

A Study of the Association between Depression, Childhood Trauma Experiences, Stress and Aggressiveness among Female in Four Occupational Groups

Nurul Hazrina Mazlan and Affizal Ahmad

Forensic Science Programme, School of Health Sciences, Universiti Sains Malaysia, Kubang kerian, Kelantan

ABSTRACT: Depression has been studied extensively among female. Childhood trauma experiences and stress had been suggested as risk factors to depression. Furthermore, depression had been related to aggression and violence. A cross-sectional study had been designed to examine the depression, its risk factors (childhood trauma experiences and stress) and the possible aggression outcomes (four scales; physical aggression, verbal aggression, anger, and hostility) among female in four selected occupational groups (housewife, kindergarten teacher, saleswoman and cleaner). A total of 123 female participants were involved. Four psychometric instruments were used; CES-D, CTQ, PSS, and AQ. Descriptive and simple linear regression analysis were conducted to analyze the data. The descriptive analysis showed that depression is high in saleswoman and it has an association with stress and childhood trauma experiences. Simple linear regression demonstrated significant relationship between childhood trauma experiences and stress to depression. The result shows that depression is significantly related to verbal aggression, anger and hostility. No significant relationship was found between depression and physical aggression. In conclusion, depression is found considerably high among saleswoman, with possible relationship to childhood trauma experiences and stress. Presence of depression may also lead to aggressiveness.

Keywords: Depression, childhood trauma, stress, aggression, female

Introduction

The alarming increase of female offenders all over the world has alerted the global society that female should no longer be ignored in term of crime commission [1]. Relying on the study done on male alone is no longer applicable to female. Apparently, male commit crime differently than female [2-3] and thus, separate study is needed to address this missing features [4]. Various studies on female have suggested that mental health problems are the biggest criminogenic needs¹ for female. One of the mental health problems often related to female is depression. Among offenders, female were more likely to have lifetime major depression disorders than male [4-5] and are more likely to report neurotic symptoms such as depression, sleep disturbance and extensive worry [6]. Depression has been studied extensively among female offenders, including in the United State [7] [8] and the European countries [9 -11], suggesting that depression might be a risk factor for a female to commit a crime. It also had been reported among female who had engaged in self-mutilation [12].

Depression was strongly suggested to be caused by experience of abuses, either in childhood or adulthood [4, 11-15]. Excessive life stress has also

been suggested as a source of depression and it often been related to factors such as relational problems and socio-economic problems [16-18]. Aggressiveness and violence have been suggested as a result of depression [19-20]. Under particular circumstances, people with depression may become aggressive and violent [21-23].

In this study, we aimed to screen the prevalence of depression among female in four different occupational groups and to examine the effects of childhood trauma experiences and stress on depression, and the association between depression and aggressiveness.

Method

Participants

Four types of occupational groups (housewife, kindergarten teacher, saleswoman, and cleaner) were used in this study. Selection of the occupational group was based on the most common jobs for female, and the probability of being depressed by the jobs. In the current study, housewife was considered an occupational group. Saleswoman involved female whose work is related to business. Kindergarten teachers involve females who work in kindergarten, whereas cleaners are female who job is to maintain

¹ The dynamic risk factors for offending that can be targeted for interventions.

cleanliness at university campus area and the shopping mall. The number of sample required was 120 (i.e. 30 participants for each occupational group). Random sampling was done within each group cluster. The area selected for the data collection was Kota Bharu, Kelantan. The final number of participants voluntarily involved in the current study was 123, exceeding the required sample size.

Measure

All the instruments were translated into Malay language and validated in a previous study by the authors.

Centre for Epidemiologic Studies Depression Scale (CES-D) is a screening instrument designed to measure common symptoms of depression [18]. It contains 20 items uses 4-point scale (ranging from 0 = rarely or none of the time, to 3 = most or all of the time). The questions are related to certain depression symptoms such as poor appetite, sleep disturbance and loss of concentration. The score is the sum of the item's scale except for items 4, 8, 12 and 16 which are scored reverse to their scale. A score of 16 or higher shows presence of depression. Higher score shows greater levels of depression. The reliability of CES-D range from 0.64 to 0.77 [24].

Childhood Trauma Questionnaire (CTQ) measures traumatic experiences during childhood. It contains 28 items and use Likert scale (never, rarely, sometimes, often and very often true). It is designed to gather information about childhood event in objective and non-evaluative terms. The instrument measures five scales; physical abuse (Pab), emotional abuse (EA), sexual abuse (SA), physical neglect (PN), and emotional neglect (EN). Five items represent each scale. Additional three items are used for the Minimization/Denial Scale for any potential underreporting of maltreatment. Physical abuse refers to bodily assault; emotional abuse refers to verbally assault meanwhile sexual abuse refers to any sexual conduct or contact made by an older person to a child. Physical and emotional neglect refers to failure to provide a child's basic physical and emotional needs by the caregivers. The scoring range from 5 to 25 for every scale (never=1 and very often true=5). The reliability of CTQ is 0.80 [25].

Perceived Stress Scale (PSS) is the most widely used psychometric instrument for measuring perception of stress. It was designed to detect how stressful respondents find their lives. It contains 10 items using five-point Likert scale: (0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very

often). Total scores are obtained by summing up all the items. Higher score reflects higher and longer duration of stress. The reliability of PSS is 0.85 [26].

The Aggression Questionnaire (AQ) is a screening instrument for aggressiveness with third grade reading level. It contains 29 items using 5-point Likert scale (1 = extremely not like me to 5 = extremely like me). The aggression scale consists of 4 factors; physical aggression (PA), verbal aggression (VA), anger, and hostility. The total score is calculated by summing up all the items except for item 9 and 16 which are reverse scored. Higher score indicates more aggressive behavior. The reliability of AQ is 0.92 [27].

A set of questionnaire was given to each participant who requires approximately 20 minutes answering.

Analysis

The data obtained was sorted out and computed using the SPSS software application. The reliability (in Cronbach's alpha) for each instrument is; CES-D $\alpha = 0.71$, CTQ $\alpha = 0.56$, PSS $\alpha = 0.61$, AQ $\alpha = 0.91$. [28]. Descriptive statistics were conducted to summarize the demographic information and percentage of occurrence of each variable. To examine the relationship between each predictor variable to outcome variable, simple linear regression was carried out.

Results and Discussion

Demographic information

Based on occupational groups, the distribution of participants in each group is fairly the same (**Table 1**). The group with slightly highest participant was saleswoman (26%). Majority of the participants were Malay (91.9%), aged between 20 to 29 years old (33.3%), and is married (61.8%). Most of the participants obtained their highest education at secondary level (69.9%), and make less than RM500 per month (43.1%).

Descriptive analysis

Depression was seen the highest among saleswoman (40.6%), **Table 2**. This might be explained by the nature of the job where, compared to the other occupational groups, saleswoman required more both labor work and decision making process for the customers.

Table 1: Summary of demographic information for the participants

Information	Housewife (%)	Kindergarten teacher (%)	Saleswoman (%)	Cleaner (%)	Total (%)
Ethnicity					
Malay	90.3	90.3	87.5	100	91.9
Chinese	9.7	9.7	9.4	-	7.3
Others	-	-	3.1	-	0.8
Age groups (years old)					
20 – 29	16.1	38.7	62.5	13.8	33.3
30 – 39	19.4	16.1	12.5	20.7	17.1
40 – 49	32.3	35.5	12.5	44.8	30.9
≥ 50	32.3	9.7	12.5	20.7	18.7
Marital status					
Single	3.2	41.9	53.1	17.2	29.3
Married	90.3	54.8	40.6	62.1	61.8
Divorcee	-	-	3.1	13.8	4.1
Widow	6.5	3.2	3.1	6.9	4.9
Highest education					
Never been to school	3.2	-	-	6.9	2.4
Primary	19.4	-	3.1	24.1	11.4
Secondary	61.3	80.6	75.0	62.1	69.9
Tertiary	16.1	19.4	21.9	6.9	16.3
Income (in Ringgit Malaysia)					
Less than 500	45.2	32.3	21.9	75.9	43.1
501 – 1000	51.6	32.3	56.2	20.7	40.7
1001 – 2000	-	25.8	15.6	3.4	11.4
More than 2000	3.2	9.7	6.2	-	4.9

The result is supported when the same occupational group appeared to be highly stressed as well (65.6%). Kindergarten teacher was seen the least depressed group (6.5%), although the stress level was considerably high (61.3%). For kindergarten teachers, dealing with children may increase the amount of both physical and psychological activities, which may explain the high level of stress and the high level of stress was found associated to depression (as shown in Table 3). Housewife had the lowest level of stress (45.2%). This study would suggest that, as compared to the other groups (kindergarten teacher, saleswoman, and cleaner), being a housewife does not required excessive energy and decision making process constantly, since they routinely facing the same schedule and people in their house. This is particularly true among females who had adapted with the nature of work for a considerable period. Depression was seen moderate among housewife group (29%). In cleaner group, depression was fairly low (24.1%), but they had the highest level of stress compared to the others (69%). The current study suggested that the result might be influenced by the nature of job which involved mostly labor work and low payment received since majority of the participant came from this group (75.9%) and received less than RM500 per month (as shown in Table 1). This suggestion was strongly supported by

association between stress and depression in cleaner group (Table 3).

In regards of Pab in childhood trauma experiences, the group of cleaners had experienced moderate to severe abuse (3.4%) and saleswomen had experienced severe to extreme abuse (3.1%). Saleswomen also had experienced moderate to severe EA (3.1%). This suggests the high level of depression among group of saleswomen. For SA, teachers, saleswomen and cleaners had experienced moderate to severe abuse. Usually, SA is underreported among Malaysian females. This is due to the culture and custom that often restricted women from reporting sensitive issues to others unless a problem has existed, such as pregnancy. Therefore, issues relating to SA often are being avoided by Malaysian females. All occupational groups had experienced PN and EN in moderate to severe and severe to extreme level, except for saleswomen who had experienced EN in severe to extreme level only. This result showed that neglect is more often occurred than abuse among Malaysians. Once again, this might be explained by the culture where directly abusing a child often stirs anger and hostility among Malaysians. However, neglecting a child often goes under reported because it often directly unseen. Examples of neglect as given by the measure are; had not enough to eat or had to wear dirty clothes.

Table 2: Summary of descriptive analysis of the participants

Variables		Occupational Groups			
		Housewife (%)	Teacher (%)	Saleswoman (%)	Cleaner (%)
Depression		29.0	6.5	40.6	24.1
Stress		45.2	61.3	65.6	69.0
Childhood Traumas Experience	Pab				
	None to minimal	96.8	93.5	93.8	89.7
	Low to moderate	3.2	6.5	3.1	6.9
	Moderate to severe	.0	.0	.0	3.4
	Severe to extreme	.0	.0	3.1	.0
	EA				
	None to minimal	87.1	83.9	93.8	86.2
	Low to moderate	12.9	16.1	3.1	13.8
	Moderate to severe	-	-	3.1	-
	SA				
	None to minimal	96.8	90.3	93.8	93.1
	Low to moderate	3.2	6.5	3.1	3.4
	Moderate to severe	-	3.2	3.1	3.4
	PN				
	None to minimal	45.2	51.6	50.0	34.5
	Low to moderate	9.7	12.9	28.1	27.6
	Moderate to severe	35.5	25.8	15.6	31.0
	Severe to extreme	9.7	9.7	6.2	6.9
	EN				
	None to minimal	48.4	51.6	62.5	44.8
Low to moderate	32.3	32.3	28.1	34.5	
Moderate to severe	16.1	12.9	-	6.9	
Severe to extreme	3.2	3.2	9.4	13.8	
Aggression	PA				
	9 – 18	90.3	87.1	75.0	86.2
	19 – 36	9.7	9.7	25.0	10.3
	≥ 37	-	3.2	-	3.4
	VA				
	5 – 10	45.2	48.4	28.1	58.6
	11 – 20	54.8	51.6	71.9	37.9
	≥ 21	-	-	-	3.4
	Anger				
	7 – 14	45.2	51.6	40.6	51.7
	15 – 28	54.8	41.9	56.2	41.4
	≥ 29	-	6.5	3.1	6.9
	Hostility				
8 – 16	51.6	51.6	37.5	55.2	
17 – 32	48.4	45.2	62.5	41.4	
≥ 33	-	3.2	-	3.4	

In aggression scales, both teacher and cleaner groups scored more than 37 for PA (as shown in Table 2), which is considered high. Cleaner scored more than 21 for VA. In anger, teachers, saleswomen and cleaners scored more than 29. For hostility, both teacher and cleaner scored more than 33. In all scales, cleaner had scored within high range. This showed that the group of cleaners had higher tendency to become aggressive compared to the others. Kindergarten teacher is the second group that had high tendency to become aggressive. They had scored within high range for all scales, except VA. This showed that, other than verbally, teacher might

become aggressive physically, might feel anger and being hostile towards others. Saleswomen had scored high for anger only, indicating that they might felt frustration some time and this might be related to their nature of work. Housewife had scored none within high range, showing that this group had low tendency to become aggressive. Most of them had scored within low range for PA and hostility, and moderate for VA and anger. We therefore postulate that housewife is less probable to become physically aggressive but verbally. They might also felt angry some time but are unlikely to become hostile.

Table 3: Simple linear regression for childhood trauma experiences against depression

Groups	Predictor variables	Outcome variables	Simple linear regression	
			b (95% CI)	p-value
Housewife	Pab	Depp	-.28 (-3.53, 2.97)	.862
	EA		1.16 (-.82, 3.15)	.240
	SA		6.23 (-1.28, 13.75)	.101
	PN		1.03 (.15, 1.91)	.023
	EN		.62 (-.08, 1.32)	.082
	Stress		.70 (.27, 1.14)	.002
Kindergarten teacher	Pab	Depp	1.76 (.14, 3.39)	.035
	EA		.58 (-.32, 1.48)	.200
	SA		1.27 (-.32, 2.86)	.113
	PN		.26 (-.38, .90)	.412
	EN		.32 (-.03, .68)	.074
	Stress		.45 (.17, .73)	.003
Saleswoman	Pab	Depp	.35 (-.30, 1.0)	.278
	EA		.36 (-.90, 1.61)	.564
	SA		2.32 (-1.45, 6.09)	.219
	PN		.46 (-.38, 1.29)	.274
	EN		.17 (-.37, .70)	.528
	Stress		.39 (-.01, .80)	.056
Cleaner	Pab	Depp	.95 (-.51, 2.42)	.193
	EA		1.71 (.26, 3.16)	.022
	SA		.29 (-3.32, 3.90)	.870
	PN		.61 (-.43, 1.64)	.240
	EN		.20 (-.25, .65)	.375
	Stress		.94 (.55, 1.33)	< .001

3. Statistical analysis

Table 3 shows the results of regression analysis for childhood trauma experiences and stress against the depression. Significant relationship was found between predictor variables (Pab, EA, PN, and stress) and depression in housewife, kindergarten teacher and cleaner groups ($p < .05$). The results suggest that all the variables significantly contribute to depression among female, especially stress. No significant relationship was found in saleswoman group, suggested that none of the predictor variables had caused depression among female in this group. In housewife group, PN and stress were found significantly contributed to depression. Among kindergarten teachers, Pab and stress were found significantly contributed to depression, whereas among cleaners, EA and stress were found significantly contributed to depression. SA shows no significant relationship to depression, suggesting that SA does not significantly contribute to depression among females in the current study. This result is specifically representing the Malaysian participant only, since most Western studies suggested that SA significantly caused depression among female [4, 11-15]. The result also confirms that stress is significantly causing depression, as also indicated by previous studies [17-18]. Thus, the current study suggests that childhood trauma experiences and stress are significantly contributed to depression among female.

Table 4 represents the results of regression analysis for depression against the four scales of aggression. As shown in the table, depression has a significant relationship to VA, anger and hostility ($p < .01$) in housewife and cleaner groups. No significant relationship between depression and all the aggression scales was found in kindergarten teacher and saleswoman groups, suggesting that depression did not contribute to aggressiveness among female in both groups. Among housewife, depression was found significantly contributed to VA, anger and hostility ($p < .001$), whereas among cleaners, depression was found significantly contributed to anger ($p < .01$). No significant relationship was found between depression and PA, suggesting that female with depression is unlikely to become aggressive physically, but rather verbally. They might also felt angry and frustration, as well as become hostile towards others. This supports that people with depression might become violence and aggressive under particular circumstances [21-22], suggesting that depressed people is not constantly aggressive but possibly. Symptoms of depression may include sleep disturbance, loss of appetite and negative self-thinking [24]. The symptoms are mostly lead to self-destruction rather than destructing others, explaining the high occurrence of self-mutilation and suicide among depressed female [12, 17], therefore, female with depression is unlikely to be aggressive physically. Anger and hostility on the other hand supported the tendency to engage in negative thinking among depressed people.

Table 4: Simple linear regression for depression against four scales of aggression

Groups	Predictor variables	Outcome variables	Simple linear regression	
			<i>b</i> (95% CI)	<i>p</i> -value
Housewife	Depp	PA	.05 (-.07, .17)	.371
		VA	.32 (.18, .47)	< .001
		Anger	.25 (.13, .38)	< .001
		Hostility	.45 (.22, .68)	< .001
Kindergarten teacher	Depp	PA	.01 (-.52, .53)	.978
		VA	.17 (-.26, .45)	.586
		Anger	.18 (-.32, .68)	.470
		Hostility	.32 (-.28, .92)	.290
Saleswoman	Depp	PA	.07 (-.20, .35)	.582
		VA	.04 (-.19, .27)	.739
		Anger	.16 (-.14, .47)	.279
		Hostility	.15 (-.22, .51)	.422
Cleaner	Depp	PA	.19 (-.20, .58)	.320
		VA	.07 (-.21, .36)	.597
		Anger	.40 (.13, .67)	.005
		Hostility	.12 (-.29, .52)	.565

Conclusion

Female in different occupational groups may exhibit different levels of depression. The same was suggested for level of stress. Childhood trauma experiences and stress were significantly resulted in depression among female. Lastly, depression may lead to aggression but not necessarily physically. This suggests that depression may be a criminogenic need among female. This knowledge should be applied towards awareness of depression and its causes among female, in order to help them handling the depression and avoiding any unwanted consequence. The nature of depression had showed that help and support is crucial to depressed people, especially female.

Limitations of the Study

The first limitation of the study is that the result is not strongly representative of the female in Malaysian population. Malaysian population is largely represented by three major ethnics; most of the participants in the current study were Malays, which represented only one major ethnic in Malaysia. Larger study which involves all three major ethnics within appropriate proportion should be conducted in the future to ensure the data representative of the Malaysian females. The second limitation is the measure used in the study was based on Western study. Differences in culture might affect the results, as shown in statistical analysis for childhood trauma experiences. Area of data collection might also affect the result since the culture within one state to another state in Malaysia is different. Lastly, the results are based on data taken by measure alone. No clinical diagnosis was conducted and thus the result is

superficial for screening only. Clinical diagnosis is favorable for a more sturdy result.

Acknowledgement

The authors thank Universiti Sains Malaysia for providing a Fellowship to support this study.

References

- Elias, G. (2007). Facility Planning To Meet the Needs of Female Inmates, National Institute of Corrections, U.S Department of Justice.
- Rogstad, J.E., & Rogers, R. (2008). Gender Differences in Contribution of Emotion to Psychopathy and Antisocial Personality Disorder, *Clinical Psychology Review*, 28: 1472-1484.
- Logan, C., & Blackburn, R. (2009). Mental Disorder in Violent Women in Secure Settings: Potential Relevance to Risk for Future Violence, *International Journal of Law & Psychiatry*, 32: 31-38.
- Langan, N. P., & Pelissier, B. M. M. (2001). Gender Differences among Prisoners in Drug Treatment, *Journal of Substance Abuse*, 13: 291-301.
- Messina, N., Burdon, W., & Prendergast, M. (2003). Assessing the Needs of Women in Institutional Therapeutic Communities, *Journal of Offender Rehabilitation*, 37: 89-106.
- Birmingham, L. (2004). Mental Disorder and Prisons. *Psychiatric Bulletin*, 28: 393-397.
- Tye, C. S., & Mullen, P. E. (2006). Mental Disorders in Female Prisoners, *Aust N Z J Psychiatry*, 40(3): 266-271.
- Zlotnick, C., Clarke, J. G., Friedmann, P. D., Roberts, M. B., Sacks, S., & Melnick, G. (2008).

- Gender Differences in Comorbid Disorders among Offenders in Prison Substance Abuse Treatment Programs, *Behavioral Sciences & the Law*, 26: 403-412.
9. Fazel, S., & Danesh, J. (2002). Serious Mental Disorder in 23 000 Prisoners: A Systematic Review of 62 Surveys, *The Lancet* 2002; 359: 545-550.
 10. Butler, T., & Allnutt, S. (2003). 'Mental Illness among New South Wales Prisoners.' NSW Correction Health Service: Australia.
 11. Reed, E., Raj, A., Falbo, G., Caminha, F., Decker, M. R., Kaliel, D. C., Missmer, S. A., Molnar, B. E., & Silverman, J. G. (2009). The Prevalence of Violence and Relation to Depression and Illicit Drug Use among Incarcerates Women in Recife, Brazil, *International Journal of Law & Psychiatry*, 32: 323-328.
 12. Roe-Sepowitz, D. (2007). Characteristics and Predictors of Self-mutilation: A Study of Incarcerated Women, *Criminal Behavior & Mental Health*, 17: 312-321.
 13. Gunter, T.D. (2004) Incarcerated Women and Depression: A Primer for the Primary Care Provider, *Journal of the American Medical Women's Association*, 59(2): 107-112.
 14. Nixon, R. D. V., Resick, P. A., & Nishith, P. (2004). An Exploration of Comorbid Depression among Female Victims of Intimate Partner Violence with Posttraumatic Stress Disorder, *Journal of Affective Disorders*, 82: 315 – 320.
 15. Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Exposure to Childhood Sexual and Physical Abuse and Adjustment in Early Adulthood, *Child Abuse & Neglect*, 32: 607-619.
 16. Marquart, J.W., Brewer, V.E., Simon, P., & Morse, E.V. (2001). Lifestyle Factors among Female Prisoners with Histories of Psychiatric Treatment, *Journal of Criminal Justice*, 29: 319-328.
 17. Compton, M. T., Thompson, N. J., & Kaslow, N. J. (2005). Social Environment Factors Associated with Suicide Attempt among Low-Income Africans Americans: The Protective Role of Family Relationships and Social Support, *Soc Psychiatry Psychiatr Epidemiol*, 40: 175 – 185.
 18. Candrian, M., Schwartz, F., Farabaugh, A., Perlis, R. H., Ehlert, U., & Fava, M. (2008). Personality Disorders and Perceived Stress in Major Depressive Disorder, *Psychiatry Research*, 160: 184-191.
 19. Hamerlynck, S. M. J. J., Doreleijers, T. A. H., Vermeiren, R., Jansen, L. M. C., & Cohen-Kettenis, P. T. (2008). Aggression and Psychopathology in Detained Adolescent Females, *Psychiatry Research*, 159: 77 – 85.
 20. Ferguson, C. J., Miguel, C. S., & Hartley, R. D. (2009). A Multivariate Analysis of Youth Violence and Aggression: The Influence of Family, Peers, Depression, and Media Violence, *The Journal of Pediatrics*, 155: 904 – 908.
 21. Olson, L. N., & Lloyd, S. A. (2005). "It Depends in What You Mean by Starting": An Exploration of How Women Define Initiation of Aggression and Their Motives for Behaving Aggressively, *Sex Roles*, 53 (7/8): 603 – 617.
 22. Scott, C. L., & Resnick, P. J. (2006). Violence Risk Assessment in Persons with Mental Illness, *Aggression & Violent Behavior*, 11: 598-611.
 23. Graves, K. N. (2007). Not Always Sugar and Spice: Expanding Theoretical and Functional Explanations for Why Females Aggress, *Aggression & Violent Behavior*, 12: 131 – 140.
 24. Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population, *Applied Psychological Measurement*, 1: 385-401.
 25. Bernstein, D. P., & Finks, L. (1998). *Childhood Trauma Questionnaire: a Retrospective Self-Report Manual*, The Psychological Corporation: San Antonio, TX.
 26. Cohen, S., Kamarck, T., & Mermelstein, R. (1983) A Global Measure of Perceived Stress, *Journal of Health & Social Behavior*, 24: 386-396.
 27. Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire, *Journal of Personality and Social Psychology*, 63: 452-459.
 28. Mazlan, N. H., & Ahmad, A. (2011). The Validation of Malay-Translated Version of Eight Psychometric Instruments in Understanding Mental Health Problems among Female Offenders. Unpublished manuscript.

Additional information and reprint requests:

Affizal Ahmad
 (Email: affizal@kb.usm.my)
 Forensic Science Programme
 School of Health Sciences
 Universiti Sains Malaysia
 16150 Kubang Kerian, Kelantan, Malaysia