Multidimensional Self-Concept of
Proactively Aggressive Adolescents and Reactively Aggressive Adolescents in Hong Kong

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Abstract

Present study aimed to investigate (1) the correlation between two types of aggression (proactive and reactive aggression) and multidimensional self-concept; (2) the differences between proactive and reactive aggressors in multifaceted self-concept; and (3) the trend of school bullying in Hong Kong. Present study was conducted by both quantitative research (N= 1618) and qualitative interview (N= 39). Results showed significant correlation between two types of aggression and most of the domains of self-concept. Self-concept would vary according to the variation of the frequency of proactive and reactive aggression. Proactive aggressors possessed higher self-concept in the relationship with opposite sex peers and in physical appearance than reactive aggressors. Males and students in lower Form (especially Form 2) were more aggressive than females and students in higher Form in the school context of Hong Kong.
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1.1 Current situation of school bullying

Bullying and aggression among adolescents is a growing social problem all over the world. It is not recent or new. Several decades ago, this problem has already existed, but people only give little attention to it at that time. In the recent decade, the aggression problem has been getting more serious than we can imagine. Adolescents used various kinds of bullying behaviors to bully others. Apart from the most common methods, such as hitting, kicking, threatening and vilification, teenagers even spit on their classmates’ lunch box, put the scaring insects into drawers in order to frighten others, and lock others into the toilet.

In foreign countries, especially in America, the number of gun attacks among adolescents in school is uncountable. Much school violence in Taiwan and Mainland China, in addition to foreign countries, is not only between students, but also between teachers and students. It is very common to see teachers physically punish students, and students hit, kick and scold at teachers. For example, in 2005, a 15-year-old Chinese student was beaten and injured by five teachers because of the denial of talking during the lesson (Epoch Times, 2005, November 4). Even in Japan, which is one of the low crime rate developed country, there are more than 30000 reported cases of school violence in secondary school in 2005 (Epoch Times, 2006, September 14).
In Hong Kong, although gun attacks in school do not happen and the school violence between students and teachers is not common, the bullying and aggression among adolescents is worth to notice. Hong Kong citizens have been shocked by several bullying and aggression cases. In 1997, more than ten adolescents beat and killed one of their peers. They even burned the dead body and left it in the nearby public refuse collection points (Oriental Daily News, 1997, May 19, as cited in Wong, 2003, p. 2). In 1999, ten adolescents forced a girl to put off the clothes and wrote some words onto her body. They even hit and kicked the girl, and dashed her head to the wall (Ming Pao, 1999, February 5, as cited in Wong, 2003, p. 10).

In 2003, a video, showing eleven secondary school students hit and kicked their peers in a secondary school, was spread out though the Internet (Sing Tao Daily, 2003, December 23, as cited in Wong, Cheng, & Ma, 2006, p. 6). After the video was exposed, Hong Kong citizens and government began to take the problem seriously. Investigations were taken in schools. Researches were conducted to study the reasons and consequences of bulling. According to Education and Manpower Bureau (2003), there were 1042 reported cases of bullying and 556 cases of reported violence in primary and secondary schools during the year of 2002 and 2003. In 2004, Democratic Alliance for the Betterment and Progress of Hong Kong conducted a survey among the secondary schools in Hong Kong (N= 1264). It found that there were 78.2% secondary students had witnessed an act of bullying committed against
at least one fellow classmate, 31.2% had bullied others, and 48.7% had been bullied by classmates in the past six months. The figures frightened all people in Hong Kong.

Reasons for adolescents participating in bullying are worth to take into account. Taking revenge or retaliation, seeking attention, not knowing how to deal with the negative emotions, and peer pressure are the most common reported reasons. Do the motivation of bullying is that simply? It is widely believed that there are several underlying elements contribute the act of bullying. Self-concept is one of the significant elements on the lists.

1.2 Objectives and research questions of the present study

Many schools and service centers have opened some workshops to help bullies adapt to the normal life, which does not involve bulling and violence. They usually treat all the bullies or aggressors in the same way. Most of the educators and service workers only know how to distinguish the form of bulling or aggression (e.g. physical, verbal and relational or direct and indirect). In fact, the classification of bullying or aggression is rather complex than they can imagine. Aggression can be divided into two types, proactive aggression and reactive aggression (Dodge, 1991; Dodge & Coie, 1987). Accordingly, aggressors can be classified as reactive aggressor and proactive aggressor. Each type of aggressor has different characteristics and has different motives to act aggressively. If they are treated in the same way, the aims of the workshops may not be achieved, and problems may arise. Therefore, the present study would like to provide an insight to the educators and service workers, helping
them to design different intervention programs for different types of aggressors.

Our behavior somehow can reflect our self-concept. In return, our self-concept can affect our behavior, and reflect the environment that we encounter and the interaction with others. People’s subjective views of themselves agree with their behavior (Coopersmith, 1967). There is an indispensable relationship and correlation between self-concept and behavior. Accordingly, it is undoubted to say that the aggressive acts of adolescents have some relation with self-concept. As self-concept can reflect the environment and interaction that the aggressors encounter everyday, by studying different aspects of self-concept of aggressors, we can recognize the picture behind their aggressive acts.

From the past until now, many researchers have conducted researches to investigate the self-concept of adolescent aggressors. However, consensus has not been reached. Some found that aggressors have low self-concept while some supported that the self-concept of aggressors is generally high. Currently, most researchers use the multifaceted self-concept approach to conduct the survey, and find that aggressors are high on certain domains of self-concept, but low on the others. Most of these researches are conducted in foreign counties. Hence, this study tries to put afford on probing the self-concept of teenage aggressors in Hong Kong. Further, it is going to investigate the discrepancy of different domains of self-concept between different types of aggressors (proactive aggressor and reactive aggressor) and non-aggressors because this kind of research is rare in Hong Kong,
and even in foreign countries.

According to Erikson (1968), adolescents are at the stage of Identity versus Role Confusion, where peer relations are particularly important. They are finding out who they are and where they fit in within the school social hierarchy. Adolescents in this stage try to enhance their sense of popularity and to make themselves reach the high status of the social hierarchy among the peers. As they would like to gain the recognition and positive appraisal from the significant others (i.e. peers), they find ways to achieve their desire. If bullying is positively reinforced by the peer group and perceived by individuals to improve their position in the social hierarchy of the school, it is probable that other students may model this behavior for personal gains in social standing and power within the school social system (Parada, 2002). Because of this, this study is going to study the self-concept of adolescent aggressors in order to know how is the condition of their self-concept after bullying others.

The spread of the school violence video in the year of 2002 surprised the whole Hong Kong. Everyone put concern on it. Actions were taken to investigate the causes of school violence and its influences. Prevention programs and correction services were taken to block or to reduce the increase number of school violence. However, in the recent two years, along with the concern of educational reform of the government, Hong Kong people, especially educators and government, have shifted their attention, and paid little afford on the issues of school violence. When searching on the Internet, few researches about school bullying or
school violence are conducted in 2005 and 2006. Therefore, while current data is insufficient
to reflect the recent situation, it is worth to find out the latest trend of school bulling and
school violence in Hong Kong.

Research questions are formed according to the objectives of the study. (1) Which
domain(s) of self-concept is (are) correlate with different types of aggressors? (2) Who
(proactive aggressors or reactive aggressors) have higher self-concept in different domains?
(3) Who (proactive aggressors or reactive aggressors) have lower self-concept in different
domains? (4) Which form (F.1, F.2 or F.3) of students is the most aggressive? (5) Who (males
or females) are more aggressive?

1.3 Characteristics of present study

One of the characteristics of the present study that is worth to notice is that the present
study investigates the multifaceted self-concept of different types of aggressors (reactive
aggressors and proactive aggressors). Previously, there are several studies have investigate
the self-concept of aggressors. However, these studies use the uni-dimensional approach to
study the self-concept of aggressors as a whole. The results of these studies are inconsistent.
Some found that aggressors have high self-concept while other showed aggressors have low
self-concept. Maybe different researches just show different self-concept facets of aggressors.
The common problem of the global measure is that it can only show the general self-concept
of aggressors. As a result the whole picture of aggressors’ self-concept may be not reflected,
and many areas are remain unknown or unrecognized.

In 1976, Shavelson, Hubner, & Stanton suggested that the self is made up of a myriad of constructs and developed a multi-dimensional approach to self-concept. According to Marsh (2000), the multifaceted self-concept of adolescent includes different self-concept domains: physical abilities, physical appearance, the relationship with same sex peers, the relationship with opposite sex peers, honesty or trustworthiness, the relationship with parents, emotion, verbal or English, Mathematics, school and general self-esteem. By study the self-concept multi-dimensionally, we can understand the self-concept of aggressors comprehensively. We can know which aspect(s) of self-concept is (are) high and low.

When studying the self-concept of aggressors, previous researchers did not differentiate different types of aggressors. The results may not reflect the real situation consequentially. Dodge and his colleagues (Dodge, 1991; Dodge & Coie, 1987) suggested two forms of aggression: reactive aggression and proactive aggression. Reactive and proactive aggressors have different characteristics, and hence their self-concept may be different. Therefore, if we distinguish two types of aggressors and study their self-concept, we can understand the whole situation thoroughly. By studying different domains of self-concept and different types of aggressor together, it is hoping that the full picture can be shown, and we can understand the self-concept of aggressors exhaustively.

The second significant characteristic of this study is about the subject selection. The
subjects or participants of the present study are the adolescents who are studying Form one, Form two or Form three. The specific age group was selected because there is indication that bullying is most frequent during the three first years of secondary school (Karatzias, Power, & Swanson, 2002). In addition, Andrews, Leschied and Hodge (1992) suggested that early adolescence is a time when children can comprehend and predict the outcome of their behavior. They can act out aggression while remaining unidentified. Besides, it is believed that when the social intelligence of children becomes mature in adolescents, they would be able to produce relational forms of bullying (Kaukiainen et al., 1999).

Furthermore, adolescents are at the Identity versus Role Confusion stage of Erikson’s psychosocial stages of development. The crucial task of adolescence is the establishment of a sense of ego identity, an accrued confidence that the way one views oneself has a continuity with one’s past and is matched by the perceptions of others (Pervin, Cervone, & John, 2005). During this period, adolescents desire to gain a positive appraisal from their peers and gain the high status in the social hierarchy of the peers. If adolescents who witness bullying can enhance one’s popularity among the peers, there is a high probability that the adolescents would mimic the bullying behaviors in order to improve their social identities among peers (Parada, 2002).

Another special characteristic is that the subjects in this study come from four different schools, which are location at different places in Hong Kong. Some participants are come
from the school in Sheung Shui, and some are come from North Point, Sai Kung and Tai Po. 

Diverse sample is used in present study because the result of the study may only reflect the 
condition of particular place (i.e. results may not significant to reflect the condition of whole 
Hong Kong) if the sample is collected from just one district. Therefore, in order to conduct a 
significant and comprehensive study that can reflect the current situation of the whole Hong 
Kong, data is collected in different places in the preset study.

One more characteristic that is worth to pay attention is that the present study combines 
quantitative research with qualitative interview, in order to understand the bullying situation 
in Hong Kong and the self-concept of teenage aggressors exhaustively. Undoubtedly, the 
quantitative research is a convenient way to collect the data. However, it may not be able to 
reflect all the useful information that we would like to know. It may not be sufficient enough 
to thoroughly reflect the real situation of bullying in Hong Kong and the self-concept of 
adolescent aggressors. By closely looking up to the case and interviewing the participants, 
present study can find out some information that is not intentionally to be found, and some 
information that can complement, giving more detail to, the quantitative research.

Literature Review

2.1 Defining variables

2.1.1 Self-concept

The concept of self has been explored since hundred year ago. Different researchers
have tried to define the concept of self in their own ways. James (1890) suggested that there were two fundamental aspects of self. One was the “I” and another one was the “Me”. The “I” was just like an actor, which organized and interpreted experiences (Phillips, 1997). The “Me” was like an object of one’s experiences, which contained feelings, evaluations and attitudes (Phillips, 1997).

Cooley (1902) provided the notion of the looking glass self. He emphasized the evaluations and appraisals from the significant others were the most critical factor in the formation of the self. The formation of the self was also depended on how a person perceived these evaluations and appraisals.

Mead (1934), based on James’ (1890) and Cooley’s (1902) theories, pointed out the influences of significant others on one’s self-perception. He further suggested that people could try to understand the self from the interactions with others.

Carl Rogers (1951, 1954, 1959) regarded self-concept as a representation of an organized and consistent pattern of perceptions. According to Rogers (1951, 1954, 1959), people perceived external objects and experiences, and attached meanings to them. The total system of perceptions and meanings made up the individual’s phenomenal field (Pervin et al, 2005). He believed that everyone had a need towards growth or the fulfillment of potentials (self-actualization). According to Rogers (1951, 1954, 1959), people’s psychological well being should be affected by the degree of acceptance and positive regard they received in
their daily social interaction. Children raised by parents who provided condition of psychological safety are more likely to develop positive self-esteem (Pervin et al, 2005).

Rosenberg (1979) regarded self-concept as a picture of the self, which contained both cognitive and affective components. He defined self-concept as “the totality of the individual’s thoughts and feelings having reference to himself as object” (p. 7).

According to Shavelson et al. (1976), self-concept contained both self-description and self-evaluation. Self-concept could be understood as the way that a person perceived himself. People formed their self-concept through the interactions with the surrounding people, especially significant others. People’s self-perception could be influenced by their self-evaluations, the appraisals from the significant others, and the environmental reinforcements. Shavelson et al. (1976) further identified seven critical features of self-concept. Self-concept was regarded as organized, multifaceted, hierarchical, developmental, evaluative, and differentiable from other constructs. He added that self-concept could be used for understanding and predicting the behaviors of people. Self-concept would influence the way the person behaved, and the behaviors would in turn affect the person’s self-concept (Shavelson et al., 1976).

According to Marsh (1990a, p. 27), self-concept was a "person's perceptions regarding himself or herself; these perceptions are formed through experience with and interpretations of one's environment. They are especially influenced by evaluations by significant others,
According to Hattie (1992, p. 117), "self-concept relates to descriptions, expectations and prescriptions and can be actual, possible, ideal, evaluative, interpretative, and dynamic". He defined further self-concept as a "hierarchical and multi-faceted set of beliefs that mediate and regulate behavior in various social settings".

According to Bracken (1992, p. 10), self-concept was "a multidimensional and context-dependent learned behavioral pattern that reflects an individual's evaluation of past behaviors and experiences, influences an individual's current behaviors, and predicts an individual's future behaviors".

Although a universal definition of self-concept is not found in the literature, two aspects of self-concept are accepted by most researchers. First, self-concept is formed by the person’s perception of himself through the interaction with the external environment and significant others. Second, self-concept is affected by their view of how others, especially people who are important to him, see him.

2.1.1.1 Multidimensional and hierarchical structure of self-concept

The uni-dimensional model of self-concept was used widely in most of the psychological studies and researches, even until now. However, some of the researchers doubted about the usefulness of the model (Marsh et al., 2004; Bardone, Perez, Abramson, & Joiner, 2003). They argued that the uni-dimensional model might not be able to reflect the
different self-perceptions and self-evaluations of people in different social context (Marsh & Craven, 1997). In regard to the shortcoming of the uni-dimensional model, numerous researches have been conducted in order to investigate whether more knowledge about person’s self-concept would be known with the hierarchical model of self-concept, in which the general self-perception was placed at the top of the hierarchy and the specific domains were placed at the bottom (Ha, Marsh, & Halse, 2004).

The first multidimensional model of self-concept was presented in 1976 by Shavelson et al.. This model has become the foundation for the study of self-concept. They proposed a general self-concept at the apex of the hierarchy that was divided into academic self-concept and nonacademic self-concepts, which are social, emotional and physical self-concept. The academic self-concept is further divided into self-concepts of specific subjects, such as English, History, Mathematics and Science. In another branch, the social self-concept is further divided into peer self-concept and significant others self-concept. Emotional self-concept is composed of self-concept for particular emotional states. Physical self-concept is composed of physical ability self-concept and physical appearance self-concept (For detail of Shavelson et al.’s self-concept model, 1976, please refer to the figure in Appendix A).

The initial Shavelson et al.’s model (1976) was challenged by Marsh and his colleagues (Marsh & Shavelson, 1985; Marsh, Byrne, & Shavelson, 1988). They found that the hierarchy was more complicated than anticipated. Their studies proposed that the academic
self-concept should not be defined as one general higher-order factor in the structure of the general self-concept because the Mathematics and verbal self-concepts were, at the first-order factors level, uncorrelated. Self-Concepts in the areas of Mathematics, Physical Science, Biological Science and Economics/Business mainly related to the Mathematics higher-order factor, whereas Self-Concepts in Geography, History, Foreign Languages and English mainly related to the verbal higher-order factor. Moreover, the General School-Ability Self-Concept related, as a first-order factor, to both Mathematics and verbal self-concept.

Based on Shavelson et al. model (1976) and the Marsh-Shavelson revision model (1985), Marsh and his colleagues developed Self-Description Questionnaires (I for preadolescents, Marsh, 1992a; II for adolescents, Marsh, 1992b, 1990a; and III for late-adolescents, Marsh, 1992c; Marsh & O'Neill, 1984) to measure the self-concept of pre-adolescents, early adolescents and late adolescents. The instruments provided reliable, valid measures of multifaceted self-concept. The Self-Description Questionnaires have been used with Australian (Marsh, 1990b); North American and Canadian (Marsh, 1993; Marsh & Yeung, 1997); Nepalese, Hong Kong, Korean and Filipino (Watkins & Regmi, 1990); and Nigerian (Watkins & Akande, 1992) students. The multifaceted, hierarchical model of self-concept, and various aspects of validity and reliability of the scales have been supported.

Song and Hattie (1984, as cited in Hattie, 1992) modified the Shavelson et al. model (1976) and suggested that general self-concept is composed of three first-order factors:

Overall, researchers have found that the multidimensional model of self-concept is more useful and accurate to understand the self-perception of people. The model provides us more knowledge that people’s self-perception may be different in different contexts.

2.1.2 Bullying

Bullying is a common problem in schools (Andreou, 2000; Olweus, 1994; Tanaka, 2001). It has begun to receive research attention since the work of Olweus in Norway starting in the late 1970s (Olweus, 1978). Bullying is defined as an intentionally repeated pattern of aggressive behavior towards another person (Olweus, 1993), and it involves a power imbalance between the aggressor and victim where the victim is somewhat helpless and is unable to defend themselves from the bullying (Rigby, 2001). The definition strongly emphasizes bullying is an aggressive act that is repeated overtime for it would like to exclude the occasional aggressive acts (Olweus, 1993). In school bullying, the bully is usually a single person or a group of people, but the victim is usually a single person (Olweus, 1993).

2.1.2.1 Forms of aggression in school bullying

The aggressive behaviors that usually occur in school bullying can be categorized as
direct and indirect, or physical, verbal and relational. Direct aggression included all overt behaviors that are openly acted out on a target student (Rohner, 1976). Physical aggression and verbal aggression are the examples of this form of aggressive behavior. Physical aggression refers to attacks on the victim, such as kicking, pushing, hitting, butting shoulders, or destroying others’ personal property. Most of the males involve in this form of aggression. Verbal aggression consists of threatening, teasing, taunting, mocking, calling names or making intimidating phone calls.

Indirect aggression is identified as any aggression that was not covert. In this situation, a target student does not know who is the person that initiates the aggressive acts. An adolescent would manipulate others to attack a target or make use of social structures to harm a target while maintaining anonymity (Bjorkqvist, & Niemela, 1992). Relational or social aggression is an indirect aggression. It involves influencing the target student’s social status and standing in the peer group by changing the way others perceive and respond to the target through telling false stories or spreading rumors, and encouraging peers to isolate the target (Crick, & Grotpeter, 1995). Most of the females engage in this form of aggression. It is believed that indirect aggression causes as much harm as direct aggression (Cowan, & Underwood, 1995).

2.1.2.2 Types of aggression in school bullying

In regard to the types of aggression in the school settings, the most accepted
categorization is on the basis of the underlying goal. That is the categorization of the types of
aggression is depended on the function of the acts of aggressive behaviors, and the
motivation of the person who acts on the aggressive behaviors. One categorization that has
received increasing attention was proposed by Dodge and his colleagues (Dodge, 1991;
Dodge & Coie, 1987; Crick & Dodge, 1996). They suggested that there are two types of
aggression. One is reactive aggression and another one is proactive aggression.

Reactive aggression has its roots in the frustration-anger theory of aggression
(Berkowitz, 1963, 1993; Dollard, Doob, Miller, Mowrer, & Sears, 1939). According to this
type, every incident of aggression was the result of frustration (Turnbull, & Paterson, 1999).
It is believed that all human beings have an innate characteristic that compels them to pursue
their own goal. If the process of achieving the goal is blocked, the person would feel
frustrated, and is more likely to response immediately and impulsively in an angry and
aggressive way in order to remove the block and reduce the frustrating feelings. In other
words, aggression is a response triggered by goal blocking and is accompanied by anger.

Reactive aggression thus occurs as a consequence of antecedent conditions of real or
perceived provocation, frustration, or threat and is usually accompanied by the expression of
angry (Tremblay, Hartup, & Archer, 2005). The reactive aggressors tend to response to the
frustration and threat in an immediate and impulsive way of aggression. The main goal of this
type of aggression is to remove the anger-frustration stimulus as immediate as possible.
Researches found that the maladjustment of the social information-processing pattern contributes to the development and maintenance of reactive aggression (Dodge, & Coie, 1987; Dodge & Crick, 1996). According to social information-processing model, social behavior is the result of sequential interrelated steps: (1) encoding situational and internal cues, (2) interpretation of cues, (3) selecting or clarifying a goal, (4) generating or accessing possible responses, (5) choosing a response, (6) and behavioral enactment (Dodge, 1986; Crick & Dodge, 1994; Dodge & Crick, 1996). It is believed that reactive aggressors have deficits at the encoding or interpretation stage of processing (Dodge & Crick, 1996). They exhibit hostile attributional biases in response to ambiguous provocation situation. They misinterpret the acts of others as intentional hostilities towards him, or they selectively attend to some negative cues that relate to provocation and frightening threats. As they perceive hostilities are near, they react aggressively in order to retaliate, and protect themselves or to defend themselves from being hurt.

The hostile attributional biases of reactive aggressors are linked with the early victimized experiences. The repetition of the victimization makes them feel so painful. They stored the repeatedly painful experiences in their long-term memory. Whenever there are some cues that associate with their victimized experiences, their memories of the painful experiences and feelings will be triggered, and they will feel very frustrated. They will ignore all the other cues and only attend to this negative cue, perceiving the person who acts out the
cues is hostile towards them. As they think the person is intended to hurt them, reactive aggressors, then, act aggressively towards the person in order to protect themselves from being victimized again. This hostile interpretation may be accurate in one time, while inaccurate in another time. Reactive aggressors usually perceive the occurrence of hostilities even when none is necessarily intended. For example, a boy who is frequently struck by fist will perceive others are intended to hurt him whenever these people clenched their fist.

It is believed that perception of hostile intent can predict retaliatory aggressive responses (Dodge, 1980) and hostile attributional biases can maintain these aggressive acts (Dodge, Bates, & Pettit, 1990). Whenever the reactive aggressors perceive peers are intended to hurt them, they respond with aggression. These aggressive acts are likely lead to increases in peers’ actual hostility and rejection toward the reactive child. These increases of hostility confirm the interpretation of the reactive child. The reactive child, then, perceives those peers are hostile again in the next time. The reactive aggression seems to be maintained by a negative cycle (Dodge & Crick, 1996).

As another type of aggression, proactive aggression is more in line with the social learning model of aggression (Bandura, 1973, 1983). Under this model, aggression is viewed as an acquired behavior governed by reinforcement contingencies. Bandura believed that our behavior could be learnt through our knowledge of what happens to other people. People can provide us with models of behavior that we feel motivated to imitate (Turnbull, & Paterson,
If a person views others who behave in certain ways and can get the things that the person desires to have, the person is likely to copy that certain behavior in order to get the desired things.

Similarly, a history of exposure to successful aggressive models and a positively reinforced experience with coercive behavior are implicated in proactive aggression (Vitaro, & Brendgen, 2005). Proactive aggression is thought to be driven by the anticipated rewards that follow the aggressive behavior. As the proactive aggressor may watch someone that can get the desirable things after behaving aggressively, proactive aggressor may use aggression as an instrumental means to secure goods from others or to dominate others (Tremblay, Hartup, & Archer, 2005). To the proactive aggressors, the function of the aggressive acts is to get something that the aggressors desire to have or achieve.

Same as reactive aggression, the development and the maintenance of proactive aggression are based on the deficient processing of social information. The development of proactive aggression somehow links with the goal clarification step of processing (Dodge & Crick, 1996). Proactive aggressors always want to get the things that they desire and want to enhance themselves. The goal of their behaviors is always instrumental and self-enhancing (Dodge & Crick, 1996). As they observe others who use aggressive behavior can gain the desirable things, they wrongly believe that these kinds of aggressive acts can help to achieve their instrumental and self-enhancing goal, and begin to learn this kind of aggressive behavior to achieve their goal.
The observation of others’ successful experience of using aggression contributes to the deficiency in the response decision step of processing. During this step, children evaluate possible behavioral responses to a particular social situation according to the type of outcomes for each response and the degree of confidence that they feel about their ability to perform each response (Dodge & Crick, 1990). After evaluation, children will select the most favorable response for enactment. For proactive aggressors, they evaluate aggressive behavior as an effective and viable way to obtain positive outcomes, and feel confident about their ability to act aggressively. Their experiences of successfully victimizing their peers would confirm the beliefs of proactive aggressors, and thus would make the beliefs and confidence of proactive aggressors become stronger (Dodge & Crick, 1996). It is believed that the greater their preferences for instrumental goals are, the more the motivation to use aggression.

2.1.2.3 Characteristics of reactive aggressors and proactive aggressors

The different motivation (function and goal) and the different underlying social information-process pattern of reactive and proactive aggression imply the different characteristics of reactive and proactive aggressors.

Reactive aggressor, apart from the bullying experience, has experiences of being bully, so they are somehow similar to those called bully-victim. Pellegrini et al. (1999) supported that there is a positive association between victimization and being reactively aggressive.
They found that victims use reactive aggression as a strategy to counter bullying. Salmivalli and Nieminen (2002) found that aggressive victims were more reactively aggressive than proactively aggressive.

Reactive aggressor is usually defensive, insecure, unhappy, anxious, neurotic, frustrated, hostile, emotional, impulsive, hot-blooded and easy to get angry (Vitaro & Brendgen, 2005). The exhibition of these characteristics resulted form their hostile attributional biases. As they perceive hostilities and threats are coming to prevent them from reaching the goal, they are get frightened and angry, and react quickly and impulsively without much thought in order to defend and protect themselves. They will react aggressively, even when teasing is not intense or frequent (Wright et al., 2001).

Concerning their temperament, Vitaro, Brendgen and Tremblay (2002) found that reactive aggressors tend to give an intense temperament-based response to an aversive stimulus. It suggested that the reactively aggressive youngsters might be prone to react to any disturbance from social or a nonsocial source.

They have difficulty in regulating anger, high negative emotionality and underregulate their emotion (Hubbard, 2001). It may be that the negative emotions that they experience prevent them from responding appropriately or from feeling sympathy for the children that they turn around and victimize (Macklem, 2003). Because they have high sensitivity to stressful stimuli and lack of impulse control, they remain reactively aggressive and use
aggression when provoked or threatened. Hubbard et al. (2002) found that angry nonverbal behaviors and skin conductance were positively related to teacher-rated reactive aggression. In addition, Van Bokhoven et al. found that reactively aggressive boys manifested significantly higher levels of cortisol (as cited in Vitaro & Brendgen, 2005, p.189-190).

The parent of reactively aggressive children have been found to be more controlling, coercive, hostile and punitive than parents of proactively aggressive or non-aggressive children (Vitaro & Brendgen, 2005). Their parents are inconsistent, both in regard to child management and to how closely they oversee their child’s activities. Reactively aggressive children do not think that their parents show a good deal of positive emotion toward them. They feel their parents punish them frequently and do not support them very much (Pellegrini, 2001).

Regarding the social relationship, reactively aggressive children are at high risk for maltreatment by peers, in addition to maltreatment by parents (Vitaro & Brendgen, 2005). Reactive aggressors are more victimized and are not popular (Poulin & Dishion, 2000). Their peers dislike and reject them, and they know their peers dislike them (Macklem, 2003). They always perceive looked down by others, even when nothing happened. Reactive aggression seem to be less tolerated by other children. Reactive aggression has been linked to low social preference (Vitaro & Brendgen, 2005). It is suggested that maltreatment by peers may aggravate the reactive tendencies and the propensity for hostile attributions.
Reactive aggressors usually use physical means to bully others. This might relate to the isolation by peers. The isolation may cause them to have less support from the peers, and thus decrease the likelihood that reactive aggressors will socially and verbally bully other students (Salmivalli & Nieminen, 2002).

Reactive aggressors manifest problem-solving deficits in difficult social situations (Dodge, 1991). They experienced more adjustment difficulties. Reactive boy are less skilled at responding to teasing, sharing, negotiating, handling failure and compromising (Day, Bream, & Paul, 1992). They tend to have difficulty reading social signals and do not function very well in social group when there is conflict (Macklem, 2003). When they are presented with hypothetical social situations that required problem solving, they tend to suggest aggressive solution (Macklem, 2003).

They perform more poorly in school (Day et al., 1992), as well as low level of school performance and intellectual skills. However, they display sportsmanship (Vitaro & Brendgen, 2005). They have difficulty with concentration. They are more likely to not want to attend school than their peers (Pellegrini, 2001). They do not feel positive about the school climate. They report that even teachers and other adults in schools “bully” them (Macklem, 2003).

Different from reactive aggressors, proactive aggressors are somewhat similar to the so-called pure bullies. Schwartz, Dodge, Pettit and Bates (1997) suggest that there should be a strong association between being a bully and proactive aggression, since bullies should be
more likely to hold positive beliefs regarding the outcome of aggressive behavior. Salmivalli and Nieminen’s study (2002) supported that bullies were proactively aggressive.

Dodge and Coie (1987) found that proactive aggression significantly positive correlate with the personality traits such as cold-blooded, callousness, a lack of affect, guilt, remorse, and empathy, habitual lying and manipulation.

They tend to be bigger and stronger than their peers (Olweus, 1991), and love and feel positive to control and dominate others in coercive manner, and are rewarded for doing so (Dodge, 1991). They are clever, purposeful, deliberate and good at planning (Bath, 2006). Usually, they are not considered to be as aggressive by peers, although observers find them more aggressive than peers’ rating would suggest (Salmivalli & Nieminen, 2001). It may be that their aggression is more hidden and indirect (Macklem, 2003).

About their relationship with parents, although they enjoy rather positive family relations as compare with reactively aggressive counterparts, proactively aggressive youth report less parental monitoring and fewer household rules than the reactively aggressive group (Vitaro & Brendgen, 2005).

For the peer relationship, proactive aggression also seems to be more tolerated and even reinforced by peers at the dyadic level. Thus, they not only have more friends than reactively aggressive children, but they also have a greater tendency to have similarly aggressive friends (Poulin & Boivin, 2000). They have more status in the group than that of victim (Olweus,
Moreover, peers’ proactive aggressiveness has been shown to increase children’s own proactively aggressiveness over the course of a school year (Poulin & Boivin, 2000).

Although proactively aggressive boy may tend to disrupt the group activity, their classmates do not reject them. The reason is that these proactive aggressive children tend to have positive traits. They have leadership ability and a sense of humor (Macklem, 2003). They are good at sports and are considered as “cool” and tough (Macklem, 2003). They also did well in school (Vitaro & Brendgen, 2005).

Proactive aggression associates with reduced anxiety (Vitaro & Brendgen, 2005). Proactive aggressors are calm, and are able to regulate and control their frustration (Macklem, 2003). They do not harbor hostile feelings towards others, and do not feel bad about themselves (Macklem, 2003). Hubbard et al. (2002) found that angry nonverbal behaviors were negatively related to proactive aggression.

It is clear that reactive aggressors and proactive aggressors possess quite different personalities and characteristics.

2.1.2.4 Age and gender differences

Findings of the age differences in aggression have been inconsistent. Some researchers found that bullies tend to be at an older age (Healey, 2001; Karatzias, Power & Swanson, 2002), as they are strong enough to bully others who are younger and weaker. However, others believed that when the children get older, their engagement in aggression decline
(Dodge & Crick, 1996). It is believed that the developmental changes in behavior are related
to the developmental changes in processing of information (Crick & Dodge, 1994). As the
children grow older, processing changes will occur, and the children will develop a negative
evaluation towards aggression that decreases the use of aggressive behavior.

Same as the findings of age differences, consensus about the gender differences in
aggression has not been made. Some found that males are more aggressive than females and
are more involved in bullying (Andreou, 2000; Baldry & Farrington, 2000; Carlo, Raffaelli,
Laible & Meyer, 1999; Frodi, Macaulay & Thome, 1977; Hudley, 1993; MacCoby & Jacklin,
1974; Tomada & Schneider, 1997; Weiler, 1999). Boys appeared to be so much more
aggressive than girls that some researchers actually omitted female participants from their
studies and deemed the study of female aggression as unnecessary (Buss, 1961; Frodi, et al.
1977). Some opposed this view while they differentiate different forms of aggressions
(Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Crick, Bigbee & Howes, 1996; Feshbach, 1969;
Lagerspetz, Bjorkqvist & Peltonen, 1988; Olweus, 1993; Pakaslahti & Keitikangas-Jarvinen,
1997). They found that males tend to use more direct, physical and verbal forms of bulling,
but females use more indirect, relational forms of bulling than males. Furthermore, other
researchers found that there is no significant gender differences were found on bullying
(Constantinos & Georgia, 2004).

While researchers investigate the gender differences in reactive and proactive aggression,
some found that, in a sample of German and Turkish participants in grades 5 to 10, males were more proactive aggression than girls, whereas females were more reactively aggressive than boys (Little, Jones, Henrich & Hawley, 2003). However, with a sample of American adolescents in grades 6 to 8 (Little, 2002, as cited in Vitaro & Brendgen, 2005, p. 196) and with a sample of clinically referred adolescents (Connor, Steingard, Anderson & Melloni, 2003), researchers found no gender differences in both reactive and proactive aggression.

Regarding the inconsistent findings of both the age and gender differences in aggression, the present study aims at finding the current trend in Hong Kong in order to investigate who (males or females, higher Form or lower Form students) are the most aggressive in general, and the most reactively aggressive and proactively aggressive in specific. It was hypothesized that males are more aggressive than females (both in general and in specific), and the students in lower Form are more aggressive than those in higher Form (both in general and in specific).

2.2 Relationship between self-concept and proactive and reactive aggression

Adolescents are at the Identity versus Role Confusion stage of Erikson’s psychosocial stages of development. During this period, adolescents are finding out who they are and where they fit in within the social hierarchy. They desire to gain a positive appraisal from their peers and gain the high status in the social hierarchy of the peers. If bullying is positively reinforced by the peer group, adolescents may form a misconception towards the
use of aggressive behavior. They wrongly believe that others would look up to and appreciate them for bullying. They think that bullying can increase their status or popularity in the social hierarchy among peers (Cole, Cornell & Sheras, 2006), and thus increase their self-concepts. Furthermore, if adolescents who witness bullying can enhance one’s popularity among the peers, there is a high probability that the adolescents would mimic the bullying behaviors in order to improve their social identities, social standing and power among peers (Parada, 2002).

In addition, according to humanistic approach, everybody possesses a tendency of self-enhancement. All people desire to regard themselves favorably and seek to enhance themselves (Papps & O'Carroll, 1998). As the traditional sources of self-concept are not available, aggression may be seen as an alternative source (Papps & O'Carroll, 1998). Adolescents may attempt to self-enhance their self-concept by bullying others or aggressively dominating others, as they wrongly believe that aggression is an effective way to obtain positive outcomes, which lead them to perceive themselves as a powerful person and lead them to feel good about themselves.

To relate proactive aggression to the explanations, it is logical to assume that proactively aggressive adolescents regard aggression as an effective and viable technique to obtain a high status and high sense of identities with the social hierarchy among peers. Rohner (1991, as cited in Mrug & Wallander, 2002, p. 268-269) suggested that feeling accepted by significant
others (including peers) will lead to higher self-concept and emotional stability. Therefore, by acting more proactive aggressively, adolescents’ self-concept would be enhanced and become higher, at least in the domains that are related to social relationship, physical strength and attractiveness, emotion stability, and general self-worth.

In regard to the academic performance of proactive aggressors, it is known that proactive aggressors are very clever and have a high intelligent level (Macklem, 2003). They are used to generate some plans before engaging in aggressive behaviors. With the plentiful and various kind of planning, proactive aggressors can victimize their target while remain undiscovered. With the increased engagement in aggression, they become cleverer and they learn how to generate subtler planning. Present study believes that proactive aggressors can divert this intelligence for planning to their academic performance. Proactive aggressors may get higher academic achievement with the increase of proactive aggression, which emphasizes planning. It is postulated that there is a positive correlation between proactive aggression and the self-concept that are related to academic performance.

Referring to the characteristics of reactive aggressors, it is known that reactive aggressors have a hostile attributional bias. They perceive that peers always criticize and act hostilely towards them. As the perceived hostilities come near, they react aggressively in order to protect themselves. These aggressive acts are likely lead to increases in peers’ actual hostility and rejection toward them (Dodge & Crick, 1996). When they engage in reactive
aggression more frequently, their relationship with peers would be worsened, and thus the negative perception towards the relationship with peers and towards their attractiveness may become more strongly. According to Rohner (1991, as cited in Mrug & Wallander, 2002, p. 268-269), feeling rejected by significant others will badly affect the way a person views himself, and will lead to greater emotional instability. It is likely to assume that there is a negative correlation between reactive aggression and the self-concept of peer relationship, attractiveness, emotion and general self-worth.

Reactive aggressors usually use physical force to react aggressively towards others’ hostilities. With the increased successes of aggressive reacting, they may gain a stronger sense of physical strength. Present study supposes that there is a positive correlation between reactive aggression and the self-concept of physical ability.

Considering the academic achievement of reactive aggressors, it is known that they perform poorly in academic (Day et al., 1992). This can be understood by their possessions of hostile attributional biases. Reactive aggressors may not dare to ask for help when they meet some difficulties in doing their homework or in understanding the teaching materials because they fear the criticisms of surrounding people (including peers and teachers). They perceive that their peers and teachers will regard them as stupid student and act hostilely towards them. Therefore, their academic performances are not good. Present study supposes that by perceiving more hostilities, which lead reactive aggressors engage more in reactive
aggression, the academic performance of reactive aggressors become poorer.

Retrieving the information about the relationship with parents, the parents of reactive aggressors are harsh, controlling and hostile (Vitaro & Brendgen, 2005). Although proactive aggressors enjoy better relationship with parents than reactive aggressors, their parents seldom provide monitoring to them (Vitaro & Brendgen, 2005). According to attachment theory, the attachment style between parent and child exerts a pervasive influence on children’s self-concept (Ainsworth & Bowlby, 1991). In other words, the children’s self-concept, especially the self-concept of the relationship with parent, will be negatively affected if the parent-child attachment is not warm. Therefore, reactive and proactive aggressors’ original self-concepts of the relationship with parents are low. With the increased aggressive acts, there is a higher chance for reactive and proactive aggressors to be caught and identified. The increased aggressive behavior will make their parents further ignore them and perform hostilities to them. It is logical to assume that by acting more aggressively, reactive and proactive aggressors’ self-concept of the relationship with parents will be reduced. There is a negative correlation between reactive aggression and the parent-related self-concept, and between proactive aggression and the related self-concept.

Bullying others or behaving aggressively may meet punishment by school authorities and parents. Both reactive and proactive aggressors may conceal their aggressive acts in order to escape from the punishment. Sometimes, they may feel guilty to act aggressively towards
others. Therefore, their self-perception of honesty decreases gradually along with the continuity of aggression. The correlation between reactive aggression and the self-perception of honesty, and between proactive aggression and self-perception of honesty would be negative.

Shavelson et al. (1976) reported that self-concept could be used for understanding and predicting the behaviors of people. Our behavior influenced our self-perception, and our self-perception in turn influenced the way we acted. There is a mutual relationship between our behaviors and our self-concepts. In relation to this viewpoint, some assumption about the self-concept of proactively and reactively aggressive adolescents can be made.

Retrieving the characteristics of both reactive and proactive aggressors, it is known that reactive aggressors are moody, underregulate their emotion, do not get along well with peers, always perceive other’s hostilities and criticism, and perform poorly in school, whereas proactive aggressors are calm and are able to control their emotion, get along well with peers, do not feel bad about themselves, and do well in school. As one’s behaviors can influence one’s self-concept, it is logical to assume that reactive aggressors get a lower self-perception on their emotion, their relationships with peers, their attractiveness, general self-worth and school achievement, whereas proactive aggressors possess a higher self-concept in these related areas.

In regard to the relationship with parents, reactive aggressors do not get along well with
their parents. Their parents are inconsistent, controlling and punitive (Vitaro & Brendgen, 2005). Although proactive aggressors’ parents provide them with little parental monitoring and guidance, proactive aggressors basically enjoy a positive family relation (Vitaro & Brendgen, 2005). Accordingly, it is believed to be true that proactive aggressors obtain a higher self-concept in the domain of parent relations than reactive aggressors.

Concerning the self-perception of reactive and proactive aggressors in their physical ability, reactive aggressors always bully others by physical force, and proactive aggressors are bigger and stronger than their peers and always dominate others (Olweus, 1991). Therefore, present study postulates that the physical ability self-concepts of both reactive and proactive aggressors are equally high.

Furthermore, both of the reactive and proactive aggressors try to conceal their aggressive behaviors by telling lies in order to escape the punishments. Hence, the self-perceived honesty of both reactive and proactive would be similarly low.

2.2.1 Previous studies of the self-concept of those who bully

The issue that is considered the self-concept of people who bully others or act aggressively towards others has been widely debated since several decades ago. Many researches have been conducted to investigate the issue. However, consensus has not been reached.

While everyone thought that a positive self-concept was social desirable, and can
combat aggressive behavior, Baumeister, Smart, and Boden (1996) suggested the high self-perception had a dark-side. Randall (1996) and Weir's (2001, as cited in Patterson, 2005, p.29) stated that bullies actually have high opinions of themselves. Several subsequent researches showed that high self-concept is related to greater levels of aggression and violence (Baumeister, 2001; Baumeister & Tice, 1985; Baumeister, Tice & Hutton, 1989; De La Ronde & Swann, 1993; Tice, 1993). These researchers emphasized people with high self-concept are reluctant to change their inflated views of the self. If they are challenged, insulted or criticized by others, they would react aggressively to protect their self-perception.

Just opposite to these findings, some researchers found that bullies have less overall self-worth than children who are not involved in bullying (Andreou, 2000; O'Moore, 1997; O'Moore & Hillery, 1991; O'Moore & Kirkham, 2001). Furthermore, other researchers even showed there was no significant difference in general self-concept between bullies and non-bullies (Cole, Cornell, & Sheras, 2006).

When measured multidimensionally, studies did pinpoint the vital influences of adolescents’ perceptions in different domains, especially those related to parent-child relationship, social relationship, school achievement and self-worthiness, on their aggressive behaviors.

Salmivalli (1998, as cited in O'Moore & Kirkham, 2001, p. 270) found that adolescent bullies perceived their physical attractiveness and popularity positively but perceived their
academic performance, emotion and relationship with family members negatively. Moreover, Johnson and Lewis (1999) showed bullies’ social self-concept and their general self-esteem are above average. More specifically, Hay (2000) unearthed that adolescents who drop out from school because of their misbehaviors had average physical appearance, opposite-sex relations and honesty self-concept, but low parental relations, general self-esteem and school self-concept. Similarly, Wild, Flisher, Bhana and Lombard (2004) found males that possessed low peer self-concept and low school self-concept were more likely to carry out bullying.

When researchers distinguished adolescents who had bullied others into two groups (pure bullies and bully-victims), they found that the self-concept of pure bullies and bully-victims differ from each other in various domains.

Generally, pure bullies had higher general self-concept than the bully-victims. However, the global self-worth of both pure bullies and bully-victims is lower than that of the adolescents who had not bullied (O'Moore & Kirkham, 2001; Papps & O'Carroll, 1998).

Specifically, Austin and Joseph (1996, as cited in O'Moore & Kirkham, 2001, p.280) found that bully-victims placed the same value on their physical appearance and athletic competence as pure bullies. However, Houbre, Tarquinio, Thuillier & Hergott (2006) indicated that bully-victims possessed lower self-concept of physical appearance, physical abilities, social competence, and general self-worth when comparing to pure bullies. Mynard and Joseph (1997, as cited in O'Moore & Kirkham, 2001, p. 280) supported that bully-victims
differed from pure bullies in their self-perception of social competence. While Wolke, Woods, Stanford and Schulz (2001) suggested bullies were not worried, depressed or anxious, Lawson (1994) regarded bully-victims as the most emotionally instable group. With comparison to the control group, Papps & O'Carroll (1998) indicated that pure bullies did not differ significantly from the control group in bullying with respect to the self-perception of physical attractiveness and popularity. However, O'Moore and Kirkham (2001) found that pure bullies of post-primary age possessed higher self-concept of their physical attractiveness and popularity than the control group. They were even less anxious than the control group.

When Houbre, Tarquinio, Thuillier & Hergott (2006) investigated the relationship between various self-concept dimensions and aggressive acts, they obtained positive, but moderate, correlation between bullying and social competence, athletic competence, physical appearance, and general self-worth.

When investigating the relationship between bullying and multiple dimensions of self-concept over time, Marsh, Parada, Yeung and Healey (2001, as cited in Finger, 2002, p. 11) showed Time 1 aggression contributed positively and significantly to all the self-concept domains at Time 2. This finding suggested aggressive children regarded aggression as an effective mean to increase or maintain their self-concepts.

In 2002, Finger repeated Marsh’s study and found that Time 1 bullying positive correlate with opposite-sex relations self-concept, but negatively correlate with all the other
self-concept domains in Time 1. Moreover, the findings also indicated Time 1 bullying had
negative effect on Time 2 Honest, parent relations and school self-concept. Furthermore, low
honest and parental relations self-perception and high physical ability and emotional stability
self-concept at Time 1 contributed to aggressive behaviors at Time 2. These results indicated
that lower honesty and parental relations self-concept, and higher physical ability and
emotional stability self-concept lead to a greater use of bullying at later time.

Although consensus has not been made through several studies, two directions of the
findings are accepted by most researchers. First, there is a difference between the self-concept
of different types of bullies or aggressors. Second, there is a correlation between aggression
or bullying and various domains of self-concept. The present study is going to go through the
details of these two directions.

Finally, it is worth to notice that although many researches investigate the self-concept
of pure bullies and bully-victims, and there is a strong association between being a bully and
proactive aggression, and between being a bully-victim and reactive aggression, few or even
none of the researches distinguish the adolescents who had bullied other into reactive
aggressors and proactive aggressors to investigate their self-concepts multidimensionally.
Therefore, the present research is interested in this area.

2.3 Hypotheses

The major aims of the present study are to (1) investigate the correlation between
proactive aggression and multiple dimensions of self-concept, (2) investigate the correlation
between reactive aggression and multiple dimensions of self-concept, (3) compare the
self-concept of reactive aggressors and proactive aggressors, and (4) find out the gender and
Form differences in aggression, specially in reactive aggression and proactive aggression.
Based on the assumptions formed by referring to the characteristics of proactive and reactive
aggression, the previous researches of the self-concepts of aggressors, the previous findings
of the gender and age differences in aggression, and some psychological concepts, seven
hypotheses are formed in the present study.

1. Proactive aggression correlates positively with the self-concept of physical ability,
   physical appearance, social (same / opposite sex relationship), school and academic
   (Mathematics, English and Chinese), and general self-esteem.
2. Proactive aggression correlates negatively with the self-concept of parent and honesty.
3. Reactive aggression correlates positively with physical ability.
4. Reactive aggression correlates negatively with the self-concept of physical appearance,
   social (same / opposite sex relationship), parent, honesty, school and academic
   (Mathematics, English and Chinese), and general self-esteem.
5. Proactive aggressors have higher self-concept in all the domains, except physical ability
   and honesty, than reactive aggressors.
6. Form 1 students are the most generally, proactively and reactively aggressive.
7. Boys are more generally, proactively and reactively aggressive than girls.

Method

3.1 Participants

Participants, who were Form one to Form three students, were recruited from four secondary schools in Hong Kong. There were totally 1618 participants. 929 of them were boy and 680 of them were girls, but 9 of them did not fill in the information about sex. 495 participants came from Form one, 555 came from Form two and 568 came from Form three students. Only 1582 participants provided their age. The age among these subjects ranged from 11 years old to 26 years old and the mean age was 13.29 years old.

39 out of 1618 participants were selected to participate in the follow-up interview. There were 28 boys and 11 girls. 30 of them were classified as reactive aggressors, 9 of them were proactive aggressors.

3.2 Research Design

The present research includes both quantitative and qualitative part. Questionnaires were used in the quantitative research (For the whole questionnaire, please refer to Appendix B). It is believed that we know our behaviors better than others do and it is known that self-concept is our perception and description towards our own selves, so self-report questionnaire format was applied. The purpose of using the self-report questionnaires was to measure the participants’ aggressive behaviors in general and their reactively and proactively aggressive
behaviors in specific, to measure the self-concept of the participants in various domains, to classify the participants as aggressors, and to further classify the aggressors as reactive aggressors and proactive aggressors.

In fact, quantitative research had its shortcomings. It limited participants’ thoughts to the only few rating questions. Some important experiences, thoughts and feelings of the participants might be ignored. By using the qualitative interview, we could let the participant freely explain their experiences, thoughts and feelings of the areas that the researchers were interested in. Through the interview, we could get more detail information from the participants and discover some new information that was ignored.

Qualitative research, which included the follow-up interview, was applied in the present study (For the questions of the interview, please refer to Appendix C). After classifying the participants, some of the reactive aggressors and proactive aggressors, were randomly selected to take part in the interview. Qualitative interview were used in order to get some detail information about how the participants perceive themselves in various situations (i.e. their self-concept in various domains), understanding more about their experiences, thoughts and feelings.

3.3 Instruments

3.3.1 Measuring instrument for self-concept

Participants’ self-concept is measured by Self-Description Questionnaire II– Short Form
Self-Concept of Aggressive Adolescents

(SDQII- S), which is a short version of the original SDQII developed by Marsh (2000). It contains 51 items selected from the original 102 items. Same as the original SDQII (Marsh, 1992b), SDQII- S is a multidimensional self-concept instrument that uses six-point Likert response scale (1= False…6= True) to measure eleven self-concept domains of adolescents. These self-concept domains consist of seven non-academic scales (such as physical abilities, physical appearance, same sex relationships, opposite sex relationships, honesty / trustworthiness, parent relations and emotional stability), three academic scales (such as Mathematics, verbal / English and school), and one global scale (general self-esteem). The scores of each self-concept scale are obtained by summing up the ratings of the items in each scale.

The original SDQII has previously been shown to have strong psychometric qualities (Marsh, 1992b, 1992c, 1993; Marsh & Craven, 1997). The reliabilities of the eleven scales are between .80 and .90. Furthermore, research supported the validity of the SDQII measure in Chinese people (Kong, 2000). This original measures shows very strong psychometric properties based on the Hong Kong. The psychometric properties of the SDQII- S also reach the satisfactory level. The reliabilities of the scales are between .79 and .90 (Marsh, 2000), which are slightly lower or similar to the original SDQII.

As the SDQII- S has not got the Chinese version, the present study translated the English version SDQII- S into Chinese one through back translation. In addition, the present study
extended the original verbal scale into Chinese verbal and English verbal self-concept to reflect the bilingual emphasis on both Chinese and English in the secondary school. The items of Chinese verbal scale were identical to that of the original English verbal scale. Therefore, the original SDQII-S was extended to 12 scales and totally 56 items (For the extended Chinese version SDQII-S, please refer to Appendix D).

Pilot study was conducted to test the reliability of the extended Chinese version SDQII-S. After running the Cronbach’s alpha reliability test, items that lowered the Cronbach’s alpha were deleted. Thus, the questionnaire would be shorter and more reliable. Totally, 13 items were deleted (i.e. 1 item from the physical appearance scale, 1 item from same sex relationships, 1 item from opposite sex relationships, 2 items from honesty / trustworthiness, all 5 items from emotional stability, 1 item from school, 1 item from Mathematics, and 1 item from general self-esteem scale were deleted). Those deleted items were indicated in Appendix D. They were bolded and italic. The reliabilities of the new scales were between .66 and .92. The results were satisfactory and those scales were highly reliable.

3.3.2 Measuring instrument for general aggressive behavior

Child Behavior Checklist- Youth Self-Report (CBCL-YSR) was used by the present study to measure the aggressive behaviors of the participants, and to classify the participants as aggressors and non-aggressors. CBCL-YSR, which contains 140 items, was developed by Achenbach (1991). A three-point Likert scale (0= not true, 1= somewhat or sometimes true,
2= very true or often true) is used to rate the items and separate scales have been developed to assess such factors as Aggressive Behavior, Anxious/Depressed, Attention Problems, Delinquent Rule-Breaking Behavior, Social Problems, Somatic Complaints, Thought Problems, Withdrawn, Externalizing, Internalizing, Total Problems, etceteras. The reliabilities of the scales range from .93 to .96. The scores of the scales are obtained by summing up the ratings of the items in each scale. CBCL has been translated into 64 languages and has been used by the studies of China (e.g. Dong, Wang & Ollendick, 2002). Education and Manpower Bureau report (2003) showed the evidence for the validation of the Chinese version CBCL-YSR. That means the Chinese version CBCL-YSR is suitable for using in Hong Kong.

In the present study, only the scale of Aggressive Behavior was selected for using, as the areas of other scales are not the interests of present study. There are totally 19 items in the scale (For the items of Aggressive Behavior scale, please refer to Part 2 of Appendix B). On one hand, the scale is used for measuring the aggressive behaviors of the participants. On the other hand, it is used for classifying the participants as aggressors and non-aggressors. According to the clinical criteria, for boys, if their total scores of the Aggressive Behavior scale are equal to or exceed 19 marks, then they are classified as aggressors. If their marks are below 19 marks, then they are classified as non-aggressors. For girls, if their scores are equal to or exceed 18 marks, they were then classified as aggressors. If their score is under 18 marks, they are classified as the non-aggressors.
3.3.3 Measuring instrument for reactively and proactively aggressive behavior

Reactive-Proactive Aggression Questionnaire (RPQ) is applied in the present study to measure the reactively and proactively aggressive behaviors of the participants, and to classify the aggressors into reactive aggressors and proactive aggressors. This questionnaire was developed by Raine et al. (2006). There is totally 23 items. 11 of them are for measuring reactively aggressive behavior and 12 of them are for proactively aggressive behavior (For the items of RPQ, please refer to Part 3 of Appendix B). The special characteristic of the items is that they include the motivation and situational context for the aggression, which are the key features for distinguishing reactive aggression and proactive aggression. Each item is rated by three-point Likert scale (0= never, 1= sometimes, 2= often). Summing up the ratings of reactively aggressive behavior items can obtain the reactive aggression score and summing up the ratings of proactively aggressive behavior items can obtain proactive aggression score.

By comparing the reactive aggression score and the proactive aggression score of the participants, we can classify them into reactive aggressor and proactive aggressor. If a subject’s proactive aggression score is higher than his reactive aggression score, then he is a proactive aggressor. If a subject’s reactive aggression score is higher than his proactive aggression score, then he is a reactive aggressor.

3.3.4 Measuring instrument for qualitative interview

The questions of the qualitative interview are designed according to the domains of
SDQII- S, as the present study would like to understand more and get more information about their self-perception, how they think of their own selves in their own wordings, of those areas. The participants were asked about their self-perception of (how they describe) their own emotion, physical ability, body image, academic achievement, the relationship with same sex and opposite sex peers, the relationship with parents and honesty, and their appraisal of (how they think, feel and evaluate) their whole person. Detail information was expected to obtain from the participants. Therefore, if the participants only gave some brief responses (e.g. “It is good / bad / nice!”), interviewer had to ask some follow questions, like “Can you explain more?” or “Can you give some examples?”.

In addition, questions were added in some domains to ask about in what situation and with whom they would have those descriptions, thoughts and feelings. In other domains, participants were asked to give the reasons or examples of their descriptions, to explain the experiences that affect them to think of themselves in that way, and to compare themselves with others. Additional questions were added in order to understand the background of the formation of self-perceptions in various domains. For the interview questions, please refer to Appendix C. The responses of the participants were recorded and were transcribe verbatim later. Responses were interpreted by the interviewer after the transcriptions were made.

3.4 Procedure

Quantitative research was conducted first. Researcher explained the purpose of the study
and answered any questions from the participants in each class. All the participants were informed of their rights of confidentiality before they responded to the questionnaires, which contained demographic information, and the measuring instruments of the revised SDQ-S, the extracted Aggressive Behavior scale of CBCL-YSR and the RPQ.

After collecting all the quantitative data from the participants, researcher then classified the participants and selected some of them to take part in the qualitative interview. First, researcher calculated participants’ total aggression scores of the CBCL. After that, participants were classified as aggressors according to their aggression scores by the clinical criteria. Next, researcher calculated the reactive aggression scores and proactive aggression scores of the classified aggressors, and classified the aggressors into reactive or proactive according to the criteria. Some reactive aggressors and proactive aggressors were randomly selected to participate in the follow up qualitative interview later.

Before the start of the qualitative interview, participants were asked whether they consented to record their responses. Interview only began with those who consent the recording. The participants were informed of their rights of confidentiality. During the interview, they were asked about their self-perceptions in various aspects. Follow up questions and additional questions about the participants’ self-perceptions were also asked. Researcher interpreted the responses of the participants after the transcriptions of the participants’ responses were written.
Results

Statistical Package of Social Scientists (SPSS) was used by the present research to conduct the results.

4.1 Quantitative Results

4.1.1 Correlation between proactive aggression and multidimensional self-concept

The relationship between proactive aggression and multidimensional self-concept was tested by the Pearson’s Correlation test of SPSS. Results showed the significantly positive relationships between proactive aggression and the self-concept of physical appearance ($r = .109$), and between proactive aggression and the self-concept of opposite sex relationship ($r = .061$), where $p < .05$, but the correlations were not strong. In addition, proactive aggression significantly negative correlated with other self-concept domains, like same sex relationship ($r = -.075$), honesty ($r = -.269$), parent relations ($r = -.203$), English ($r = -.043$), Mathematics ($r = -.047$), school ($r = -.061$) and general self-esteem ($r = -.113$), where $p < .05$, but again, the correlations were not strong. However, no significant relationships were found between proactive aggression and physical ability self-concept ($r = .28$), and between proactive aggression and Chinese self-concept ($r = -.025$), where $p > .05$. (For the detail of the correlation, please refer to Appendix E)

4.1.2 Correlation between reactive aggression and multidimensional self-concept

To test the correlation between reactive aggression and multidimensional self-concept,
Pearson’s correlation test was used. Reactive aggression was significantly negative correlated to same sex relationship ($r = -0.092$), opposite sex relationship ($r = -0.044$), honesty ($r = -0.247$), parent relations ($r = -0.209$), English ($r = -0.069$), Chinese ($r = -0.043$), Mathematics ($r = -0.101$), school ($r = -0.084$) and general self-esteem ($r = -0.148$), where $p < .05$, but the relationship was not strong. The only two self-concepts that were positively correlated to reactive aggression were physical ability ($r = 0.025$) and physical appearance ($r = 0.008$). However, the relationships were not significant, where $p > .05$. (For detail of the correlation, please refer to Appendix E)

4.1.3 Differences between pro- and re-active aggressors in multifaceted self-concept

By using Independent sample T-test, we could find out the differences in the multidimensional self-concept between proactive aggressors and reactive aggressors. Only two differences were significantly found in the self-concept of proactive and reactive aggressors. One was the physical appearance self-concept. Proactive aggressors ($M = 10.33$, $SD = 5.545$) had significantly higher physical appearance self-concept than reactive aggressors ($M = 7.11$, $SD = 4.029$), where $t(69) = 2.133$, $p < .05$. Another one is the opposite sex relationship self-concept. The opposite sex relationship self-concept of proactive aggressors ($M = 13.22$, $SD = 3.768$) was marginally significant higher than that of reactive aggressors ($M = 10.83$, $SD = 4.122$), where $t(67) = 1.638$, $p = .05$.

For all the other domains of self-concept, the differences between proactive aggressors and reactive aggressors were not significant. Although the differences were not significant,
the trends did show that proactive aggressors had higher self-concept in some domains than reactive aggressors on one hand. Proactive aggressors (M= 15.67, SD= 4.690) had higher, but not significant, physical ability self-concept than reactive aggressors (M= 15.34, SD= 5.690), where \( t(69) = .167, p > .05 \). The same sex relationship self-concept of proactive aggressors (M= 17.33, SD= 4.123) was higher, but not significant, than that of reactive aggressors (M= 16.95, SD= 4.209), where \( t(68) = .255, p > .05 \).

For the academic self-concept, proactive aggressors (M= 21, SD= 6.302) had higher, but not significant, Chinese self-concept than reactive aggressors (M= 18.11, SD= 6.852), where \( t(68) = 1.131, p > .05 \). In addition, proactive aggressors’ (M= 9.56, SD= 4.275) self-concept in Mathematics was higher, but not significant, than reactive aggressors’ (M= 8.44, SD= 5.220), where \( t(70) = .609, p > .05 \). Moreover, the general self-esteem of proactive aggressors (M= 18.50, SD= 6.325) was also higher, but not significant, than that of reactive aggressors (M= 18.18, SD= 6.449), where \( t(68) = .133, p > .05 \).

On the other hand, the trends showed proactive aggressors had lower self-concept in another domains than reactive aggressors, but the differences were not significant. Proactive aggressors (M= 14.44, SD= 5.318) have lower, but not significant, honesty self-concept than reactive aggressors (M= 15.08, SD= 3.872), where \( t(67) = -.439, p > .05 \). Besides, the self-concept of proactive aggressors (M= 15.67, SD=6.519) in parental relations was lower, but not significant, than that of reactive aggressors (M= 15.85, SD= 5.154), where \( t(68) = \).
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For the self-concept in academic area, the proactive aggressors (M= 15.44, SD= 5.703) had lower, but not significant, self-concept in English than reactive aggressors (M= 16.73, SD= 8.457), where \(t(69) = -0.439, p > .05\). Moreover, the self-concept of proactive aggressors (M= 9.44, SD= 3.468) in the school domain was lower, but not significant, than that of reactive aggressors (M= 9.51, SD= 4.536), where \(t(70) = -0.040, p > .05\).

(For the detail of the differences between pro- and re-active aggressors in multifaceted self-concepts, please refer to Appendix F and G)

4.1.4 Gender and Form differences in aggression

Three 2 (gender) * 3 (Form) analyses of variance (two-way between-groups ANOVAs) were performed to analyze the gender differences and Form differences in and their interaction effect on reactive aggression, proactive aggression and aggression as a whole.

Considering the differences in aggression as a whole, results showed that there was a marginally significant main effect for sex \([F(1, 1550) = 3.790, p = .052]\), and the effect size was small (partial eta squared= .002). The means showed that boys (M= 7.25, SD= 5.647) had higher aggression scores than girls (M= 6.75, SD= 5.310).

Moreover, the interaction effect \([F(2, 1550) = 7.286, p < .005]\) also reached statistical significance, and the effect size was small (partial eta squared= .009). On one hand, the estimated marginal means and profile plots showed that Form 1 boys (M= 7.75, SD= 5.887) scored higher than Form 2 Boys (M= 7.08, SD= 5.648), but Form 2 boys (M= 7.08, SD=...
5.648) scored higher than Form 3 boys (M= 6.97, SD= 5.403). That is, Form 1 boy had higher score than the boys in other Forms.

On the other hand, the estimated marginal means and profile plots indicated that Form 1 girls (M= 5.76, SD= 4.637) scored lower than Form 2 girls (M= 7.79, 5.803), and Form 2 girls (M= 7.79, SD= 5.803) scored higher than Form 3 girls (M= 6.59, SD= 5.192). In other words, Form 2 girls scored higher than girls in other Forms. (For the detail of the interaction effect, please refer to the profile plots in Appendix H)

However, no main effect was found for Form [F (2, 1550)= 2.517, p = .081].

In regard to the differences in proactive aggression, there was a statistically significant main effect for sex [F (1, 1575)= 16.081, p< .001], but the effect size was small (partial eta squared= .010). The means showed that boys (M= 1.42, SD= 2.750) had higher proactive aggression scores than girls (M= .91, SD= 2.015).

Furthermore, results showed significant main effect for Form [F (2, 1575)= 4.287, p< .05], but again, the effect size was small (partial eta squared= .005). Post-hoc comparisons using Tukey HSD, Scheffe, LSD and Bonferroni indicated that Form 2 students (M= 1.42, SD= 2.867) had higher proactive aggression score than Form 3 students (M= .97, SD= 1.952).

However, the interaction effect [F (2, 1575)= .516, p=.597] did not reach statistical significance.
Concerning the difference in reactive aggression, there was a statistically significant main effect for Form \([F (2, 1573)= 6.003, p< .005]\), and the effect size was small (partial eta squared= .008), showing that there were Form differences in reactive aggression. Post-hoc comparisons using Tukey HSD, Scheffe, LSD and Bonferroni indicated that Form 1 (\(M= 4.80, SD= 3.774\)) students had higher aggression scores than Form 3 students (\(M= 4.20, SD= 3.457\)), and Form 2 (\(M= 4.93, SD= 3.955\)) students had higher aggression scores than Form 3 (\(M= 4.20, SD= 3.457\)) students.

In addition, the estimated marginal means and profile plots revealed an interaction between gender and Form, suggesting that Form 1 boys (\(M= 5.15, SD= 3.979\)) had higher reactive aggression scores than Form 2 boys (\(M= 4.67, SD= 3.950\)), while the pattern was reversed for girls (Form 1 girls: \(M= 4.28, SD= 3.393\); Form 2 girls: \(M= 5.33, SD= 3.939\)). The significance of this interaction effect was confirmed by the results of the ANOVA table, \(F (2, 1573)= 6.084, p < .005\), but the effect size was small (partial eta squared= .008). (For the details of the interaction effect, please refer to the profile plots in Appendix H)

However, the main effect for sex \([F (1, 1573)= .191, p= .662]\) was not significant, showing that there was no gender difference in reactive aggression.

4.2 Qualitative Results

4.2.1 Differences between pro- and re-active aggressors in multifaceted self-concept

After writing the transcriptions of participants’ responses, researcher was going to
highlight the keywords of the responses, and then categorized them. Percentages were calculated after the categorizations. The differences between proactive and reactive aggressors were analyzed according to the differences of these percentages.

4.2.1.1 Differences in emotional stabilities

When asking what was (were) the common emotion(s) that the participants experienced, both proactive and reactive aggressors responded in the similar way. Both of them provided that they usually not only felt happy (77.8% of proactive aggressors; 66.7% of reactive aggressors), but also usually felt unhappy (66.7% of proactive aggressors; 36.7% of reactive aggressors), got angry (33.3% of proactive aggressors; 63.3% of reactive aggressors) and lost temper (44.4% of proactive aggressors; 36.7% of reactive aggressors). Besides, there were one to two proactive and reactive aggressors provided other responses like impressed, excited, contradictory, boring, and no feeling at all.

Both proactive and reactive aggressors further provided reasons for their common emotions. The reason for their happy feelings was quite consistent. There were 71.4% of proactive aggressors and 60% of the reactive aggressors felt happy when they played, talked phone, shopping, eating, and sharing happy experiences with their peers. Reactive aggressors also provided other reasons like winning the ball game, reading, parent accompaniment, talking with the most favorite teacher, and getting a high academic achievement.

Both proactive and reactive aggressors shared similar reasons for experiencing the
negative emotions (unhappy, got angry and lost temper). For examples, 23.1% of those proactive aggressors and 51.2% of those reactive aggressors, who experienced the negative emotions, explained that they experienced negative emotions when they were criticized, beaten, called names, provoked, disturbed by peers. While 7.7% of those proactive aggressors and 17.1% of those reactive aggressors were scolded by parents, siblings and teachers, 7.7% of those proactive aggressors and 2.4% of those reactive aggressors were isolated by peers.

There were also other reasons for the aggressors to experience the negative emotions. For examples, 24.4% of those reactive aggressors felt angry and lost temper where they were annoyed by parents and peers, another one reactive aggressor lost the temper when his parent did not allow him to go out. One reactive aggressor felt unhappy when he felt lonely, whereas one felt unhappy when she missed her old friends.

Present study categorized the responses of feeling unhappy, getting angry and losing temper into the negative-way self-perception of the own emotion, whereas the happy feeling was the positive-way self-perception.

Clearly, the percentages showed that the self-perception of proactive and reactive aggressors towards their emotional stabilities was similar. There were quite large amounts of proactive aggressors (66.7%) and reactive aggressors (60%) perceived their emotion in both positive and negative ways (i.e. they always experienced both positive and negative emotions). The following quotations were the examples:
“I felt sad and would lose temper if I was scolded by mother and teachers, and isolated by friends… I felt happy while I went shopping with friends.” (Proactive aggressor)

“I felt happy when I was staying with my friends…I would be so angry if my family members annoyed me… and if my peers provoked me.” (Reactive aggressor)

Relatively few proactive and reactive aggressors perceived themselves only in the positive way (11.1% of proactive aggressors; 6.7% of reactive aggressors) or only in the negative way (11.1% of proactive aggressors; 33.3% of reactive aggressors). There were more reactive aggressors in the negative-way-only group than proactive aggressors. Only one proactive aggressor and none of the reactive aggressors mentioned that they were no emotion at all. Following quotations were the examples:

“I would lose temper… because others hurt me carelessly when playing.”

(Proactive aggressor)

“I felt happy… when playing ball game with peers… and I am optimistic.”

(Reactive aggressor)

When asking them about how to deal with the negative emotions, both proactive aggressors (85.7%) and reactive aggressors (32.1%) would try to find methods to calm down and control themselves not to react to others, although more proactive aggressors knew how to calm down themselves than reactive aggressors. The methods of calming down or controlling themselves were various. Different aggressors had different methods, such as
doing physical exercises, deep breathing, talking with others, drinking cold water, washing
face, bathing, and etceteras. The following quotations were the examples:

“I felt sad… lost temper… I would talk with my friends to express my feelings.”

(Proactive aggressor)

“I got angry by my brother… I would drink cold water, wash my face or bathing to cool
down myself.” (Reactive aggressor)

Although some of the reactive aggressors could control themselves from impulsively react to others, most of those reactive aggressors (64.3%) could not control their negative emotions and showed more impulsive. Still, different reactive aggressors had different forms of impulsive reactions. For examples, throwing the pillow, breaking the pencil, scolding back, beating others, push others, pushing the chair and tables, and etceteras. The following quotations were the examples:

“After scolded by teachers and parents, I would get angry… I would beat others.”

(Reactive aggressor)

“I got angry when others provoked me… I would push them.”

(Reactive aggressor)

4.2.1.2 Differences in academic achievement

When asking about the self-perception of their academic achievement, the responses of proactive and reactive were similar averagely. Many of them said that their academic
performance was so bad (44.4% of proactive aggressors, 53.3% of reactive aggressors); bad, but not so bad (33.3% of proactive aggressors, 10% of reactive aggressors); and average (22.2% of proactive aggressors, 30% of reactive aggressors). None of the proactive aggressors felt their performance was okay or good. Only one reactive aggressor felt the academic result was okay, and only one felt good. The following quotations were the examples of their responses:

“I’m very lazy and always don’t revise the teaching materials… my academic performance is bad… always fail… every subject…” (Proactive aggressor)

“… Rubbish… very bad… the performance was not good.” (Reactive aggressor)

Both proactive and reactive aggressors further provided which subject(s) was (were) the best and the worst according to their perceptions. Most of the proactive and reactive aggressors thought that they performed relatively well in English (11.1% of proactive aggressors; 33.3% of reactive aggressors), Mathematics (11.1% of proactive aggressors; 26.7% of reactive aggressors), Chinese (22.2% of proactive aggressors; 20% of reactive aggressors), Physical Education (11.1% of proactive aggressors; 16.7% of reactive aggressors) and Science (11.1% of proactive aggressors; 13.3% of reactive aggressors).

Most of the proactive and reactive aggressors thought they did badly in English (66.7% of proactive aggressors; 50% of reactive aggressors), Mathematics (66.7% of proactive aggressors; 43.3% of reactive aggressors) and Chinese (22.2% of proactive aggressors; 16.7% of reactive aggressors).
of reactive aggressors).

4.2.1.3 Differences in physical ability

In regard to the self-perception of physical ability, there were relatively more proactive (33.3%) and reactive aggressors (40%) perceived their physical abilities were okay and good. Whereas 44.4% of proactive aggressors and 23.3% of reactive aggressors perceived they possessed average physical abilities, 22.2% of proactive aggressors and 36.7% of reactive aggressors thought their physical abilities were bad and very bad. Averagely, there were not great discrepancies between proactive and reactive aggressors in the perception of their physical strength. Most aggressors (no matter which types) gave the similar responses as the follows:

“My physical ability is good. I can handle the activities that require physical abilities, such as bicycle, hiking, and camping.” (Reactive aggressor)

“… Average… my body condition is not good. It is very easy for me to get sick…I cannot run fast.” (Reactive aggressor)

“… Bad but not too bad… it is so tired for me to run…” (Proactive aggressor)

When asking them to compare their physical strengths with their peers, most of the proactive (55.6%) and reactive aggressors (43.3%) felt their physical abilities were same as others. There were 22.2% of proactive aggressors and 30% of reactive aggressors felt their physical strengths were worse than others. Relatively few aggressors (22.2% of proactive
aggressors and 23.3% of reactive aggressors) felt they were better than their peers.

They further provided some reasons for their perceptions of the comparisons. No consistent reasons between proactive and reactive aggressors, even between proactive aggressors and between reactive aggressors. Followings were the examples of the reasons:

“My physical ability is better than others… because I can continuously run for ten minutes and can do many times of push up.” (Proactive aggressor)

“…Better than peers… I need not to drink water even after playing football for a long time.” (Reactive aggressor)

“…Other students are better… they do not gasp for air after running…”

(Proactive aggressor)

“I felt my physical ability is worse than my peers… I spend little times on doing exercise… I don’t play football and basketball and I feel very tired to do so.”

(Reactive aggressor)

4.2.1.4 Differences in body image (physical appearance)

Although participants only gave some responses in few words in this section of questions, the responses showed that the proactively (44.4%) and reactively (13.3%) aggressive adolescents perceived their body images (appearance) were average. Comparatively, there were much more proactive aggressors perceived their body image at the average level. Relatively few aggressors (11.1% of proactive aggressors and 10% of reactive
aggressors) thought their body image were good, and few aggressors (11.1% of proactive aggressors and 6.67% of reactive aggressors) felt they possessed bad body images. Basically, no obvious differences were showed in the responses of these two categories. Some proactive and reactive aggressors (ranged from 10% to 23.3%) felt small, thin, short, fat, big, and tall.

When comparing with their peers, largely more proactive aggressors (55.6%) felt their body images were average than reactive aggressors (20%). No proactive aggressors perceived their body images were worse than others, but there were 13.3% of reactive aggressors felt worse than peers. Moreover, there were more numbers of proactive (11.1%) aggressors felt that their body images were better than others than reactive aggressors (3.3%). Prominently, proactive aggressors got a better perception on the body image than reactive aggressors. Some proactive and reactive aggressors (ranged from 3.3% to 13.3%) felt that they were smaller, thinner, shorter, fatter, bigger, and taller than others.

4.2.1.5 Differences in the relationship with same-sex peers

88.9% of proactive aggressors and 63.3% of reactive aggressors felt that they had good relationship with same sex peers. However, 11.1% of proactive aggressors and 10% of reactive aggressors felt their relationships with same sex peers were not so good and bad. 26.7% of reactive aggressors, but no proactive aggressors, felt their relationships with same sex peers were so-so. Responses showed that proactive aggressors had better relationship with same sex peers than reactive aggressors.
Diverse reasons were provided for their positive perceptions. Some aggressors (87.5% of those proactive and 68.4% of those reactive aggressors) said that when they played, talked, ate, and did homework with same sex peers, they felt their relationships were good. Others thought that helping each other (12.5% of those proactive aggressors; 26.3% of those reactive aggressors) and rarely arguing with each others (12.5% of those proactive aggressors; 15.8% of those reactive aggressors) were the indicators of good relationships.

Inconsistent reasons were provided for the poor same sex peers relationship. Following quotations were the examples:

“We sometimes argue… we have different opinions…” (Proactive aggressors)

“… If I offend one popular peer, others would isolate me…” (Reactive aggressor)

“… We have different interests and hobbies…” (Reactive aggressor)

“Some peers would say something bad about me in front of other peers…”

(Reactive aggressor)

4.2.1.6 Differences in the relationship with opposite-sex peers

Two types of aggressors had different opinions in the perception of whether their relationships with opposite sex peers were okay, good, and so-so. 44.4% of proactive aggressors felt their relationships with opposite sex peers were good, whereas 36.7% reactive aggressors maintained okay or good relationship with opposite sex peers. 55.6% of proactive aggressors and 26.7% reactive aggressors felt their friendship with opposite sex peers were at
Moreover, there were great differences between two types of aggressors in the perception of whether their relationships with opposite sex peers were bad. None of the proactive aggressors felt their relationships with opposite sex peers were bad, while 6.7% reactive aggressors get along well with some opposite sex peers but maintain poor relationships with the others, and 30% of reactive aggressors felt their relationship with opposite sex peers were bad.

Averagely, the responses of the participants showed the differences between proactive and reactive aggressor in their perception of opposite sex relationship. Proactive aggressors were able to maintain better relationships with peers than reactive aggressors.

According to the participants, common reasons for the good relationships were playing (50% of those proactive aggressors and 45.5% of those reactive aggressors) and talking (50% of those proactive aggressors and 72.7% of reactive aggressors) with the peers. There were other reasons:

“… Our relationship is very good… we always talk and play together… even share some private feelings… if they are unhappy, I would comfort and accompany them.” (Reactive aggressor)

“… I have a very good relationship with them… They would come and ask me questions.” (Proactive aggressor)
75% of proactive aggressors and 33.3% of reactive aggressors felt that their perceptions of the poor relationships with opposite sex peers were due to rarely talking and playing with each other. Moreover, 25% reactive aggressors thought that the interests of opposite sex peers were different from them, and 16.7% said that they often argue with each other. The following were another reasons:

“…Sometimes, I want to talk with them but they do not talk with me… they feel I am so annoying.” (Reactive aggressor)

“… It is silly and naive to play with them.” (Reactive aggressor)

4.2.1.7 Differences in honesty

When asking the participants whether they perceived themselves as an honest person, 33.3% of proactive aggressors and 23.3% of reactive aggressors responded that they were honest, whereas 33.3% of proactive aggressors and 60% of reactive aggressors perceived themselves as a dishonest person. Some aggressors (33.3% of proactive aggressors and 10% of reactive aggressors) thought that they got an average level of honesty. There were 6.7% of reactive aggressors provided that they were sometimes honest but sometimes dishonest. While asking them to make comparison with their peers, 55.6% of proactive aggressors and 46.7% of reactive aggressors perceived that their honesty levels were same as their peers’. 22.2% of proactive aggressors and 20% of reactive aggressors thought their peers were more honest than they did. 11.1% of proactive aggressors and 23.3% of reactive aggressors felt that
they were more honest than their peers. From these responses, it is believed that proactive aggressors perceived they were honest more than reactive aggressors did.

Reasons were provided for their perceptions of dishonesty. All of the proactive aggressors and 77.8% of reactive aggressors, who perceived they were dishonest, responded that they told lie frequently. Following quotations were examples:

“I’m not quite honest because I tell lie.” (Proactive aggressor)

“I told my dad that I finished my homework, but I haven’t finished yet… when my parents asked me whether I ate my brother’s food, I told them I did not but I did actually” (Reactive aggressor)

Reasons that made proactive and reactive aggressors to thought that they were honest were diverse:

“… I keep promise and I haven’t got an experience of stealing.” (Proactive aggressor)

“… I did not deny I stole something… and I knew that I did a wrong thing…” (Reactive aggressor)

“I’m quite straight forward… I always tell the truth.” (Reactive aggressor)

4.2.1.8 Differences in general self-worth

As the responses’ contents were various, present study classified the responses into four different categories: positive, neutral, both positive and negative, and negative. Averagely, the general self-evaluations of proactive aggressors were better than reactive aggressors.
44.4% of proactive aggressors and 30% of reactive aggressors provided a positive response for their perception of general self-worth. Following quotations were the examples:

“… Very good… my body image is so good” (Proactive aggressor)

“Quite good! It is easy for me to get along well with people… and I can keep promise.” (Proactive aggressor)

“I’m a optimistic person… and good at sports.” (Reactive aggressor)

“I’m quite honest.” (Reactive aggressor)

There were 22.2% of proactive aggressors and 6.7% reactive aggressors viewed themselves in a neutral way. Followings were the examples:

“I’m a normal person.” (Proactive aggressor)

“I haven’t done wrong things and haven’t done good things.” (Reactive aggressor)

No proactive aggressor but 23.3% of reactive aggressors viewed themselves in both positive and negative ways. Examples as followings:

“I sometimes tell lie… My physical ability is good…” (Reactive aggressor)

“I treat my friend very well. I help them when I have ability. We always share private feelings… but I treat my family members badly.” (Reactive aggressor)

22.2% of proactive aggressors and 40% of reactive aggressors perceived themselves in a negative way. Following quotations were the examples:

“I’m no honest… and moody.” (Proactive aggressor)
“I always bully others… I did badly in most of the things… my academic performance is not good and I always do not revise the teaching materials” (Reactive aggressor)

“My physical appearance and body image are not good… I’m short and thin…”

(Reactive aggressor)

4.2.1.9 Differences in the relationship with parents

In regard to the relationship with parents, 44.4% of proactive aggressors and 31% of reactive aggressors felt their relationships with father were bad, whereas their relationships with mother were good:

“My father is so annoying… We seldom talk with each other… I talk more to my mother… She always buy things for me” (Proactive aggressor)

“My father is very bad… He always criticizes me… During summer holiday, he scolded me and made me cry every week… My mother cares about me… She is a considerate person… I always talk something about my school to her…” (Reactive aggressor)

33.3% of proactive aggressors and 31% of reactive aggressors viewed their relationships with mother were not good, but they got alone well with their fathers:

“I get along well with my father… we sometimes play football together… and we seldom argue… My relationship with my mother is not so good… she is very annoying…” (Proactive aggressor)

“My father is better than my mother… I always talk to him… He always accompanies
me… My mother always ignores me… I don’t talk to her…” (Reactive aggressor)

No proactive aggressor and 6.9% of reactive aggressors had bad relationships with both of the parents:

“My father loves my brother more than me… he always loses temper… I always argue with my mother… I don’t like talk to them.” (Reactive aggressor)

22.2% of proactive aggressors and 31.1% of reactive aggressors got along well with both father and mother. Following quotations were the examples:

“… My father loves me very much… we always play TV games together… our relationship is very good… My mother is so nice… she always takes care me… always cook for me… our relationship is very good too…” (Proactive aggressor)

“My relationship with father is very good… we always cook together… I get along well with my mother… she teaches me how to make clothes… planting… she teaches me many things that could not find in books…” (Reactive aggressor)

Basically, there were not many differences between the self-perceptions of the two types of aggressors in the relationship with parents.

Discussion

5.1 Results’ summaries and implications

5.1.1 Correlation between proactive aggression and multidimensional self-concept

Same as the hypothesis of present study, the findings showed proactive aggression had
significantly positive correlations with the self-concept in physical appearance and in opposite sex relationship. That meant the more the adolescents act proactive aggressively, the higher was the physical appearance and opposite sex relationship self-concept. These results supported the assumption that proactively aggressive adolescents regarded aggression as a viable mean to obtain a high, positive status and identity in the social hierarchy among peers.

During puberty, peer relationships increasingly replaced family relationships. At the same time, adolescents began to find out their own identities. While the time spent with peers increased and the time spent with family members decreased, adolescents tried to find out who they are from the interaction with their peer groups. Furthermore, it is known that everyone had a sense of self-enhancement or self-actualization. Everyone desired to regard him or herself favorably and strived for a both positive and high self-identity (Papps & O'Carroll, 1998).

Same as everyone else, proactively aggressive adolescents also had a sense of self-actualization. They found ways to fulfill their potentials and achieve the positive and high self-identity. However, they wrongly believed that aggression was instrumental. They regarded aggressive behaviors as an effective ways to help them find out their identities among the peers. They believed that by dominating others aggressively, they would become popular and attractive, and would be admired by other peers, making them positioned on the high status in the social hierarchy of peers and gained a positive, high identity from the
interaction with the peers. Furthermore, Bjorklund and Pellegrini (2000) found that access to peers of the opposite sex represents a particularly important status resource for which adolescents compete. By dominating the opposite sex peers, proactively aggressive adolescents would feel more superior. Therefore, by acting proactive aggressively more and more frequently, proactively aggressive adolescents would perceive themselves as more and more attractive and popular, having a higher self-concept in physical appearance (attractiveness) and peers relationship.

However, the present study only found a significantly positive correlation between proactive aggression and physical appearance self-concept, and between proactive aggression and opposite sex relationship self-concept. The correlation between proactive aggression and the self-concept in same sex relationship was significantly negative. In other words, the more the adolescents engaged in proactive aggression, the lower was their self-concept in the same sex relationship domain.

Although the perception to acquire higher status and higher identity among same sex peers was a very real intention or motivation of aggression, the resultant increase in the self-concept of same sex relationship may not take place for many proactively aggressive adolescents after acting aggressively towards others because they may not receive the positive reinforcement (successful domination or peers’ submission) they expected to get from their same sex peers. The negative correlation occurred because most of their same sex
peers were also proactive aggressors (Poulin & Boivin, 2000). These same sex peers were as clever as and as proactively aggressive as the proactively aggressive adolescents, so the proactively aggressive adolescents may not be able to dominate their same sex peers successfully. However, proactively aggressive adolescents thought that they would become or maintain popular only by aggressively dominating others. Therefore, they would perceive they were not popular among their same sex peers. Every time when proactively aggressive adolescents tried to aggressively dominate their same sex peers, but was not successful, their perception of their popularity among the same sex peers would be reduced. Gradually, they would perceive their relationship with same sex peers was not good.

On one hand, the hypothesis of present study was supported by the results, which found that there was a significantly negative correlation between proactive aggression and the self-concept of parent relations and honesty. On the other hand, in contradiction with the assumption, results also found that the correlations between proactive aggression and the self-concept in the domains of school, Mathematics, English and general self-esteem were significantly negative. In addition, the trend did show that proactive aggression was negatively correlated with the self-concept of Chinese although the result was not significant. That meant if the adolescents acted proactive aggressively more and more frequently, the self-concept in the relationship with parent, the sense of honesty, school adjustment and academic achievement, and the general self-worth of these adolescents would decrease little
by little. The correlations can be understood as follows.

After the video that showed the secondary school students were hit and kicked by their peers in the classrooms was spread out though the Internet in 2003, school violence or school bullying has attracted the attention from the whole Hong Kong society. With the increasing awareness of the bullying incidents, schools in Hong Kong strengthened their disciplinary system to detect the incidents of school violence and school bullying. Due to the strengthening disciplinary system, the proactively aggressive students would be caught and be punished by teachers and school authorities although they were clever and their aggressive behaviors were covert.

The school would then inform their parents who would further punish the aggressive adolescents. However, the parents of the proactively aggressive adolescents did not provide them with better parental monitoring and household rules (Vitaro & Brendgen, 2005). Therefore, the adolescent would act aggressively again, and would be punished by school and parent again. A vicious circle would be created. According to the concept of Rohner (1991, as cited in Mrug & Wallander, 2002, p. 268-269), the relationship with significant others (including parents and teachers) would affect the adolescents’ self-concept in the related domains and self-esteem. Therefore, as the proactively aggressive adolescents increased the frequency of aggression, the schools and parents increasingly punished them. The proactively aggressive adolescents, then, increasingly perceived the relationships with parents and
teachers were not good at all and lost a sense of belonging to the schools, and gradually reducing the self-concept that related to the relationship with parents and school, and the general self-esteem.

Actually the self-concept of the domains in Mathematics, English, Chinese together with the domain in school could be together understand as a sense of belonging to school. Sanchez, Colon, and Esparza (2005) found that sense of school belongingness significantly predicted academic achievement, including academic motivation, effort, and absenteeism. That is, a lower sense of school belonging would predict an unsuccessful academic achievement. Besides, Booker (2004) suggested that a bad relationship with teachers would negatively affect adolescents' academic achievement. Although proactively aggressive adolescents did get high academic achievements in the reality, their perception of their academic performance was badly influenced by their loss of school belonging and their negative perception of the relationship with teachers, as the school authorities or teachers increasingly punished them for their increasingly aggressive acts. Eventually, the adolescents gradually reduced their self-concept of academic achievements (Mathematics, English and Chinese) with the increasing proactively aggressive acts.

In regard to the self-concept of honesty, proactively aggressive adolescents always act covert aggressively and told lie in order to protect themselves from getting into trouble for bullying and from escaping the punishment followed by bullying. With the increasingly
aggressive acts, the proactively aggressive adolescents would lie more often. Although they regarded aggression as a viable means to achieve their goals, they actually realize they are doing the wrong things. Sometimes, they would feel guilty to act aggressively towards others. Therefore, their perception of honesty would be decreased by increasingly aggressive behaviors.

Besides, results showed the negative correlation between proactive aggression and the self-concept in general self-esteem (self-evaluation). It is known that our self-concept is affected by our view of how others see us. That meant our perception of ourselves were influenced especially by the evaluations of significant others (including parents and teachers) (Shavelson et al., 1976). As proactively aggressive adolescents were caught and punished by teachers and parents, they would be labeled as bad kids by these significant others. These significant others would think they are no good at all. As our self-concept were affected by the appraisal of significant others, proactive aggressive adolescents’ self-concept would be affected by their significant others’ appraisal (i.e. they are bad kids), and finally viewed themselves are no good (same as the view of their significant others). Although the proactively aggressive adolescents did acquire a higher sense of self-worth through dominating their peers, the influences of parents and teachers’ appraisals were much stronger. Therefore, with the increase use of aggression, proactively aggressive adolescents would be caught frequently and the bad labeling would be strengthened. This bad appraisal (bad
labeling) from others would negatively, deeply and continuously affect the general appraisal of adolescents towards themselves.

The result showed there was no significant correlation between proactive aggression and physical ability self-concept. Although the proactively aggressive adolescents have the intention to raise their sense of identity in all the areas (including the identity of their physical abilities) by aggression, the major goals of their aggression was to increase their status and their sense of popularity and attractiveness among peers. In addition, the aggressive behaviors of proactively aggressive adolescents were not always overt and physical (Macklem, 2003). Therefore, they may not feel their physical ability was strengthened after acting aggressively towards others.

5.1.2 Correlation between reactive aggression and multidimensional self-concept

Identical to the hypothesis, results showed that reactive aggression negatively correlated with the self-concept of same sex relationship, opposite sex relationship, parent relations, academic (English, Mathematics and Chinese), school and honesty, and general self-esteem. That meant with the increasingly, frequently, reactively aggressive behaviors, the self-concept of adolescents in the domains of same sex relationship, opposite sex relationship, parent relations, academic (English, Mathematics and Chinese), school and honesty, and general self-esteem would be reduced.

Actually, reactively aggressive adolescents had information processing deficits. It was
believed that reactively aggressive adolescents had deficits at the encoding or interpretation stage of processing (Dodge & Crick, 1996). They misinterpreted the acts of others as intentional hostilities towards him, or they selectively attended to some negative cues that related to provocation and frightening threats. As they perceived hostilities are near, they reacted aggressively in order to retaliate, and to protect themselves or to defend themselves from being hurt. This hostile attributional bias made the reactively aggressive adolescents perceive their relationship with the same sex and opposite sex peers were not good at all because they thought that their peers were always hostile and critical towards them. Even more, this attributional bias and the defensively aggressive acts of reactive adolescents would further increased peers’ hostility and rejection toward them (Dodge & Crick, 1996). Therefore, the more they engaged in reactively aggressive behaviors, and the lower was their self-concept of same sex and opposite sex relationship.

The aggressive act of the reactively aggressive children is always overt, physical and immediate after perceiving hostilities (Salmivalli & Nieminen, 2002), so they would be identified by their peers easily. Besides, reactively aggressive adolescents usually perceive the occurrence of hostilities even when none is necessarily intended, so they would always hurt some innocent peers. Therefore, with the increasingly, reactively aggressive acts, the peers (no matter same sex or opposite sex) of reactively aggressive adolescents would distance, or even hate, and isolate them, making them increasingly perceive that their
relationships with same sex and opposite sex peers were not good.

For the self-concept in the domains of academic (English, Mathematics and Chinese), the reactively aggressive adolescents dared not to ask for help when they met some difficulties in their homework and when they did not understand what the teachers taught because they perceived their peers and even teachers and other people in school always criticized them. They feared that if they told their peers and teachers that they got some questions on the teaching materials, they would be teased and criticized by peers and teachers. Therefore, they would not understand the teaching materials, and their performance in school would be lowered. When they perceived more hostilities and criticisms from the people around them, mainly their peers and teachers (i.e. they increased their reactively aggressive acts towards their peers and teachers), they would become more fear to ask for academic assistants. Therefore, their self-concept of academic (English, Mathematics and Chinese) reduced gradually.

Due to the increasing awareness of the bullying incidents, the strengthening disciplinary system and the overtly and physically aggressive acts of the reactively aggressive adolescents, which were easy to be detected, the reactively aggressive students would be caught easily and be punished by schools. Parent involvement would also be necessary. The parents of reactively aggressive adolescents were so punitive (Vitaro & Brendgen, 2005). Every time when these adolescents acted inappropriately, their parents would punish them seriously.
Therefore, the parents would further punish the reactively aggressive adolescents for the aggressive behaviors. The increased reactively aggressive acts made the reactively aggressive adolescents punished by schools and parents frequently and increasingly. The reactively aggressive adolescents would then lose a sense of belonging to the schools and thought that the relationships with parents and teachers were not good. According to the concept of Rohner (1991, as cited in Mrug & Wallander, 2002, p. 268-269), the relationship with significant others (including parents and teachers) would affect the adolescents’ self-concept in the related domains and self-esteem. Besides, it is believed that sense of school belongingness significantly predicted academic achievement (Sanchez et al, 2005), and the relationship with teachers would affect adolescents’ academic achievement (Booker, 2004). Therefore, their self-concept of parent relations, academic and school, and their general self-esteem would be reduced with the increasingly aggressive acts towards others.

When the adolescents engaged in the reactively aggressive behaviors frequently, the times that they would be caught and punished would increase. Eventually, parents and teachers would think that the reactively aggressive adolescents are naughty and label them as bad students. As our self-concept were affected by the appraisal of significant others (i.e., parents and teachers) (Shavelson et al., 1976), the self-concept of reactively aggressive adolescents would be affected by the bad appraisals of their parents and teachers. Gradually, the reactively aggressive adolescents would think that they were no good at all. In addition,
they would internalize the bad label that formed by parents and teachers. Self-fulfilling prophecy would then be created, and the reactively aggressive adolescents would eventually engage in aggressive behaviors more and more frequently in order to fulfill the label. With the increasing engagement in the reactively aggressive behaviors, the bad appraisal of parents and teachers would be strengthened, and the bad appraisal thus increasingly, negatively affected the general self-worth of the reactively aggressive adolescents, making them increasingly think that they were worthless.

About the self-concept of honesty, reactively aggressive adolescents often tell lies to conceal their reactively aggressive behaviors in order to escape from the punishment followed by bullying. When they engaged in aggressive behaviors more and more frequently, they would tell more and more lies. However, they might feel guilty to conceal their reactive aggressively acts towards others. Therefore, the more the reactively aggressive adolescents engaged in aggressive behaviors, the more dishonesty they felt.

Different from the hypothesis, results showed that there was no significant correlation between reactive aggression and the self-concept of physical ability, although the trends were in the hypothesized direction (positive), and between reactive aggression and the self-concept of physical appearance. The null hypothesis was not rejected. Looking back to the nature of reactive aggression, it is known that the only goal of reactive aggression was to defense against the perceived, upcoming hostilities of others. As the reactively aggressive adolescents
perceived dangerous was arriving, they reacted aggressively towards others in order to
protect themselves from being hurts. The only concept in the minds of reactively aggressive
adolescents was to protect themselves. Although beating others would make an individual
feel good about his physical ability, and although individual would devalue his physical
attractiveness after repeatedly perceiving others’ criticism on his appearance, reactively
aggressive adolescents did not focus on these feelings when they reacted aggressively. The
only thing they focus on was the possibility of their successful escape from being hurts.
Therefore, they would not think acting aggressively and frequently would make them feel
good on their physical abilities or feel bad on their appearances.

5.1.3 Differences between pro- and re-active aggressors in multifaceted self-concept

Identical to the hypothesis of present study, both quantitative and qualitative results
indicated that proactive aggressors possessed a better self-perception in their physical
appearance and their relationship with peers. In other words, the self-concept of proactively
aggressive adolescents in the physical appearance and opposite sex domains was higher than
that of reactively aggressive adolescents. These results were in line with the significantly
positive correlation between proactive aggression and the self-concept of physical appearance
and the opposite sex relationship, and the significantly negative correlation between reactive
aggression and the attractiveness- and peer-related self-concept.

On one hand, the more the adolescents engaged in the proactive aggression, the more
popularity and attractiveness they feel on their own. Eventually, the proactive aggressors got a higher self-concept in the domains of physical appearance (attractiveness) and the relationship with opposite sex peers. On the other hand, the more the adolescents behaved reactive aggressively (that meant the more hostilities they perceived), the worse the relationship with their peers and the less self-attractiveness they feel. Gradually, the reactive aggressors developed a lower self-concept in the domains of peer relationship and self-attractiveness. Therefore, to compare the self-concept of proactive aggressors with that of reactive aggressor, the proactive aggressors had higher physical appearance and opposite sex relationship self-concept than reactive aggressors.

The differences between proactive aggressors and reactive aggressors in the self-concept of physical appearance and opposite sex relationship supported the explanations that proactive aggressors regarded aggression as an effective and viable mean to acquire a high, positive status and identity in the social hierarchy among peers. Through dominating their peers and through the submission of their peers, especially their opposite sex peers (Bjorklund & Pellegrini, 2000), they gained a sense of superiority, feeling that they were popular and attractive, and were admired by their peers, and hence gaining a higher self-concept or identity in the related domains.

At the same time, the differences also explained the situation of reactive aggressors. They perceived hostilities from the surrounding people anytime, anywhere. The reactively
aggressive behavior towards the peers, especially the innocent peers, triggered the true
hostilities and rejection from the peers, making them feel that they were hated by the peers.
The hostile attributional bias together with the true occurrence of peer rejection made the
reactively aggressive adolescents perceive their relationship with the peers were not good at
all, and thus developing a lower self-concept or identity in the related domains.

Interestingly, when looking closer to the self-concept scores in quantitative research of
proactive aggressors, it was discovered that the physical appearance and opposite sex
relationship self-concepts of proactive aggressors were not high, although these self-concepts
of proactive aggressors were significantly higher than those of reactive aggressors. Proactive
aggressors scored around 3 marks on each item of physical appearance self-concept averagely.
That meant proactive aggressors had little disagreements with the statements that described
they were attractive. For each item of opposite sex relationship, proactive aggressors scored
around 4 marks. In other words, proactive aggressors only little bit agreed with the statements
that describe a good and close relationship with opposite sex peers. These discoveries implied
that the original physical appearance self-concept and the original opposite sex relationship
self-concept of proactive aggressors (i.e. the self-concept before engaged in aggression) were
low.

It was found that proactive aggressors would feel more and more attractive and popular
with the increase engagement in proactive aggression (a positive correlation between
proactive aggression and self-perceived attractiveness and popularity). However, after repeatedly, increasingly acting aggressive towards others, the proactive aggressors still did not strongly feel that they are attractive and popular. Although the results did show that the self-concept of proactive aggressors was enhanced with the increase engagement in aggression, they still had disagreements with the statements that described they are attractive and only had little agreements with the statements that described they are popular. Therefore, it is logical to claim that the original self-concepts of proactive aggressors in the physical appearance and opposite sex relationship domains were low.

Due to the originally negative self-concept of their attractiveness and popularity, proactive aggressors tried to find out some method to raise their sense of attractiveness and popularity. As they saw others could gain the submission and admiration from peers through aggressive domination, they learned this aggressive behaviors and wrongly believed that dominating others could make them feel attractive and popular. Therefore, they engaged in proactively aggressive behaviors frequently in order to increase their sense of attractiveness and popularity.

Same as our assumption, there was no significant differences between proactive aggressors and reactive aggressors in the self-concept of physical abilities. Both type of aggressors scored around 4 marks on each physical abilities self-concept item in quantitative research. That meant they quite agreed with the items that described they are physically
strong. Besides, most of the proactive and reactive aggressors provided that they possessed
good or average physical abilities in qualitative interview.

Recalling the result of the correlation between proactive and reactive aggression and the
self-concept of physical abilities, it was found there is no significant relationship between
them. That meant the increase or decrease of the engagement in proactive and reactive
aggression would not lead to any increase or decrease of the self-perception of their physical
abilities. From these, it is believed to be true that no matter which types of aggressors, they
got certain degree of physical strength (at least in their perception) prior to their aggressive
acts. Because of the perceived physical strength, the aggressors got courage to act
aggressively towards others.

Different from our assumptions, quantitative results showed that there was no significant
difference between proactive and reactive aggressors in the same sex relationship-, academic-,
parent relations- and honesty- related self-concept and general self-esteem. The results of
qualitative interview also found no difference between the aggressors in the self-concept of
academic performance and relationship with parents. However, the qualitative interview
found that proactive aggressors had better self-perception in their same sex relationship,
honesty and general self-worth. When checking the quantitative scores of both proactive and
reactive aggressors on the scales of same sex relationship and general self-esteem, it was
found that the mean scores of proactive aggressors on these scales were higher than that of
reactive aggressors. However, no significant difference was found between the mean scores of the aggressors. Therefore, although both qualitative interview and quantitative scores indicated proactive aggressors had higher self-perception on their relationship with same sex peers and on their general self-worth than reactive aggressors, these tendencies were not supported statistically.

There was a contradictory finding in the self-concept of honesty between quantitative and qualitative results. Quantitative results showed no difference between proactive and reactive aggressors in their self-perception of their own honesty, but qualitative results found proactive aggressors had better self-perception. It was believed that the proactive aggressors provided socially desirable answers on the interview questions about honesty. Proactive aggressors might try to conceal their dishonesty. As the interview was in a face-to-face style, it was easy to be identified. They might believe that their aggressive behaviors would be discovered if they answered that they were dishonest (They believed that the interviewer would ask for the reasons or would go to ask the teachers about their daily performance in school. These might make the teachers pay attention to their behaviors, and eventually discovered their aggressive acts). Therefore, they better told the interviewer that they were honest in order to avoid themselves from getting into troubles.

The findings that indicated no difference between the self-perceptions (same sex relationship, academic, parent relations, honesty and general self-worth) of aggressors were
related to the increased proactive and reactive aggression. As the frequency of their
engagements in aggressive behaviors increased, both of the proactively and reactively
aggressive adolescents would be caught, punished, and badly labeled by their parents and
schools more frequently. Gradually, both of them would develop a negative perception
towards parents and schools, and they would tell more lies to conceal their evil acts. Thus,
both of them would develop a similar self-concept in the related domains. Besides, with the
increased engagement in aggressions, both proactive and reactive aggressors also developed a
similar self-concept of the relationship with same sex peers. It was not easy for the
proactively aggressive adolescents to aggressively dominate their same sex peers who were
also proactive aggressors. However, proactively aggressive adolescents thought that they
would maintain good relationship with peers only by aggressively dominating others.
Gradually, they developed a negative self-percept in the related area because they could not
dominate the same sex peers. Similar to proactive aggressors, reactive aggressors developed
negative self-concept in the relationship with peers. Their increased hostile attributional bias
would make them suffer from the increased rejection and isolation. Their self-concept of the
relationship with peers would be reduced little by little.

By looking closely to the scores of both proactive and reactive aggressors, it was
surprised that the quantitative research scores of their same sex peers’ and parents’
relationships, honesty, school, academic achievements self-concepts, and general self-esteem
in each related item were all around 3 to 4 marks averagely. That meant their perceptions and opinions in these areas were not too low.

Retrieving another finding of present study, with the increased engagement in the proactive or reactive aggression, the self-concept of same sex relationship, parent relations, school, academic performance, honesty and general self-worth would be reduced (the significantly negative correlations between proactive aggression and the self-concepts of these areas). Although the findings did show the significantly reductive trends of these self-concepts, proactive aggressors and reactive aggressors only got little bit negative opinions towards themselves on these areas. Accordingly, it is reasonable to suggest that both proactive and reactive aggressors had similar, high and positive self-concepts in these related domains before engaging in aggression, so their self-concepts were similar and not low after increasing the frequency of aggressive acts.

It was logical to believe that the reactive aggressors possessed high opinions and descriptions about themselves originally. According to Baumeister (2001) and De La Ronde and Swann (1993), people who love to think well of themselves are loath to make downward revisions in their self-concept. Therefore, when others challenged or criticized them, the reactive aggressors would react aggressively in order to protect their high and positive self-opinion towards themselves. The repeated criticism or hostilities from others made the reactive aggressors developed a hostile attributional bias. Very often, they would act
aggressively towards others even when no hostility happened. As perceiving more and more hostilities from others, they engaged in more and more reactive aggression to protect their high self-identities. However, their self-perception was inevitably reduced by their attributional bias, and by the punishment from parents and schools.

The differences in the self-concept of emotional stabilities between proactive and reactive aggressors could be only shown in qualitative interview. According to the responses of the two types of aggressors, no major differences were found between them. The emotions of proactively and reactively aggressive adolescents were quite unstable. More than half of them felt happy and excited in one time but felt unhappy and angry, and lost temper in another time. This result was inconsistent with the hypothesis, which stated that proactive aggressors had higher self-concept in emotion stability than reactive aggressors.

The finding could be understood by the increased attention towards school bullying or school violence. With the widespread of the video that showed the secondary school students were hit and kicked by their peers in the classrooms, the awareness of bullying incidents increased. Most of the schools in Hong Kong strengthened their disciplinary system to detect the incidents of school violence. Many proactively aggressive students, despite their cleverness, and reactively aggressive students were caught by the school authorities for their aggressive acts. Teachers and family members would punish, scold at, and annoy them. Their parents would further annoy them at home, making them felt so annoyed. Both types of
aggressors reported they would have these negative feelings when they were scolded by family members and teachers. Therefore, present study believed that they would lose temper, get angry, and feel unhappy when they were annoyed and scolded by the parents or teachers for their aggressive behaviors.

Besides, the proactive and reactive aggressors also reported that when they were criticized and isolated by their peers, they would also display the negative feelings. The responses of proactive aggressors made the present study believe that if proactive aggressors did not able to dominate their peers, they would develop some negative emotions. The responses of reactive aggressors were in line with the explanation of frustration-anger theory of aggression (Berkowitz, 1963, 1993; Dollard, et al., 1939). The hostile attributional bias made the reactive aggressors perceived the surrounding people were hostile. When reactive aggressors perceived hostilities were near, they would become angry (lost temper) and frustrated (unhappy). They were more likely to response immediately and impulsively in an angry and aggressive way in order to ease their negative feelings and to remove the hostilities.

The responses did show that proactive aggressors were more able to regulate their negative feelings than reactive aggressors. Most of the proactive aggressors tried to calm down and control their impulse through appropriate methods, whereas only few reactive aggressors were able to do so. These responses provided an explanation for why the
aggressive acts of proactive aggressors were not impulsive whereas those of reactive aggressors were (Reactive aggressors did not know how to regulate their negative emotions by suitable ways. The only way they could do was to react to the frustrating events).

Proactive and reactive aggressors reported that they would feel happy and excited when they get along well with their peers. These responses implicated that proactively aggressive adolescents would feel happy when they were able to dominate their peers, and reactively aggressive adolescents would feel happy and excited when they perceived no hostilities from their peers.

Overall, the responses of proactive aggressors implied that the emotion of proactive aggressors might be very unstable but they did not show their instable emotion on the surface, and they were able to regulate their negative emotion by appropriate ways.

5.1.4 Gender and Form differences in aggression

Findings illustrated that there were significant gender and Form differences in aggression as total, in proactive aggression and in reactive aggression. Summarily, males were generally and proactively more aggressive than females. Form 1 males were generally and reactively more aggressive than Form 2 males. Form 2 females were generally and reactively more aggressive than Form 1 females. Both Form 2 males and females were generally more aggressive than Form 3 males and females. Form 1 students were reactively aggressive than Form 3 students. And Form 2 students were proactively and reactively more
Three implications could be manifested from these findings. First, it was indicated that males were aggressive than females. This was in line with many previous studies (Andreou, 2000; Baldry & Farrington, 2000; Carlo et al., 1999; Frodi et al., 1977; Hudley, 1993; MacCoby & Jacklin, 1974; Tomada & Schneider, 1997; Weiler, 1999). It was believed that females tended to use more indirect, covert and relational forms of aggressive means (Bjorkqvist et al., 1992; Salmivalli & Nieminen, 2000) whereas males tended to use more direct, overt, physical and verbal aggressive acts (Espelage & Holt, 2001). While the physical aggressive behaviors were easily to define and detect, different people had different perceptions towards the definition of indirect, covert, relational and verbal aggression. Some people (including the aggressors) even may not regard the indirect, covert, relational and verbal bullying (isolating others, spreading rumors, calling names) as a type of aggression. Very often, the indirect and relational aggressive acts were undetectable. Therefore, males would report more engagement in aggressive behaviors than females.

Identical to Dodge and Crick’s findings (1996), present results pointed out that students in lower Form (Form 1 and Form 2) tended to behave more aggressively than students in higher Form (Form 3). It is believed when the children got older, they would develop more negative evaluation towards aggression, and thus led to the declining engagement in aggressive behaviors. As the children grew up, their cognitive and social information
processing system would become mature. Adolescents would be able to process the
information from the environments correctly. Gradually, the deficits of encoding,
interpretation and goal clarification processing would be reduced. Besides, when the children
got older, they learned more moral rules from the schools and parents that it was wrong and
not appropriate to behavior aggressively towards others. Moreover, they would have more
considerations, which hindered the evil thoughts, before acting aggressively. For examples,
you would consider about the punishments received from schools and parents after acting
aggressively, and they would probably consider about their careers (they might be expelled
from school for their aggressive behaviors). Therefore, older students would be less
aggressive than younger students.

Besides, present findings showed that Form 2 students were the most aggressive group.
This finding could be understood by the situation in school. The lower involvement of Form
1 students in school aggression was because they were the new kids in the school, who did
not familiar with the school environment and other students in the school. As Form 3 students
became more mature, they reduced their aggressive behaviors. However, the Form 2 students
were more familiar with the secondary school’s culture and hierarchy. They had
communication and interaction with other students in the school. Many students started to
establish their place in the school social hierarchy and many students began to react to the
humiliation from peers. Their cognitive development might not be as mature as Form 3
students. Therefore, Form 2 students engaged more in proactive and reactive aggression (or aggression in general).

In addition, it was believed that the social intelligence became mature during the early adolescence, which enabled the adolescents to produce the relationally aggressive behaviors (Kaukiainen et al., 1999). Before the development of social intelligence, only little relational form of aggressive behaviors was found among children. The relational form of bullying suddenly became one of the largest means of adolescents’ school aggression with the development of the social intelligence. However, Form 1 students still did not familiar with others student, so relational aggression was not possible. Therefore, with the familiarity with the school environment, the development of the social intelligence contributed to the higher involvement of Form 2 students in school violence.

5.2 Limitations and suggestions for further investigations

Limitations can be found in present study. The first limitation is about the quantitative research. Self-report questionnaires were used in the research. It was believed that some adolescents would not fully and truly report their situations of aggression, even when confidentiality was ensured. They feared to be identified after they reported the real situation, which would make them get into troubles (e.g. receiving punishments from schools and parents). Besides, some adolescents might attribute certain aggressive behaviors as being part of the school norm and become less likely to identify them as a kind of aggression. Therefore,
the whole picture of aggression in school might not be identified.

Further research has to obtain the behavioral ratings from teachers, parents and peers. It is necessary to ask teachers, parents and peers to rate the degree of aggressive behaviors of the adolescents in order to examine the accuracy of adolescents’ self-report of their aggressive behaviors and to get a whole and true picture of adolescents’ aggression in school.

Another limitation is found in the qualitative interview. Some adolescents were not willing to answer the questions or just answered a few words, even when we asked some follow up questions. There was a probability that some adolescents would answer the questions in the social desirable way in order to make others look good to them. This problem also can be found in the self-report questionnaires. Adolescent would rate the statements in a favorable way in order to make themselves look good.

To tackle this problem, further research has to include some items that detect whether the adolescents answer the questions in a social desirable and favorable way in both the quantitative self-report questionnaires and qualitative interview questions.

Moreover, the distribution of proactive aggressors and reactive aggressors was uneven. Within the 1618 participants, only 9 proactive aggressors and 63 reactive aggressors were classified. The number of reactive aggressors was 7 times more than the number of proactive aggressors. Besides, the sex distributions were also uneven. There were 929 boys, but only 680 girls (9 participants did not provide their sex). The uneven distribution might affect the
results, which might favor one of the sides.

It is suggested that an even distribution of the participants is needed for further investigation.

Furthermore, present study did not include the items that identified the forms of aggression (physical, verbal and relational aggression). The study only obtained the results of which groups of participants were more proactively, reactively and generally aggressive. We did not know which forms of aggression the adolescents used. We were not sure whether the development of the social intelligence abilities to produce relational aggression contributed to more aggression in higher Form students. In addition, the self-concept scale of emotional stabilities was not reliable. As the study omitted these unreliable items, the present study got little information about the emotion of the proactive and reactive aggressors. The information about their emotion only depended on the qualitative interview.

Further investigation is necessary to examine whether boys, reactive aggressors and students in lower Form use more physical form of aggression, whereas girls, proactive aggressors and students in higher Form use more relational aggression. Besides, it is necessary to put more efforts on investigating the emotion of proactive and reactive aggressors, finding out the relationship between the emotional stabilities or anxiety and proactive and reactive aggression, and comparing their emotions to see whether reactive aggressors are more moody and anxious than proactive aggressors.
5.3 Contributions of present study

Present study made a significant contribution in enriching the research literature of the relationship between school aggression and self-concept. Different from previous studies, which defined aggressors as one group, present research distinguished aggressors into proactive aggressors and reactive aggressors. The concept of multidimensional self-perception was applied in order to help investigate the self-concept of different types of aggressors accurately. Present findings demonstrated self-concepts in different domains had significant correlation with both proactive and reactive aggressions, and the two types of aggressors possessed different self-concept level. These findings cannot be obtained by the global measures of self-concept and aggression.

Present study provides some implications for the government and schools to formulate the intervention programs for regulating and preventing aggression. According to the findings, it is known that we have to treat different types of aggressors differently, although some of the interventions are similar.

It is discovered that proactive aggressors’ original self-concepts of physical attractiveness (appearance) and opposite sex relationship are low. They wrongly believe that aggression can make them become attractive and popular. Therefore, they try to aggressively dominate their peers in order to gain a high status among the peers, making them feel attractive and popular. Intervention programs must be set up to tackle the bias of the
proactive aggressors, telling them that aggression is not an appropriate and effective mean to make them feel attractive and popular among peers. Social skills training programs that teach the adolescents how to acquire a positive relationship with peers can be promoted to proactively aggressive adolescents, teaching them how to interact with their peers, and how to become attractive and popular among peers through the proper and healthy social skills. The training programs can be also promoted to other adolescents who are not aggressors, so as to prevent them from proactive aggression.

Present study illustrated that reactive aggressors perceive their relationships with peers and parents are not good. They perceive the world and people in the surrounding are evil and hostile (hostile attributional bias). They react aggressively towards the perceived hostilities and criticisms in order to protect their high sense of identities. Intervention should firstly provide the reactive aggressors with positive interaction experiences with peers and parents, designing to convey a message of safety and to provide a mutual acceptance environment. Improving their social problem solving skills is also a beneficial intervention for reactive aggressors. This training aims to teach the reactive aggressors how to kindly accept others’ criticism or opinions, teaching them others suggestions or criticisms can sometimes widen our insight, and thus help us to improve our sense of identity. Besides, it was found that reactive aggressors did not know how to cope with their negative emotions through appropriate ways. Training workshops that teach reactive aggressors how to regulate their
emotion is beneficial. These programs can be also promoted to non-aggressive adolescents, so as to prevent them from reactive aggression.

Overall, government, parents and teachers have to provide a harmonious environment to the proactively, reactively aggressive adolescents and non-aggressive adolescents. Parents and school should not just punish adolescents for their aggressive behaviors, and should not label them as bad kids. Labeling will just worsen the aggressive situation. Adolescents may internalize the bad label, and create a self-fulfilling prophecy. The harmonious family and school environments can let the adolescents feel that they are accepted by others and are loved by others, helping them realize that others are willing to help them adapt to the world.

5.4 Conclusion

By acting more aggressively, the self-concept of proactive aggressors in the domains of physical appearance and opposite sex relationship would be increased, whereas the domains of same sex relationship, parent relations, honesty, academic performance and general self-worth would be decreased. In regard to the self-concept reactive aggressors, self-concept that was related to the relationships with peers and parents, honesty, academic achievement and general self-worth would be reduced with the increased engagement in aggressive acts.

Differences could be found between the self-concept of proactive and reactive aggressors only in the domains of opposite sex relationship and physical attractiveness (appearance). Through examining the differences between proactive and reactive aggressors
in the multifaceted self-concept, implications were provided that proactive aggressors engaged in aggressive behavior in order to increase their sense of attractiveness and popularities among peers, whereas reactive aggressors reacted to the perceived hostilities in order to protect their high self-identities. It was discovered the emotion of proactive aggressors was as unstable as reactive aggressors, but proactive aggressors were more able to regulate their negative feelings.

Regarding the aggression in school of Hong Kong, males and students in lower Form (especially Form 2) were more aggressive than females and students in higher Form.

Findings of this study helped to enrich the research literature and provided implications for formulating intervention and prevention programs. Social skills, problem solving and emotion regulating training program, and mutual acceptance and harmonious family and school environment could help to improve and prevent the incidents of proactive and reactive aggression in school.
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Appendix A

Shavelson et al.'s Self-Concept Model (1976)
Appendix B

Quantitative Questionnaire

第一部分：個人資料

請細閱下列各題，並在每題最適合的答案填上✓號 (每題只限選一個答案):

1. 性別： 男 □ 女 □

2. 年齡： ______________________

3. 學號: ______

第二部分：我的行行為

以下是一系列有關青少年行行為的描述。請根據你現在或過去三個月的情況，評定下列每一項適合形容你的程度:

<table>
<thead>
<tr>
<th>行行為描述</th>
<th>不適合</th>
<th>頗適合</th>
<th>非常適合</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 我經常爭辯</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>02 我愛誇口</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>03 我對別人刻薄，斤斤計較</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>04 我要求別人經常注意自己</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>05 我破壞自己的東西</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>06 我破壞別人的東西</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>07 我在學校不聽話</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>08 我妒忌別人</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>09 我經常與人打架</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10 我攻擊他人身體</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11 我經常尖叫</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12 我炫耀自己或扮小丑</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
第三部份：我的情緒

我們有時會覺得憤怒，或是做了我們不該做的事。請為以下句子圈出最適當的答案: 0 (從不); 1 (有時); 或 2 (經常)。

<table>
<thead>
<tr>
<th>你有多常...</th>
<th>從不</th>
<th>有時</th>
<th>經常</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 向惹怒你的人怒吼</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>02 為表現自己的優越而與其他人打架</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>03 在被人挑釁時表現得憤怒</td>
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<td>1</td>
<td>2</td>
</tr>
<tr>
<td>04 偷取其他同學的東西</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>05 在沮喪時顯得憤怒</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>06 以破壞為樂</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>07 發脾氣</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>08 因為憤怒而破壞東西</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>09 因陰暗及型而打架</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10 傷害其他人以取得勝利</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11 不如意時變得憤怒</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12 以武力使其他人服從</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13 在輸掉遊戲時變得憤怒</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
你有多常···  從不 有時  經常
14 因為其他人威脅你而變得憤怒  0  1  2
15 以武力擄取金錢或其他東西  0  1  2
16 以打人或向其他人怒吼作爲發洩  0  1  2
17 威脅和欺負其他人  0  1  2
18 打鹹濕的電話為樂  0  1  2
19 打其他人以保護自己  0  1  2
20 與其他人一起欺負別人  0  1  2
21 用武器打架  0  1  2
22 因被人取笑而發怒  0  1  2
23 向其他人怒吼以令他人為你做事  0  1  2

第四部份：自我描述

每句均有六個選擇：“同意”、“不同意”，和四個介乎兩者之間的選擇，請圈出適用的答案。

以下有兩個例子以供參考。

例子:

|  | 大部分  | 少份  | 大部分  | 少份  | 大部分  | 少份  | 大部分  | 少份  | 大部分  | 少份  | 同意  | 同意  | 同意  | 同意  | 同意  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 我喜歡看漫畫 | 1 2 3 4 5 6 |

如果圈出“6”，代表我真的喜歡看漫畫。如果我不喜歡看的話，那就要圈出“1”或“2”。

02 我是一個整潔的人  1 2 3 4 5 6

如這題圈出“3”，即代表我絕對不是一個整潔的人，但亦不是一個骯髒的人。
<table>
<thead>
<tr>
<th>喜歡運動、健身和跳舞等活動</th>
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<th>否</th>
<th>喜愛</th>
<th>喜愛</th>
<th>喜愛</th>
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</tr>
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<td>喜愛</td>
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<td>喜愛</td>
</tr>
<tr>
<td>不擅長運動、健身和跳舞等活動</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
</tr>
<tr>
<td>在運動、健身和跳舞等方面，我比我的朋友優勝</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
</tr>
<tr>
<td>有漂亮臉</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
</tr>
<tr>
<td>漂亮/英俊</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
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<td>其他人認為漂亮/英俊</td>
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<td>喜愛</td>
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<td>很難與同性交友</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
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<td>是</td>
<td>否</td>
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</tr>
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<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
</tr>
<tr>
<td>不喜歡我</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
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<td>喜愛</td>
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<td>喜愛</td>
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<td>是</td>
<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
</tr>
<tr>
<td>很容易與異性交友</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
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<tr>
<td>是個誠實的人</td>
<td>是</td>
<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
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<tr>
<td>有時會欺騙其他人</td>
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<td>否</td>
<td>喜愛</td>
<td>喜愛</td>
<td>喜愛</td>
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<tr>
<td>有時會說真話</td>
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<tr>
<td>有時會偷取他人的東西</td>
<td>是</td>
<td>否</td>
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<td>喜愛</td>
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<td>---</td>
<td>---</td>
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<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21</td>
<td>我的父母能明白我的感受</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22</td>
<td>我不太喜歡我的父母</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>23</td>
<td>我在英文科是沒有希望的</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
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<td>英語是我最好的科目之一</td>
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<td>5</td>
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<td>上英文課是一件容易的事</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
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<td>3</td>
<td>4</td>
<td>5</td>
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<td>我能在英文科拿取好的分數</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
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<td>4</td>
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</tr>
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<td>我在大部分學科的測驗中表現良好</td>
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<td>4</td>
<td>5</td>
</tr>
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<td>我上英文課時學得很快</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
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<td>38</td>
<td>我在大部分學科都表現良好</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39</td>
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41 我做事和其他人一樣好

1 2 3 4 5 6

42 如果我認真嘗試的話，我可以做好任何事

1 2 3 4 5 6

43 總括而言，我是個失敗者

1 2 3 4 5 6
Appendix C

Qualitative Interview Questions

以下會問你一系列問題關於你既感受同睇法既，請你按照你既直覺嘅法去回答就得了喇！

(*注意: 如果被訪者只答好／差等籠統字眼，就要追問: “點樣好法／點樣差法?” 請他具體地說明／舉出例子。)

情緒的穩定性
1a. 請你講出幾個你最常有嘅情緒。
b. 有咩事會令你產生呢d 情緒?
c. 當出現呢d 情緒嘅時候你會點做?

學業
2a. 你會點樣評價自己嘅學業?
b. 哪d 科目比較特別好?
c. 哪d 科目比較特別差?

體能
3a. 你覺得自己嘅體能點樣?
b. 相比身邊嘅同學或者朋友又點樣呢?

體形
4a. 你覺得自己嘅體形點樣?
b. 相比身邊嘅同學或者朋友又點樣呢?

同同性同學或朋友嘅相處
5a. 你覺得你同同性同學或朋友嘅相處情況係點樣架?
b. 有咩事或者原因會令你覺得你同同性同學或朋友嘅相處情況係咁架?

同異性同學或朋友嘅相處
6a. 你覺得你同異性同學或朋友嘅相處情況係點樣架?
b. 有 d 啥事或者原因會令你覺得你同異性同學或朋友喺相處情況係咁樣？

誠實

7a. 你覺得自己稱唔稱得上誠實？

b. 有 d 啥事會令你覺得係 ... (被訪者的回應) 呢？

c. 相比身邊嘅同學或者朋友又有點樣呢？

與父母的關係

8a. 你覺得你同爸爸之間嘅關係點？

b. 有乜嘢事或者原因會令你覺得你同爸爸相處嘅情況係咁樣？

c. 唔你覺得你同你媽媽嘅關係又係點嘅呢？

d. 有乜嘢事或者原因會令你覺得你同媽媽相處嘅情況係咁樣？

自我評價

9a. 總括黎講，你會點樣評價自己？

b. 有 d 啥原因會令你對自己有呢 d 評價？
Appendix D

*Reversed Items

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Appendix E

*Correlation between Multidimensional Self-concept and Proactive Aggression, and between Multidimensional Self-concept and Reactive Aggression*

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*p < .01**
### Mean Score and Standard Deviation of Proactive and Reactive Aggression in Different Self-Concept Scale

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Appendix H

Profile Plots of the Interaction Effect on Aggression between Gender and Form

Profile Plots of the Interaction Effect on Reactive Aggression between Gender and Form