

FACTORS AFFECTING ADOLESCENT DELINQUENCY IN SINGAPORE

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ABSTRACT – *The objective of this study is to find out if adolescent conduct problems are affected by inadequate parental bonding (paternal and maternal care and protection) during their growing up years. Sociodemographic background variables, such as gender, occupation of the adolescent's parents, living arrangements of the adolescent, home intactness of his family, family income, family size, age and the marital relationship between the adolescent's parents, are also taken into consideration to see if they have an impact on the delinquency behaviour of the adolescent. Four hundred and two (402) secondary school students were randomly selected as a sample in the study. It was found that paternal care towards an adolescent, age of the adolescent, family size and family income had a significant impact on adolescent delinquency. It is hoped that the results of this study will prove useful in influencing the attitudes of parents towards the development of their children in order to prevent them from turning to crime.*

1 INTRODUCTION

There has been increasing concern, both by the police and the general public on the increasing seriousness of adolescent crime and conduct problems. Although greater emphasis has been placed on educating the young to prevent them from going astray, the reasons resulting in adolescents becoming delinquent are still not very clear. The objective of this study is to find out if adolescent delinquency is related to inadequate parental bonding and to further find out if the sociodemographic background of an adolescent (i.e., family size, family income, home intactness, the adolescent's living arrangements, gender, age, marital relationship and occupation of parents) has an impact on adolescent delinquency.

Statistics have shown a rise in juvenile delinquency by almost 50 per cent in the past decade in Singapore. The juvenile delinquency rate rose from 367 to 538 per 100,000 between 1986 and 1996. Most of the juveniles arrested in 1996 were arrested for petty crimes, such as theft, with about 38 per cent arrested for shoplifting and 18 per cent for simple theft. More serious crimes, such as rioting, robbery and extortion accounted for 15 per cent. As adolescents are the future leaders of tomorrow, we are highly concerned with the rising adolescent conduct problems and crime rates in Singapore and hope that with a greater understanding of this subject, we will be able to highlight the importance of parental care and concern in the development of children.

Many studies have been done on the possible effects of parental bonding on adolescent delinquency [Barber and Rollins, 1990; Maccoby and Martin, 1983; Peterson and

Rollins, 1987; Reed and Sollie, 1992]. Yet, the empirical basis for linking parental bonding to adolescent outcomes remains equivocal. Little literature is found about the possible implications of the sociodemographic. In addition, much of the work done in this area is on western societies, therefore, we are interested in knowing more about the possible implications of the sociodemographic variables on the delinquency of adolescents in our society.

Conduct-disordered behaviours have been characterised as anti-social and socially aggressive behaviours and appear to be developed and maintained within the family environment [Patterson, 1982]. These behaviour patterns, which may be present as early as three years of age, tend to remain stable and to be a strong predictor of anti-social behaviour in adolescence and in adulthood [Lefkowitz et al., 1977]. Thus, it becomes important to study the relevant family characteristics of families with conduct disordered adolescents given the prevalence of conduct disordered behaviours, the embeddedness of these behaviours in the family environment and the potential detrimental impact this behaviour may have on the community [Patterson, 1982; Henggeler et al, 1986].

According to the Diagnostic and Statistical Manual of Mental Disorders [American Psychiatric Association, 1987], there are two diagnostic categories of conduct disordered behaviours, conduct disorder and oppositional defiant disorder.

Conduct Disorders

The essential feature of the conduct disorder classification is a “persistent pattern of conduct in which the basic rights of others and major age-appropriate societal norms/rules are violated. The behaviour pattern is typically present in the home, at school, with peers and in the community” [American Psychiatric Association, 1987]. Associated with this classification would be stealing, running away from home, persistent lying, fire-setting, truancy, vandalism, physical cruelty to animals and/or people, forcing someone into sexual activity and physical aggression, that may include use of a weapon.

Oppositional Defiant Disorders

The oppositional defiant disorder on the other hand, is “a pattern of negativistic, hostile, and defiant behaviour without the more serious violations of the basic rights of others that are seen in conduct disorder” [American Psychiatric Association, 1987]. Some examples are, loss of temper, arguing with adults, actively defying adult requests or rules, deliberately annoying others, projecting blame, being angry and resentful, spiteful or vindictive, and using obscene language.

This study will be concentrating more on conduct disorders as they are obviously more serious and appear to originate and to be maintained within the family environment [Patterson, 1982]. Moreover, in many cases, all the features of opposition defiant behaviour are present in conduct disordered behaviour.

2 LITERATURE REVIEW

Mak & Kinsella [1996] examined the relationship of perceived parental bonding to two common forms of adolescent deviance in Australia - alcohol use and conduct problems - using data collected from 158 male and 235 female Australian secondary school students through questionnaires. It was found that there was a relationship between parental neglect and the two types of adolescent deviance.

There have been excellent and extensive reviews of issues relating to parenting styles and adolescent development, linking various aspects of parental support and/or control attempts to a wide variety of adolescent outcomes (for example, adolescent achievement, aggression and substance abuse) [Barber and Rollins, 1990; Maccoby and Martin, 1983; Peterson and Rollins, 1987]. The empirical basis for linking parenting support and control attempts to outcomes remains equivocal and not as definitive as might be assumed, based on the volume of published materials [Barnes and Farrell, 1992].

Two key constructs have emerged as critical compounds of parenting support and control [Barnes and Farrell, 1992]. Support is seen as nurturance, attachment, acceptance and love, as exhibited in parental behaviours towards the child, such as praising, encouraging and giving physical affection, that indicate to the child that he or she is accepted and loved. Control attempts can range from coercive parental actions, such as hitting, threatening, and yelling, to inductive control attempts such as parents explaining why the adolescent should not have done something and how they expect the child to behave in the future [Rollins and Thomas, 1979].

In general, researchers have fairly consistently formed a linear relationship between parental support and adolescent outcomes, such that the more support parents give their children or the stronger the attachment between parents and the adolescents, the better the adolescent outcomes [Barnes and Farrell,1992; Gove and Crutchfield, 1982; Rollins and Thomas, 1979].

Inconsistent parental discipline has also shown a strong link with young children's conduct problems [McCord et al, 1959; Patterson, 1976; Rutter, 1975]. Inconsistency has been taken to mean a number of things, in particular, the use of disparate practices across time and between parents. Inconsistent styles of parenting have also been suggested [Patterson, 1982] to have a causal link to conduct problems. These include lack of rules, failure to monitor the child and the use of erratic punishment and reward.

A number of behavioural investigators have studied the familial interaction characteristics of conduct-disordered youth and their parents. Both maternal and paternal characteristics have received individual attention, but maternal characteristics tend to receive more focus. Patterson [1982] suggests that fathers are more distant, more aversive, less talkative and less approving. He also speculates that mother, as the primary caretaker, bears the brunt of the emotional stressors while the father-child interactions are but a weak reflection of the mother-child interactions and thus, determine less of a child's behaviour.

Familial characteristics that have received the most attention in professional literature include marital discord, conflictual communication patterns between parent and child,

ineffective maternal commands, and patterns of reciprocally coercive behaviour between the parent and child. Other family variables include psychological distance in family relationships and a lack of reciprocity in social exchanges among family members [Reed and Sollie, 1992].

3 DATA AND METHODOLOGY

The target population for this study is secondary students in Singapore. In order to select a random sample that represents a range of sociodemographic backgrounds and academic abilities, all secondary schools (149 in total) were classified into the following three groups:

- the top 50 schools (Special/Express Course),
- the top 40 schools (Normal Course), and
- the unranked schools (schools that are unranked because they had performed poorly in the examinations or had too small a candidature, or because they did not have any O-level pupils last year).

The random number table was used to select three schools from each group above. Nine schools were selected and 500 questionnaires were distributed to randomly selected classes. Four hundred and two (402) usable responses were collected back as the sample in the study. The questionnaire consisted of the following three parts:

Part 1: measure of adolescent delinquency,

Part 2: measure of bonding between adolescents and their parents, and

Part 3: measure of the adolescent's sociodemographic background.

For each selected student, the following factors were examined: parental bonding, gender, age, marital relationship (whether there was marital discord between the adolescents' parents), family size, home intactness (whether the respondent came from a complete or broken family), occupation of parents, family income (both father and mother) and adolescents' living arrangements. The measuring instruments for each factor are shown in Table 3.1 below.

Table 3.1 Factors affecting Adolescent Delinquency

Variables	Measurement
Parental Bonding	Parental Bonding Instrument
Gender	Male or Female
Age	Number of Years
Marital Relationship	Very good Quite good Neutral Quite bad Very bad
Family Size	Number of family members
Home Intactness	Married Divorced/Separated Others
Occupation of Parents	Professional White-collared Blue-collared Self-employed Others
Family Income	Singapore Dollars (\$)
Living Arrangements	With parents With single parents Others

Perceived parental bonding includes both parental care and protection component. The Parental Bonding Instrument (PBI) [Parker et al, 1979] used to measure perceived parental bonding consists of four scales, namely, maternal and paternal care, and maternal and paternal protection. Possible scores for paternal/maternal care and paternal/maternal protection are 0 to 4 each, arrived at using the following formula:

$$\text{Score} = \frac{\text{Total scores from questions answered}}{\text{Number of questions answered}}.$$

Perception of parent neglect and rejection is reflected in low scores on the paternal/maternal care scale, while high scores indicate perception of parents as warm and understanding. High scores on the paternal/maternal protection scale suggest excessive parental control and intrusion, while low scores suggest parental acceptance of the respondents' independence and autonomy.

Adolescent delinquency of each subject is measured using an adapted version of Mak's (1993) Australian Self-reported Delinquency Scale. It is a 34 question measurement scale in which the respondents will answer either "Yes, on my own", "Yes, with others", or "No" to questions regarding delinquent acts. Total number of "Yes" (coded as 1) answers in the questionnaire are the measurement of delinquency for the respondent. It is clear that the maximum score is 34 and the minimum is 0. The following three models will be discussed and tested:

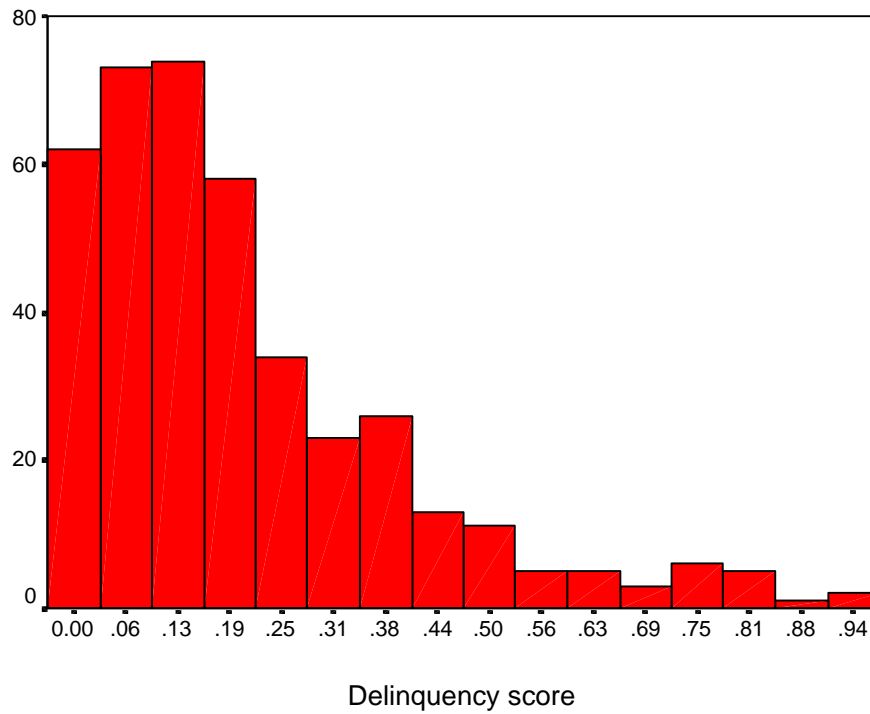
- (1) **"Yes" model:** it aims to find out if the factors identified in Table 3.1 have an impact on the delinquency of adolescents who have committed delinquent acts *either on their own or with others*.
- (2) **"Yes - others" model:** it aims to find out if the factors identified in Table 3.1 have an impact on the delinquency of adolescents who have committed delinquent acts *with their friends*.
- (3) **"Yes - own" model:** it aims to find out if the factors identified in Table 3.1 have an impact on the delinquency of adolescents who have committed delinquent acts *on their own*.

This 34-item self-reported scale provides a measure of the variety of law-violating conduct problems that the respondents have engaged in during the previous year, giving a possible range of scores of 0 to 34 for each of the three models above. The higher the score, the higher is the delinquency. During the cleaning process, unanswered questions will be detected, and delinquency score for each student is calculated as below:

$$\text{Score} = \frac{\text{Total delinquency score}}{34 - (\text{number of unanswered questions})}$$

The general linear model (GLM) was used to examine if the factors in Table 3.1 are significant in explaining adolescent delinquency. In the model, the adolescent delinquency is the dependent variable and all other factors in Table 3.1 are the independent variables. Since the adolescent delinquency curve is approximately exponential in nature (see Figure 3.1), the logarithm of the adolescent delinquency was used as the dependent variable in the analysis. For factors that are found to be significant, a further statistical test, e.g. ANOVA, was used to see if the mean delinquencies of adolescents differ with the different categories in each of these factors. It should be noted that the sample size varies across analysis for some factors due to missing values.

Figure 3.1 Distribution of Adolescent Delinquency



4 RESULTS AND DISCUSSION

Results obtained from 3 different GLM models that have different independent variables, namely the “Yes” model, the “Yes - Others” model and the “Yes - Own” model will be discussed first, then, the further tests for the significant individual independent variables will be carried out and discussed.

4.1 The “Yes” Model

The “Yes” model will comprise of respondents who have answered either “Yes, with others” or “Yes, on my own” or both in the adapted version of Mak’s Australian Self-Reported Delinquency Scale.

Table 4.1.1 summarises the results of the “Yes” model. From Table 4.1.1, the p-value for this model is smaller than 0.05. Therefore, we can conclude that parental bonding and the various independent variables have an impact on adolescent delinquency. This combination of predictors of delinquency yielded an R^2 of 20.8%, which means that about 20.8% of the total variation in the dependent variable, adolescent delinquency, can be “explained” by the multiple regression model. That is, the independent variables collectively provide good explanation for the variation in adolescent delinquency. However, note that not all variables have a significant relationship with adolescent delinquency. As shown in Table 4.1.1, four variables are significant at the 5% level, namely, age, family size, family income and care. Two variables are significant at the 10% level, namely, marital discord and home intactness.

Table 4.1.1 Results of the “Yes” Model

	Sum of Squares	Df	Mean Square	F	Sig
Regression	24.830	11	2.257	4.242	0.000
Residual	94.720	178	0.532		
Total	119.549	189			

$R^2 = 0.208$

	Coefficient	Coefficient	Std. Coeff.			
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	B	Std. Error	Beta	VIF	t	Sig.
(Constant)	-1.887	1.204			-1.567	0.119
Relationship	0.125	0.069	0.158	1.673	1.826	0.069
Sex	-3.2E-02	0.110	-0.020	1.077	-0.294	0.769
Occupation (F)	3.49E-02	0.064	0.037	1.076	0.541	0.589
Occupation (M)	-4.5E-03	0.054	-0.006	1.314	-0.083	0.934
Living	-0.199	0.200	-0.085	1.638	-0.998	0.320
Family Income	1.011E-04	0.000	0.181	1.187	2.485	0.014
Family Size	0.138	0.051	0.191	1.139	2.685	0.008
Home Intact	0.143	0.077	0.145	1.383	1.853	0.066
Age	0.250	0.066	0.262	1.069	3.793	0.000
Protection	-9.2E-02	0.065	-0.101	1.163	-1.408	0.161
Care	-0.126	0.057	-0.175	1.416	-2.199	0.029

Beta coefficient (standardized coefficient) ranks the relative impact of the independent variables on the dependent variables, adolescent delinquency. The larger the absolute amount of the Beta coefficient, the greater the impact of the independent variable on adolescent delinquency. For instance, age has the Beta coefficient of 0.262, compared with family-size that has a Beta coefficient of 0.191, showing that age has a greater impact on adolescent delinquency than family size. The sign of the Beta coefficient also shows the direction of the impact of the independent variable on the dependent variable. For example, the independent variable care has a Beta coefficient of -0.175, meaning that as care increases delinquency decreases. While for the independent variable family sizes, with the Beta coefficient of 0.191, it shows that if family size increases adolescent delinquency increases.

For the independent variable age (Beta coefficient = 0.262), it can be seen that as age increases, adolescent delinquency also increases. This could be because as the adolescent grows older, he or she has more courage to try out new things (even bad ones) and his or her rebellious nature also increases.

For the independent variable of family size (Beta coefficient = 0.191), adolescent delinquency increases as family size increases, probably because as the family size gets bigger, parents have less time to care and attend to each of their children, to look after them to ensure that they do not become delinquent.

One interesting independent variable that was found to be significant was family income (Beta coefficient = 0.181). This shows that as family income increases, parents might have to spend more time on their jobs to be entitled to their increased income, and thus have less time to care for their children.

This test also proves that as more care is shown to the adolescents, their delinquency falls (Beta coefficient = -0.175). This shows that parental care does have an impact on reducing the adolescents' delinquent behaviour.

On the other hand, occupation of parents has no significant impact on adolescent delinquency, thus showing that it is the monetary amount of their parent's income, and not the occupational prestige of the parents' occupation that has an impact on the adolescents' behaviour.

Home intactness and the marital relationships of the adolescents' parents have no significant impact at the 5% level, but are significant at the 10% level on the delinquency of adolescents. This could be because problems between parents could have an adverse emotional impact on the adolescent and could affect their behaviour. Their parents, on

the other hand, could also be burdened with their own problems and thus pay less attention and care to their children, resulting in an increase in their delinquent behaviour.

Gender has no significant impact on the adolescents' behaviour because both males and females are brought up in similar environments and exposed to the same conditions and opportunities, thus their character development and behaviour are likely to be similar.

Living arrangements have no significant impact on adolescent behaviour. This could show that if their parents show adequate care, whether or not they actually stay together with their parents is not a cause of the problem.

Finally, the test shows that parental protection does not affect the behaviour of adolescents. One reason could be that in Asian societies, children are brought up to accept that parental protection will always be part of their lives since eastern parents tend to be more protective of their children. Freedom and independence are also not as important to adolescents in the east as to their western counterparts.

In order to find out if there are significant differences between maternal and paternal care and protection, we further split the independent variables of care and protection into maternal and paternal components to see if the maternal and paternal care and protection would have a different impact on adolescent delinquency.

Table 4.1.2 Results of the “Yes” model, with the care and protection variables split into paternal and maternal components

	Sum of Squares	Df	Mean Square	F	Sig
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Regression	25.984	13	1.999	3.760	0.000
Residual	93.566	176	0.532		
Total	119.549	189			

$$R^2 = 0.217$$

	Coefficient B	Coefficient Std. Error	Std. Coeff. Beta	VIF	t	Sig.
(Constant)	-2.041	1.219			-1.675	0.096
Relationship	0.105	0.070	0.131	1.747	1.489	0.138
Sex	-5.2E-02	0.111	-0.033	1.101	-0.471	0.638
Occupation (F)	3.226E-02	0.065	0.035	1.086	0.498	0.619
Occupation (M)	-3.2E-03	0.054	-0.004	1.318	-0.058	0.954
Living	-0.157	0.202	-0.067	1.681	-0.776	0.439
Family Income	1.044E-04	0.000	0.187	1.201	2.554	0.011
Family Size	0.135	0.051	0.187	1.140	2.629	0.009
Home Intact	0.144	0.077	0.146	1.395	1.857	0.065
Age	0.251	0.066	0.262	1.070	3.798	0.000
Protection (F)	-0.173	0.156	-0.103	1.929	-1.110	0.268
Protection (M)	2.622E-02	0.170	0.017	2.642	0.154	0.878
Care (F)	-0.293	0.139	-0.223	2.535	-2.104	0.037
Care (M)	7.949E-02	0.151	0.058	2.743	0.526	0.600

From Table 4.1.2, p-value is less than 0.05. Therefore, there is a significant linear relationship between adolescent delinquency and the independent variables. That is, the independent variables collectively provide good explanation for the variation in adolescent delinquency. From Table 4.1.2, four variables, age, family size, family income and paternal care, are identified significant at the 5% significance level. Home intactness is significant at the 10 % significance level. The results are generally the same as the previous model except that it is found that paternal care is more important than maternal care. This could be due to the fact that in Asian families, the father is regarded as the head of the family while the mother is perceived as playing a more background role. The father's role is seen as more serious and more disciplinary. Therefore, when

the father pays more attention to the adolescent (more care), this will have more significant impact on the adolescent's behaviour.

4.2 The “Yes - Others” Model

The next model that will be discussed is the model that has “Yes, with others” as the dependent variable. “Yes, with others” comprises of respondents who have experienced the conduct problems listed in the adapted version of Mak's Australian Self-Reported Delinquency Scale together with their friends or other people.

Here, we are interested to find out whether a linear relationship exists between delinquent acts committed with others and the various independent variables of parental bonding and other sociodemographic variables as stated in Table 3.1.

Table 4.2 Results of the “Yes, others” model

	Sum of Squares	df	Mean Square	F	Sig
Regression	12.045	11	1.095	1.681	0.083
Residual	92.495	142	0.0651		
Total	104.540	153			

$R^2 = 0.115$

From Table 4.2, the p-value for this model is greater than 0.05. Thus, we conclude that there is no significant relationship between adolescent delinquency and the various independent variables. This could be because the “Yes - Others” model could involve additional important variables like peer pressure and the need to obtain peer recognition since these delinquent acts involve other people.

4.3 The “Yes - Own” Model

The last model that will be discussed is the model that has “Yes, on my own” as the dependent variable. “Yes, on my own” will comprise of respondents who have committed the conduct problems listed in the adapted version of Mak’s Australian Self-Reported Delinquency Scale independently on their own.

From Table 4.3.1, the p-value for this model is smaller than 0.05. Therefore, we conclude that there is a relationship between the delinquency of adolescents committing delinquent acts on their own and the various independent variables of parental bonding and other sociodemographic variables. Note that four significant variables identified at the 5% level are marital discord, family income, family size and age, and two significant variables at the 10% significance level are care and protection. This result is generally the same as the results obtained from the first model, except that the protection variable is now insignificant at the 5% level and the home intactness variable is now not significant.

Table 4.3.1 Results of the “Yes - Own” model

	Sum of Squares	df	Mean Square	F	Sig
Regression	17.133	11	1.558	3.556	0.000
Residual	73.586	168	0.438		
Total	90.719	179			

$R^2 = 0.189$

	Coefficient B	Coefficient Std. Error	Std. Beta	VIF	t	Sig.
(Constant)	-1.207	1.109			-1.088	0.278
Relationship	0.135	0.063	0.191	1.1668	2.133	0.034
Sex	-7.3E-02	0.102	-0.051	1.065	-0.712	0.477
Occupation (F)	2.563E-02	0.059	0.032	1.083	0.449	0.654
Occupation	-1.8E-02	0.05	-0.028	1.313	-0.358	0.721
Living	-0.103	0.182	-0.05	1.647	0.564	0.574
Home Intact	4.388E-02	0.07	0.051	1.390	0.625	0.533
Family Income	8.124E-05	0.000	0.165	1.191	2.169	0.031
Family Size	0.109	0.047	0.171	1.130	2.308	0.022
Age	0.200	0.061	0.235	1.065	3.279	0.001
Care	-0.104	0.054	-0.161	1.412	-1.948	0.053
Protection	-0.108	0.062	-0.132	1.173	-1.751	0.082

4.4 Other tests

In the previous multiple regression of the different models, it should be noted that the tested sample sizes were much lower than the initial sample size of 402. This is because many of the respondents failed to answer some questions. This resulted in a large reduction of the initial sample size. For family income, there were 156 missing responses and 10 outliers. As a result, a total of 166 respondents had to be eliminated out of the initial sample size of 402. Therefore, to find out if the results are indeed indicative of the entire sample, for the other independent variables, the entire sample was used in the t-test and One Way ANOVA test.

4.4.1 Age

One Way ANOVA was carried out on the respondents in different age groups to find out if the delinquency score would differ with respondents from different age groups of 12 to 13, 14, 15 and above 16 years old.

From Table 4.4.1.1, it can be inferred that delinquency score does in fact differ for various age groups. As p-value is less than 0.05, it can be concluded that delinquency score does not remain the same for adolescents in different age groups. It can be seen from Table 4.4.1.2 that the mean delinquency score for age group 15 is significantly different from the other age groups, while mean delinquency scores for age groups of 12 to 13, 14 and above 16 are about the same.

Table 4.4.1.1 ANOVA Test for Age Groups

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	626.775	3	208.925	9.776	0.000
Within Groups	7886.111	369	21.372		
Total	8512.886	372			

Table 4.4.1.2 Multiple Comparisons (Bonferroni) Among Different age groups

Age group	12-13	14	15	16-17
12-13			*	
14			*	
15	*	*		*
16-17			*	

- The mean difference is significant at the 0.05 level

Interestingly, from Table 4.4.1.3, adolescents from the 15 year age group had the highest delinquency among the respondents, while delinquency for the rest of the age groups do not differ significantly from each other. This could be because adolescents in the age groups of 16-17 are more settled down and busy preparing for their ‘O’ level examinations, so have less free time to spend outside of their studies. Adolescents in the age groups of 12-14 could still be too young to be exposed to delinquent activities. This result is in line with previous studies that showed that adolescent delinquency tended to peak in the middle of adolescence. [Mak & Kinsella,1996].

Table 4.4.1.3 Mean delinquency of adolescents from different age groups

Age Group	Mean Delinquency
12 – 13	4.8768
14	4.4630
15	7.2322
16 – 17	4.7850

4.4.2 Marital Relationship

We are now interested to know if differing marital relationships of the adolescents’ parents have an impact on the mean delinquencies of the adolescents.

Table 4.4.2.1 Anova Test for Parental Marital Relationships.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.732	4	2.183	3.718	0.006
Within Groups	200.798	342	0.587		
Total	209.531	346			

Table 4.4.2.2 Multiple Comparisons (Bonferroni) among different marital relationships

Marital Relationships	Very Good	Quite	Neutral	Quite Bad	Very Bad
Very Good				*	
Quite Good				*	
Neutral					
Quite Bad	*	*			
Very Bad					

- The mean difference is significant at the 0.05 level

From Table 4.4.2.1, it can be seen that the p-value is less than 0.05, therefore it can be concluded that, at the 5% significance level, the mean delinquencies of adolescents scores with differing parental marital relationships are not the same. Table 4.4.2.2 shows that in most instances, the mean delinquencies of adolescents scores whose parents' marital relationships can be described as quite bad is significantly different from the rest. One probable reason could be because problems between parents could have an adverse emotional impact on the adolescent and could affect their behaviour. The parents, on the other hand, could also be burdened with their own problems and thus pay less attention and care to their children, resulting in an increase in their delinquent behaviour.

4.4.3 Parental Care

Next, we are interested in finding out if the delinquency rate of adolescents experiencing varying levels of parental care is different.

Table 4.4.3.1 Anova Test for differing parental care

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.114	2	4.557	7.749	0.001
Within Groups	204.069	347	0.588		
Total	213.184	349			

*Table 4.4.3.2 Multiple Comparisons (Bonferroni)
among adolescents with differing parental care*

Care(i)	2	3	4
2			*
3			*
4	*	*	

- The mean difference is significant at the 0.05 level

Table 4.4.3.1 shows that differing parental care experience by the adolescent does have different impact on the delinquency of the adolescent where it can be noticed that the p-value for the model is less than 5%. Table 4.4.3.2 further shows that adolescents experiencing a parental care level of 4 have significantly different delinquency level. That is, the more care shown to adolescents by their parents, the less delinquent they are.

4.4.4 Home Intactness

Here, we are interested to find out if delinquent score for adolescents from broken homes differs from adolescents from complete families. It was found in previous studies that children from broken homes were more likely to display problem behaviour [Mak

and Kinsella, 1996]. From Table 4.4.4, it can be noted that p-value is more than 0.05, which means that the mean delinquency scores of the adolescents from the differing levels of home intactness are not significantly different in Singapore. One reason could be that the divorce rates in Singapore are lower than those in the West.

Table 4.4.4 Anova Test for Home Intactness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	61.234	2	30.617	1.353	0.260
Within Groups	8397.824	371	22.636		
Total	8459.058	373			

4.4.5 Gender

T-Test was carried out on gender for the whole sample of 214 males and 163 females to find out whether delinquency differs between genders.

As can be seen from Table 4.4.5, p-value for this test is greater than 0.05, therefore, we conclude that there is no significant difference in delinquency scores between the two categories, males and females. This result further reinforces the conclusion in the previous section, showing that gender has no impact on adolescents' behaviour because both males and females are brought up in similar environment and exposed to the same conditions and opportunity.

Table 4.4.5 t - test for Gender

	t-test for Equality of Means						
	t	df	Sig. (2-	Mean Differenc	Std. Error Differenc	95% Interval of	
						Lower	Upper
Equal Variances Assumed	0.8	375	0.372	0.4539	0.5080	-	1.4529
Equal Variances Not	0.9	373.	0.351	0.4539	0.4857	-	1.4089

4.4.6 Living Arrangements

In this section, we would like to see if living with both parents, with single parent or other living arrangements (for example, with guardians, relatives, etc) have different influences on adolescent delinquency. From Table 4.4.6, it is noted that the p-value is more than 0.05, thus it can be concluded that there is no difference in the mean delinquent scores for the different living arrangements.

Table 4.4.6 Anova Test for Different Living Arrangements

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	11.123	2	5.561	0.241	0.786
Within Groups	8572.628	372	23.045		
Total	8583.750	374			

4.4.7 Occupation

Likewise, we are interested to see if delinquency scores from various occupations differ. Tests were carried out separately for mothers and fathers. As can be seen from Table 4.4.7.1 and Table 4.4.7.2, p-value for father's occupation is 0.794, while that of mother's occupation is 0.382. As they are more than 0.05, we thus conclude that parents' occupations have no significant impact on adolescent delinquency.

Table 4.4.7.1 Anova Test for Differing Paternal Occupations

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	36.240	4	9.060	0.421	0.794
Within Groups	7233.010	336	21.527		
Total	7269.250	340			

Table 4.4.7.2 Anova Test for Differing Maternal Occupations

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	95.288	4	23.822	1.049	0.382
Within Groups	7838.332	345	22.720		
Total	7933.620	349			

4.4.8 Parental Protection

In this section, we would like to find out if the mean delinquency levels of adolescents experiencing differing levels of parental protection vary. From Table 4.4.8, it can be

concluded that the mean rate of delinquencies of adolescents with differing parental protection are not significantly different (p -value = 0.171).

Table 4.4.8 *Anova Test for Differing Parental Protection*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.156	2	1.078	1.772	0.171
Within Groups	211.028	347	0.608		
Total	213.184	349			

4.4.9 Family Size

Lastly, we are interested to see if delinquency for adolescents with different family sizes differs. From Table 4.4.9, it can be seen that the mean delinquencies of the adolescents with different family sizes are not significantly different at the 5% significance level since the p -value = 0.062.

Table 4.4.9 *Anova Test for Family Size*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.431	4	1.358	2.261	0.062
Within Groups	204.752	341	0.600		
Total	210.182	345			

4.5 Common Conduct Problems

By tabulating the responses obtained from our questionnaires, we are able to come up with the common conduct problems of Singaporean adolescents as shown in Table 4.5.

Table 4.5 Common conduct problems of Singaporean adolescents

Conduct Problem	No. of responses
Told a lie to someone	296 (77.69%)
Failed to keep promise	256 (67.19%)
Been late for school, meeting, appointment, etc	246 (64.57%)
Done something your parents did not want you to	230 (60.37%)

The common conduct problems committed by Singapore adolescents are only slightly deviant serious in nature and do not entail causing serious harm to others. Therefore, the adolescent delinquency problem in Singapore is not really that serious.

5 CONCLUSIONS

From the above analysis, it can be seen that out of the various independent variables tested (family size, family income, home intactness, the adolescent's living arrangements, gender, age, the marital relationship of the adolescent's parents, occupation of parents and parental care and protection), only age, family size, family income and paternal care were found to be significant in influencing the delinquency of adolescents.

AGE - From the multiple regression model, it can be seen that as age increases, adolescent delinquency also increases. This could be because as the adolescent grows older, he has more courage to try out new things (even bad ones) and his rebellious nature also increases. ANOVA test shows that adolescents of age 15 had the highest delinquent scores, this is in line with previous studies that showed that delinquency tends to peak at mid-adolescence [Mak and Kinsella, 1996].

FAMILY SIZE - The study shows that adolescent delinquency increases as family size increases. Probably because as the family size gets bigger, parents will have less time to care and to attend to each of their children, to look after them to ensure that they do not become delinquent.

FAMILY INCOME - As family income increases, adolescent delinquency also increases. One probable reason for this could be that these parents have to spend more time on their jobs to earn an increased amount of income resulting in the reduction of time for their children.

PATERNAL CARE – The regression analysis shows that the greater the amount of care showed by the father, the less delinquent the adolescent is. This could be because in Asian societies, the father is seen as the disciplinary figure thus the greater the amount of care and attention shown by the father, the less chance of the adolescent going astray.

Previous Parental Bonding Instrument studies have suggested that inadequate parental bonding could be related to disordered behaviour and adjustment problems. The result in this study does in fact support previous findings, showing that paternal neglect is related to conduct problems. However, it was found that unlike previous studies that found maternal bonding to be related to conduct problems, in Singapore, that is not the case. This could be due to the fact that in Asian families, the father is regarded as the head of the family while the mother is perceived as playing a more background role. The father is seen in a more serious and a more disciplinary role. Therefore, when the father pays more attention to the adolescent (more care) this could have an significant impact

on the adolescent's discipline. The findings on delinquency are generally in line with results reported in Mak's [1990, 1994] studies using the Parental Bonding Instrument, where we observed the harmful effect of paternal neglect on adolescent conduct problems.

The results from this study could highlight to the public the importance of paternal care in the behavioural development of adolescents. They can also be used to encourage fathers to take a greater part in caring for their children, to spend more time with them to prevent them from turning delinquent.

Programmes designed to prevent adolescents from turning delinquent could concentrate their efforts more on adolescents who come from families with sociodemographic backgrounds similar to those found to be relevant to adolescent delinquency in this study. This is because these adolescents are found to have a greater probability of turning delinquent. It is hoped that results from this study will prove useful in helping these adolescents.

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