

# Effect of Depression, Self-Regulation Control and Characteristics of ADHD as the Cause of School Brawl in Jakarta, Indonesia

Melani Arnaldi and Suzy Yusna Dewi

**Abstract**—School brawls have taken casualties to the life of students in Jakarta. In the last time, school brawl studies investigate the cause with groups approach such as cognitive dissonance that provocation and resentment among student in the schools. This research focus on individual factors as the cause of school brawls, where the characteristics of children with ADHD, lack of self-control regulation, and level of depression. The results show that in fact the lower influence of individual factor to be come conduct disorder. The meaning students have good self-regulation control, insignificant characteristics of children with ADHD, and moderate of depression level. Concluded group factor more significant than individual factor to caused school brawl.

**Keywords**—ADHD, depression, school brawl, self-regulation control.

## I. INTRODUCTION

TEENAGER is a period of “storm and drang”, because of the physical changes are not followed by the development of emotion. This causes teens easily driven into negative behavior [1]. Biologically their brain development has not fully developed, lead to emotion psychologically of teenagers sometimes behave like children and sometimes being an adult [2]. Teens do not have the ability to read and understand emotions in themselves or others. Biological and psychological change effect on teens self-control, judgment, emotions, and self-regulation called executive functions [3]. In this case, biological effect of hormonal, that cortisol is associated with the limbic system in particular can stimulate the amygdala response impulsivity that cause aggressive behavior of boys [4].

### A. School Brawl in Jakarta, Indonesia

School brawl in this case is defined as a fight of two groups mass of students with derogatory words and behavior intended to injure their opponent [5]. School brawl in Jakarta involved teenager students (12-16 years olds male students, they have student identity in junior high and high school. The school brawl can be categorized in a group case of conduct disorder [6]. The research is motivated by increasing of school brawls in the Jakarta, Indonesia according to the Indonesian Child

Protection Commission and National Commission on Child Protection. In the year 2011 recorded 339 cases of school brawl that caused 82 children died. And since January 1, 2012 - September 2012, there were 139 cases school brawl that led to 17 cases of children died [7]. It is already getting special attention from the government of Indonesia to anticipate the cause of the school brawl.

A number of studies in Indonesia observed the causes of school brawl more influenced by group. Group that take place between school suggest of the prejudice and stereotype of school name. This condition will encourage the formation of the mass brawl. They create deindividuation of personal identity in favor of collective identity, rather than by ingroup reputation management process [8]. Furthermore, because of the cognitive dissonance that brings out the hostile resulting in brawl between school students [9]. Because of both research on the basis of the understanding that group influences have a role in shaping a person's character. Therefore individual factor, such as characteristic with ADHD that have aggressive, characteristic, tend to be impulsive, a weakness self-regulation control and depression that caused aggressive.

Researches about of the character of a child with ADHD have tendencious to be high risk pernicious pattern of antisocial behavior and delinquent behavior for a long time. Studies show these children exhibit a pattern of behavior characterized by impulsive-hyperactivity-inattention coupled with conduct problems such as fighting, stealing, truancy, noncompliance, and arguing. Comorbidity shows that students who have comorbid with conduct disorder and ADHD are more difficult to intervene to adulthood [10]. Analysis of ADHD can be analyzed by self-regulation scale BDEF-CA [11] which indicates the lack of function of the executive function. Further research led to what the level of depression school student fight the causes of behavior. The level of depression can be seen from blood test that take in the morning for every male students that involved aggressive behavior (school brawl) [12].

Currently handling cases in children with ADHD in Indonesia still using social institutions. Information obtained from the agency get it is in the data from the visit to the Child Social Protection House and Special Need School type E (SLB E). Child Social Protection House is rehabilitation for children with conduct disorder. Meanwhile, outside the Special Need School type of E is a school where "bad boy", which is for teenagers who are not covered anymore by the parents. SLB E in Indonesia totaled 4 units, each with a

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number of students ranging from 100-150 people. The two agencies are the Ministry of Social Affairs Republic of Indonesia assisted institutions. From the information obtained by exposure to the symptoms presented by the management, this proven increasing cases related to problem behavior from year to year. In 2011 found an average of three cases per month, which dealt with the problem by Child Social Protection House, run away from home, involved in theft and uncontrolled aggressive. Many students involved case of school brawl will enter Children's Penitentiary. Data from Directorate General of Socialization, Ministry of Justice and Human Right, Republic of Indonesia records the number of children and youth in correctional institutions achieve their 3722 people in 16 correctional institutions throughout Indonesia. This figure does not include those contained in the police station or the police station because the file has not been transferred. Meanwhile, according to the statistical center, to July 2003 there were 136 000 children including in conflict in law. Every year there are at least 4000 cases of offenses committed by juveniles [13].

### *B. Characteristics of Children with ADHD*

The existence "rumors" in the community that good children involved in school brawls having characteristics of children with ADHD. The three main symptoms of ADHD are described in "hyperactivity" as follows [14]:

#### 1. Inattentiveness

Focusing is a form of multidimensional as any form of full alertness, very interested or arousal, selectivity, sustained attention, span of attention. Consequently the child has a persistent decrease or reduction efforts in response to ongoing task that required intrinsic or extrinsic reinforcement like ADHD [14].

#### 2. Hyperactivity

Hyperactivity most frequently encountered as anxiety, unable to be silent or restless, hands and feet are always moving or aim fidgety, moving the whole body as does not fit the situation. These movements often without purpose or not according to the task currently worked or situation. Fluctuations obtained significant situational symptoms, indicating a failure to set the level of activity according to the situation task demands, not just the activity more than normal. Pervasive hyperactivity symptoms of this disorder can be used to distinguish these disorders with other psychiatric disorders, so that these characteristics should be considered as diagnostic criteria of ADHD [14].

#### 3. Impulsiveness

Symptoms of impulsivity seen as behavior less controlled, unable to delay response, unable to delay gratification, inhibit prepotent response or the response strongly urge. Conditions that impulsive unable to sustain the continuous inhibition when responding or fail to comply continuously thus that they can adjust their behavior according to the social context [14].

Reference [15] showed that the characteristics of ADHD in

children with less not much changed when they are adults. Although the symptoms of hyperactivity decreases gradually at age 10 or 11 years and impulsive symptoms by age 12 years, but the problem of attention persists on the long their ages. The character of a child with ADHD reason these characters have a tendency to be high risk for developing a lifelong pernicious pattern of antisocial behavior and delinquent behavior. Studies show these children exhibit a pattern of behavior characterized by impulsive-hyperactivity-inattention coupled with conduct problems such as fighting, stealing, truancy, noncompliance, and arguing. Comorbidity shows that students who have comorbid with conduct disorder and ADHD are more difficult to intervene until adulthood [10].

Described the possible development of symptoms of ADHD symptoms as follows, various types of comorbidity [15], such as:

#### 1. Oppositional Behavior Disorder (Oppositional DD)

This behavior often shows averse and do not have enough patience. Children looked irritable and quick to feel humiliated. They feel offended by someone and transfer guilt to others. Rule made by the people in the neighborhood will be ignored, and he will do the sophist endlessly. Criticism directed toward them because child becomes angry, showed hostility and often uses harsh words [15].

#### 2. Aggressive Behavior Disorder (Conduct Disorder / CD)

Children with symptoms often rebellious and did not want to listen. They hurt others and show violence as lying, stealing, physically hurt, harm, and damage the property of self or others. They do not show sense of guilt and difficult for an apology. It is likely damage but on the other hand the parents think they still have something fun [15].

#### 3. Fear Disorder and Stemming

This disorder appears in the form of fear or sadness, and worry about the new situation that is not reasonable. They feel that no one loves her and dramatize the negative event that it becomes personal passive and withdrawn [15].

#### 4. Psychiatric and Social Dysfunction Disorders

Impaired in working memory causes disruption in children with ADHD have an over estimation in social competence. Lack of insight in children who have cognitive deficits, also demonstrate clinical problems [16]. It was found that cognitive deficits associated with cognitive skills to process resulting intuitive sense which became positive self-perception bias. In fact the executive function (EF) is also associated with social skills [16]. This issue also involves the ability inside defines problems and identify their feelings to others in the making of social and examines allegations of conflict [16]. Consequently seen from this positive self-perception biases can lead to aggressive behavior, as a result of the inability to adjust the behavior associated with feedback [16].

### C. The Issue of Self-Regulation in Teenager

Characteristic problems of self-regulation are the whole problem of the characteristics of children with conduct disorder and brawl involved. This problem is related to cognitive deficit problems that include processing problems including attention, inhibition, regulation step, delay aversion, and executive function [17]. *The term executive function refers to these mainly private (cognitive) self-directed actions that contribute to self-regulation. So defined, the term incorporates most of the attributes often ascribed to it by others, including (a) self-directed actions; (b) the organization of behavioral contingencies across time; (c) the use of self-directed speech, rules, or plans; (d) deferred gratification; and (e) goal-directed, future-oriented, purposive, or intentional actions* [18].

Study explained that the main problem in the inhibitory deficit disorder EF including working memory. EF inhibitory process can be considered as "working memory constitutes" due process is the beginning of the process in working memory [17]. In this case it's described that impulsive behavior is not a major symptom but developed further of the problem in "working memory". Illustrated that the main problem is due to the occurrence of impulsivity involvement in the allocation of energetic resources. This condition can eventually illustrate the success of the process of inhibition will demonstrate success in managing behavior or self-regulation [17].

Further explained that there are three components involved in self-regulation, namely [17]:

#### 1. Unattentive Component,

Pointing to facilitate, full effort, or energetic of all aspects of cognition. It emphasized that the effort full attention as well as state regulation and activation [17].

#### 2. Inhibitory Component

Refers to the process that controls the "impulse" and "inappropriate responding" [17].

#### 3. Strategic or Organizational Components

Refers to the "higher order strip organizational process" that guides and directs the cognitive processes including preparation and planning ", working memory and set shifting "[17].

The three components of the cognitive deficits can illustrate the problems is associated with information processing because it includes the ability to self-monitoring or adaptive control which necessary in self-regulation [19].

In this instance, self-regulation depends on the role of control in Executive Function in working memory. Executive function serves as an activity that reflects the "mental juggling of storage and processing function" which can hold and direct one's mind when they hear instructions on how to obtain and listen to a series of events to understand his point [20]. Therefore, the lack of control on self-regulation may lead to the problem of "conduct disorder" or a brawl. Further

described that environmental influence also gives a major role to the control of self-regulation that arise brawl behavior in students.

### D. Depression (Cortisol)

The developments of behavior in adolescents, especially boys, are affected by the hormones cortisol and testosterone. Cortisol and testosterone were associated with the occurrence of social aggression in conduct disorder and stimulate impulsivity that causes aggressiveness. Impulsivity that causes teen to be aggressive is associated with hyper-responsive amygdala, causing a lack of fear in adolescents. Cortisol is the end result of three levels, namely the hypothalamic-pituitary-adrenal (HPA) axis. Testosterone is the end result of the hypothalamic-pituitary-gonadal (HPG) axis [21].

Found high cortisol levels in children with conduct disorder are comorbid with anxiety disorders. There is a negative correlation between plasma cortisol levels with both types, namely proactive and reactive aggression and symptoms found in conduct disorder [12]. There is a significant correlation between plasma cortisol levels with aggressive behavior in a sample of men. While on the sample of women, there was no significant correlation. Low cortisol levels were associated with a prominent impulsivity and behavioral settings that lead to an increase in aggression and low self-control [12].

In the research about children have the dysphoric group with greater dysphoria might be driving our results. The research compared cortisol patterns between the 9 dysphoric children with the lower CBCL scores (mean = 15.8, range = 14 to 17) to the 9 dysphoric children with the higher CBCL scores (mean = 24.7, range = 20 to 38). Both groups displayed an overall flat patterning of cortisol across the interaction. Therefore, while the more dysphoric preschoolers may have especially low cortisol, both groups of dysphoric preschoolers were hyporesponsive to the challenge [22]. Basic of the research, we have base line lower for cortisol score for conduct disorder between range 14 to 17.

### E. School Brawl and Conduct Disorder

The social environment is an influential factor because the youth developing their search for identity [23]. Biological, psychological, and social affect the adolescent on risk behavior, careless, and impulsive decisions or in problem solving [24]. A variety of things above cause behavioral problems in psychiatry perspective called conduct disorder.

Conduct Disorder is maladaptive behaviors that have a negative impact on adolescent development [25]. This disorder is characterized by persistent and recurrent patterns of behavior for 6 months, violate the rights of others or social rules that apply to teenagers his age, as often start a fight with a friend, be aggressive, against the opinions of others, including parents, teachers or adults, are involved fighting, stealing in the classroom or in the store [6]. Description of the behavior of others is mocked or threatened, isolated friend, manipulative, play truant and deceitful [26]. The

understanding youth with conduct disorder in society is still partial, because the perception of inappropriate behavior and violate the rules and social norms are considered as juvenile delinquency or aggressive behavior [4].

School brawl is open violent behavior (overt) conducted by a group of students (crowd). This could be due to a sense of solidarity, revenge, misunderstandings, bothered, or other minor causes [27]. School brawl implies that its two rival groups of students en masse, accompanied by derogatory words and behavior intended to injure his opponent [5]. Meanwhile, [28] brawl is a collective behavior that is "empowering" potential negative aggressiveness based on the solidarity of students in order to show the advantages of identity regardless of the norms, rules and rules of religion even fatal consequences and disturb the order and interests society. Mass brawl between school students are forms of violence that occurred between two groups of students of different schools with each other to have a feeling of hostility or competition. The students do not have school brawl without a cause, the cause generally is a grudge fight between schools or between high schools [28]. With a high sense of solidarity that the students will respond abuse caused by high school students who are considered detrimental to a student or school libelous [29]. As with any research in Indonesia school brawl that occurred due to the influence of the peer group [8] and because of the problem of cognitive dissonance [9].

The above illustration resulted in Indonesia does not have data describing exactly how many cases of adolescents with conduct disorder. But the description of the symptoms of conduct disorder can be seen among others, from various news in print and electronic media about bullying behavior and aggression in schools and brawl among students. This is actually a manifestation of symptoms of conduct disorder [30]. Research conducted by Plan Indonesia in 2011, data showed the violence committed against other junior high school students to students in Jakarta, including 59% mockery (verbal), 46% physical punishment, 59% psychological distress (alienating friends). The data indicate the existence of violent behavior in adolescents in schools is a manifestation of conduct disorder symptoms [23].

During these troubled children in Indonesia placed in the Child Social Protection House and Special Need School type E (SLB E). Children's homes Social Luggage is a refuge for children and adolescents. SLB E in Indonesia totaled 4 pieces, each with a number of students ranging from 100-150 people. Both institutions are the Ministry of Social Affairs, Republic of Indonesia assisted institutions. From the information obtained on the basis of exposure to the symptoms presented by the management, there is an increase in cases related to problem behavior from year to year. In 2011 found an average of three cases per month, which dealt with the problem by Child Social Protection House, run away from home, involved in stealing and uncontrolled aggressiveness [25].

While the case for children who are in the process of the law, will be incorporated into the Children's Penitentiary. Directorate General of Socialization, Ministry of Justice and

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## II. METHOD

A study was conducted on male junior high school students aged 11-15 years old residing in Jakarta, Indonesia. The survey was conducted in five secondary schools in Jakarta, Indonesia with a total population of 900 students. Students who are diagnosed with conduct disorder and the brawl involved acquired by questioner Behavior Model of Conduct Disorder filled by teachers and mini ICD-X [2][31] interviewed by researcher. 105 male students aged 15 years of the total sample were diagnosed with conduct disorder and indicated brawl involved. The students were then taken blood samples to observed the level of depression of cortisol levels in the blood. Furthermore, the researchers observe 70 male students to distinguish characteristic of ADHD, control self-regulation with BDEFS - CA Long Form (70 items) [11], that adapted by Melani Arnaldi with the approval of R.A. Barkley by email correspondence (2012) as a writer. Interpretation of the results using the raw score scale BDEFS percentile-CA Long Form EF Profile (Ages 12-17 Male Only) [11]. Descriptive statistical methods with the aim of describing whether there is influence of the characteristics of ADHD, lack of control self-regulation, and level of depression in individuals who affect teens to the brawl. The study based on previous research, the influence of groups and group influences cognitive dissonance.

## III. RESULT AND DISCUSSION

### A. Result

TABLE I  
EF SUMMARY INTERPRETATION

EF Summary Score	Total	Percentage
Bellow	12	17%
Borderline Somewhat Deficient	35	50%
Marginal Clinical Deficient	15	21%
Mildly Deficient	5	7%
Moderately Deficient	1	1%
Severe	2	3%
Total	70	100%

TABLE II  
ADHD - EF INDEX INTERPRETATION

ADHD - EF Index	Total	Percentage
Bellow	9	13%
Borderline Somewhat Deficient	36	51%
Marginal Clinical Deficient	14	20%
Mildly Deficient	6	9%
Moderately Deficient	3	4%
Severe	2	3%
Total	70	100%

TABLE III  
EF SYMPTOM INTERPRETATION

EF Symptom	Total	Percentage
Bellow	9	13%
Borderline Somewhat Deficient	5	7%
Marginal Clinical Deficient	6	9%
Mildly Deficient	7	10%
Moderately Deficient	4	6%
Severe	39	56%
Total	70	100%

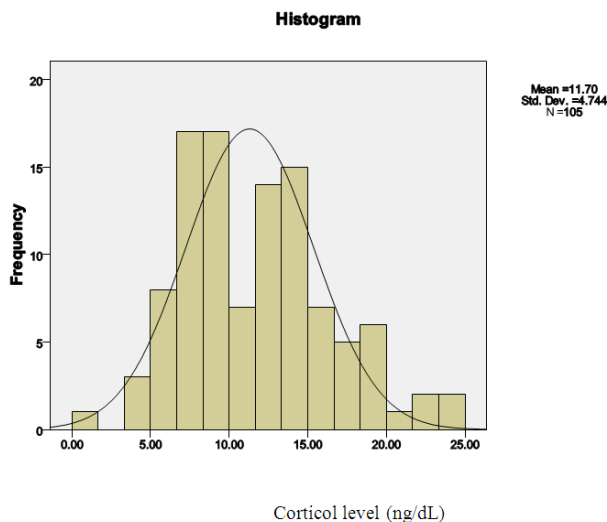


Fig. 1 Cortisol level on conduct disorder and school brawl students

TABLE IV  
TEST STATISTIC

Description	Category
Chi-Square	.461 <sup>a</sup>
Df	4
Asymp. Sig.	.977

a. 2 cells (40,0%) have expected frequencies less than 5. The minimum expected cell frequency is 1.2.

### B. Discussion

Data from Table I "Summary EF score" showed that children with conduct disorder and indicated brawl has a score of control self-regulation is still good. In this case 89% is below the threshold of clinical marginal deficient. Data from Table II ADHD-EF index showed 84% of children show a good self-regulation control, it can be concluded that insignificant of the characteristics of children with ADHD caused school brawl in Jakarta. From the data in Table IV and Fig. 1 general student involved brawl still show high rates of depression are still normal limits. Although data have shown tendens higher score, but limited data, it is not concluded that depression cause school brawl in Jakarta. Thats way, it can be said the school brawl is not caused by depression and characteristic children with ADHD.

### IV. CONCLUSION

It can be concluded that children who engage in conduct disorder and brawl largely not influenced by individual factors. Individual factors such as the characteristic of ADHD, weakness control self regulation and depression. From data analysis is founded that characteristis ADHD in below and moderate level, control self regulation in moderate level and moderate depression level, although the data showed the trend of depressed children. From BDEF Scale, conduct disorder in to "above marginal until severe level". Can be explained, the above marginal until severe level show clinical condition that involve the school brawl or conduct disorder. Assuming a greater influence group factor the similar with the last riset 2000-2001 about school brawl. The researchs show the school brawl are influenced of the peer group as teenager identity [8] and cognitive dissonance that influence prejudice so higher the trouble rivalry suggestion between schools involved school brawl [9]. This condiditon the same with definition in reference [28], which revealed brawl as a form of solidarity in order to show the advantages of identity regardless of the norms, rules and rules of religion or because of a sense of rivalry or competition among students.

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