

## Cognitive and emotional determinants of delinquent behaviour

Yuki Y.T. Wan

### *Abstract*

**Objectives:** This article was designed to explore the relationships and the effects of negative emotions and self concepts on delinquent behaviour in a sample of Hong Kong young people (N=269).

**Method:** With the use of self-report method, prevalence of deviant behaviours, negative emotions (stress, anxiety, and depression) and self concepts (moral reasoning, self-esteem, and moral self) were measured.

**Results:** Findings revealed that all negative emotions and self concepts (except general self-esteem) were significantly predictive of delinquent behaviour in general. Mediation analysis showed that depression significantly mediated the effect of moral self on delinquent behaviour, whereas stress mediated the effect of moral reasoning on delinquent behaviour.

**Conclusions:** Overall, the current study provided evidences for the facilitating effect of negative emotions with the association of moral self or moral reasoning on deviant behaviour, suggesting negative emotions, the personal formation of moral self and the development of moral reasoning are significant treatment targets in dealing with the problems of delinquents.

### **Introduction**

The problem of delinquent behaviour among young people has been a prominent issue in Hong Kong for years. Topics such as “13-years-old teenager taking drug” (The Sun 2012), “the increasing phenomenon of teenage girls working as dating partners and prostitutes” (Takungpao 2012), “three teenagers attempted stealing but being caught” (RTHK 2012), “seven teenagers declaring oneself to be a member of Triad are under suspicion of physical assault” (RTHK 2012), and “35% of youths started gambling before the age of 18” (Hong Kong Commercial Newspaper 2008) are widely posted on newspaper in Hong Kong.

Research had been examining different risk factors or antecedent variables of delinquent behaviour for many years. Warr (1993) suggested that the peer association with delinquents in single had the strongest prediction on delinquent behaviour. And, the parenting styles with the focus of punishment or love-withdrawal were related to the children’s delinquent behaviour (Shaw and Scott 1991). Also, it was found that good family relationship was associated with decreased affiliation with delinquent peer (Huey *et al.* 2000). These studies supported that peer influence and parental guidance are well-known predictors on delinquent behaviour.

From another point of view, however, involving in a delinquent behaviour is a personal issue and decision by the teenagers themselves. In a study of Pardini, Loeber, and Stouthamer-Loeber (2005), it was found that the increase of parent-child conflict only predicted changes in the adolescents’ beliefs about delinquent behaviour. Therefore, it is important to be aware of the development of moral reasoning and how much the teenagers internalize the moral belief as moral self, which in turn may affect the engagement of actual delinquent behaviour. Moreover, regarding the personal emotions of the delinquents, it was found that they had significantly higher level of negative emotions than the control sample (Plattner *et al.* 2007). And, emotional expression was found to be not related to delinquent peer affiliation, but, emotion serves as a context to influence their adjustment indirectly (Forgatch and Stoolmiller

1994). Thus, it is believed that both the negative emotions and the cognitive beliefs may have effects on delinquent behaviour.

In this present study, the cognitive and emotional determinants of delinquent behaviour are focused. The study aims to examine the relationships between negative emotions, self cognition and delinquent behaviour. More importantly, the effect of negative emotions and self cognitions on the delinquent behaviour are studied and to see their mediating role on delinquent behaviour.

## Literature Review

### *Delinquent Behaviour*

Delinquency refers to those anti-social behaviours which are more serious, and the delinquent may be put under arrest when the behaviour were noticed to the police, emphasizing the importance of legal aspects of an act in a particular culture (Tolan and Cohler 1993). Therefore, there is no unique definition of delinquency for all research because of the cultural difference.

According to Hong Kong Annual Digest of Statistics in 2010, there was a decreasing trend of the number of delinquent aged 16 to 20 being arrested from 2004 to 2009 in general, but an increasing number of delinquent aged more than 21 being arrested. In particular, the number of juvenile delinquent for those aged 16 to 20 has been dropped significantly from 2003 to 2004, and then it fluctuated slightly in the later three years. Then, it decreased dramatically from 2007 to 2009, falling to the lowest point in 2009 among the six years.

Hong Kong Annual Digest of Statistics (2010) also included statistics from Hong Kong Police Force in 2009. Based on these statistics, there were more delinquents who aged 16 to 20 being arrested for non-violent crime (for example, burglary, shop theft, and criminal damage) than violent crime (for example, rape, wounding, and murder). However, it is believed that some crime cases are not being reported. Among the age group of 16-20, the types of offence with larger proportion of person being arrested for violent crimes were serious assault, wounding, criminal intimidation and indecent assault. For non-violent crimes, the types of offence with larger number of person being arrested were serious narcotics offences, shop theft, unlawful society offences, and sexual offences (other than rape and indecent assault).

However, the above statistics only showed the number of person being arrested by the police. Still, there are substantial proportion of delinquent behaviour excluded from the official statistics if the delinquents are not prosecuted because the crime is minor and such decision had been approved by the parents of both victim and offender.

Based on a study conducted by McQuoid (1994), different types of offence had been grouped into five categories by using the International Self-Report Study of Delinquency (ISRDI) survey in Belfast (Breen *et al.* 2010). First, property offences include shoplifting, burglary, car theft, and theft from car. Second, violent offences can be further divided into two sub-categories, including criminal damage (such as, vandalism and arson) and offences against the person (for example, group fighting, robbery, assault, and carrying a weapon). Third, drug offences include the usage of LSD, cocaine, heroin, and drug dealing. Fourth, status offences refer to the acts which are committed by young people while the behaviour are proscribed only for those below certain age (Michelson *et al.* 1979), for example, alcohol drinking, driving a motor car, and cigarette smoking under age (Hollin *et al.* 1995). Fifth, computer-related crimes include computer hacking, e-mail harassment, and cyber

bullying. However, these five groups only covered the offences, but neglected those delinquent behaviour which are only misconducts but do not violate the legal aspects, for example, a young person going out all night without parents' permission, premarital sexual behaviour, and buying pirated products. A recent study examined the daily activities of Hong Kong school students and found that young people spent times on watching television, surfing internet, smoking, and hanging out purposelessly (Lo *et al.* 2011). Therefore, not only the criminal behaviour, both diligent behaviour and delinquent behaviour should be included in the current study.

### ***Emotion – Stress, Anxiety and Depression***

An emotion is a complex experience which has different components influencing the occurrence of a particular behaviour (Frijda 1986), and affect our judgment and evaluation on particular behaviour or person. Lerner and Keltner (2001) suggested that emotion caused the appraisal tendency to reproduce the same cognitive appraisal which initially produced the emotion and, in turn, led a person to re-evaluate the situation or behaviour. For example, people who are feeling fear hold pessimistic estimation for risky behaviour, seeing that risky behaviour have uncertain consequences and thus, they are more likely to perceive the risk of that behaviour. Therefore, it is believed that a group of emotions would affect the likelihood of a person participating in a risky behaviour, in particular, delinquent behaviour.

Previous findings clearly showed that certain kinds of negative affection were related to some types of delinquent behaviour, including smoking, substance abuse, addictive gambling, bullying, and stealing (for example, Blaszczynsk, & McConaghy, 1989; Patton, Hibbert, Rosier, Carlin, Caust, & Bowes, 1996; Wagner, 2001). High intensity of cigarette smoking in adolescence was related to generalized anxiety disorder in early adulthood (OR = 5.53, 95% CI = 1.84, 16.66) (Johnson *et al.* 2000). Also, with the significant association between regular smoking and panic (OR = 1.5, 95% CI = 1.3, 1.7) and depression (OR = 1.4, 95% CI = 1.3, 1.6), regular smokers were almost twice as likely as occasional smokers to have high level of depression and anxiety, meanwhile, subjects who had high level of self-reported depression and anxiety were more likely to be smokers (likelihood ratio  $\chi^2 = 35.5$ ,  $p < .001$ ) (Patton *et al.* 1996).

Moreover, substance abuse was negatively correlated with anxiety sensitivity ( $r = -.21$ ,  $p < .05$ ), which refers to the concern about the actual or imagined consequences brought by anxiety (Wagner 2001). In other words, the more an individual abuse, the less awareness and consideration of the anxiety consequences and the consequences of his performed acts.

Furthermore, pathological gamblers were depressed at moderate level and they were more likely to have a higher state-trait anxiety scores, suggesting that depression and anxiety are important factors in maintaining gambling behaviour (Blaszczynsk and McConaghy 1989).

In addition, findings regarding the association between bullying and emotion are contradictory. Some studies reported the non-significant association between being a bully and anxiety (Fekkes *et al.* 2004, Wienke *et al.* 2009), whereas some showed positive relationship between them with OR 3.8 (Kaltiala-Heino *et al.* 2000). Also, Klomek, Marrocco, Kleinman, Schonfeld, and Gould (2007) reported that depression was associated with bullying behaviour in school (OR = 3.46, 95% CI = 2.20, 5.46) and outside school (OR = 3.82, 95% CI = 2.27-6.41); similarly, depressive symptoms were associated with bullying others, no matter the bullies are males (OR= 2.0, 95% CI = 1.2, 3.3) or females (OR= 2.4, 95% CI = 2.0, 2.9) (Saluja *et al.* 2004). In sum,

previous findings failed to provide us a conclusive role of emotion on bullying behaviour.

On the other hand, Bradford and Balmaceda (1983) suggested that a high intensity of stress antedated one's stealing behaviour, showing the association between stress and stealing. In addition, Silverman and Brener (1988) reported that shoplifting in mid life was associated with depression and anxiety, and, more recently, Grant *et al.* (2011) found that stealing was significantly associated with sadness and hopelessness ( $\chi^2 = 74.29, p < .0001$ ), which further endorsed the relationship between stealing behaviour and certain negative emotions.

Overall, these studies did not provide us a clear casual relationship between emotion and delinquent behaviour, even some failed to report significant relationship. But, it is now clear that there is linkage between them, which make researchers to believe that these kinds of negative emotion may have an important role to affect the decision for delinquent act.

Summarized from the above studies, smoking, gambling, substance abuse, bullying and stealing were all reported to be associated with anxiety. While some researchers suggested that anxiety and depression facilitated the smoking and gambling behaviour, others failed to show the role of these negative emotions on other delinquent act. However, Banmeister and Tice (1990) mentioned that anxiety serves as a cue for the likelihood of actual or threatened group exclusion, and thus, it helps to motivate people to avoid those risky behaviours but to act according to the group norms. In other words, peer group among adolescents have great influence on one's behaviour. Moreover, Bradford and Meston (2006) found that both low and high state anxiety group had relatively lower level of physiological sexual arousal than the moderate state anxiety group. Such curvilinear trend suggested the inhibitory effect of anxiety on sexual offence if the offender was under a relatively low or high level of state anxiety. However, if he was under a moderate level of state anxiety, anxiety had a facilitative effect for his delinquent behaviour. In addition, in arguing for the role of facilitating the delinquent act, general strain theory was proposed to put emphasize on the role of emotional responses when facing negative life experiences in encouraging deviant behaviour (Agnew 1992). It suggested that stressors induced by negative life experiences would increase negative emotion which created pressure for remedial behaviour, thus, people chose to involve in delinquent or criminal behaviour. This theory also helped to support one study mentioned above, suggesting high level of stress antedating the stealing act.

Based on the above findings, the relationship and the role of negative affective responses on delinquent behaviour are ambiguous; therefore, delinquent behaviour, anxiety, depression, and stress will be examined in this present study.

### ***Self Cognition – Moral Reasoning, Moral self and Self-esteem***

Moral reasoning is defined as the reasons for sustaining norms when the individual is under challenge, usually in a situation of having conflict with another group or social norm (Kohlberg 1958). In a broader view, Piaget (1932) defined moral reasoning as the reason of an individual showing respect for socially accepted moral rules. Kohlberg expanded the work of Piaget on moral reasoning to stages of adolescence and adulthood. He believed that moral reasoning develops with age according to six stages (Kohlberg 1969), including (i) pre-conventional morality, in which actions are classified as right or wrong based on the anticipated consequences; (ii) conventional morality, in which actions are evaluated in the basis of the comments from other people; and (iii) post-conventional morality, in which higher-order ethical principles

are used to evaluate individuals' actions (Smith *et al.* 2003). Kohlberg believed that adolescents are expected to be capable of performing abstract thinking which is necessary for the level of post-conventional morality. Also, Kohlberg (1958) suggested that moral reasoning is an important factor that provides unity in making the decision and judgments of moral action. Thus, it is believed that those who are less mature are more likely to be engaged in delinquent behaviour. However, the results of previous findings could not fully support this idea.

A meta-analysis quantitatively integrating the results of 15 studies related to the moral reasoning of juvenile delinquents supported that juvenile delinquents' moral reasoning was less mature than that of non-delinquents (Nelson *et al.* 1990). Among these 15 studies, Lee and Prentice (1988) indicated there was significant difference between the moral reasoning of delinquent and non-delinquent groups,  $F(3, 50) = 5.95, p < .001$ , showing that the non-delinquents performed at significantly higher level of maturity. Also, with the male offenders from youth correctional institutions who had histories of offence types including drug, violent, or theft, results showed that offenders' moral reasoning development stage was significantly less mature than the controls regardless of the age (Chen and Howitt 2007). In addition, Raaijmakers *et al.* (2005) measured moral reasoning and delinquency in three different periods of time and indicated that there was modest but significant negative relationship between these two variables at the same time of measurement ( $r = -.13, r = -.08, r = -.10$ , respectively;  $ps < .05$ ).

However, there are studies showing the absence of correlation between moral reasoning and delinquent behaviour. Emler *et al.* (1978) found that there was no relationship between moral reasoning and the levels of self-reported delinquent behaviour, suggesting the degree of involvement and the level of seriousness of delinquency are irrelevant to the moral reasoning. Moreover, Tarry and Emler (2007) suggested that a structural measure of moral reasoning level failed to predict self-reported delinquency ( $r = -.04, p > .05$ ), but it can be significantly predicted by moral values ( $r = -.27, p < .001$ ).

On the basis of psychoanalytic perspective, the values and ideals which guide an individual to act morally are represented in superego within an interactive system of id, ego, and superego. However, contemporary infant researchers suggested that the emergent self appears early in the first year of new born babies, and, the self of a child derives its values through identifying with his or her significant caregivers (Wolf 1993). Also, through socialization, children acquired a fundamental skill for behaving as a member of the society, or, more specifically, as a member of their own community, and, this skill consists precisely in a person's performance according to the moral rules (Tugendhat 1993). But, when youngsters reach the level of cognitive ability connected with Kohlberg's stage of conventional morality, they will experience a psychological crisis with a sudden de-idealization. Therefore, teenagers turn to other mediums for the needed experiences, and, new values and ideals become part of the self (Wolf 1993).

Also, these experiences help to derive a self concept of an individual through making personal judgment about his own qualities and competences in different life domains, which termed as self-esteem (Faulkner *et al.* 2007). Donnellan *et al.* (2005) provided evidence for the significant relationship between self-esteem and delinquency, showing that self-esteem was negatively associated with delinquency, despite of assessing self-esteem by Rosenberg Self-Esteem Scale ( $r = -.35, p < .05$ ), self-reported ( $r = -.39, p < .05$ ) or teacher-rated version of the Harter Self-Perception Profile for Children ( $r = -.39, p < .05$ ). Not only the level of moral reasoning, the self

concepts on moral self and self-esteem may have changed or become consolidated in youth and young adulthood and served as a reference point to guide an individual's decisions and behaviours (Higgins-D'Alessandro 2006). Therefore, the importance of moral self and self-esteem, as well as moral reasoning, on judgment of delinquent behaviour should not be neglected if it is aimed to capture an in-depth result for the effect of self-cognition on delinquency.

### **Formulation of Hypotheses**

Studies consistently showed that delinquent behaviour was related to self cognition and negative emotions. However, there were no studies examining the impact of these variables on delinquent behaviour and their interactive relationships among Chinese youth samples. Therefore, the objectives of this study are to investigate the effects of negative emotions and self cognition on delinquent behaviour, and to investigate the relationship among these variables. The hypotheses of the current study are:

*H<sub>1</sub>*: Negative emotions (stress/ anxiety/ depression) are positively correlated with self-reported delinquency behaviour.

*H<sub>2</sub>*: Self cognition (moral reasoning/ self-esteem/ moral self) are negatively correlated with self-reported delinquency behaviour.

*H<sub>3</sub>*: High level of negative emotions (stress/ anxiety/ depression) predicted more engagement of delinquency behaviour.

*H<sub>4</sub>*: Low level of self cognition (moral reasoning/ self-esteem/ moral self) predicted more engagement of delinquency behaviour.

*H<sub>5</sub>*: Negative emotions (stress/ anxiety/ depression) mediated the effect of self cognition (moral reasoning/ self-esteem/ moral self) on delinquent behaviour.

### **Methodology**

#### ***Participants***

This study targeted young people in Hong Kong aged between 17 and 25 ( $M = 18.47$ ,  $SD = 1.77$ ), without a particular requirement of education level. Around half of the participants were recruited from a school, St. Peter's Secondary School, and the others were asked to fill in the questionnaire in other schools, social centers, and bars through random sampling and snowball sampling. A total of 269 valid questionnaires were received. The majority of the participants were 17 years old (35.5%), 18 years old (31.2%), and 19 years old (11.6%). Among the participants, more than half (59.1%) were males and 40.9% were females. And, most of the participants were born in Hong Kong (85.1%), and 12.3% were from mainland China, only 1.4% were born in other countries such as Korea. Regarding the occupational or educational status, 85.5% of participants were studying either in college or secondary school, 9.8% were working, and 4.7% remained unemployed.

#### ***Materials***

A self-report questionnaire consisting four sections, including (1) Demographics, (2) Young People's Daily Behaviour Scale, (3) Moral Reasoning Scale, (4) Depression, Anxiety, and Stress Scale, Moral Self Scale, and Self-Esteem Scale. The Chinese versions of the scales were used in this study due to a concern that some young people in Hong Kong may not proficient in English.

(1) Demographics: includes gender, age, educational or occupational status, and birth place.

(2) Young People's Daily Behaviour Scale, was adopted from a similar research conducted (Lo *et al.*, 2011) and based on the interview of a focus group of young people (N=8) in Hong Kong. It includes 44 items showing list of daily behaviours, including both diligent behaviours, delinquent behaviours and offences. Items 5, 6, 11, 23, 36, 37, and 43 were added after the interview with focus group. Participants were asked to rate their frequency of behaviours in the past three months on a 5-point scale, in which "1" indicates "never" and "5" indicates "always". The scale obtained a reliability score of .903 in this study.

(3) Moral Reasoning Scale (9 items), was adopted based on similar study conducted with young people (Jou 2004, pp. 102-108). It was based on Piaget's stages of moral reasoning. It includes 9 dilemmas with 2-3 answers provided for each dilemma. Each dilemma represents a unique theme for the construction of moral reasoning, including subjective responsibility on stealing, subjective responsibility on lying, parent-child reciprocal punishment, peers reciprocal punishment, personal responsibility, connoted justice, distributed justice, equality, and surrender. Participants were told that there were no standard correct answers and were asked to choose among the given answers for each dilemma.

(4) Depression, Anxiety, and Stress Scale (21 items), Moral Self Scale (8 items), and Self-Esteem Scale (8 items). The 21-items of Depression, Anxiety, and Stress Scale (DASS-21) is the short version of DASS, which have been shown that it is able to distinguish the features of agitation, depression, autonomic arousal and psychological tension as well as DASS does (Antony *et al.* 1988). Its reliability was relatively high at  $\alpha = .927$  in present study. The Moral Self Scale and Self-Esteem Scale were adopted based on similar study (Cheng 2005). Each scale consists 8 items. In this study, it obtained a reliability at  $\alpha = .893$  which is relatively high. To fill in these three scales, participants were asked to rate on a 4-point scale to indicate how much the statement represent themselves, in which "0" indicates "totally different from" and "4" indicates "fully agree with".

### ***Procedure***

An invitation letter was first sent to St. Peter's Secondary School for inviting the students to join the current study. For the students in this school, only the hardcopy version of question was given. For the questionnaires collected from other sources, both the online version and hardcopy version of questionnaire were used.

Before the start of doing the questionnaire, participants were required to read the instruction. It briefly introduced the purpose and the aim of this study, and invited the participants to join the study. It also stressed the confidentiality by telling the participants that it is voluntary, anonymous and all the collected questionnaires will be destroyed after the study completed. Participants who were given a hardcopy version of questionnaire were asked to sign on the consent form before they proceed to the next page of the questionnaire. Signature was not required from the participants who did the online version of questionnaire, but they were told that they can freely leave the current browsing page if they do not want to participate in this study.

Due to the time limit, data from both the online version and hardcopy version were collected and analyzed after three to four months.

## Results

### *Descriptive Statistics of Delinquent Behaviour, Negative Emotions, and Self Cognition*

Table 1 shows the prevalence of the respondents' delinquent behaviour in descending order according to the sum of the percentage of answering "sometimes", "often", and "always".

Table 1. Respondent's delinquent behavior.

	Never, Seldom (%)	Some- times (%)	Often, Always (%)	Mean	SD
Alcohol consumption	63	21	16	2.20	1.28
Verbal bullying	71	20	9	2.08	1.07
Watching/ reading pornography materials	73	15	12	1.98	1.25
Stay outside home all night without parent's permission	74	12	14	1.88	1.38
Engage in pre-marital sex	77	12	11	1.69	1.22
Cigarette smoking	77	10	13	1.73	1.32
Buying Mark Six	78	14	8	1.75	1.30
Buying pirated products	84	12	4	1.56	.94
Horse racing or soccer betting	85	8	7	1.50	1.06
Contact with triad members	88	8	6	1.46	1.00
Physical bullying	86	7	7	1.61	.99
Stay at game centre/ internet café	87	6	7	1.61	1.08
Gamble in casino or mah-jong hall	88	6	6	1.37	.93
Involvement of illegal gambling	89	7	4	1.36	.86
Littering/ Spitting	91	6	3	1.34	.79
Taking restrained medicine without doctor's instruction	93	5	2	1.22	.71
Vandalism	94	4	3	1.23	.73
Fighting or assault	93	5	2	1.26	.73
Theft at home	93	4	3	1.27	.76
Drug taking/ Medicine misuse	94	3	3	1.18	.66
Carrying a weapon	94	4	2	1.17	.60
Causing damage to public facilities	95	4	1	1.18	.56
Shoplifting	95	2	3	1.16	.65
Taking public transportation without paying fee intentionally	95	3	2	1.17	.61
Driving without legal driving license	96	3	1	1.14	.57
Causing damage to others' houses or shops	97	2	1	1.10	.47
Break into other's house without permission	97	2	1	1.16	.55
Theft from the car	99	1	0	1.04	.31
Theft at friend's house	99	1	0	1.04	.32

The most common delinquent behaviour of the respondents was alcohol consumption, 21% of the respondents sometimes consume alcohol and 16% often or always have alcohol intake. Followed by verbal bullying, in which 20% sometimes perform verbal bullying to other people and 9 % often or always involve in verbal bullying. And, the third common delinquent behaviour of the respondents was watching or reading pornography materials, with 26% of the respondent sometimes, often, or always review pornography materials.

Gender differences in respondents' delinquent behaviour being grouped into different categories, moral reasoning, negative emotions, and self cognitions are shown in Table 2. Significant gender differences were found that males were more likely to be involved in delinquent behaviour in general ( $p < .01$ ), gambling behaviour ( $p < .01$ ), violent offence ( $p < .01$ ), gangs behaviour ( $p < .01$ ), and sexual misconduct ( $p < .01$ ) than females.

However, no significant gender differences were found in property offence and drug offence, as well as the moral reasoning. Among the three negative emotions, significant gender difference was only found in depression that males were more likely to be depressed when compared to females ( $p < .05$ ). Regarding the self-concepts, significant gender difference was found only in moral self but females showed higher degree of moral self than males ( $p < .01$ ).

Table 2. Gender difference in the prevalence of delinquent behaviour, moral reasoning, negative emotions, and self concepts.

	Male		Female		<i>t</i>	Cohen's <i>d</i>	<i>r<sub>yλ</sub></i>
	Mean	SD	Mean	SD			
Delinquent behaviour	1.56	.67	1.26	.44	4.35**	.52	.25
Gambling behaviour	1.66	1.02	1.25	.50	4.39**	.51	.25
Violent offence	1.48	.66	1.23	.44	3.83**	.45	.22
Property offence	1.16	.43	1.09	.38	1.38	.17	.08
Gangs behaviour	1.72	1.00	1.36	.66	3.62**	.43	.21
Sexual misconduct	2.12	1.19	1.42	.76	5.93**	.74	.35
Drug offence	1.24	.73	1.15	.58	1.06	.13	.06
Moral Reasoning	6.07	1.31	5.97	1.14	.65	.08	.04
Stress	8.72	4.91	8.12	4.33	1.04	.13	.07
Anxiety	5.94	4.36	5.36	3.80	1.15	.14	.07
Depression	6.85	4.73	5.49	4.42	2.41*	.30	.15
Self-esteem	13.81	5.20	14.92	4.82	-1.79	-.22	-.11
Moral self	12.69	4.53	14.83	3.71	-4.30**	-.52	-.25

\* $p < .05$ , \*\* $p < .01$ , *d.f.* = 239.94 - 273.35 due to missing values.

**Correlation between Delinquent Behaviour, Negative Emotions, and Self Cognition**

Correlation analyses were conducted on the relationship between delinquent behaviour, negative emotions, and self-concepts (see Table 3). Delinquent behaviour were further divided into different categories, including gambling, violent offence, property offence, gangs behaviour, sexual misconduct, and drug offence. All these

various categories of delinquent behaviour were significantly correlated with each other, ranging from  $-.186$  to  $.887$  ( $ps < .01$ ). And, some of these categories of delinquent behaviour were significantly correlated with moral reasoning, including gambling ( $r = -.137, p < .05$ ), property offence ( $r = -.249, p < .01$ ), sexual misconduct ( $r = -.191, p < .05$ ), and drug offence ( $r = -.137, p < .01$ ). Other types of offence did not show a significant correlation with moral reasoning, but, in general, delinquent behaviour was significantly correlated with moral reasoning ( $r = -.186, p < .01$ ), showing that the more the individual can perform moral reasoning, the less the delinquent behaviour.

Moreover, all three negative emotions separately showed significant positive correlation with all the categories of delinquent behaviour, with the correlation ranging between  $.178$  and  $.413$  ( $ps < .01$ ). Also, an individual's degree of moral reasoning was negatively associated with these negative emotions, including stress ( $r = -.171, p < .01$ ), anxiety ( $r = -.155, p < .05$ ), and depression ( $r = -.130, p < .05$ ). The above results showed that anxious, depressed, or stressful people were more likely to be involved in delinquent behaviour and less capable to have moral reasoning.

On the other hand, moral self was found to be significantly and negatively correlated with certain kinds of delinquent behaviour including gambling ( $r = -.130, p < .05$ ), gangs act ( $r = -.175, p < .01$ ), and sexual misconduct ( $r = -.166, p < .01$ ), and also delinquent behaviour in general ( $r = -.153, p < .05$ ). However, self-esteem was not found to be correlated with any delinquent behaviour. Predictably, both moral self and self-esteem were significantly correlated with moral reasoning ( $r = -.139; r = -.152, ps < .05$ ). Also, significant and negatively high correlations were found between self-esteem and anxiety ( $r = -.491, p < .01$ ), depression ( $r = -.639, p < .01$ ), and stress ( $r = -.401, p < .01$ ), suggesting that anxious, depressed, and stressful people were more likely to have low self-esteem. Similar correlations were also found between moral self and depression ( $r = -.218, p < .01$ ), but except stress and anxiety. Since moral self and self-esteem are both measuring the self concepts, they were highly correlated ( $r = -.514, p < .01$ ).

Table 3

*Correlation table of delinquent behaviour, negative emotions, and self concepts*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Delinquent behaviour	1	.854**	.887**	.773**	.855**	.845**	.792**	-.186**	.413**	.263**	.328**	.005	-.153*
2 Gambling		1	.675**	.490**	.618**	.725**	.585**	-.137*	.368**	.200**	.226**	.053	-.130*
3 Violent offence			1	.722**	.741**	.660**	.773**	-.053	.347**	.265**	.299**	.068	-.054
4 Property offence				1	.662**	.525**	.732**	-.249**	.335**	.254**	.219**	.040	-.010
5 Gangs behaviour					1	.688**	.645**	-.102	.293**	.188**	.282**	-.003	-.175**
6 Sexual misconduct						1	.574**	-.191**	.319**	.178**	.273**	.010	-.166**
7 Drug offence							1	-.137*	.397**	.359**	.316**	-.062	-.085
8 Moral reasoning								1	-.171**	-.155*	-.130*	.152*	.139*
9 Stress									1	.755**	.708**	-.401**	-.112
10 Anxiety										1	.756**	-.491**	-.111
11 Depression											1	-.639**	-.218**
12 Self esteem												1	.514**
13 Moral self													1

\* $p < .05$ , \*\* $p < .01$

**Regression Analyses for the effects of Negative Emotions and Self Cognition on Delinquent Behaviour**

Multiple regressions were conducted for different variables to show their effects on delinquent behaviour. Table 4 was a hierarchical regression analysis showing a general picture of the effects of the variables (moral reasoning, self-esteem, moral self, stress, anxiety, and depression) on delinquent behaviour. To be specific, each variable were examined individually for its own effect on delinquent behaviour. But, it was found that not all variables had a significant predicting effect on delinquent behaviour. Mediation analysis was computed for the models which met the criteria that three paths of the independent variable, mediator, and dependent variable were found to have significant predictions on each other. In this study, only two models were found to have significant mediation and one was found to have partial mediation (see Table 5).

In model 1, moral self significantly predicted delinquent behaviour with  $\beta = -.153$  ( $p < .05$ ) in which increased in moral self signified decreased in delinquent behaviors. Depression, as a proposed mediator, also significantly predicted delinquent

Table 4. Hierarchical Regression Analysis of the predicting effect of self cognition and negative emotions on delinquent behavior.

	Std $\beta$	SE	R	R <sup>2</sup> change
<b>Step 1</b>				
<i>Self Cognition</i>				
Moral reasoning	-.166**	.031	.290	.084**
Self-esteem	.148*	.009		
Moral self	-.263**	.011		
<b>Step 2</b>				
<i>Self Cognition</i>				
Moral reasoning	-.122*	.026	.604	.280**
Self-esteem	.556**	.009		
Moral self	-.339**	.009		
<i>Negative Emotions</i>				
Stress	.364**	.011		
Anxiety	-.088	.014		
Depression	.418**	.013		

DV: Delinquent behaviour, \* $p < .05$ , \*\* $p < .01$

behaviors ( $\beta = .309$ ,  $p < .001$ ), showing that depression had a strong direct effect on delinquent behaviors. Also, increased in moral self significantly predicted a decrease in depression ( $\beta = -.218$ ,  $p < .001$ ). A multiple regression was computed since the above regressions were all found to be significant, and the  $\beta$  -value decreased from  $-.153$  ( $p < .05$ ) to  $-.086$  ( $p > .05$ ), indicating that depression significantly mediated the effect of moral self on delinquent behaviour. In other words, depressed people with low moral self were more likely to be involved in delinquent behaviour.

On the other hand, in model 2, increased in moral reasoning significantly predicted a decrease in delinquent behaviour ( $\beta = -.180, p < .01$ ) and a decrease in stress ( $\beta = -.171, p < .01$ ). And, stress, which was proposed as a mediator in this model, significantly predicted delinquent behaviour, in which higher stress predicted the increasing involvement of delinquent behaviour ( $\beta = .401, p < .001$ ), showing that stress had a strong direct effect on delinquent behaviour. Since all the above pathways were found to be significant, the multiple regression was computed for this model and it was found that stress significantly mediated the effect of moral reasoning on delinquent behaviour, by decreasing the  $\beta$  -value from  $-.180 (p < .01)$  to  $-.113 (p > .05)$ . In sum, a stressful person with low ability of moral reasoning was more likely to perform delinquent behaviour.

Table 5. Mediation analysis of the three models which fulfilled the criteria of having three significant predicting paths.

	Std $\beta$	SE	R	R <sup>2</sup> change
<b>Model 1.</b>				
<i>Step 1</i>				
Moral self (IV)	-.153*	.008	.153	
<i>Step 2</i>				
Moral self (IV)	-.086	.008	.339	.091**
Depression (MV)	.309**	.008		
<b>Model 2.</b>				
<i>Step 1</i>				
Moral reasoning (IV)	-.180**	.031	.180	
<i>Step 2</i>				
Moral reasoning (IV)	-.113	.029	.443	.164**
Stress (MV)	.410**	.008		
<b>Model 3.</b>				
<i>Step 1</i>				
Moral reasoning (IV)	-.180**	.031	.180	
<i>Step 2</i>				
Moral self (IV)	-.120*	.029	.411	.136**
Negative emotions (MV)	.374**	.009		

DV: Delinquent behaviour, \* $p < .05$ , \*\* $p < .01$

In model 3, anxiety, depression and stress were grouped into a single variable named negative emotions and it was found that it significantly predicted delinquent behaviour ( $\beta = .374, p < .001$ ), in which the increased negative emotions signified the increased delinquent behaviors. And, it was found that increased level of moral reasoning predicted decreased negative emotions ( $\beta = -.166, p < .01$ ). With all the pathways being significant, the multiple regression was computed for this model with

the negative emotion as the mediator, and the result showed that negative emotion partially mediated the effect of moral reasoning on delinquent behaviour since the  $\beta$  – value decreased from  $-.120$  ( $p < .01$ ) to  $-.171$  ( $p = .045$ , with marginally significance).

## Discussion

To my best knowledge, there was limit of study related to delinquents' emotions and self cognition on Chinese youth samples. Therefore, this study contributed to the local context with significant results on some proposed hypotheses. In general, it revealed that, in this sample, Hong Kong youths generally were less involved in all kinds of delinquent behaviors with the means for different items of delinquent behaviour ranging from 1.04 to 2.20, but had a larger proportion of involvement on diligent behaviors, with the means of different diligent behaviors ranging between 1.69 and 4.08. Gender difference was found in the measurement of delinquent behaviour and some sub-types of delinquent behaviour, as well as depression, suggesting the importance of more guidance and awareness on the boys. However, several studies showed an opposite findings that females were more likely to be depressed when compared to males (Nolen-Hoeksema and Girgus 1994, Turner *et al.* 2003), especially after the age of 15, due to more challenges and risk factors carried or faced by girls in adolescents. A possible explanation for the current result is the gender difference in coping. Females tended to use emotion-focused coping strategies and were more likely to seek social support from others when encountering a stressful problem, while males had a tendency to use problem-focused coping strategies and tried to solve the problem on their own (Ptacek *et al.* 1994). Therefore, boys tended not to seek others' support even when they cannot handle their problems well, leading to a frustrated situation and depressed emotion may occur.

Hypotheses 1 and 3 were supported with all three negative emotions, including anxiety, stress, and depression, significantly correlated with all kinds of suggested delinquent behaviour. More importantly, they were found to be the significant positive predictors of the youth's engagement of delinquent behaviour. These findings revised the mixed results of previous studies, suggesting that higher level of negative emotions facilitated an individual's involvement of delinquent act.

However, hypotheses 2 and 4 were partially supported by this study. To be specific, moral reasoning and moral self were significantly correlated with and predicted delinquent behaviour in general. But, the current study failed to show a significant correlation between self-esteem and any types of delinquent behaviour, and, self-esteem was not a significant predictor of delinquent behaviour as well. Self-esteem is an evaluation of an individual by his/ her own. It can be a motivator of achievement in school or in the youth culture group, but, self-esteem can also be restored from engaging delinquent behaviour if the teenagers failed to obtain self-esteem from school (Bynner *et al.* 1981). Moreover, the relationship between self-esteem and delinquency may not be a direct linear one, and hence it cannot be shown by linear regression or correlation analysis. A recent study found that self-esteem was relatively low prior to the emerge of delinquent behaviour, however, self-esteem can be gradually enhanced after the adolescent involved in delinquent behaviour and gained peer support from the delinquent group (Lo *et al.* 2011). In other words, the relationship could be a curvilinear one. Thus, it is not necessary that delinquents are correlated with low self-esteem. Also, the effect of self-esteem on delinquent behaviour may be mediated by some other variables, for example, parental support or school achievements, it is suggested that these third variables could be added in future study when measuring the effect of self-esteem on delinquency.

The major findings of current study were the mediation effects of negative emotions which mediated the effect of moral self and moral reasoning on delinquent behaviour separately, thus, hypothesis 5 was partly supported by the current results. In model 1, depression mediated the effect of moral self on delinquent behaviors. This result can be best explained by the relationship between depression and cognition. Since moral self is one of the cognition of self, depression affected cognition as well as its component, moral self. Studies discovered that depression had significant main effect on cognitive performance test, showing that more depressive symptoms associated with poor cognition (Bierman *et al.* 2005), or even caused selective cognition deficit (Gallassi *et al.* 2001). Therefore, depressed people with poor cognitive functioning and poor cognition for moral self failed to make moral judgment efficiently on the situation and these people were placed at a high risk of performing delinquent behaviour. In model 2, stress mediated the effect of moral reasoning on delinquent behaviour, which can be elaborated by the relationship of stress and the power of judgment since moral reasoning is the ability to make judgment on moral issues. Kowalski-Trakofler *et al.* (2003) suggested that stress narrowed an individual's focus of attention. Also, in regarding the pattern of solving problem, it was found that people under stressful condition put focus on the problem's general outline, but people who were not in a stressful condition focused on in-depth analysis for solving the problem (Dorner and Pfeifer, 1993). Narrowing the focus may help to eliminate those information which are not essential, however, stressful people tended to focused on a general outline of the issue, in which they were not able to filter out the unimportant information and to make an effective judgment. In turn, the ability of moral reasoning was influenced by poor judgment. Therefore, stressful people who had particular poor moral reasoning were more likely to take part in delinquent behaviour. Similarly, in model 3, negative emotions including stress, anxiety, and depression partially mediated the effect of moral reasoning on delinquent behaviors. However, there were little studies on the direct relationship between anxiety or depression and the power of judgment. Anxiety is a common response to a stressful situation, and, if this stressful event continues but an individual is unable to cope with it effectively, depression may occur (Smith *et al.* 2003). Thus, the result of partial mediation in current study may largely due to the mediating role of stress.

## Conclusions

To conclude, delinquency is a problem with multiple inter-related causes and effects, larger samples and more variables should be included for a comprehensive view on the situation of delinquent behaviour. But, the current study provided a general view for the situation of delinquency among Hong Kong youths. More importantly, the emotions and self concepts of the youths should be considered more. In Hong Kong, at least one social worker had been assigned to each school to help the students by providing counseling and promoting mental health at school. For those who had been working, they can also seek help from The Mental Health Association of Hong Kong which provides websites, talks and first aid courses on handling mental health problem. However, even the helping sources are available, teenagers may not realize their own issues. Therefore, not only the teachers and social workers at school, other parties such as peers and parents should make efforts to provide guidance to the teenagers away from delinquent behaviour.

### Acknowledgement

I am heartily thankful to my supervisor, Dr. CHENG, Hon Kwong Christopher, for his encouragement and guidance throughout this study which enabled me to develop an understanding on this topic. I would also like to thank all anonymous participants for their valuable contribution in this study. This study would not have been possible without their help.

### Biographic note

Miss Yuki Y.T. Wan is the 2012 graduate of the Bachelor of Social Sciences (Honours) in Psychology at the City University of Hong Kong. Her email address is [ting\\_410@hotmail.com](mailto:ting_410@hotmail.com).

### References

- Agnew, R., 1992. Foundation of general strain theory of crime and delinquency. *Criminology*, 30, 47-88.
- Antony, M.M., *et al.*, 1998. Psychometric properties of the 42-item and 21-item versions of the depression anxiety stress scales in clinical groups and a community sample. *Psychological Assessment*, 10, 176-181.
- Baumeister, R. F. and Tice, D. M., 1990. Anxiety and social exclusion. *Journal of Social and Clinical Psychology*, 9, 165-195.
- Bierman, E.J.M., *et al.*, 2005. Effects of anxiety versus depression on cognition in later life. *The American Journal of Geriatric Psychiatry*, 13, 686-693.
- Blaszczynski, A. and McConaghy, N., 1989. Anxiety and/or depression in the pathogenesis of addictive gambling. *Substance Use & Misuse*, 24, 337-350.
- Bradford, A. and Meston, C.M., 2006. The impact on anxiety on sexual arousal in women. *Behaviour Research and Therapy*, 44, 1067-1077.
- Bradford, J. and Balmaceda, R., 1983. Shoplifting: is there a specific psychiatric syndrome? *Can J Psychiatry*, 28, 248-254.
- Breen, J., *et al.*, 2010. Ireland. In: J. Junger-Tas, *et al.*, eds., *Juvenile delinquency in Europe and beyond: Results of the second international self-report delinquency study*. New York: Springer, 111-124.
- Bynner, J.M., O'Malley, P.M., and Bachman, J.G., 1981. Self-esteem and delinquency revisited. *Journal of Youth and Adolescence*, 10, 407-441.
- Census and Statistics Department, 2010. *Hong Kong annual digest of statistics*. Hong Kong, China: Government Printer.
- Chen, C.A. and Howitt, D., 2007. Different crime types and moral reasoning development in young offenders compared with non-offender controls. *Psychology, Crime and Law*, 13, 405-416.
- Cheng, C.H.K., 2005. *The Chinese adolescent self-esteem scales: a user manual*. Hong Kong: Department of Applied Social Studies, City University of Hong Kong.
- Donnellan, M.B., *et al.*, 2005. Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science*, 16, 328-335.
- Dorner, D. and Pfeifer, F., 1993. Strategic thinking and stress. *Ergonomics*, 36, 1345-1360.
- Emler, N.P., Heather, N., and Winton, M., 1978. Delinquency and the development of moral reasoning. *The British Journal of Social and Clinical Psychology*, 17, 325-331.
- Faulkner, G.E.J., *et al.*, 2007. The relationship between vigorous physical activity and juvenile delinquency: a mediating role for self-esteem? *Journal of Behavioral Medicine*, 30, 155-163.
- Fekkes, M., Pijpers, F.I., and Verloove-Vanhorick, S.P., 2004. Bullying behavior and associations with psychosomatic complaints and depression in victims. *J Pediatr*, 144, 17-22.
- Forgatch, M.S. and Stoolmiller, M., 1994. Emotions as contexts for adolescent delinquency. *Journal of Research on Adolescence*, 4, 601-614.
- Frijda, N.H., 1986. *The emotions*. Cambridge, England: Cambridge University Press.
- Gallassi, R., Morreale, A., and Pagni, P., 2001. The relationship between depression and cognition. *Archives of Gerontology and Geriatrics*, 7, 163-171.
- Grant, J.E., *et al.*, 2011. Stealing Among High School Students: prevalence and Clinical Correlates. *J Am Acad Psychiatry Law*, 39, 44-52.

- Higgins-D'Alessandro, A., 2006. *Moral functioning, moral identity, and moral self-concepts*, Available from: [http://cee.nd.edu/news/documents/HigginsDA\\_Summary.pdf](http://cee.nd.edu/news/documents/HigginsDA_Summary.pdf) [Accessed 19 April 2012].
- Hollin, C.R., Epps, K.J., and Kendrick, D.J., 1995. *Managing behavioural treatment: Policy and practice with delinquent adolescents*. London: Routledge.
- Hoon, P.W., Wincze, J.P., and Hoon, E.F., 1977. A test of reciprocal inhibition: are anxiety and sexual arousal in women mutually inhibitory? *Journal of Abnormal Psychology*, 86, 65-74.
- Huey, S.J., et al., 2000. Mechanisms of change in multisystemic therapy: reducing delinquent behavior through therapist adherence and improved family and peer functioning. *Journal of Consulting and Clinical Psychology*, 68, 451-467.
- Johnson, J.G., et al., 2000. Association between cigarette smoking and anxiety disorders during adolescence and early adulthood. *JAMA*, 306, 1625-1723.
- Kaltiala-Heino, R., et al., 2000. Bullying at school – an indicator of adolescents at risk for mental disorders. *J Adolesc*, 23, 661–674.
- Klomek, A.B., et al., 2007. Bullying, depression, and suicidality in adolescents. *J Am Acad Child Adolesc Psychiatry*, 46, 40–49.
- Kohlberg, L., 1958. *The development of modes of moral thinking and choice in the years ten to sixteen*. Chicago: University of Chicago Library.
- Kohlberg, L., 1969. Stage and sequence: the cognitive-developmental approach to socialization. In: D.A. Goslin, eds. *Handbook of socialization theory and research*. Chicago: Rand McNally.
- Kowalski-Trakofler, K.M., Vaught, C., and Scharf, T., 2003. Judgment and decision making under stress: an overview for emergency managers. *Int. J. Emergency Management*, 1, 278-289.
- Lee, M. and Prentice, N.M., 1988. Interrelations of empathy, cognition, and moral reasoning with dimensions of juvenile delinquency. *Journal of Abnormal Child Psychology*, 16, 127-139.
- Lerner, J.S. and Keltner, D., 2001. Fear, anger, and risk. *Journal of Personality and Social Psychology*, 81, 146-159.
- Lo, T.W., et al., 2011. Self-esteem, self-efficacy and deviant behavior of young people in Hong Kong. *Advances in Applied Sociology*, 1, 48-55.
- McQuoid, J., 1994. The self-reported delinquency study in Belfast, Northern Ireland. In: J. Junger-Tas, G. Terlouw, and M. Klein, eds. *Delinquent behavior among young people in the western world: First results of the international self-report delinquency study*. Amsterdam: Kugler Publications.
- Michelson, W.M., et al., 1979. *The Child in the City*. University of Toronto Press.
- Nolen-Hoeksema, S. and Girgus, J.S., 1994. The emergence of gender differences in depression during adolescence. *Psychological Bulletin*, 115, 424-443.
- Nelson, J.R., Smith, D.J., and Dodd, J., 1990. The moral reasoning of juvenile delinquents: a meta-analysis. *Journal of Abnormal Child Psychology*, 18, 231-239.
- Pardini, D.A., Loeber, R., and Stouthamer-Loeber, M., 2005. Developmental shifts in parent and peer influences on boys' beliefs about delinquent behavior. *Journal of Research on Adolescence*, 15, 299-323.
- Patton, G.C., et al., 1996. Is smoking associated with depression and anxiety in teenagers? *American Journal of Public Health*, 86, 225-230.
- Piaget, J., 1932. *The moral judgment of the child*. New York: Free Press.
- Plattner, B., et al., 2007. State and trait emotions in delinquent adolescents. *Child Psychiatry & Human Development*, 38, 155-169.
- Ptacek, J.T., Smith, R.E., and Dodge, K.L., 1994. Gender differences in coping with stress: when stressor and appraisals do not differ. *Personality and Social Psychology Bulletin*, 20, 421-430.
- Raaijmakers, Q.A., Engels, R.C.M.E., and Van Hoof, A., 2005. Delinquency and moral reasoning in adolescence and young adulthood. *International Journal of Behavioral Development*, 29, 247-258.
- Saluja, G., et al., 2004. Prevalence of and risk factors for depressive symptoms among young adolescents. *Arch Pediatr Adolesc Med*, 158, 760–765.
- Shaw, J.M. and Scott, W.A., 1991. Influence of parent discipline style on delinquent behaviour: the mediating role of control orientation. *Australian Journal of Psychology*, 43,61-67.
- Silverman, J. and Brener, N., 1988. Psychiatric profile of shoplifters. *The Lancet*, 332, 157.

- Smith, E.E., *et al.*, 2003. *Atkinson & Hilgard's introduction to psychology*, 14<sup>th</sup> ed. China: Vicki Knight.
- Tarry, H. and Emler, N., 2007. Attitudes, values and moral reasoning as predictors of delinquency. *British Journal of Developmental Psychology*, 25, 169-183.
- Tolan, P.H. and Cohler, B.J., 1993. *Handbook of clinical research and practice with adolescents*. Canada: John Wiley and Sons.
- Tugendhat, E., 1993. The role of identity in the constitution of morality. In: G.G. Noam and T.E. Wren, eds. *The moral self*. Cambridge, Massachusetts: MIT Press, 3-15.
- Turner, B.J., *et al.*, 2003. Relationship of gender, depression, and health care delivery with antiretroviral adherence in HIV-infected drug users. *Journal of General Internal Medicine*, 18, 248-257.
- Warr, M., 1993. Age, peers, and delinquency. *Criminology*, 31, 17-40.
- Wagner, M.K., 2001. Behavioral characteristics related to substance abuse and risk-taking, sensation-seeking, anxiety sensitivity, and self-reinforcement. *Addictive Behaviors*, 26, 115-120.
- Wienke, T.C.M., *et al.*, 2009. Multiple informants in the assessment of psychological, behavioral, and academic correlates of bullying and victimization in middle school. *J Adolesc*, 32, 193–211.
- Wolf, E. S., 1993. Self, idealization, and the development of values. In: G.G. Noam and T.E. Wren, eds. *The moral self*. Cambridge, Massachusetts: MIT Press, 56-77.
- 周懷嫻 (2004) 。 *少年犯罪*。台北：五南圖書。
- 迷失的青春—香港青少年援交現象, 2012年04月08日。大公報。取自：  
[http://www.takungpao.com.hk/news/12/04/08/\\_IN-1469843.htm](http://www.takungpao.com.hk/news/12/04/08/_IN-1469843.htm) [2012年4月19日]。
- 調查顯示:香港35%未滿18歲青少年曾參與賭博, 2008年11月03日。香港商報。取自：  
[http://www.hkcd.com.hk/content/2008-11/03/content\\_2177434.htm](http://www.hkcd.com.hk/content/2008-11/03/content_2177434.htm) [2012年4月19日]。
- 3名青少年涉企圖盜竊 在荃灣被捕, 2012年03月23日。香港電台。取自：  
[http://rthk.hk/rthk/news/expressnews/20120323/news\\_20120323\\_55\\_827980.htm](http://rthk.hk/rthk/news/expressnews/20120323/news_20120323_55_827980.htm) [2012年4月19日]。
- 7青少年涉嫌傷人及自稱三合會成員被捕, 2012年04月19日。香港電台。取自：  
[http://rthk.hk/rthk/news/expressnews/20120419/news\\_20120419\\_55\\_834180.htm](http://rthk.hk/rthk/news/expressnews/20120419/news_20120419_55_834180.htm) [2012年4月19日]。
- 13歲濫藥少年求助戒癮, 2012年03月25日。太陽報。取自：  
[http://the-sun.on.cc/cnt/news/20120325/00407\\_084.html?pubdate=20120325](http://the-sun.on.cc/cnt/news/20120325/00407_084.html?pubdate=20120325) [2012年4月19日]。