were no correlates higher than 0.90 (the largest value was 0.75). The next variance inflation factors (VIF) calculated to check for multi-collinearity (Field, 2009). Meyers (1990) noted that VIF values that are greater than ten suggest harmful collinearity. There were no VIF's greater than two (the largest value was equal to 2.30) for the predictor variables on the dependent variable, violent delinquency, suggesting that multi-collinearity between the independent variables did not affect the model's stability.

Results at step 1 of the regression model show that frequency of CP significantly and positively predicts violent delinquency, β=0.37, p<0.001 (Table 3). When placed on the same regression step with parental connectedness (step 2), physical disciplining still accounts for a significant portion of variance in violent delinquency, although this association is less powerful compared with step 1 (β=0.28, p<0.001 on step 2 versus β=0.37, p<0.001 on step 1, Table 3). In addition, both emotional warmth for father and mother contribute negatively and significantly in predicting violent delinquency, β=-0.14, p<0.05 and β=-0.15, p<0.05 respectively, when controlled for frequency of CP. They significantly explain an extra 6.6% of the variance in violent delinquency (ΔR²=20.5%, ΔF (1,476)=76.97, p=0.000).

TABLE 3
Violent Delinquency Regressed on CP and Parental Connectedness (N = 477)

	B	SE B	B
Step 1			
Corporal punishment***	.15	.02	.37
Step 2			
Corporal punishment***	.12	.02	.28
Emotional warmth -- Father*	-.02	.01	-.14
Emotional warmth -- Mother*	-.02	.01	-.15

Step 1: R² =14.0%, Step 2: ΔR² =6.6%, ΔF(1,474)=19.54, p=.000
*p<.05. **p<.01. ***p<.001

To determine whether it was necessary to analyse separately by ethnicity, regression analyses were conducted utilising both ethnicity as a main effect and sets of interaction terms (Ethnicity × CP and Ethnicity × Parental Connectedness), to test whether ethnicity added any explanatory power beyond the independent variables CP and parental connectedness already included in the model. Hierarchical regressions were run for self-reported violent delinquency. The independent variables were entered at the first step, ethnicity as a main effect at the second step, and then the set of interaction term(s) which applied to that particular analysis entered at the third step. The test of both main effect and interaction terms was necessary to thoroughly exhaust the possibility that ethnicity may add explanatory power which will need further investigation through separate analyses. In the analysis involving CP as the independent variable, the main effect of ethnicity accounted for 2.6% of variance of violent delinquency (ΔR^2=0.03, p=0.000). In addition, ethnicity added another 1.4% of

the variance (ΔR^2=0.01, p=0.005) through the subsequent entry of the Ethnicity x CP interaction terms (entered at the third step of the regression after the independent variable as well as ethnicity had been partialled out). For the analysis involving parental connectedness as the independent variables, the main effect of ethnicity accounted only for 1.3% of variance of violent delinquency (ΔR^2=0.01, p=0.008). In addition, ethnicity added another 3.8% of variance (ΔR^2=0.04, p=0.000) through the subsequent entry of the Ethnicity x parental interaction terms. These findings indicate that ethnicity plays an important role in the relationship between self-reported delinquency, CP and parental connectedness. The fact that these tests revealed a significant amount of variance explained by both ethnicity and the interaction term sets is an indication that it is necessary to complete subsequent regression analyses separately by ethnicity. Table 4 and 5 present the results of separate hierarchical regression analyses.

Stepwise, hierarchical regression analyses for Dutch boys revealed that CP accounted for 9% of the variance in violent delinquency. Adding both emotional warmth for father (β=-0.08, p=0.18) and mother (β=-0.02, p=0.71) to the analyses resulted in non-significant variances (ΔF (1,362)=1.83, p=0.16). However, for Moroccan-Dutch boys CP accounted for 16.2% of the variance in violent delinquency. Parental connectedness when added contributed an additional 13.7% of variance, with emotional warmth for mother being moderately significant as predictive of violent delinquency (β=-0.35,

p=0.07) when controlled for CP. Finally, a test of the comparability of the regression coefficients for the independent measures for both groups was conducted. Based on the results, it can be concluded that the effect of CP on violent delinquency was moderately significantly stronger for Moroccan-Dutch boys than for Dutch boys (z=|1.86|, p=0.06). In addition, it could be concluded that the effect of the level of emotional warmth for mother on violent delinquency was moderately conditioned by ethnicity of the sample; for Moroccan-Dutch boys the emotional warmth they felt for their mothers had a negative and significant effect on violent delinquency in comparison with their Dutch peers, where no significant effects were found (z=|1.90|, p=0.06). No significant differences between both groups were found for emotional warmth for father (z=|0|, p=1).

TABLE 4
Violent Delinquency Regressed on CP and Parental Connectedness for Dutch Boys (N = 365)

	B	SE B	B
Step 1			
Corporal punishment ***	.11	.02	.30
Step 2			
Corporal punishment ***	.10	.02	.27
Emotional warmth -- Father	-.01	.01	-.08
Emotional warmth -- Mother	-.00	.01	-.02

Step 1: R²=9%, Step 2: ΔR²=1%, ΔF(1,362)=1.83, p=.16
*p<.05. **p<.01. ***p<.001

TABLE 5
Violent Delinquency Regressed on CP and Parental Connectedness for Moroccan-Dutch boys (N = 112)

	B	SE B	B
Step 1			
Corporal punishment ***	.21	.05	.40
Step 2			
Corporal punishment ***	.14	.05	.27
Emotional warmth -- Father	-.01	.03	-.05
Emotional warmth -- Mother †	-.06	.03	-.35

Step 1: R²=16.2%, Step 2: ΔR²=13.7%, ΔF(1,110)=10.56, p=.000
†<.10 *p<.05. **p<.01. ***p<.001

DISCUSSION

This study examined three issues. The effect of CP on violent delinquency is the first issue. Overall, the results demonstrate a strong relationship between CP and violent delinquency. This is in line with previous studies (Afifi *et al.*, 2006; Ateah *et al.*, 2003; Gershoff, 2002, Lansford *et al.*, 2004; Porter, 2008). Therefore, it is not surprising that we found negative responses to what could be defined as harsh or punitive parenting style. These findings lend support the idea that CP plays a significant role in the development of violent delinquency, and adds to the growing body of knowledge regarding the cycle of violence, which states that violence begets violence (Widom, 1989).

Second, this study explored the relationship between violent delinquency and parental connectedness. As hypothesised, the results show that parental connectedness makes an additional, independent contribution to violent delinquency development, which underlines the relevance of assessing parental connectedness in identifying children's vulnerability to CP in violent delinquency development. Parental connectedness is thus able to account for a significant part of the variance above and beyond the variance that frequency of CP is able to explain.

Third, this study assessed the influence of ethnic differences on the effect of parental connectedness on the relationship of CP and violent offences. Like many prior studies (e.g. Decovic *et al.*, 2004; Bowlby, 1969; Veen *et al*. 2011; Wampler & Downs, 2010), the results obtained demonstrated a significantly higher score on CP for the Moroccan-Dutch boys in comparison with their Dutch peers. In addition, the Moroccan-Dutch boys showed significant lower scores for emotional warmth for father and mother respectively, in comparison with the Dutch group (Stevens *et al.*, 2007). Stevens (2004) reported that Moroccan-Dutch adolescent boys grew up with far less affection, responsiveness, induction, discipline and monitoring, and with more autonomy than their Dutch peers. This is in line with our findings. In addition, ethnic differences were found on the effect of parental connectedness on the relationship of CP and violent offences. To confirm whether boys with low levels of parental connectedness were more likely to commit violent acts, the findings revealed that both emotional warmth for father and mother were negative and significantly correlated to violent delinquency for Dutch and Moroccan-Dutch boys, suggesting that boys who experienced low parental warmth were more likely to engage in

violent delinquency. However, both CP and parental connectedness were differentially predictive of violent delinquency in Moroccan-Dutch and Dutch boys, showing a larger effect on the outcome measure for Moroccan-Dutch boys. Specifically, the effect of CP on violent delinquency was significantly larger for Moroccan-Dutch boys in comparison with their Dutch peers. In addition, parental connectedness made an additional independent contribution to violent delinquency, with emotional warmth for mother being moderately significant as predictive of violent delinquency for Moroccan-Dutch. Research on ethnic families suggests differences in family socialisation practices and cultural values taught at home between Moroccans and Dutch (Pels & De Haan, 2007; Pels, 2000). For example, Moroccan parents tend to instil collectivism in their children rather than the individualism of mainstream Dutch culture. The different effects of maternal and paternal warmth on violent delinquency for Moroccan-Dutch boys could be explained by the differential child-raising roles between men and women which still exist in Moroccan culture. Traditionally for Moroccans, gender is an important marker of social space relevant for child raising (Laghzaoui, 2011; Pels & De Haan, 2007). The worlds of men and women are relatively separate, and are mainly found in the public domain and the privacy of the home, respectively. The role of the father is that of the patriarch and therefore, the father's authority is paramount and undisputed. He is not directly involved with his children's upbringing, but is responsible for their behaviour. Moroccan mothers are the primary caretakers and often function as an intermediary between father and child(ren). Although this strict gender division has changed over the past few decades due to education and, as more women enter the labour market), the ideology of motherhood and the central role of women in the upbringing of children are still strongly adhered to (Pels & De Haan, 2007).

There are several limitations in this research that should be noted. First, the reliance on adolescent self-reports as sole indicator for violent delinquency, CP and parental connectedness. With respect to assessing violent offences and parental connectedness, rather than relying on youth self-reports, official crime reports and parental reports respectively could provide additional information as a method of validating and extending adolescent self-reports. Second, the sample used was relatively small and with no female participants. A larger sample size which includes female subjects would have potentially allowed for additional measures and/or variable measures at multiple levels included, allowing for a different analysis to further explores the determinants of violent delinquency development. As a result, this study can serve as a starting point for future research with a larger sample of boys and girls of both native as well as different ethnic descents. Finally, the data are cross-sectional and thus causal inferences regarding CP, parental connectedness and

criminal involvement cannot be made. Use of longitudinal designs would help to address this shortcoming.

IMPLICATIONS AND FUTURE DIRECTIONS

The findings of this study raise several implications on the efforts to prevent violent delinquency. Given that both Dutch and Moroccan-Dutch boys reported committing violent delinquent acts with some frequency and that CP experiences were significantly related to violent delinquency for both groups, it is important that both groups and their parents receive prevention services that reduce risk, enhance protection and lessen the likelihood of violent delinquency. In addition, the results of this study raise awareness on the need to consider differences in how Dutch and Moroccan-Dutch boys may cope under similarly harsh parenting styles. Further, this study identifies a need to further look at the cultural context in which CP occurs, the feeling of connectedness between parents and adolescents and other parenting practices such as a range of non-physical disciplinary strategies, communication, and family rules; hence, there is a need for further research regarding ethnic differences in parental connectedness.

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SOCIAL SCIENCES & HUMANITIES

Phenomenon of Transsexual Behaviour Among Youth in Kuala Lumpur: A Case Study

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ABSTRACT

Understanding the complex lives of transsexual groups is essential in order to resolve this issue in a more intellectual, systematic and effective manner. Thus, this case study was aimed at knowing more about male-to-female transsexuals, especially among youth, by studying their sexual orientation as well as how far a sense of femininity is felt by them. Eight transsexual women were the informants recruited for this study based on snowball sampling technique. Each informant had completed a semi-structured interview at least twice. The basis of the interview was the principle of saturation in which the informants had been interviewed until no new ideas were emerging. The interview was audio-taped, transcribed verbatim and checked for content based on thematic analysis technique. The findings revealed two important themes from the narrative of the informants, namely, their gender identification and sexual orientation. In terms of gender identification, it was found that all the informants identified themselves according to feminine features although the features did not match their own physical features. Meanwhile, in terms of sexual orientation, the results showed that this group of transsexuals preferred to engage in sexual activities. For them, sexual satisfaction was only achievable by engaging in such sexual activities because of their sexual instinct, which was similar to that of women. One implication of this feature would be a potential rise in social problems. Thus, all parties should cooperate to combat this issue aggressively and effectively.

Keywords: Transsexual behaviour, transsexual, youth, Kuala Lumpur

INTRODUCTION

Due to the evolution and advancement of various aspects of life as well as the challenges of globalisation that continue to advance, the tendency of some youth

in getting caught up in comfort zones has caused them to be pulled into self-inflicted damage and downfall, leading to their getting trapped in perturbing social maladies such as drug addiction, alcoholism and hedonism that prevent them from taking up the responsibilities that await them. In more extreme situations, they engage in acts of crime. Statistics by the Social Welfare Department of Malaysia show that a total of 4407 youth aged between 16 and 21 years were involved in several types of crime such as drug possession, vandalism, gangsterism, rape and others (Social Welfare Department of Malaysia, 2012a). However, the number of cases in 2011 showed some increase from the year before with 745 cases (Social Welfare Department of Malaysia, 2012b).

Recently, the phenomenon of alternative sexual behaviour, orientation and lifestyle termed lesbian, gay, bisexual and transgender (LGBT) behaviour has become increasingly visible among Malaysian youth, raising serious issues related to religion, morality and ethics. The promotion of the LGBT community through the *Seksualiti Merdeka* (Sexuality Independence) programme in 2012 became the talk of the town and a hot topic in the newspapers and other mass media. The National Fatwa Council, a prominent Islamic council in Malaysia, banned the LGBT community and *Seksualiti Merdeka* programme and declared those organisations as illicit (e-Fatwa, 2012), while several non-government organisations (NGOs) and a Member of Parliament suggested that the government categorise the LGBT activities as illegal in Malaysia (Utusan, 2012).

There is a lot of opposition from various quarters on on-going claims made by the LGBT group that they were creating an environment of sexual freedom in this country and that they felt that their action was proper and not against the law. However, in multicultural Malaysia, this issue is strictly contrary to the values, morals and culture; furthermore, this does not only involve Malaysian culture but other eastern cultures as well. Clearly, this is an important issue that needs further and deeper analysis in order to provide an adequate overview and explanation of this social problem. Hence, this study focusses on one component of LGBT i.e. the transgender or transsexual.

Essentially, activity among male youth transsexuals is known and judged from various angles. Some of these are based on the characteristics portrayed by the male youth transsexuals, such as their self-image, the way they dress, behaviour that is conflicting to their gender as well as the way they think, which is inconsistent with the cognitive development of a male (Nevid, Rathus & Green, 2008). In Malaysia, men involved in transsexual activities are popularly referred to as transsexuals or '*Mak Nyah*'[1]. Viewed through the lens of Malaysian culture, the activities by these transsexuals are labelled an unhealthy and improper phenomenon in Malaysia as they go against the norms of the local communities (Teh, 2001). Similarly, religious figures and groups view them as acts of sin that violate religious codes

[1]*Mak Nyah*: Man who has undergone surgery to remove his genital organs or has undergone a sex-change procedure; How transsexuals in Malaysia address themselves

of conduct. However, for most Western societies, the concept and activities of transsexuals are acceptable and tolerable. The clash between the two cultures with regards to LBGT behaviour has caused a major impact in judging and determining whether these transsexual activities conform to convention or otherwise (Abdul Aziz, 2002) within the Malaysian context.

In Malaysia, transsexual behaviour exhibited by male youths received much attention in the early years that such behaviour became apparent among Malaysian youth. It grew into a more serious issue when a significant number of transsexuals began to be notice in higher-learning institutes across Malaysia (Suriati, Jabil & Azilah, 2011; Rohana & Zulkifli, 2001). Extensive coverage and serious attention given by various parties have exposed transsexuals, particularly those in higher learning institutes, to various negative implications. They have repeatedly received negative reactions whether through gesture or word by other students who consider them the cause of various problems, particularly moral issues (Abdul Aziz, 2002). Moreover, these transsexuals are also pressured by the university authorities with rules and regulations that limit their freedom to express themselves. One of the rules that limit their freedom is the dress code or the freedom to dress on campus (Aminuddin & Johan, 2002).

According to Aminuddin and Johan (2002), on the issue of transsexuals among male youth, society sees the phenomenon as a moral setback, as it involves the

personality and character of an individual. Society considers such a moral crisis a major setback as morals are the core and foundation of a human civilization (Mat Saat Baki, 1993). The rise and downfall of a society depends on the morals and conduct of its people. Duly, society today does realise the need to resolve this crisis of transsexual behaviour among male youth or *'Mak Nyah'*. These youth should not be treated like a disregarded minority as they are unable to solve the problem themselves. If the problem is left unresolved, it will give rise to a greater moral crisis.

The experience of transsexual tendencies within the male population is often described in this way: "A woman's mind trapped in a man's body" (Abdul Aziz, 2002; Aminuddin & Johan, 2002; Rohana & Zulkifli, 2001; Azam Beruntung, 2001; Ahmad Amin, 1995; Wan Azmi, 1991; Wan Halim, 1987). The expression, 'a woman's mind trapped in a man's body' implies that transsexuals or *Mak Nyah* possess the identity, feelings and sexual behaviour of a woman. This assumption to some extent has caused some uneasiness in the community, resulting in feelings of prejudice against *Mak Nyah*, and the resulting ill effect is discrimination against transsexuals, both from the authorities and members of society itself (Azam Beruntung, 2001). The dilemma of transsexuals or any other problems that they may face are often ridiculed and made light of; similarly their feelings are toyed with (Mat Saat Baki, 1993). No one wants to understand or believe what they are experiencing, as if what they were

experiencing was all fantasy (Wan Azmi, 1991). Society considers this minority group 'immoral' as the behaviour of individuals in the group are deemed inappropriate by and often upset the majority (Aminuddin & Johan, 2002).

Hence, the attempt to understand the minority group of transsexuals is appropriate so that future approaches to resolve this issue can be more intellectual, systematic and effective. Therefore, the present study attempts to uncover the tendency of this group in terms of several different facets such as their gender identity and sexual behavior or sexual orientation. This means that this study tries to understand how the group identifies themselves as individuals either as male or female, their sexual interest either in men or women as well as their sexual behaviour with their partners Allowing this group of transsexuals to describe their personality and behaviour from their own perspectives will provide rich and valuable information about the group to others. Hence, the qualitative approach was seen as the most suitable method for the purpose of this research.

THE CONCEPT OF TRANSSEXUALS

'Transsexual' refers to the condition where a person tends to identify his/her gender as different from his/her biological sex leading to his/her action of undergoing medical procedures to change his/her sexual body structure in order to live as the gender he/she dreams of being (Suriati *et al*., 2011; Ahmad Amin, 1995). On the other hand, from the medical perspective, 'transsexual'

refers to someone who is known to suffer from psychological gender disorders and practices the lifestyle of the opposite sex after undergoing surgery or hormonal therapy to attain the desired physical appearance by having their external sex organs changed (Online Medical Dictionary, 2008). Even though transsexual and transgender as phenomena are sometimes related, there is a difference between the two, mainly in the method of gender change. Transgender people show their feminine identity through appearance and behaviour. However, transsexuals change almost everything including their behaviour, looks, body as well as their genital parts. This is because transsexuals can never accept the sexual organs (penis and scrotum for men) that they were born with. They are willing to undergo genital change surgery or to construct a fake vagina to become a woman. Besides, they also use hormonal therapy to develop breasts and other female secondary sex characteristics. Subsequently, they live the lifestyle they have always desired.

In Malaysia, transsexual women are fondly known and addressed as *'Mak Nyah',* a male transsexual (Mukhannas) who desires a gender other than their original gender (Teh, 2001). An earlier researcher, Wan Halim (1987), found that society also categorises transsexual women as transgender, queer, *'darai'*, hermaphrodite, *'mukhannas'* and *'mukhannis'* instead of *'Mak Nyah'*. What distinguishes them from another is the name or title used in certain places. Wan Halim (1987) also mentioned the other names and terms used to address

transsexuals such as *'bapok'*, *'adik-adik'*, *'kedi'*, *'khunsa'*, *'cik mek'*, *'cik awang'* and others. Besides, among themselves, these transsexuals call themselves the PLU (People Like Us), Sters (short form for 'sisters'), '*che gaya*' and '*dugong*', among others.

Like individuals biologically born women, transsexual women also have feelings of wanting to be loved by someone; the difference is that they are only attracted to males, and reject women as their life partner. This is in line with the study conducted by Siti Ainiza and Azhari (1997) which stated that transsexuals need someone whom they can see as a protector, a male who is able to guide them and to whom they can be married to. In addition, they like to be treated as a wife and to carry the responsibilities of a wife in their marriage. For them, marriage is based on the concept of an 'understanding of love' between them and their husbands. The assumption is that these transsexuals do have husbands who are partners in bed and with whom they are sexually active, as well as whom they hold on to and turn to for shelter, as do many individuals who are born biologically women (Siti Ainiza & Azhari, 1997).

Despite the variety and diversity of terms or the meaning of 'transsexual', all these definitions come back to the same basic meaning, which refers to the tendency of the individual to act contrary to the given nature of his/her gender, whether a man who wants to act as a woman or a woman who wants to act as a man. Nevertheless, parallel with the objectives of this research, the main focus here will be the issue of transsexuals within male youth.

RESEARCH METHODOLOGY

The methodology used for this case study is the qualitative research design. The qualitative approach for this study is the preferred research design because of its suitability to answer the 'what' and 'how' questions in research (Creswell, 1998). Besides, Leedy (1990) stated that the use of qualitative design enables researchers to gain information deeply especially in terms of respondent understanding and knowledge. The present researchers also agree with Rohana Yusof (2003) that the qualitative approach is characterised by eclecticism, is orientated towards being hypothesis-free and accepts the reality of the nature of the phenomenon.

In this research, the sample consists of eight male youth transsexuals or *'Mak Nyah'* from different racial groups within the age range of 18 to 33 years old. Through snowball sampling method, the informants were obtained from several places around Kuala Lumpur such as Lorong Haji Taib and entertainment clubs which are the famous and common spots for these transsexuals or '*Mak Nyah'.* To gather the information, the researchers conducted meetings at the informants' house as requested by the informants themselves for comfort reasons. The interview location is important as it affects the emotions of informants in giving truthful and sincere information. The semi-structured interview technique was used to collect information from the informants. The

researchers recorded the interview results, transcribed them verbatim and analysed them based on thematic analysis technique. In this present research, the researchers also took into account the reliability and validity of the information. Thus, in the data collection process, the researchers took into account honesty or trustworthiness in carrying out this study by adhering to the four main criteria listed by Noraini (2010) which are truth value, applicability, consistency and neutrality.

RESEARCH FINDINGS AND DISCUSSIONS

Thematic analysis used for this study identified the theme and sub-themes. In this research, the two main themes identified are: 1) gender/sex identification and 2) sexual behaviour and orientation. We will discuss and explain these two themes and the relationship to their personality and their identity as transsexual people.

Gender/Sex Identification

In discussing the main theme of gender or sex identification, the study highlighted two important points: perception of own sex and personal attitude as a woman.

Perception of their own sex

Based on the information obtained from the interview, every informant chose to refer to himself as a woman and declined being referred to as a man. This was evident in the answers given by the informants when questioned about their gender and sex.

These were the statements of the informants regarding the nature of their gender:

> *"You, I'm really a woman…I'm a woman, not a man. Touchwood, if you say that I'm a man...it gives me a creep...I'm a woman. I feel that I am a woman who is trapped in a man's body.." (Informant 1)*

> *"Who knows…it's hard to answer… what's important is that I'm a woman, I'm not a man…Do you see me as a man??? No, right… errmm. I feel that I'm a woman…" (Informant 2)*

Based on the excerpt above, it shows that the informants felt that they were women and refused to acknowledge themselves as men. This is because the feelings of these informants as a woman exceeded their feelings as a man, and that indirectly tells us that they want to be acknowledged as a woman either physically or emotionally. Moreover, some informants felt that they were better than most individuals biologically born women. For instance, one of the informants said:

> *"Of course I'm a woman, you... In fact, I feel that I'm much perfect compared to the women out there, okay……" (Informant 3)*

When asked how they wanted to be treated, each informant responded with a similar answer i.e. that they wanted to be

treated as a woman. For example, almost every informant replied:

> *"Of course I want others to treat me like a woman because I am a woman...." (Informant 4)*

To them, they are women and as women they would like others to treat them as they would treat individuals biologically born women. A simple example is how each informant addressed himself as "*mak*" (mother) or "*kakak*" (sister) and was uncomfortable when addressed as "*abang*" (brother).

In terms dressing, informants openly said that they would always want to look beautiful. One such response was:

> *"I want to look beautiful...I am more beautiful than the actual women okay......" (Informant 5)*

> *"Your appearance must be beautiful...I am a woman, okay... so, I have to take care of my appearance....." (Informant 6)*

This clearly tells us that transsexuals in the interview are really concerned with having an appearance that is appealing and attractive in the eyes of the public. Moreover, the term 'want to look beautiful' also informs us that they would like to look attractive as a woman instead of a man.

Attitude as a woman

With regards to being seduced by a man, each informant answered differently. This

may be due to the difference in their marital status. However, all the informants were excited at the thought of male seductions. For instance, one informant who was married and lived a normal married life with a stable partner answered as follows when asked on his reaction to male seduction:

> *"I'm a woman…I get sexually aroused when seduced by men... But, I am not fond of it...I have a husband. So, I have to take care of myself and my behaviour..." (Informant 7)*

His answer suggests that he possesses the characteristics of a woman who watches herself and is mindful of her manner and actions, as would any woman with a family. On the other hand, an informant who is single claimed that he was shy when seduced by men. He said:

> *"I don't like to be seduced by men because I'm shy, embarrassed...I'm a woman, ok...shy, ok...But, I'm aroused by their seduction...." (Informant 2)*

His answer suggests that male transsexuals are sexually excited by male seductions. However, they are mindful of their actions, displaying caution in the face of advances by a male as might most women who believe caution in such a circumstance to be proper. On the other hand, another informant had the opposite response. According to him:

"I love being seduced by men....I feel aroused and lustful when they seduced me..." (Informant 3)

This statement also proves the existence of sexual arousal towards men without any accompanying feelings of shame. However, there are others who feel shy of men as would a woman.

When asked about their level of self-confidence and self-assurance, all the informants agreed that they were comfortable with their appearances. The only discomfort they felt was triggered by the environment around them, particularly the perception that the public have of them. For example, according to one informant:

"Mostly, I'm comfortable with myself. I'm just not comfortable how others see me...." (Informant 1)

There were, however, informants who would like to see an increase in self-confidence and self-acceptance. For example:

"I'm comfortable with myself...I just want to go for a surgery to remove my testicles...so that I would feel more comfortable...I don't want to be a hypocrite...If I want to be a real woman, why should I have male sex organ..."(Informant 3)

Based on external observation, Informant 3 looks no different from a woman. In fact, the nature he projects and the way he interacts are feminine and womanly. However, because he was born a man, he believed he needed to physical changes to his body in order to feel more comfortable with himself.

Thus, all of the informants were comfortable with their present physical condition of resembling a woman. This is supported by Wan Azmi (1991), who stated that *Mak Nyah* or transsexuals genuinely feel that their identity and feelings are those of a woman.

The findings of this research are also consistent with the concept of self-acceptance that Ismail (2001) proposed as being one of the major issues in homosexuality in Malaysia. According to Ismail (2001), self-acceptance is the foundation upon which homosexuals come out and acknowledge publicly their LGBT orientation. In his study, Ismail revealed that a small number of the homosexuals refused to admit their LGBT orientation as they failed to consider that being homosexual was a normal phenomenon, and therefore, were not willing to be open about it with others, especially as the environment failed to support them when they revealed their orientation. However, most of the informants in this study had little difficulty in achieving self-acceptance. Many of them succeeded in accepting their differences and had little trouble revealing their transsexual personality in public. Most of the informants were very proud of their feminine body and appearance.

Sexual Behaviour and Orientation

One way to observe whether transsexuals have a male or female instinct is to analyse their sexual behaviour. To achieve this end, this study presented a few questions to the informants regarding their sexual tendency and activities. Two sub-themes were identified based on the results, namely, sexual desire for men and sexual orientation.

Sexual desire for men

This sub-theme arose when the researchers asked the informants about the gender of their partners. All the informants said their partners were of the same sex i.e. male. When asked whether they had a lover or a partner, two out of six informants stated that they had partners whom they acknowledged as their husbands. The remaining informants had multiple sex partners who were all men. They did not have a regular partner. When asked to explain why all their partners were men, all stated that they wanted men to pamper and indulge them so that they would feel more like a woman. Two examples of the informants' statements are given:

> *"I have a husband so my husband treats me as a wife like a normal couple would....."* (Informant 7)

> *"I want a strong man that could cater to my needs. I love it when men indulge me..."* (Informant 3)

Both statements clearly inform that the informants love to be pampered by men who consider them as women.

When asked about their sexual relations, all the informants stated that they were sexually active with their male partners. All the informants felt that they were sexually satisfied when they were with men. They were not lustful or excited when with women as they considered themselves to also be women. Some examples of the statements by the informants are given:

> *"Of course all of us have had sex, you…it is impossible if not…."* (Informant 2)

> *"I'm only lustful with men....women, sorry....It gives me the creep, ok...."* (Informant 8)

These two statements clearly reveal that the informants had engaged in sexual relationships with partners of the same sex to achieve sexual satisfaction and were not interested in women as they considered themselves to be women.

In addition, when questioned on the role played during sexual intercourse, all of them replied that they played the role of the woman in satisfying their male partners:

> *"Of course a woman when in bed... since I'm a woman, so I have to act as woman in bed...."* (Informant 4)

Almost all the informants gave answers similar to the above, proving that all of them saw themselves as women when they were with men, particularly during sexual intercourse. A few of the informants were in relationships with stable partners

through marriage and kept the daily routine of male-female couples. Those who were married placed importance on their sexual relationship with their partner and behaved as any wife would. For example, according to informant 6:

> *"I have a husband...I have to take care of my relationship...I used to change partners, but now I have to be faithful to one...sex is only for my husband..." (Informant 6)*

It is clear here that the informants who were married treasured their marriage and performed their duties as a wife faithfully while preserving their honour as a woman.

Sexual Orientation

The interviews revealed that the types of sexual intercourse regularly performed between the informants and their partners were oral, anal or both. Six out of eight informants claimed that the frequent types of sexual activity that they performed during sexual intercourse with their partner were both oral and anal:

> *"In my relationship, I usually perform oral and anal sex together... It's more satisfying..." (Informant 7)*

> *"I perform both of it..." (Informant 5)*

Nevertheless, two of the eight informants only performed anal sex as they were not interested in oral sex because they disliked it. For instance, informant 8 said:

> *"I only perform anal sex...it's disgusting to do oral...really disgusting..." (Informant 8)*

In their opinion, most women were not fond of performing oral sex.

When asked about the type of sexual pleasure and satisfaction experienced during sexual intercourse, six of the eight informants claimed that they gained sexual pleasure during sexual intercourse by performing both anal and oral sex. Only two of the informants said that they achieved sexual pleasure through anal sex alone. However, when asked of their sexual satisfaction as women, all the informants were of the opinion that they were sexually satisfied playing the role of the woman in the sexual relationship. For instance, informant 6 claimed:

> *"I am sexually satisfied when performing both oral and anal sex...I'm a woman and I am pampered and reached my sexual climax like a normal woman...that's why I perform oral and anal..." (Informant 6)*

This statement proves that these transsexuals achieve sexual climax and pleasure with their respective partners similar to that of a woman.

Two of the informants had stable partners as they were married to their

respective partners and also living a normal married life together with their same-sex partners. The remaining informants had multiple male sex partners and no regular partners. When asked to give reasons why their partners were all males, most of the informants agreed that the two main reasons were their desire to be pampered by men and the feeling of being a woman. This finding was consistent with Siti Ainiza and Azhari (1997) who found that transsexuals loved to have a husband or a male partner that could carry out the responsibilities of protecting and treating them as women.

Further, this study also identified that the sexual orientation of the informants was towards man; all of them had had engaged in sexual relationships with their male partners. None of the informants felt sexually aroused by a woman. These findings are consistent with the research done by Daskalos (1998) where it was found that female identity and hormones were two major matters that strongly affected changes in sexual orientation among transsexuals. In his research on six heterosexual male-to-female transsexuals, Daskalos reported that all the respondents had experienced major changes in their sexual orientation since they had converted their identity from male to female. Before the transition, the respondents had informed the researchers that they were sexually interested in women but after they transited into women, all attraction to women were gone, and they started to have sexual feelings for men. Half of the respondents had also reported that female hormones strengthened their sexual feelings

for men. Similarly, this research suggests that sexual interest towards men as reported by the informants in this study might also be triggered by the change of their identity from male to female.

In terms of the types and forms of sexual relationships and sexual pleasure experienced, the findings showed that six of eight of the informants derived sexual pleasure through oral and anal sex. Only two of the informants were sexually satisfied through anal sex alone. Even though there were different approaches to satisfy their sexual needs, all of the transsexuals in this study agreed that they felt satisfied with anal sex. This is because the feeling of being feminine is aroused when they have anal intercourse (Edwards, Fisher & Reynolds, 2007). When asked about their sexual satisfaction as a woman, all of them were of the opinion that they were sexually satisfied when performing as a woman.

CONCLUSION

Overall, the phenomenon of transsexual behaviour among male youth is a phenomenon involving the personality and emotions of the individual. The findings of this study show that transsexuals have a high tendency to identify themselves as females and are interested in men especially in terms of sexual activities or behaviour; thus, this study supports the notion and assumption that transsexuals among the male gender experience the phenomenon of being "a woman trapped in a man's body". The study also suggests that feminine feelings experienced by male transsexuals have a

major impact on their sexual orientation, and lead to their choice of playing the role of the woman during sexual intercourse. In terms of research significance, this study, to some extent, provides information on the severe identity crisis faced by the minority group of transsexuals in Kuala Lumpur. It is hoped that these findings will encourage the public to provide advice, guidance and moral support that would enable this group of people to make positive changes that could lead them out of transsexual behaviour. for them to change their selves positively instead of accepting the transsexual people as members of society. All these efforts could save them from falling further into the transsexual world.

The findings of this research are also expected to provide input for more effective planning and better execution of counselling and psychotherapy programmes designed to aid transsexuals. Hopefully, such programmes can create awareness and a sense of comfort for transsexuals to change themselves without fear of insult and negative perception.

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Investigating the Relationship between Playing Violent Video Games and Viewing Violent TV Programmes and Aggressive Behaviour Among Pre-Teens

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ABSTRACT

This study aimed to investigate the relationship between the playing of violent video games and the viewing of violent TV programmes and aggressive behaviour among pre-teens. According to McGahee, Kemp and Tingen (2000), pre-teens referred to preadolescent children who are usually between 9 and 12 years of age. A total of 450 pre-teens aged 11 were randomly selected from nine schools in the state of Selangor, Malaysia, to participate in this study. This study employed a correlation research design and the data were analysed using both descriptive and inferential statistics to address the research objectives. The data were analysed to identify the top 10 favourite video games played by pre-teens in this study. Eight out of 10 video games played by pre-teens were found to be violent in nature. In addition, the top 10 favourite violent TV programmes viewed by pre-teens in this study were also identified. Findings from this study showed that there was a significant difference in the mean score of playing violent video games [$t(257)=6.979$, $p<0.01$] and viewing violent TV programmes [$t(440)=3.544$, $p<0.01$) between boys and girls who participated in the study. Moreover, the results from this study revealed there was a significant and positive relationship between playing violent video games ($r=0.167$, $p<0.01$), viewing violent TV programmes ($r=0.126$, $p=0.000$) and aggressive behaviour demonstrated by pre-teens. Multiple regression analysis showed that 39.4% of the variances in pre-teen physical aggression could be explained by both the playing of violent video games and the viewing of violent TV programmes, with the playing of violent video games as a stronger predictor of physical aggressive behaviour in pre-teens ($\beta=0.238$, $p=0.025$).

INTRODUCTION

Aggressive behaviour is conceptually defined as an external behaviour of a person with the intention to harm another person who does not want to be harmed (Geen, 2001). In the study of aggressive behaviour development in children, children who show aggressive acts in early childhood are linked to criminal and delinquency in later adolescence and adulthood if this tendency towards aggressive behaviour is left untreated (Christakis & Zimmerman, 2007). Mass media has been highlighting news portraying schools with badly behaved students. Recent cases of aggression in schools have gained attention in Malaysia. According to Berita Harian on 28 December, 2010, 111,484 (2.06%) students were involved in disciplinary problems in 2010. Among the reported disciplinary cases, 72,557 (65.08%) cases involved secondary school students while 38,927 (34.92%) cases involved primary school students. School students were most likely to get involved in disciplinary problems like crime (17,595 cases), truancy (19,545 cases), impolite attitude (18,346 cases), inappropriate personal grooming (21,384 cases), being late (17,808 cases), obscenity (3,031 cases), vandalism (5,212 cases) and juvenile (8,563 cases). In addition, there is an increase of youth misconduct and delinquency among Malaysian youth. According to Malaysian Youth Report (2007), there was an increase in juvenile arrests in 2006, which was a 33% jump from 1998. In 2006, among the number of criminals arrested (54,009 cases), 14.7% or 7,971 were juveniles. The arrestable offenses by juvenile delinquents included murder, rape, robbery, grievous bodily harm, theft, snatch theft and house-breaking (Baba, 2007).

To sum up, the increment trend of violent crime among juveniles in Malaysia within these few years is in an alarming state. Therefore, students should be deterred from participating in or initiating acts that will disrupt or flout school discipline. Such deterrence needs to be seriously pursued by all involved parties such as teachers, education researchers, counsellors and policy makers.

MEDIA VIOLENCE EXPOSURE

Media violence in this study referred to visual portrayals of aggressive acts delivered by one person against another (Huesmann & Taylor, 2006). Incidents of media violence exposure studied in this research were video game and TV violence exposure. Video game violence exposure referred to exposure to violent actions featured by actors in video games such as beating monsters, brutal mass killings and shooting enemies. Meanwhile, TV violence exposure referred to exposure to all violent elements that appeared on the TV screen. These included exposure through broadcasting distributed by cable and satellite systems as well as hardware such as VCD and DVD.

Based on the General Aggressive Model (GAM) developed by Anderson and Bushman (2002), media violence such as that seen in video games and TV programmes can exert both short-term and long-term effects on children's behaviour

leading to aggressiveness. This is because the exposure to sources projecting violence promotes the formation of aggressive cognition scripts, increases arousal and finally creates an aggressive affective state over time that will result in aggressive behaviour.

In line with Anderson and Bushman (2002), Coyne and Archer (2005) also stated that exposure to media violence brings negative short-term and long-term outcomes to its audience, especially children and adolescents. Short-term effects are the likelihood of behaving aggressively after watching violent television programmes and playing violent video games (Coyne & Archer, 2005). On the other hand, long-term effects are the effects of this exposure that continue from childhood, resulting in aggression in adult life that culminates in adult criminality and delinquency (Bushman & Huesmann, 2006).

In general, the aim of this study was to determine the relationship between the playing of violent video games and the viewing of violent TV programmes and aggressive behaviour among pre-teens. Independent t-test was conducted to compare the mean scores of playing violent video games and viewing violent TV programmes recorded for male and female students. The data was further examined to determine the predictors of aggressive behaviour among school children by using simple linear regression analysis.

GENERAL AGGRESSION MODEL (GAM)

The General Aggressive Model (GAM) was utilised in this study to explain the influence of media violence on the development of aggressive behaviour in children. In recent years, many researchers have endorsed a theoretical model called the General Aggressive Model (GAM: Anderson & Bushman, 2002) to study the impact of media violence on aggressive behaviour in children (Bushman & Anderson, 2002; Ferguson et al., 2008). This model integrates the existing theories of aggression such as social information processing (Crick & Dodge, 1996), Bandura's theory of social learning (1973), the script theory (Huesmann & Miller, 1994), the excitation transfer model of Zillmann (1983, as cited in Anderson & Bushman, 2002), and the cognitive neo-associationist model of Berkowitz (1994) into a broader framework.

Generally, GAM indicates the types of underlying process to examine how various inputs lead to the development of aggressive behaviour. GAM focusses on the "person in the situation," called an episode, consisting of one cycle of an ongoing social interaction. Figure 1 presents a simplified version of main foci of the model. The GAM episode processes focus on (1) person and situation inputs; (2) cognitive, affective and arousal routes through the impacts of input variables; and (3) outcomes of the underlying appraisal and decision processes.
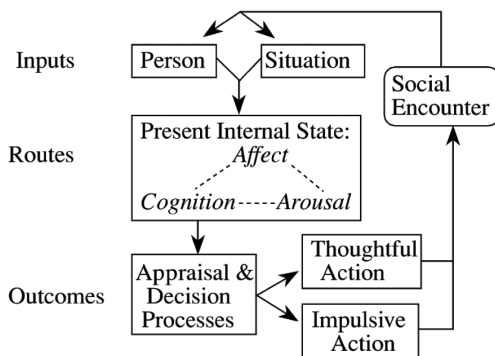
Source: Anderson & Bushman (2002, p. 34).

Fig.1: The general aggression model for episodic processes

In person and situation inputs, person factors consist of all the characteristics that a person brings to the situation such as personality traits, gender, values, attitudes, beliefs and genetic predispositions. Situation factors consist of the presence of provocation, frustration, anger, pain and discomfort or aggressive cues (Anderson & Bushman, 2002). According to Anderson and Bushman (2002), both the person factors and situation factors influence cognition such as hostile thoughts and scripts; affection like mood, emotion and expressive motor responses; and arousal state in the episode processes. As shown in Figure 1, the contents of these three routes are interconnected. Research has shown that people tend to use their affective states to guide them in inference and judgment processes (Barrett, Gross, Christensen & Benvenuto, 2001). The third focus in the episode processes is outcome which includes several complex information processes ranging from the relatively automatic to the

heavily controlled (Anderson & Bushman, 2002). As denoted in Figure 1, results from the inputs enter the appraisal and decision processes through their impacts on cognition, affection and arousal states. The outcomes of these decision processes determine the action of the episode. The final outcomes then cycle through the social encounter to become part of the inputs for the next episode.

GAM is not only concerned about episode and the present internal state, but also the past experience that a person brings to the episode. Exposing children to several violent factors, especially violent media repeatedly, increases the likelihood of the children behaving aggressively (Huesmann & Miller, 1994). GAM proposes that exposure to various violent stimuli through media such as violent television programmes, video games and computer games has both short-term and long-term effects on the development of aggressive behaviour among children. Based on GAM, children who watch more violent media tend to develop more violent scripts which have impacts on the development of aggressive behaviour problems.

SOCIAL LEARNING THEORY

Social learning theory was also utilised in this study. SLT proposed that aggressive behaviour is learned through observation or imitation of an aggressive model and maintained through positive and negative reinforcement (Bandura, 1973). According to Geen (2001), violence exposure in a child's surroundings such as school, home

and the fantasy world of violent television programmes and violent video and computer games will trigger the development of aggressive behaviour in that child. The likelihood of a child displaying aggressive behaviour is high if the child experiences rewards from his/her aggressive behaviour. Eyal and Rubin (2003) suggested that when an aggressive act of a child is repeatedly rewarded with positive outcomes such as social approval or pleasantries, the child will act in the same way again.

Bandura (1973) proposed that children did not just learn new behaviour through observation and imitation, but also made cognitive inferences according to their observations and imitations. These cognitive inferences will then lead to the generalisations in their behaviour. For instance, children who observed violence in the family are not only more likely to behave aggressively but might also have stronger beliefs that acting aggressive is acceptable. In short, the social learning theory explains the mechanisms leading to acquisition and performance of aggression, in accordance with the principles of observational learning, learning through conditioning and direct experience.

RESEARCH OBJECTIVES

Research objectives for this study are as follows.

1. To identify top 10 favourite video games played by children.

2. To identify the top 10 violent TV programmes viewed by children.

3. To determine the mean difference of playing violent video games and viewing violent TV programmes between boys and girls.

4. To determine the relationship between playing violent video games and aggressive behaviour in children.

5. To determine the relationship between viewing violent TV programmes and aggressive behaviour in children.

6. To determine the extent to which aggressive behaviour in school children can be explained by the playing of violent video games and the viewing of violent TV programmes.

METHODOLOGY

Participants

This study employed a descriptive correlation research design. A total of 450 pre-teens aged 11 were randomly selected from nine schools in Selangor State to participate in this study. The samples comprised 229 (50.9%) males and 221 (49.1%) females. Data collection involved the provision of a directly-administered questionnaire to respondents.

Instruments

Two instruments were administered to collect the research data. The first instrument was the Children Aggression Inventory (CAI) and the second was the Media Violence Exposure (MVE).

Children Aggression Inventory (CAI)

Children Aggression Inventory (CAI) was developed based on the definitions proposed by Geen (2001), Richardson and Green (2006), Ramírez and Andreu (2006), and Buss and Perry (1992) to assess aggressive behaviour in subjects. It is a self-report questionnaire that can be administered to children aged between 10 and 12. This inventory was scored based on a 3-point Likert scale. CAI consisted of 38 items from five aggression dimensions such as physical aggression, verbal aggression, indirect aggression, anger and hostility. CAI was translated into the Malay language before it was administrated to the subjects. The scale was validated by a panel of experts comprised of three local psychologists. The reliability of the CAI in this study was found to be high ($\alpha=0.90$).

Media Violence Exposure (MVE)

Violent Media Exposure (MVE) was utilised to examine the exposure to violent TV programmes and video games by the respondents. Exposure to violent video games and TV programmes was measured in four aspects: names of favourite video games and TV programme, frequency of video game playing and TV programme viewing and the violence level of the graphics and content in video games and TV programmes. The violent elements in the video games and TV programmes were then evaluated by the panel of experts from Faculty of Modern Language and Communication, Universiti Putra Malaysia (UPM) and the Entertainment Software Rating Board (ESRB). ERSB is a software rating board designed to provide concise and impartial information about the content

TABLE 1
Description of Violent Elements in Video Games

Violent Element	Description
Blood and gore	Depictions of blood or the mutilation of body parts
Cartoon violence	Violent actions involving cartoon-like situations and characters; may include violence where a character is unharmed after the action has been inflicted
Fantasy violence	Violent actions of a fantasy nature involving human or non-human characters in situations easily distinguishable from real life
Intense violence	Graphic and realistic-looking depictions of physical conflict; may involve extreme and/or realistic blood, gore, weapons and depictions of human injury and death
Language	Mild to moderate use of profanity
Lyrics	Mild references to profanity, sexuality, violence, alcohol or drug use
Sexual violence	Depictions of rape or other violent sexual acts
Strong language	Explicit and/or frequent use of profanity
Strong lyrics	Explicit and/or frequent references to profanity, sex, violence, alcohol or drug use in music.
Violence	Scenes involving aggressive conflict; may contain bloodless dismemberment
Violent references	References to violent acts

TABLE 2
Description of Violent Elements in TV Programmes

Violent Element	Description
Physical violence	Including physical force like hitting and slapping, kicking, pushing, scratching others, fighting, fighting with weapons and killing
Verbal violence	Yelling or screaming, threatening, gossip, being foul-mouthed or using coarse language, being abusive and being argumentative
Fantasy violence	Including superhero stories, adventure or fantasy (the use of magic and the supernatural) and science fiction that involve inflicting injuries or loss
Graphic violence	Portraying bloody or frightening scenes.

Source: Adapted from TV Parental Guidelines Monitoring Board

in computer and video games to consumers, especially parents so that they can make an informed decision to purchase or not to purchase the item. The violent elements in video games played were determined according to ERSB rating and descriptor guide. There are 11 violent elements in the video games evaluated by ERSB i.e. blood and gore, cartoon violence, fantasy violence, intense violence, language, lyrics, sexual violence, strong language, strong lyrics, violence and violence references. The description of these violent elements are depicted in Table 1.

Meanwhile, there were four violent elements in TV programmes viewed: physical violence, verbal violence, fantasy violence and graphic violence. The description of these violent elements are shown in Table 2.

The TV programme violence rating was then verified by the panel according to the indicators provided in Table 3.

TABLE 3
Indicators for TV Programme Violence Rating

Rating	Indicators
Very violent	Consists of large amount of violent content as given in Table 1
Violent	Consists of violent content as given in Table 1
Less violent	Consists of little violent content as given in Table 1
Not violent	Does not consist of any violent content as given in Table 1

Source: Adapted from TV Parental Guidelines Monitoring Board

The score for exposure to violent TV programmes was computed by multiplying the frequency of reported TV programme viewing with the violence rating by the respondent. After that, the mean score for the three TV programmes reported by the respondent was calculated. Accordingly, the score for exposure to violent video games for each respondent was computed. The reliability of MVE in this study was found to be high (α=0.82).

FINDINGS AND DISCUSSION

The research findings provided meaningful information on the playing of violent video games and the viewing of violent TV programmes as reported by the respondents. The following are the findings and discussions for this study.

Top 10 Favourite Video Games Reported by Respondents

The top 10 favourite video games reported by the respondents in this study aere presented in Table 4.

TABLE 4
Top 10 Favourite Video Games Reported by Respondents

Video Game	Frequency (f)	Percentage (%)
Grand Theft Auto (GTA)	67	20.55
WWE Smackdown vs. Raw 2011	51	15.64
FIFA 2011	50	15.34
Pro Evolution Soccer 2011	28	8.59
Naruto Shippuden	25	7.67
Counter Strike	24	7.36
Need for Speed: Undercover	15	4.60
Plants vs. Zombies	14	4.29
Tekken 6	12	3.68
The Sims 2	11	3.37

As shown in Table 4, Grand Theft Auto (GTA) was reported as the video game most favoured by the respondents (20.55%), followed by WWE Smackdown vs. Raw 2011 (15.64%) and FIFA 2011 (15.34%). Among the 10 video games reported by the respondents, eight were found to be violent in nature. They were Grand Theft Auto (GTA), WWE Smackdown vs. Raw 2011, Naruto Shippuden, Counter Strike, Need for Speed: Undercover, Plants vs. Zombies, Tekken 6 and The Sims 2. FIFA 2011 and Pro Evolution Soccer 2011 contained no violent element as given in Table 1. The violent ratings of the video games were conducted based on the Entertainment Software Rating Board (ESRB) ratings. From this, it may be inferred that most of the video games in the market contain violent elements. This may possess potential influence on pre-teen aggressive behaviour.

Top 10 Favourite TV Programmes with Violent Elements Reported by Respondents

The top 10 favourite TV programmes with violent elements reported by the respondents in this study aere shown in Table 5.

TABLE 5
Top 10 Favourite TV Programmes with Violent Elements Reported by Respondents

TV Programmes	Frequency (f)	Percentage (%)
Naruto Shippuden	41	26.62
WWE Raw 2011	16	10.39
Ben 10	16	10.39
Masked Rider Ryuki	13	8.44
Kamen Rider: Dragon Knight	11	7.14
The Adventures of Jimmy Neutron: Boy Genius	8	5.19
Bleach	7	4.55
El Tigre	7	4.55
One Piece	6	3.89
Ultraman Mebius	6	3.89

A total of 131 respondents (34.44%) reported that they watched at least one violent TV programme in the week. As shown in Table 4, Naruto Shippuden was the favourite violent TV programme among the respondents (26.62%), followed by WWE Raw 2011 (10.39%), Ben 10 (10.39%), Masked Rider Ryuki (8.44%), Kamen Rider: Dragon Knight (7.14%), The Adventures of Jimmy Neutron: Boy Genius (5.19%), Bleach (4.55%), El Tigre (4.55%), One Piece (3.89%) and Ultraman Mebius (3.89%). The violent ratings of the TV programmes were conducted based on the expert panellists' ratings.

Gender Differences in the Playing of Violent Video Games and the Viewing of Violent TV programmes

Gender differences in the playing of violent video games

Results as shown in Table 6 indicated that there was a significant difference ($t(257)=6.979$, $p<0.01$) in the mean scores for playing violent video games between boys (M=29.784, SD=34.997) and girls (M=10.551, SD=12.718) who participated in this study. An inspection of the two means

suggested that the boys were more exposed to violent video games than the girls. This is consistent with the findings from past studies which reported that boys played more and preferred more violent video games than girls (Funk, Baldacci, Pasold & Baumgardner, 2004). Besides this, the boys were found to spend more time on playing violent video games than the girls in this study. This is parallel with the findings from previous studies which reported that boys spent more time playing video games than girls (Hastings, *et al.*, 2009). Since the eta-squared value obtained (η^2=0.12) in this study portrayed a medium-sized effect, this indicated that the difference in playing violent video games between boys and girls was medium.

Gender differences in TV programme viewing

According to the results in Table 6, there was a significant difference in the mean score of the viewing of violent TV programmes between the boys (M=6.45, SD=4.61) and the girls (M=5.02, SD=3.89) with $t(440)$=3.544 and $p<0.01$. Inspection of the two means revealed that the boys were more

TABLE 6
T-test on Playing Violent Video Games and Viewing Violent TV programmes Between Boys and Girls

Variable	Gender	N	*M*	*SD*	t value (2-tailed)	Sig. (*p* value)	η^2
Playing violent video games	Boys	192	29.784	34.997	6.979	0.000	0.12
	Girls	134	10.551	12.718			
Viewing violent TV programmes	Boys	229	6.45	4.61	3.544	0.000	0.03
	Girls	221	5.02	3.89			

Note: Levene test indicates that the *p* value of equal variances not assumed was used; *M*=Mean; *SD*=Standard Deviation; Sig.=Significance; η^2=eta-squared.

likely to watch violent TV programmes than the girls. The eta-squared value obtained ($\eta^2=0.03$) in the study was considered to be small. It suggested that the mean difference in viewing violent TV programmes between the boys and the girls was rather small. Although the difference between males and females in watching violent TV programmes was small, this finding implied that the boys were more exposed to violent TV programmes compared to the girls. This result was parallel with previous findings which suggested that the boys were more likely to report exposure to violent TV programme than girls (Gentile, Linder & Walsh, 2003).

Relationship between Playing Violent Video Games, Viewing Violent TV Programmes and Aggressive Behaviour

Pearson Correlation was employed to examine the relationship between playing violent video games, viewing violent TV programmes and aggressive behaviour in children. The results as given in Table 7 indicated significant relationships between playing violent video games ($r=0.167$, $p<0.01$), viewing violent TV programmes ($r=0.126$, $p<0.05$) and aggressive behaviour.

TABLE 7
Correlations Between Playing Violent Video Games, Viewing Violent TV programmes and Aggressive Behaviour

Aggression	Playing violent video games r	Viewing violent TV programmes r
Aggression	0.167**	0.126*
Physical	0.319**	0.214**
Verbal	0.098	0.107

cont'd Table 7

Indirect	0.079	0.039
Hostility	0.014	0.008
Anger	0.076	0.047

Note: *$p<0.05$, **$p<0.01$

Relationship between playing violent video games and aggressive behaviour in children

Based on Cohen's (1988) guideline, there was a positive relationship between violent video game playing and aggressive behaviour ($r=0.167$, $p<0.01$). Among the five constructs of aggression, only physical aggression correlated significantly with playing violent video games. The results were incongruent with previous studies, showing that playing violent video games was positively correlated with physical aggression in children (Möller & Krahé, 2009).

This finding indicated that the more pre-teens were exposed to violent video games, the greater the likelihood that they would behave aggressively. This finding was in line with the findings of studies conducted by Barlett and Rodeheffer (2009), Slater, Henry, Swaim and Anderson (2003), Anderson *et al*. (2003), Funk, *et al*. (2004), Bartholow, Sestir, and Davis (2005), Dill & Dill (1998), Richmond and Clare (2008), Anderson and Bushman (2001), Boxer, Huesman, Bushman, O'Brien, and Moceri (2009), Bushman and Anderson (2002), Krcmar and Lachlan (2009), Gentile, Mathieson and Crick (2010), Ivory and Kalyanaraman (2007), Anderson and Dill (2000), Bartholow and Anderson (2002) and Krahé and Möller (2010). It can be

concluded that exposure to media violence especially violence portrayed in video games was associated with aggressive behaviour among pre-teens.

In sum, the present findings supported previous research which suggested that the exposure to violent video games would increase the likelihood of aggressive behaviour among pre-teens.

Relationship between viewing violent TV programmes and aggressive behaviour in children

The findings of this study revealed a slight but positive linear relationship between exposure to violence in TV programmes and aggressive behaviour ($r=0.126$, $p<0.05$). This finding indicated that the more pre-teens were exposed to violent TV programmes, the more likely they were to behave aggressively. Among the five constructs of aggression, only physical aggression correlated significantly with the viewing of violent TV programmes.

These results were supported and were in line with findings by Anderson *et al*. (2003), Kronenberger *et al*. (2005), Krahé and Möller (2010), Bushman and Anderson (2001), Gentile, Linder, and Walsh (2003), Buchanan, Gentile, Nelson, Walsh, & Hensel (2002), Mitrofan, Paul and Spencer (2008), Murray (2008), Hastings *et al*. (2009), Chory (2010), Felson (1996), Feshbach and Tangney (2008), Bushman and Huesmann (2006), Huesmann *et al*. (2003), and Christakis and Zimmerman (2007). In addition, Comstock (2008) concluded that pre-teens were particularly susceptible to

the influence of television violence, and the greater the exposure to violent portrayals, the greater the likelihood of engaging in aggressive or antisocial behaviour.

Thus, the research findings of this study provide evidence that exposure to violence in TV programmes is associated with aggressive behaviour among pre-teens. The more pre-teens are exposed to violent TV programmes, the greater the likelihood that they will display aggressive acts.

In sum, the evidences from this study support the idea that children who are exposed to media violence specifically through video games (Anderson & Bushman, 2002; Dill & Dill, 1998; Polman, de Castro & van Aken, 2008; Bartholow and Anderson, 2002; Möller & Krahé, 2009) and TV programmes (Geen, 2001; Krahé & Möller, 2010; Bushman & Huesmann, 2006; Anderson, *et al*., 2003; Chory, 2010; Christakis & Zimmerman, 2007; Huesmann *et al*., 2003) tend to engage in aggressive behaviour. According to Anderson *et al*. (2003), exposure to media violence has short-term effects on aggressive acts by priming aggressive thoughts, increasing physiological arousal and triggering an automatic tendency to imitate observed behaviours especially among children and pre-teens.

Predictors of Aggressive Behaviour

To determine the best set of predictor variables in predicting physical aggressive behaviour, multiple regression using the enter method was utilised. Analysis showed that both the playing of violent video games

(t=2.252, p=0.025) and the viewing of violent TV programmes (t=0.837, p=0.043) were found to be significant in explaining physical aggressive behaviour. The findings are reported in Table 8.

TABLE 8
Estimates of Coefficients for the Physical Aggression Model (Enter Method)

Aggressive Behaviour	Beta (Standardised Coefficients)	t	p-value
Constant		30.288	0.000
Playing violent video games	0.238	2.252	0.025
Viewing violent TV programmes	0.079	0.837	0.043

Note: R= 0.394; R^2=0.155; Adj.R^2=0.144, F=14.659, p=0.000

The results given in Table 8 showed that the best predictor of pre-teen aggressive behaviour was the playing of violent video games (β=0.238, t=2.252, p=0.025), followed by the viewing of violent TV programmes (β=0.079, t=0.837, p=0.043). Playong violent video games was the strongest significant predictor explaining the physical aggression since the variance explained by other predictor variables in the model was controlled. It was suggested that one standard deviation increase in the playing of violent video games was followed by 0.238 increase in physical aggressive behaviour. On the other hand, the beta value for viewing violent TV programmes was 0.079. It implied that one standard deviation increase in the viewing of violent TV programmes was followed by 0.079

standard deviation increase in aggressive behaviour. The R-squared of 0.155 implied that the two predictor variables explained about 15.50% of the variance in physical aggressive behaviour demonstrated by children. These findings showed that both the playing of violent video games and the viewing of violent TV programmes play important roles in the understanding of behavioural problems displayed by pre-teens with attention to physical aggression.

CONCLUSION

The findings of this study added novelties to the growing literature regarding the effects of playing violent video games and viewing violent TV programmes on pre-teen physical aggression. Furthermore, this study identified a list of violent video games played and TV programmes viewed by pre-teens in Malaysia. The majority of the video games reported by pre-teens were violent in nature. With respect to the relationship between playing violent video games, viewing violent TV programmes and aggressive behaviour, playing violent video games and viewing violent TV programmes were positively related to pre-teen physical aggressive behaviour.

Considering early emergence of behavioural problems among youths nowadays, it is crucial to identify the salient factors that contribute to pre-teen behavioural problems in the early years. This study provides important information to students, parents, teachers, institutions of education, education policy makers and researchers in the field of Education,

Psychology, Counselling and Guidance and Mental Health as well as the Department of Social Welfare in order that holistic strategic measures may be implemented to keep youth aggression at bay. Intervention programmes curbing aggressive behaviour among pre-teens by incorporating controls in the playing of violent video games and the viewing of violent TV programmes is highly recommended.

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Religiosity Among Muslim Adolescents According to Gender and School Type

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ABSTRACT

This paper aims to present a preliminary picture of the first stage of an ongoing study on religiosity, spirituality and positive youth development among Muslim high-school students. The sample studied consisted of 895 students who attended secondary schools in the greater Kuala Lumpur region in Malaysia. The Exploratory factor analysis yielded an eight-factor solution with moderate-to-high internal consistency. The results of the statistical analyses indicated that Muslim female and male students scored significantly differently in these eight factors. When comparing the type of secondary schools attended, significant mean differences in students' scores were also observed. Although these results are based on preliminary analysis, they underline important areas for future research on religiosity, spirituality and positive development among Muslim youth.

Keywords: Muslim youth, spirituality, religiosity, youth development

INTRODUCTION

Religious and spiritual beliefs yield positive impact on a wide range of behavioural outcomes among youth (Lutz, Slagter, Rawling, Francias, Greischar, & Davidson, 2009; Templeton & Eccles, 2006; Benson, Scale, Sesma & Roehlkepartain, 2005; Dowling, Gestsdottir, Anderson, von Eye,

Almergi & Lerner, 2004). More specifically, some authors have found that religious and spiritual beliefs have a buffering effect against risk behaviours and a fostering effect on positive development and pro-social behaviours (Krauss *et al*., 2012; Wagener, Furrow, King, Leffert & Benson, 2003; Donahue & Benson, 1995).

Nevertheless, the research on spirituality, religiosity and positive youth development remains limited; to a great extent a "Western Judeo-Christian" framework that focuses on a general conceptualisation of spirituality

(Wilde & Joseph, 1997; Ghorbani *et al*., 2000; Lippman & McIntosh, 2010) forms the base framework for existing research. Thus, authors have underlined the need for measurements and scales for religiosity and spirituality that reflect the understanding or perception of religion and spirituality of Muslim populations and/or youth (Amer & Hood, 2007; Krauss, Hamzah, Suandi, Noah, *et al*., 2006; Krauss, Hamzah, Suandi, Noah, *et al*., 2005). Earlier studies have also pointed out the importance of using research-based concepts and measurements of religiosity and spirituality relevant to non-Judeo-Christian faiths (Amer & Hood, 2007; Ghorbani *et al*., 2000; Wilde & Joseph, 1997).

In order to address this gap, Azimi and colleagues (2007) proposed a Muslim Religiosity Measurement Model which defines religiosity as two main constructs that reflect the Islamic perspective, namely, "Islamic Worldview" and "Religious personality". Based on these constructs, they developed the Muslim Religiosity Personality Inventory (MRPI) (Azimi *et al*., 2007; Krauss, *et al*., 2006; Krauss, *et al*., 2005).

An in-depth review of the local literature revealed two known studies in Malaysia that have looked at religiosity and spirituality among Muslim youth; one was carried out using a sample of university students (Imam *et al*., 2009) and the other consisted of a cluster sampling approach that included youth from six different social strata: IPTA students' political party members, youth organisation members, factory workers; youth at-large and youth in drug rehabilitation centres (*pusat serenti*) (Krauss, *et al*., 2006). In addition, a third recently completed study carried out by Krauss, Ismail, Suandi, Hamzah, *et al*. at the Institute for Social Science Studies (Universiti Putra Malaysia), explored religiosity correlates among high-school (Form 4) students in the Klang Valley. This study is the basis of this paper. The objective of this paper is to explore the underlying factor structure of the items used to measure religiosity and to examine potential differences in the mean scores in terms of gender and type of school attended. The MRPI was initially developed as a Muslim religiosity measure for young people (Azimi *et al*., 2007). However, as previously reported versions of the MRPI have exclusively been used with older samples of youth (see Azimi *et al*., 2007; Krauss *et al*., 2006), the factor structure for younger Muslims in Malaysia remains unexplored. This study, therefore, aims to explore and document the factor structure of the revised MRPI instrument (Krauss *et al*., 2012) for younger Malaysians.

METHODS

A cross-sectional study that examined spiritual intelligence and religiosity among Muslim youth and their relationship with positive (i.e. prosocial and thriving behaviours) and negative (risk behaviours) developmental outcomes provided the data used for this paper. After approval from the Malaysian Ministry of Education, questionnaires were distributed to 16 public

secondary schools located in the Klang Valley. The sample drawn was from both national (SMK)[1] and religious secondary schools (SMA)[2].

Sample

The study sample consisted of 16- and 17-year-old students. The research team used a purposive sample consisting of groups of at least 50 students with diverse academic performance levels and an equal mix of females and males from each of the participating schools. The total sample consisted of 895 Form 4 students, of whom 66.5% were from national secondary schools and 33.5% from religious schools. The majority of the students participating (98.1%) were Malay, and 50.3 % of the sample were females. Table 1 summarises the demographic characteristics of the sample.

Measures

Although the questionnaire included multiple measures, this paper focuses only on the Islamic religiosity measures. Islamic religiosity was measured using the Muslim Religiosity Personality Inventory (MRPI) (Krauss *et al.*, 2006), which consists of items measuring religious worldview according to the creed (*aqidah*) of traditional Sunni Islam, and behaviours in line with Islamic teachings that reflect that worldview. Example items include: "All human activities must be done for the sake of Allah"; "Allah swt will not forgive people who commit sins intentionally"; "I make an effort to understand Islamic law"; "I

invite others to perform obligatory prayers (*solat*)"; "I respect other people's opinions"; and "I do not neglect my friend's dignity".

Participants indicated their level of agreement with the statements on a 6-point Likert-like scale. The psychometric properties of the MRPI are provided elsewhere (Krauss, *et al.*, 2006). The questionnaire used both English and Malay for all items on it.

Data analysis

Descriptive statistics and principal component analysis (PCA) were conducted using SPSS v. 16.0 (SPSS Inc., Chicago, IL, USA). Cronbach alpha and inter-item correlations assessed the psychometric evaluation of the resulting sub-scales. T-test was used to explore possible differences in terms of participants' scores on the resulting sub-scales based on gender and type of school they attended.

RESULTS

Table 1 summarises the demographic characteristics of the sample. In terms of age and ethnicity there was not much variation, as the sample was rather homogeneous: 93.5% of the sample were 16 years old and 98.1% of the participants indicated that they were Malay. Most of the participating students (75.7%) reported to have both parents at home, and 20.7% of the students indicated that their monthly family income was between RM1001 and RM2000, while 22.9% reported their monthly family income as being more than RM5000.

TABLE 1
Demographic Characteristics

	N	%		N	%		N	%
Gender			Age			Monthly family income		
Female	450	50.3	16 years old	837	93.5	Less than RM500	17	2.3
Male	445	49.7	17 years old	58	6.5	RM501- RM1000	125	17.2
Total	895		Total	895		RM1001-RM2000	150	20.7
Ethnicity			Family structure			RM2001- RM3000	97	13.4
Malay	878	98.1	Parents not at home	63	7.4	RM3001- RM4000	71	9.8
Chinese	5	.6	Parents at home	614	72.5	RM4001- RM5000	100	13.8
Indian	4	.4	Only mother at home	148	17.5	More than RM5000	166	22.9
Other	8	.9	Only father at home	22	2.6	Total	726	Total
Total	895		Total	847				

This study utilises the Principal Component Analysis (PCA) to explore the underlying factor structure of the MRPI. Following Ferguson and Cox's, (1993) and Field's (2002, 2009) recommended procedures for Exploratory Factor Analysis (EFA), a 'pre-analysis check' was carried out to make sure that the criteria to conduct a PCA were met. The sample size of the study was 895, and all 48 Islamic religiosity items had neither skew and/or kurtosis coefficients exceeding the $\pm 2.0^3$ range (Muthén & Kaplan, 1985). The Kaiser-Meyer-Olkin (KMO=.92) test confirmed the sampling adequacy for the analysis, and that all KMO values for the individual items were well above the accepted limit of .5 (Field, 2009). In addition, Bartlett's Test of Sphericity (χ^2 (1128) = 11242.168 p. <.001.) indicated that the correlations between items were large enough for PCA (Field, 2009).

The PCA with oblique rotation (direct oblimin) yielded a 22-factor solution. After extracting the items that did not load on any of the factors and/or deleting factors with only one item, it was found that the solution revealed a 10-factor structure with a minimum item-factor loading of .40; KMO=.904, and Bartlett's Test of Sphericity (7800) =.00084 p<.05. Based on the internal consistency and reliability tests, two factors were dropped. Table 2 summarises the internal consistency reliability coefficients (Cronbach's alpha) for the remaining eight factors. Names were given to the factors based on the meaning of their constituent elements; factor 1 was named Striving; factor 2: Universality; factor 3: Integrity; factor 4: Respect; factor 5: Surrendering; factor 6: Trust; factor 7: Humility; and factor 8: Practical Spiritual Consciousness.

Although Cronbach's α (alpha) coefficients for the Universality and Humility sub-scales were lower than .7, their corrected item-total correlations were above r.3, which indicates an acceptable internal consistency. Similarly, the inter-item-correlations for factors with only two items, Respect, Surrendering and Trust, were also greater than 0.3, indicating a

TABLE 2
Component Correlations and Psychometric Properties

	1	2	3	4	5	6	7	8	No. items	Mean	SD	Reliability
1 Striving									7	29.78	6.59	α.90
2 Universality	.13**								3	13.93	3.46	α.59
3 Integrity	.34**	.16**							3	12.68	3.06	α.80
4 Respect	.33**	.13**	.48**						2	9.66	1.91	r .40
5 Surrendering	.27**	.20**	.21**	.21**					2	10.16	2.01	r .45
6 Trust	.55**	.12**	.31**	.34**	.23**				2	9.89	1.84	r .53
7 Humility	.43**	.16**	.58**	.41**	.22**	.35**			3	13.38	2.86	α.63
8 Practical Spiritual Consciousness	.78**	.14**	.32**	.28**	.24**	.57**	.40**		3	11.90	3.09	α.72

** 0.01 level (2-tailed). Listwise N=891

moderate consistency of these factors. The associations between the resulting factors were assessed using a correlation analysis.

As observed in Table 3, the results indicate a significantly high association between the Striving and Practical Spiritual Consciousness factors (r.78, p<.05) while significantly low associations were found between Universality and Striving (r.13, p<.05), Universality and Integrity (r.16, p<.05), Universality and Respect (r.16, p<.05), Universality and Trust (r.12, p<.05) and Universality and Humility (r.16, p< .05).

Independent T-tests assessed the mean differences between female and male students and between students from religious schools and national schools. Tables 3 and 4 present the descriptive statistics for the factors by type of school and by gender respectively.

The results show that overall, female students scored significantly higher than male students on Universality (t (893) =4.13, p<.05); Integrity (t (891) 2.47, p<.05); Respect (t (854.16)4.44, p<.05); Trust (t (891)3.66, p<.05); and Humility (t (891) 2.10, p<.05); while male students scored higher on Practical Spiritual Consciousness (t (891)-2.71, p<.05). However, there were no significant gender differences found for Striving and Surrendering.

The results indicated that on average, students from religious schools scored significantly higher on all factors in comparison to students from national schools. More specifically, students from religious schools scored higher on Striving (t (686.24) 7.39, p<.05); Universality (t (746.77) 12.90; p<.05); Integrity (t (761.49) 5.09 p<.05); Respect (t (702.4) 2.93, p<.05); Surrendering (t (742.28) 8.61, p<.05),

TABLE 3
Descriptive & Mean Differences by Gender

Factors	Female				Male				t	df	Sig
	N	Mean	SD	S E	N	Mean	SD	S E			
Striving	450	29.43	6.64	.31	443	29.70	6.82	.32	-.59	891	NS
Universality	450	14.36	3.17	.15	445	13.44	3.52	.17	4.13	893	<.05
Integrity	450	13.13	2.88	.14	443	12.63	3.12	.15	2.47	891	<.05
Respect	450	9.92	1.72	.08	443	9.35	2.09	.10	4.44	854.16	<.05
Surrendering	450	10.18	2.04	.10	443	9.96	2.20	.10	1.52	891	NS
Trust	450	10.08	1.70	.08	443	9.62	1.98	.09	3.66	868.02	<.05
Humility	450	13.52	2.83	.13	443	13.12	2.97	.14	2.10	891	<.05
Practical spirituality consciousness	450	11.53	3.15	.15	443	12.10	3.12	.15	-2.71	891	<.05

TABLE 4
Descriptive & Mean Differences by School Type

Factors	SMA (religious schools)				SMK (National school)				T-test for equality of Means		
	N	Mean	SD	S E	N	Mean	SD	S E	t	df	Sig
Striving	300	31.73	5.90	.34	593	28.47	6.86	.28	7.39	686.24)	<.05
Universality	300	15.66	2.61	.15	595	13.02	3.37	.14	12.90	746.77	<.05
Integrity	300	13.53	2.43	.14	593	12.55	3.21	.13	5.09	761.49	<.05
Respect	300	9.89	1.70	.10	593	9.51	2.03	.08	2.93	702.4	<.05
Surrendering	300	10.84	1.72	.10	593	9.68	2.20	.09	8.61	742.28	<.05
Trust	300	10.12	1.61	.09	593	9.72	1.96	.08	3.30	712.82	<.05
Humility	300	14.13	2.47	.14	593	12.91	3.02	.12	6.48	716.13	<.05
Practical spirituality consciousness	300	13.17	2.53	.15	593	11.13	3.21	.13	10.37	738.09	<.05

Trust (t (712.82) 3.30, p<.05); Humility (t (716.13) 6.48, p<.05); and Practical Spiritual Consciousness (t (738.09) 10.37, p<.05).

CONCLUSION

A current study being carried out by Krauss, Ismail, Suandi, Hamzah, *et al*., at the Institute for Social Science Studies (Universiti Putra Malaysia) forms the basis of this paper. The aims of the present paper were to explore the factor structure of the items used to measure religiosity among Muslim youth and to examine potential differences in religiosity among Muslim youth in terms of gender and type of school attended (e.g. national and religious schools).

The exploratory factor analysis yielded an eight-factor solution with moderate to high internal consistency. The resulting

factors were named: Striving; Universality; Integrity; Respect; Surrendering; Trust; Humility; and Practical Spiritual Consciousness. The correlation analysis found very low associations between Universality and a few other factors, with one particularly high association between Striving and Practical Spiritual Consciousness. Due to the descriptive nature of this paper, these associations were not explored further, but future studies will look more closely into the possible explanations and implications of these associations.

The results from the Independent t-tests showed that Muslim students attending religious schools scored significantly higher on all 8 factors in comparison to Muslim students from national schools. Although these results might be in line with anecdotal data, to the authors' knowledge, no published empirical studies exist that look specifically at differences in terms of spirituality, religiosity and/or religious personality between 'secular' and religious schools. Thus, there is a need to further explore these differences and their implication for positive Muslim youth development.

Results from the independent t-tests also indicated significant gender differences in terms of religiosity among students participating in the study. These findings are in line with many previous studies, despite the fact that most of them used the "Western, Judeo-Christian" theological framework. However, the results presented here specifically showed that Muslim female students scored significantly higher than Muslim male students on factors such as Universality, Integrity, Respect, Trust and Humility while male students scored higher on Practical Spiritual Consciousness. Thus, these differences might not be indicative that Muslim female students exhibit more spiritual and religious dispositions and/or patterns of religiosity than Muslim male students, but rather that Muslim female and male students differ in terms of the way they internalise and express their religious and spiritual learning and views.

These results, although based on preliminary statistical analysis, highlight important areas for future research on religiosity, spirituality and positive development among Muslim youth, and emphasise the importance of using diverse samples to enhance the validity of existing measurements.

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Malaysian Women and Their Role as the Sandwiched Generation

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ABSTRACT

Women have been playing the role of caregiver in their families for generations. However, the traditional role of women as caregivers of the family, specifically as a mother and wife, is now being expanded to include caregiving for their elderly parents. The longer life expectancy of the older generation and delayed marriage are putting women in a situation where they are sandwiched between their role as wife and mother of growing-up children and their role as daughter on whom their parents depend in their old age. Based on a study of 150 women respondents working in the banking sector, this paper will focus on the roles of the sandwiched generation. Data were collected via purposive sampling by identifying women staff in selected banks; these women fulfilled the criteria of being married and having living parents. The paper will discuss issues encountered by these women, all whom reside in urban areas in Kuala Lumpur, who are sandwiched between their roles as mother, wife, employee and caregiver to the elderly. What are the problems they face in performing their many and often conflicting roles and what are their coping mechanisms when the roles come into conflict with one another? The main research question in this study is whether the women find the additional role of caregiver to the elderly an added burden causing added conflict beyond that caused by their already conflicting roles as mother, wife and employee. This study also seeks to identify the support systems in place or required to alleviate the problems encountered by these women.

Keywords: Caregivers, sandwiched generation, women

INTRODUCTION

Women have long played the role of caregiver. Since prehistoric times, women have been entrusted with the caring and nurturing of their families while men have

traditionally been the breadwinner of the family. This situation can still be seen in many traditional societies where women tend to the home and the men go out to work. However, the scenario has changed in many developing societies, with women now also playing the role of income earner. In Malaysia, for example, more than a third of the workforce are women. This is due to the increasing role of industrialisation in the process of development in the 70s, which led to many women joining the workforce. Women's roles at home and at work are equally important in developing the family as well as the country. Balancing life chores is a hectic endeavour for many women, particularly those who have children and are working full-time. When women have to take on the added burden of providing care for ageing parents or relatives, life becomes even more hectic for them. Today, there are also men who find themselves in this situation. These men and women, who find themselves trapped in a new worldwide phenomenon, are termed 'the Sandwiched Generation'. In the specific case of women, this generation usually arises from the combined trends of delayed childbirth, delayed financial independence of children and the increasing life expectancy of the older generation. Hence, the role of these women has expanded to include being caregivers to two generations. However, the conflict arising from the clash between their previous roles, as discussed in the literature, has yet to be resolved.

According to Raphael and Schlesinger (1994), the term 'the Sandwiched Generation' was first coined by sociologist Dorothy Miller in 1981, and refers to the disproportion between generations in terms of substituting resources and support. In other words, the Sandwiched Generation refers to a family member who has commitments in raising children and simultaneously provides care-giving support for elderly parents. They are in between depending children and ageing parents, with commitments and responsibilities to both. Hence, these women are sandwiched between their traditional roles and the role of employee.

A report by the Social Issues Research Centre United Kingdom in 2009 stated that young people today got married much later than their counterparts of the middle of the twentieth century did. More people today delay marriage until their late twenties or early thirties, and consequently, delay having children, resulting in having fewer children. At the same time, the pattern of population ageing has changed as a result of increasing longevity and declining fertility. This trend is observable in developed and developing countries alike, where many women whether they are working or not, are delaying marriage or not do not get married at all.

The increasing number of people who get married relatively late in life gives rise to a new trend of care giving, which is caring for young children and ageing parents. When couples choose to have children late, they can also be squeezed into the population of the Sandwiched Generation. They will end up being 'sandwiched' between the

responsibilities of caring for their young children and for an older relative/relatives simultaneously.

The term, 'Sandwiched Generation' is widely known internationally, especially in Western countries. For example, in the United States there are many organisations that function as information support centres for Americans who are of the Sandwiched Generation. The Sandwich Generation Resource Centre in America stated that the Sandwiched Generation, or 'SandGen', as a phenomenon has been apparent in the US for the past 20 years. The Merriam-Webster Dictionary added the term in its body of definitions in July 2006, providing this definition for the term: 'a generation of people who are caring for their aging parents while supporting their own children'.

In Australia, the term has been widely known since the baby-boomers era after World War II. Baby boomers, who are now mostly in their 50s to 70s are the ones who carry the double burden of caring for the both young and older generations (Carson and Kerr, 2003). The young generation in Australia is caught in delayed independence while the older generation is facing growing dependency on family members. (Andrew P, 2007). A study on social stratification and orientations in Singapore by Tan (2001) states that the Sandwiched Generation poses a problem for society. An individual in Singapore becomes part of the Sandwiched Generation when he or she experiences a high degree of difficulty in providing financial support for both children and ageing parents. In Malaysia, the young

generations has been confronted with this phenomenon for a long time; cultural and religious factors have made this the norm i.e. to take on the responsibility of caring for young children and ageing parents at the same time. The term, 'Sandwiched Generation' is terminologically unknown to many Malaysians although the different ethnic groups have been practising this lifestyle for a long time. The Malays, Chinese and Indians have traditionally been tied to the responsibility of caring for their elderly parents at the same time as having to care for their young children. It is important to highlight the term 'Sandwiched Generation' within Malaysian society so that every member of this generation will be aware that his or her situation does not arise from cultural, religious or traditional responsibilities only, but is also a common phenomenon that is occurring worldwide. The term is also a very important determinant of future populations, especially when the generation has to cope with higher costs of living, as they have to support children and the elderly.

LITERATURE REVIEW

Ageing has become a global phenomenon as a result of increasing longevity and declining fertility, due to better diets, improvement in medical facilities and awareness of healthy lifestyles. All countries are experiencing a tremendous growth in the population of elderly people; this will have an impact on many aspects of the family and society. Despite the fact that people are living longer and healthier lives, the size of the younger

generation is decreasing significantly. The reasons for this phenomenon are similar throughout the world, and they are the general trend of late marriages or non-marriage, divorces, low fertility, increased longevity and migration (Narender & Kamlesh, 2008).

The United States of America, the third largest nation in the world, is also experiencing the rapid growth of an ageing population. Hewitt (2001) stated that fertility replacement levels in the US have dropped drastically from 3.7 per woman in 1960 to 2.0 in 2000. The necessary rate for populations to replace themselves is 2.1. The rates have also fallen below the crucial rate in all developed countries over the past four decades. The United Kingdom and France share the same poor 1.7 fertility replacement rate at the beginning of the twenty-first century, Canada is at 1.6, and

in Germany, Italy, Japan and in 47 other European countries, the rate has declined to under 1.3 (Hewitt, 2001).

The ageing of population is also becoming a common phenomenon for many developed and developing nations in Asia. The table below shows the trend of ageing populations in several countries in Asia:

The total population of Malaysia, presently, is approximately 27 million and the projected annual growth is 2%. By 2020, the country's population is expected to reach nearly 34 million. Although the Malaysian population is still not considered an ageing society in Asia, the numbers making up the elderly population have recorded a steady increase since the early 1990s. A census taken in projected that the Malaysian society would qualify as an ageing society by 2035, when the population size of people aged 60 and over would reach 15% of the total

TABLE 1
Increase and Projected Increase in Number of Elderly Throughout the Region, 1950-2025

Country Year	Number of Elderly ('000)			
	1950	1975	2007	2025
Asia	49,759.3	100,852.2	198,963.9	354,139.5
Cambodia	197.4	330.7	856.2	1,706.5
Fiji	13.0	25.8	58.4	114.5
Indonesia	4,953.5	7,254.0	19,486.3	34,592.3
India	20,098.2	38,489.0	92,438.5	168,145.5
Iran	1,396.0	1,831.0	4,667.9	9,748.9
Japan	6,437.0	13,048.0	35,822.8	43,992.8
Philippines	1,104.3	2,079.5	5,406.4	11,268.3
RO China	41,572.2	64,334.8	152,064.7	289,984.7
Singapore	38.2	151.5	597.3	1,600.0
Sri Lanka	572.3	859.9	2,357.2	4,292.3
Thailand	991.0	2,072.0	7,187.0	13,957.8

Adapted from Narander K. C and Kamlesh P., 2008.

population. Findings from the Department of Statistics' 2000 Census reveal an increase in the percentage of the elderly from 5.9% in 1991 to 6.2% (about 1.5 million) in 2000. This is a clear indication that demographic ageing is taking shape in Malaysia. The census also projected that by 2020 the percentage of the elderly would increase to 9.5%, which is equivalent to 3.2 million people. Table 2 shows the number of the elderly in relation to the total population according to the Department of Statistics Malaysia.

Most countries have begun to realise the impact of the world trend of ageing populations and its effect on existing resources. It is promising to note that globally, the ageing population is getting more attention. In Malaysia, the National Policy for the Elderly formulated in 1995, the setting up of the National Advisory and Consultative Council of the Elderly in 1996 and the National Action Plan for Older Persons in 1998 shows the serious commitment by the government to provide care and services for the nation's elderly. The Department of Social Welfare also plays a major role as the focal point for all issues related to ageing. It is also assuring to note that NGOs, voluntary organisations, the private sector, social support groups and the community are equally committed to supporting the well-being of the elderly.

THE MULTIPLE ROLES OF WOMEN IN MALAYSIA

Earlier social research on women's roles tended to focus on the roles of women as wife, mother of young children and employee. According to Anita Shreve, who wrote an article entitled *Career and the Lure of Motherhood* for New York Times Magazine in 1982, women in today's labour market must be able to juggle the roles of mother, wife and career-woman. Contemporary women have to juggle multiple roles simultaneously without the support of their extended families. The roles of mother, wife and employee are the basic and common roles that contemporary women play. In addition, women now must pick up the burden of care-giving to elderly parents as well. As the help of extended family is not available, contemporary women have to juggle the demands that arise from the family domain and the workplace with the additional demands of caring for their elderly parents.

The role-juggling that befalls the contemporary woman is contrary to the traditional roles played by women decades ago. Even though 'traditional women' juggled multiple roles of mother, wife, daughter and worker , either in the paddy field, rubber estate or other traditional village workplace, they did not experience the same level of burden that contemporary

TABLE 2
Total Population and Number of Elderly in Malaysia, 1991-2025

Year	1991	1995	2000	2005	2008	2010	2015	2020	2025	2030
Total population (millions)	18.4	20.1	23.3	26.1	27.7	28.9	31.8	34.9	38.0	41.1
Number of elderly (60+)	1.1	1.2	1.5	1.7	1.9	2.1	2.7	3.4	4.2	4.9

women today do. This is because they lived within the extended family system. These conditions made it easier and less complicated for traditional women to do their job, as they were not forced to neglect their responsibilities towards their families.

Generally, there are four types of roles played by contemporary Malaysian women. However, the discussion will only focus on their roles in the domestic circle and will not consider their social roles as members of the community etc. This will cover roles that women take on as primary caregiver to elderly parents, as wife, mother and finally, as employee.

Women as Primary Caregivers to Elderly Parents

Providing care and financial support for the elderly are the general responsibility of the family in Malaysia, which is typical of Asian culture. Children are expected to be filial and take up the responsibility of caring for elderly parents; this is assumed to be part of the duty that one needs to fulfil in life. Generally, both ageing parents and their adult children are aware of this responsibility that society expects from adult children.

Until recently, it was not unusual to find three generations living in one household, with the primary care-giving done by a middle-aged woman in one home (Cara, 2004). According to Noraini (2006), women have always been the prime caregivers in the family and the care-giving responsibilities of women have no limit within the circle of their families; this includes providing care

for husband, children and elderly parents and, in certain cases, also for siblings and other relatives.

Montgomery and Kamo (1989) found that 80% of adult children who provide care for their elderly parents are daughters and the remaining 20% are sons. This may be because the sense of responsibility towards elderly parents is felt more keenly by daughters than by sons, and women tend to play the role of nurturer more often as expected by society expected of daughters. According to Tan (1991), in Malaysian traditional societies, women, especially daughters and daughters-in-law, take on the responsibility of being the main caregiver of sick and elderly parents.

Women as Wives

Today, a wife is no longer seen as a stay-at-home person, doing household chores only. The role of a wife has expanded to the extent that a wife has become her husband's backbone. Every husband needs a wife to support him in his life, socially and economically. The priorities of wives today are not similar to those of their mothers and grandmothers, as many of them now choose to work to aid their husbands by contributing to the family income because their husbands' salary is generally insufficient to meet the needs of the family in the context of today's economic conditions.

Contemporary wives are more educated and speak their mind openly. Besides supporting their husbands economically, women are still expected to take on the primary responsibility of taking care of their

family members – a traditional role that will never fade. Hence, this also requires a change in the role of the husband. Other than assisting in doing household chores and child care, husbands might consider the need to employ a stay-at-home maid to facilitate their wives' multiple roles.

Women as Mothers

The bonding between mother and children starts as early as during pregnancy and continues to develop through childhood. Thus, mothers have a special place in their children's lives because of the strong emotional and social bond they have with their children. Mothers have been traditionally expected to contribute their whole life to their family.

Today, many problems arise within society that clash with the role played by mothers. Traditional beliefs are being tested because many mothers are now involved in multi-tasking jobs and have to take on a bigger role in the life of their child. Not only must they provide the care and support a child needs, but they must also provide enough income for the family to live on. This is a huge role for anybody to take on.

Regardless of the contemporary multi-tasking that a mother has to take on, wives are still obliged to retain the traditional role of mothering, which is to care for and support both husband and children. The contribution a mother provides is incomparable; it is an important part of a child's care. A good mother is still obligated to care for her family and put them before everything else.

Women as Employees

Urbanisation and industrialisation have brought many changes to the urban population. In Malaysia, many younger Malay families have migrated to urban areas in search of better employment opportunities (Noraini, 2006), and women have entered the labour force in response to economic pressures, better opportunities in education, declines in fertility, increases in life expectancy and growing social acceptance of dual-earner families. In Malaysia, the number of women going out to work since national independence in 1957 has increased from 30.8% to 47.1% in 1995 (7th Malaysia Plan, 1996-2000). In 2007, the total number of working women in Malaysia, according to the Department of Statistics Malaysia, is 3.79 millions. This increase is even more rapid in the younger age bracket (16 to 25 years).

Increasing numbers of women entering the labour force has become a challenge for women, as they now have to balance work and family responsibilities. Being a working mother has changed how women allocate their time and negotiate their work and family roles. The trend has also altered the traditional breadwinning patterns of a family. Due to financial constraints, many women feel that they have to work to support the family. Today, it is common for both women and men to share the same breadwinning role. When a woman chooses a career, indirectly, she has to understand the consequences it would have on her family life. In this situation, a husband plays a crucial part in helping and supporting his

wife emotionally and socially. If husband and wife are supportive of each other, they will be able to succeed in their different and shared roles.

METHODOLOGY

The data were derived from self-administered questionnaires sent to women who worked in various banking institutions. The sample was selected via purposive sampling. The population was women in different sections of the banking sector who fulfil the criteria of being a caregiver. The banking institution was selected as the main organisation in this research because it is one of the most challenging and stressful organisations in modern urban life due to the nature of the job. The research area included urbanised city centres around Klang Valley, which includes Klang, Shah Alam, Subang Jaya, Petaling Jaya, Serdang and Seri Kembangan in Selangor. There were 150 married respondents in this study, whose age ranged from 20 to 55 years old, who had children and were living in urban areas. Five appointed enumerators sent the questionnaires to the respondents working in the selected banks around the study area; the women who fit the criteria filled in the questionnaires. The process involved calling for bank managers or persons in-charge of customer service in the selected banks to confirm the number of married women workers in their institutions and to select a certain date for them to receive the questionnaires. The respondents were given a week to fill up the questionnaires after which, the enumerators collected the questionnaires. The cycle continued until all 150 sets were confirmed received by potential respondents; the enumerators then went back to the banks to collect the questionnaires. The questionnaire had three sections; the first section consisted of questions on demography; the second section focussed on the roles of the women as caregivers; and the third section was on their coping mechanism.

FINDINGS

Demographic Background

The study showed that the average age of respondents was 34 years old with the youngest respondent being 20 years old and the oldest 51 years old. The majority of the respondents were in the productive age range of 30-39 years old totalling 56.4%, while 16.1% of the respondents were in the age range of 20-29 years old. In terms of race, most of the respondents were Malay; the figures are given -- Malay (56.3%), Chinese (30.7%) and Indians (12.0%). In terms of religion, the majority of the respondents were Muslim; the figures are given – Muslim (56.3%), Christian (16.0%), Buddhist (15.3%) and Hindu (11.3%).

Level of Education

This research also looked into the respondents' level of education and found that the respondents had a high level of education with 0.7% having a Master's Degree and 19.3% being degree holders. Diploma or STPM holders totaled 45.3%, while 4.0% had a certificate in their

respective fields. The rest of the respondents (30.7%) were SPM holders, which qualifies them to work in their current field of work.

Information on Number of Children

This study took into consideration the ages of the eldest and youngest children. The study showed that the average age of the eldest child was 7 years old and the average of the youngest child was 3 years old. The study also showed that there were no significant differences in the maximum age of the oldest child and the youngest child, where the maximum age of the eldest child was 26 years old and the maximum age of the youngest child was 16 years old. Respondents who had children in the range of 7-12 years old totaled 25.3%. In general, the respondents were from the 'young family' category.

Siblings and Family Background

The number of siblings, brothers and sisters, was also studied. The study found that most of the respondents were in a family of 5-8 siblings (53.3%) and 0-4 siblings (41.3%). Only a small number of respondents (4.0%) fell into the 'big family' category, where the family consisted of 9-12 members and more than 12. This could be seen from the number of maximum number of siblings per family, which is 13 persons; the average number of siblings is 5 persons. Child order was also studied, with the finding that middle child monopolised this study for this criterion, with more than half of the respondents (50.7%) falling into this category , while 21.3% were the eldest child and 26.0% were

the youngest. Only 2.0% were in the 'single child' category. The objective of this study was to consider the roles of working women and hence, it focussed on whether the parents or parents-in-law of the respondents were still alive. This study showed that almost all the respondents had living elderly parents and in-laws. While 69.3% had a living father, 80.7% had a living mother and 60.7% had a living father in-law while 69.3% had a living mother in-law. Therefore, most of the respondents came from a family where there were siblings who could assist them in care-giving of their parents or in-laws.

Employment Background

The study also considered the employment background of the respondents. The study found that 36.7% were still new in their field of work. Only 2.0% had worked for more than 25 years and 2.7% had worked for 20-25 years. The rest of the respondents had worked in the banking sector for 6-10 years (20.0%), and 10-15 years (30.0%). Only 8.7% had worked for 16-20 years. The average number of working years for the whole group under study was 9 years with a maximum number of working years being 28 years. In terms of working days, most of the respondents (97.3%) worked on a five-day-week basis and only 2.7% worked on a six-day-week basis. In terms of working hours, the average number of working hours was 9 hours per day while the minimum number of working hours was 6 hours, the maximum being 12 hours. Of the respondents, 59.3% worked 9-10 hours per day and another 8.0% of them worked 11-12

hours per day, while 30.0% of them worked 6-8 hours per day. This study also examined the frequency of working overtime and found that 37.3% of the respondents worked overtime quite frequently or most of the time. However, 18.7% of them seldom worked overtime. A small number of the respondents (3.3%) rarely or never worked overtime. This might be due to the fact that they had to focus their attention on their family.

Domestic Helpers

To further study the role of these working women at home, this study also focussed on whether these women had domestic helpers. One third of the respondents (31.3%) did not have domestic helpers and 68.7% preferred to manage their own households with no assistance from domestic helpers.

Care-giving Responsibilities

To study the roles of caring for their family members, the study first viewed the respondents' households and found that 20.7% of the respondents either lived separately from their spouses, or had divorced/been widowed. However, the rest of them (79.3%) lived with their respective spouses and with their children, and only 12% of them had a child who lived separately. Only a minority of the respondents had their grandchildren also living with them. In extended families such as this, there might be more than one family head in the household.

The findings also viewed each respondent's role of care-giving for their parents or parents-in-law. The results showed that a small number of them (9 respondents) had parents (either father or mother) who lived with them. Meanwhile, 7 respondents had parents-in-law (either father-in-law, or mother-in-law) living with them. This result showed that women contributed equally in assuming their roles as own daughter, and as a daughter-in-law.

On being asked who was the main caregiver for their own parents, only 135 of the respondents answered this question, where 34.4% said that it was they themselves as a team with their spouses, while 63% said that their siblings were the main caregivers and 1.5% said that the main caregiver was their parent's spouse, while another 1.5% said there was no caregiver for their parents. On being asked who was the main caregiver for their parents-in-law, only 106 of the respondents answered this question, where 41.7% said that they were the caregivers together with their spouses, while 56.7% said that it was their parent's spouse and another 1.6% said there was no caregiver for their parents. On being asked if they received help from other family members in caring for their parents and parents-in law, 41.3% of the respondents replied in the positive, while the rest (58.7%) replied in the negative.

In terms of time spent in caring for their family per day, about half of the respondents (50.7%) said that they spent less than 2 hours taking care of their families, while 22.7% spent 3-4 hours daily, and another 22.7% spent 5-6 hours daily, and 5 (3.3%) spent 7-8 hours daily, while 0.7% said that they

spent more than 8 hours daily caring for their families. It would be logical to assume that these women need assistance in caring for their families. The questionnaire listed three choices with regards to what these women needed most; the choices were financial support (48.3%), time out (32.9%) and in particular, home help services (18.3%).

Social support given to the elderly

The study also analysed the social support given to senior citizens with the finding that, generally, not much support was being given to senior citizens. Most children provide only social, emotional and financial support (83.3%). Other respondents did not provide emotional or financial support. Only 22.0% provided a home for their parents; this might also be caused by the fact that their parents had a much more comfortable home. This differed from the medical aspect where a majority of the respondents (66.0%) were responsible for providing medical support for their parents.

In terms of social support for personal care, the study found that not many (28.7%) were providing this kind of support. The trend is the same for support in monitoring and accompanying family members, where only 32.7% of the respondents gave such support. These women also got less support in the form of preparing meals, doing household chores and providing transportation assistance, with less than half of the total number of respondents (43.3%) having to do household chores and provide meals, while 46.0% had to give social support by providing transport. Half (50%)

of them got support in the form of going shopping together.

The findings of the study suggest that while these working women play multiple roles including taking care of elderly parents or in-laws, they do not consider the additional roles as a burden that overwhelms them. They consider it a responsibility that a woman must carry. In this context, this study aimed to see how these women managed their multiple roles and how much stress, if at all, they experienced as a result of having to play multiple roles in life.

STRESS EXPERIENCED BY WOMEN CAREGIVERS WHO PLAY MULTIPLE ROLES IN LIFE AND THEIR COPING MECHANISM

Stressors

This study looked into the primary causes of stress for the respondents, and found that the primary stressor was time management, care, finance and relationship. This study found that only a small number of the respondents considered raising children (10.7%) and managing the family (8.0%) as stressful. This small number of respondents might have small children and, at the same time, might have to take care of ailing parents or parents-in-law. This is in addition to work-related responsibilities that might contribute to stress. A small number of respondents (22.7%) admitted that taking care of children caused them to feel stress. Only 9.3% said that the responsibility of taking care of their children had never caused them stress, or had never raised negative feelings in them because they felt

that it was their responsibility to take care of their children despite their obligations to their career. Other than that, about half of the respondents (57.3%) admitted that taking care of their children did not cause them stress. Similarly, on the responsibility of taking care of the family, 44.7% admitted that it rarely caused them any amount of stress, while 28% said that it was not the major factor that caused them stress. Only 19.3% said that taking care of their family caused them stress.

Other than caring for children and the family, unsurprisingly, time and financial management also contributed to stress felt by more than half of the respondents, with 79.3% admitting that stress could come from time management and 84% saying that stress came from financial management. Interpersonal relationships could also cause problems. This is why this study also looked into the relationship between respondents and spouses/husbands, families, fellow employees and employer. The study showed that the respondents' relationship with their husband/spouse was not the primary cause of stress although 16.7% of the respondents admitted that their relationship with their husband could occasionally cause them stress.

Regarding the relationship between respondents and family members, 74% of the respondents said that their relationship with family members rarely caused them stress. Only 10.7% of the respondents stated that their relationship with family members could cause stress, while 4.7% said that most of the time, stress was due to their relationship with their family members.

Other than studying the relationship between the respondents and their husband and family, which are classified as micro relationships, this study also looked into the social relationship of the respondents i.e. their relationships with fellow employees and their employer. This is because these relationships can sometimes cause stress. However, in this study, only a small number of respondents, 3.3 %, said that their relationship with their colleagues caused them stress. Clearly, the relationship between the respondents and their employer and fellow employees did not cause stress to the respondents.

Emotional and Financial Support

This study also examined the support that the respondents got either emotionally or financially. Without such support, the Sandwiched Generation might have to deal with multiple problems at the same time. Emotional and financial support for the respondents was given by their husbands/ spouses. The table above shows that 88% got emotional support and 87.3% got financial support from their spouses, while 51.3% of the respondents got emotional support from their siblings. Only 16% got financial support from their siblings.

Coping Mechanism

The findings indicated that more than half of the respondents faced stress head on and tried to resolve it (82%). Other means of overcoming stress were praying, while 68.7% of the respondents chose rest and sleep to relieve stress. Other methods

chosen by the respondents to relieve stress were shopping and confiding in friends or close friends, while 50.7% chose eating as a means of escapism to relieve stress and 51.3% chose to occupy themselves with more work to get over the stress and problems they were facing.

Of the respondents, 42.7% relieved stress by listening to music while 43% did so by spending time with their families. There were also respondents who took the easy way out by engaging in negative actions, hoping that they would help them deal with the stress. Among the negative actions taken were smoking (14%) and drinking alcohol (24.7%). Only a small number of respondents faced major stress that forced them to seek therapy to manage stress (4.7%) and 1.3% had to see a counsellor, while 3.3% required a visit to a doctor for stress relief. Other steps taken to relieve stress were exercise, walking/sightseeing, yoga and proper diet and taking supplementary medications such as stress-relief pills.

CONCLUSION

Most of the Sandwiched Generation women studied here felt stressed in their multi-tasking roles, as others expected them to be a *superwoman* although not at extreme levels. From this it may be concluded that for employed women with young children and ageing elderly to care for, conflict between work and family is inevitable. Furthermore, such women feel inadequate and unfulfilled in either role, which leads to what is called 'the career-mothering dilemma'. Regardless of success in their career, women

often feel guilty about not meeting family responsibilities. This dilemma can affect the women's well-being, decreasing their career performance and resulting in stress and job burnout. It is difficult to measure the amount of stress that haunts this population of women; however, the cost to society may be damaging. If stress on this population becomes too great, both the family and the economic productivity of the nation could be seriously affected.

Regardless of race and religion, Malaysian women face the dilemma of having to juggle many roles; this dilemma is most probably a conflict they prefer to deal with alone within their inner selves. These women have to balance the demands arising from juggling their multiple roles. A large number of women may find this juggling act stressful and unfair, although some of them have learnt to accept and cope with the situation. However, not all women are able to cope with this stress, and to a certain extent, it also can affect their sense of well-being.

Besides the attention given to an ageing society globally, a counter measure should be created for caregivers for this segment, especially women, as a token of support and appreciation. Support from husbands, families, employers and members of the community is essential. The government too, is not spared from this obligation, and should recognise the responsibility to implement appropriate policies regarding care-giving. Employers need to be more responsive to the needs of workers with multiple family-care responsibilities by

offering not only child-care resources and referral programmes but also extending help for elderly care. For example, a special caregiver financial scheme would be helpful for workers involved in care-giving but are faced with financial constraints in doing so. More public day-care centres for the elderly which provide one-stop facilities for the elderly also need to be provided. Working caregivers can drop off their elderly parents or relatives at these centres in the morning and pick them up after work, not having to worry anymore about elderly parents or relatives who have to be alone at home while they are at work. Employers could also offer flexible working hours for caregivers so that they do not have to take too many days off from work in the year to take care of their elderly.

Women of the Sandwiched Generation play major roles in the new pattern of family relationship, especially in Malaysia. Malaysian women, who stereotypically see care-giving for family members as their given responsibility, need to reconsider this typically traditional way of thinking. Their family and the community should also show more appreciation for them. It is important for the community to note that combining work, parenting and care-giving for elderly parents may have both positive and negative effects on individuals.

Another important consideration is that traditionally, women were the primary caregivers for family members. However, today, when more women prefer to work outside the home, the challenge of providing care for the elderly is even greater, physically,

emotionally and financially. The problem of work roles, care-giving roles, the mothering role and the spousal role can be too much for one person to handle alone. This can cause these women stress. A good marriage relationship is a source of support for stress relief for the Sandwiched Generation. This support may be in the form of emotional or instrumental support.

Women of the Sandwiched Generation must not neglect the quality of their own life just because they are caring for others. Besides this, to reduce stress, women must also utilise every support system in their community to help them in caring for children and elderly parents. Furthermore, they have to love their personal lives and try to seek emotional support from their family circle, friends, neighbours, community or relevant organisations.

This paper recommends pro-active and early intervention to support these trapped women from continuously feeling unrewarded for what they have contributed. Every member of society must play their part in supporting these women with new acts and policies formed by the government.

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o *Proceedings*: Amir Awang. (2006). Counseling, human resources development and counseling services. In Sulaiman M. Yassin, Yahya Mat Hassan, Kamariah Abu Bakar, Esah Munji and Sabariah Mohd. Rashid (Eds.), *Proceedings of Asia Pacific Conference on Human Development* (p. 243-246). Serdang: Universiti Putra Malaysia.

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