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Internal factors related to relational aggression in childhood and adolescence

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Relational aggression refers to non-physical behaviors that harm others by damage or threat of damage to peer relationships, either directly or indirectly. The purpose of this literature review is to explore the primary potential internal factors that are related to relational aggression in children and adolescents. Based on the results of the twin studies, circadian rhythms investigation, and survey study, it is suggested that children and adolescents may act more or less innately aggressive. A high percentage of children and adolescents involved in relational aggression behavior express a belief that they have a common and natural tendency. Emotions may underlie children's desire or need to use social aggression by either promoting or inhibiting aggression. Anger, envy/jealousy drive and encourage children's aggressive impulses; on the other hand, empathy works on aggressive behaviors in the opposite way by decreasing the probability of aggression. Social cognition including hostile attribution, positively biased self-perception, social intelligence is related to relational aggression: relationally aggressive children hold significantly more hostile attributions for relational provocation than do non-aggressive children; positively biased self-perception (i.e., the level of perceived peer acceptance is higher than the level of actual peer acceptance) is linked positively with relational aggression. The more a child uses relational/indirect aggression, the higher the individual's level of social intelligence. Emphasizing the internal factor related to relational aggression will call for more attention to broader and deeper investigation of the cause of relational aggression.

Key words: Relational aggression, internal factor, children, adolescence.

INTRODUCTION

Internal factors related to relational aggression in childhood and adolescence

Relational aggression is a relatively new concept that was originally proposed by Crick and Grotpeter (1995). Crick (1995) noted that "In contrast to overt aggression, which harms others through physical damage or the threat of such damage", relational aggression "harms others through damage to their peer relationships or the threat of such damage, e.g., angry retaliation against a peer by excluding her from one's play group; threatening to withdraw friendship or acceptance as a way of hurting or exerting control over a peer." Furthermore, from a behavioral point of view, relational aggression includes gossip (Bjoerkqvist et al., 1992), social exclusion, negative facial and body expressions (Galen and Underwood,

1997), use of the silent treatment, and maliciously spreading lies and rumors to damage a peer's group status (Grotpeter and Crick, 1996).

The most important characteristic of relationally aggressive behavior is that such behavior harms others through damage to relationships, feelings of acceptance, friendship, or group inclusion etc. (Crick and Grotpeter, 1995; Crick et al., 2006; Goldstein et al., 2008; Underwood et al., 2001).

What kinds of factors prompt people to exhibit relationally aggressive behavior and which causal factors arouse relational aggression? The answer to this question will help us further understand relational aggression. The purpose of this paper is to emphasize the importance of the issue and examine causality in the relational aggression of children and adolescence.

The factors relating to children's relational aggression can be classified into two categories: internal factors and external factors. Internal factors describe those factors existing within the individual's mind or those that are motivated by the psyche, such as intelligence, maturity, emotion, etc. External factors refer to those factors situated outside or pertaining to the outward, for example, the family, the environment, and culture. In order to understand the use of relational aggression, we need to more understand the underlying motivations behind its use as well as the pay-off or rewards for using such behavior. Exploring internal and external factors related to relational aggression will be useful to a broader investigation of relational aggression in terms of the causation issue. Due to a limited content, this paper focused only on internal factors, and external factors may be discussed at another paper in the future.

In discussing internal factors, we only focus on studies of pre-school, school children and adolescents and focus on primary issues. We start with innate components of aggression, with research related to questions such as "Is aggression inborn?" and "Is it natural?" Following is the emotional factor section where the different relationships between relational aggression and anger, envy/jealousy, as well as empathy are discussed. In the section on social cognition, hostile attribution, positively biased self-perception and social intelligence will be included. Finally, two specific types of peer status are discussed because children in these subgroups are significantly more relationally aggressive than other status groups.

Innate components

Is aggressive behavior in human beings innate? The heritability, nature and the universality of aggression are discussed to provide more insight into this issue.

Heritability and physiological issues

The heritability issue is often explored via twin studies. Cates et al. (1993) utilized the twin method to explore how genetic factors influence hostility-related emotions and hostility-related behaviors (e.g., aggression). One hundred and nine female twin pairs were chosen as participants and responded to related questionnaires. Analysis of the results showed evidence of significant heritability of verbal and indirect aggression. This evidence supports the position that genetic factors contribute to hostility-related behaviors and people's genotypes may affect not only their internal processes but also in turn their personalities. They concluded that aggression might have an underlying inherited component (Cates et

al., 1993).

Similarly, Ghodsian-Carpey and Baker (1987) used twin method to assess genetic and environmental influences on aggression. Their participants included 21 pairs of MZ (monozygotic) twins and 17 pairs of DZ (dizygotic) twins. Mothers of twins were asked to observe and report on each child's aggressive behavior in the evening from Monday to Friday. Based on the mothers' ratings and classical twin analyses, Ghodsian-Carpey and Baker (1987) found that genetic factors could in part explain the aggression variance observed.

One purpose of an investigation by Murray-Close et al. (2008) was to examine the association between circadian rhythms of cortisol and relational aggression. Cortisol is an important hormone in people's body and involved in inflammatory response, immune function, regulation of blood pressure etc. (Scott, 2008). Four hundred and eighteen children attending a summer day camp were assessed and their salivary cortisol in the morning arrival, pre-lunch, afternoon and pre-departure. At the same time, counselors and peers rated participants' involvement in relationally aggressive behaviors at those times. Results indicated that relational aggression was associated with low cortisol level following morning arrival and blunted diurnal change in cortisol.

Nature

Certain relationally aggressive behaviors, such as gossiping about others behind their back, are such common behaviors that no one is likely to remain uninvolved in, either as an aggressor or as a victim. What is more interesting is the fact that such behavior may be out of children's voluntary control. In a study conducted by Owens et al. (2000), the researchers hosted discussions of each focus group which included six to eight grade ten girls. They pointed out that some behaviors such as spreading rumors, and criticizing others' clothing and appearance were somehow out of the aggressor's control, a girl participant in a focus group in the study even noted that children's relational aggression is "like second nature". The phrase the girl chose vividly described how natural relational aggression seems to be, with emphasis on its uncontrolled nature, as well as the fact that natural trends and behaviors are very difficult to restrain. Further, Firestone (1994), in a study regarding identification with the aggressor, explored the consequences of meeting competitive problems relating to relationship and career issues. The author concluded that once people are absorbed by feelings of frustration and disappointment, particularly in combination with a painful existence, human aggression is "a natural response" (Firestone, 1994).

Commonness

Aggressive behaviors appear common in children's worlds. Crick et al. (1996) assessed whether most children engage in relational aggression. They used 459 third- to sixth-grade children as participants in a study to explore children's normative beliefs about aggression. All children were asked to respond to two questions "What do most boys do when they are mad at someone?" and "What do most girls do when they are mad at someone?" it was found that 94% boy participants and 96% girl participants believed that boys would engage in either physical or in relational/social/indirect aggression, and 81% boy participants and 84% girl participants believed that girls would also engage in as well.

Similarly with the result, based on individual interviews with 76 students of mean age 13.8 years, Paquette and Underwood (1999) suggested that for some children, being targets of aggression is a frequent experience, perhaps even a daily one. Of their total sample, 56.6% of both boys and girls were targets of physical aggression, and 72.4% of children were targets of social aggression.

In summary, based on the evidence provided by the afore-mentioned studies, it is suggested that relational aggression might be affected by some inheritable factor and physiological issue. Relational aggression among children is not a rare behavior in the least and is in fact a relatively common and normal phenomenon in a child's life.

Emotional factors

Emotions may underlie children's desire or need to use social aggression by either promoting or inhibiting aggression. Specifically, anger and envy/jealousy are much more likely to compel or promote aggressive behaviors, while empathy may hinder or impede aggressive action.

Anger

As described before, the children in Crick et al.' (1996) study described relational aggression as an outcome of being mad. Questions asked all children what do most boys and girls do when they are "mad" (i.e., "angry") at someone. Children were asked to write their responses in a form that was provided for them during group-administered sessions conducted within their classrooms. Children's responses were independently assigned by two trained, undergraduate research assistants to code various behaviors, such as physical aggression (e.g., hit, kick), avoidance (e.g. walk away, do nothing), relational aggression (e.g., keep the person out of your group, don't be friends with that person, tell lies about the person) and

so on. The results of the study revealed that a large number of children believed that relational aggression is an action that accompanies anger, specifically, up to one third of boys and girls participants said boys would be involved in relational aggression and up to two third of boys and girls participants said girls would engage in relational aggression when they were angry.

In order to examine the links between anger and aggression, Volling et al. (1993) carried out a large-sample experiment. Their sample was comprised a total of 1,221 students from grades 1 through 4. The research used teacher ratings and peer nominations methods. The results of the research revealed that rejected-aggressive children were rated by their peers as expressing anger significantly more often than rejected-non-aggressive children and other children. Also, aggressive children, regardless of being rejected or non-rejected, were all viewed as significantly angrier than other children by their peers.

In a one sentence summary, anger is the emotion most commonly connected with aggression. Aggression is the kind of behavior that an angry person most typically will engage in (Lagerspetz and Peltonen, 1988).

Envy and jealousy

Turkel (2007) pointed out that envy, revenge, desire to control, and emotional distress are the causes of bullying, and in both aggressor and victim, bullying is a sign of potential psychiatric disorder. Bullying is primarily physical in young children, but becomes relational aggression at older ages. Vollmer (1946), in his early article "Jealousy in Children," described children's jealousy: an envious child will show aggressive behavior against related rivals directly or indirectly on the playground, in kindergarten, and in school. The description pointed out the association between envy and aggressive behavior.

Paquette and Underwood (1999) conducted a study using structured individual interviews with 76 seventh and eighth grade students between the ages of 11.8 and 14.7, with a mean age of 13.8 years. One purpose was to explore reasons for victimization. Through participants' descriptions and explanations of social and physical aggression experiences, the researchers learned about the common reasons why children engage in socially and physically aggressive behavior. Specifically, "trying to retaliate against a provocateur" and "getting them mad" are the most common reason given by both male and female participants. "The aggressor was jealous" was listed as the second most common reason driving children to social and physical aggression, as mentioned by both boys and girls.

Some other researchers also tried to explain how envy plays a role in relationally aggressive behavior and what

what kind of link exists between them. Owens et al. (2000) mentioned that jealousy is one explanation of girls' relational aggression. Grotper and Crick (1996) pointed out that the friendships of relationally aggressive children are usually accompanied by high levels of exclusivity/jealousy; jealousy also operates within the dyadic friendships of aggressive children. Grotper and Crick (1996) further noted that even in general relationship contexts, some relationally aggressive children still express feelings of jealousy. For instance, relationally aggressive children usually do not want their friends to play with others and are not happy when they realize that their friends have close relationships with others instead of them. These children desire to keep the friendships exclusive, and often use relational aggression against those rivals.

Empathy

The aforementioned anger and envy/jealousy positively affect the drive toward aggression. On the other hand, empathy can effectively prevent or reduce aggressive behavior.

Relationships between empathy and three types of aggressive behavior (physical, verbal and relational/indirect aggression) were studied by Kaukiainen et al. (1999). A total of 526 Finnish schoolchildren (274 girls and 252 boys) from three age groups (10, 12, and 14 years old) participated in the study. The Peer-Estimated Empathy scale (Kaukiainen et al., 1995) was used. The participants rate their same-sex classmates on 8 items, such as: "comforts others when they are sad", "avoids hurting others' feelings", "is upset when others are not treated fairly". Estimations were made on a five-point scale (0=not at all, 4=very often). Aggression was measured with Direct and Indirect Aggression Scales (Bjoerkqvist et al., 1998). The items of the related relational/indirect aggression were: gossip, say bad things behind the back, become friends with a third child as revenge, and tries to get others to dislike the person etc. The scales are based on a peer-estimation technique. Participants evaluated using a five-point scale (0=not at all, 4=very often) on how often their classmates behaved in the way described in the items. The results showed that empathy correlated negatively and significantly with every type of aggression.

In order to determine if empathy would predict interpersonal aggression, LesSure-Lester (2000) used 40 adolescents who lived in a group home as study participants. The balanced Emotional Empathy Scale (LesSure-Lester, 2000) was used to measure the participants' empathy responses. In self-reporting, the scale contains 30 items focused on children's empathy (e.g., "It pains me to see young people in wheelchairs," "It upsets me to see some-

one mistreated," "I hardly every cry when watching a very sad movie"). Participants reported their disagreements or agreements with each item from strong agreement to strong disagreement. Children's aggressive behaviors were reported by the group home staff. After analyzing the data, it is found that higher levels of empathy were associated with less interpersonal peer relational aggression. In short, emotion plays a role in relational aggression and among anger, envy/jealousy are positively associated with relational aggression, while empathy is negatively related with relational aggression.

Social cognition

Social cognition is cognition of human objects (Selman, 1977; Wegner and Vallacher; 1977). Social cognition is social knowledge of the thoughts, feelings and motives of others, social relations, interpersonal acts, and one's own thought processes (Damon, 1979). The following sections describe how relational aggression may be related to social-cognitive functioning and to the way children conceptualize and rationalize their social world. Specific topics include hostile attribution, positively biased self-perception, and social intelligence.

Hostile attribution

Why some children tend to engage in relational and other types of aggression while other children do not could be partially related by how those children attribute others' intentions. That is, attributing ambiguous provocation as either hostile or benign intent leads to different behavior decisions.

Hostility is a response involving negative feelings and negative evaluations of others (Buss, 1961). Hostility is associated with aggression. Buss (1961) even believed that "hostility may be part of an aggressive response in that there is strong resentment of and negative evaluation of the victim of the attack". Hostility, like irritation, insult, and jealousy, is linked with aggression (Sinha, 1968). For example, when a student fails to secure good marks in an examination, he or she may believe the reason is the hostile character of the examiner. The hostile attribution can then lead him or her to initiate some kind of aggression.

Crick (1995) argued that even when there actually is no hostile intent in the provocateur's mind at all, some children may interpret ambiguous social relationship information slights as hostile, motivated acts which may provoke their relational aggression. Relationally aggressive children tend to perceive hostility in other children's behavior. For those who believe they are experiencing other children's hostility, a more probable approach for retaliation

and defense is relational aggression. For instance, if a child realizes that he/she is excluded by a peer, he/she may retaliate by excluding the particular peer. In other words, hostile intent attributions increase the likelihood of relationally aggressive behaviors and the aggressor often defends him/herself against a hostile peer or hostile behavior by using the relationally aggressive approach (Crick, 1995). Hostile attribution biased children correct attribution to other children's intent and therefore more easily exhibit relational and other types of aggression.

Crick et al. (2002) conducted a study designed to evaluate the intent attributions of relationally and physically aggressive children in response to instrumental and relational provocation-contexts. A total of 662 third-to sixth-grade children participated. Intent attributions were assessed by a hypothetical-situation instrument (Crick, 1995). This instrument consisted of 10 situations, each of which described a provocation situation and the intent of the each provocation was not clear. Five of the situations described instrumental provocations and five of them depicted relational provocations, for example, a child happened to hear two peers talking about an upcoming birthday party, but the child has not been invited. All children were asked to circle the most likely reason (e.g. the kid of birth day party was planning to invite me later; the kid was trying to get back at me for something) and circle whether the provocateur's intent was mean (i.e., hostile intent) or not mean (i.e. benign intent). Physical and relational aggressions were assessed with a peer-nomination instrument (Crick, 1997), five items of which were related to relational aggression (e.g., When mad at a peer, this kid gets even by keeping the person from being in their group of friends). Children were asked to nominate up to three classmates who fit the given behavioral descriptor for each item on the aggression instrument. Results of the study revealed that both relationally and physically aggressive groups of children exhibited hostile attribution biases. These biases were shown to be specific to relational provocation situations for relationally aggressive children, and to instrumental provocation contexts for physically aggressive children.

This positive relationship between hostile attribution and relational aggression, children who attribute hostile intent are more likely to report aggressive responses to ambiguous provocation, was also pointed out by other researchers (Erdley and Asher, 1996; Feshbach, 1970).

Positively biased self-perception

Knowledge about self is an important aspect of social cognition development (Chafel, 1988). At the same time, knowledge of the self reflects knowledge of others. Aggressive action decision-making is likely to be related to how children perceived themselves.

David and Kistner (2000) investigated whether the level of relational aggression used is related to children's self-perceptions. The study involved 859 children in third, fourth, and fifth grades from sixty-one classrooms. Students from the same classroom were the basic unit used in the study. All participants first provided information about how well they liked other children in the same class by a peer-rating approach using a 5-point rating scale, from "do not like at all" to "like very much." Then the participants rated how they would be received by all other classmates, still using the 5-point scale.

The ratings reflect children's beliefs of how liked they are, therefore revealing their perceived acceptance. When comparing the two variables (actual acceptance and perceived acceptance), if the level of actual acceptance was higher than that of perceived acceptance, it means that the child underestimates peer acceptance and has a negatively biased perception; if actual acceptance is lower than perceived acceptance, it means that the child overestimates his or her actual acceptance, and has positively biased perception. Lastly, using a peer-nomination method, the participants rated the levels of relational aggression of other classmates. The results of this study suggested that positively biased self-perception (that is, the level of perceived peer acceptance is higher than the level of actual peer acceptance) is linked positively to relational aggression. Those who were more likely to be considered as aggressive children by their peers usually were those who overestimated their peer acceptance.

Similarly, Hymel et al. (1993) examined the intent of examining whether different self-perceptions affect children's aggressive behavior. According to peer evaluations, they classified a total of 86 participants (grade 4 and grade 5 students) into four subgroups, including aggressive unpopular, withdrawn unpopular, aggressive-withdrawn unpopular and average status children. The four subgroups were compared in terms of peer and self-perceptions of competence in various domains. The results indicated that aggressive subgroups tended to overestimate their competencies.

Another study about children's self-perception was conducted by Erdley and Asher (1999). They pointed out the reason why children choose one kind of aggressive reactions over another is because they think they are able to handle this particular aggressive behavior more successfully than the others.

Compared with other non aggressive children, aggressors were more confident of their ability to enact aggressive behaviors (Kane, 1997). As for relationally aggressive behaviors, Crick and Dodge (1994) noted that a feeling of confidence about one's ability to successfully carry out relationally aggressive behaviors might motivate the relational aggressor.

Social intelligence

Social intelligence is a social cognitive capacity that entails the ability to understand oneself, others, and the social situation (Cantor and Kihlstrom, 1989; Kaukiainen, et al., 1999). Social intelligence has a crucial role in decision-making preceding aggressive behavior, and reflects the ability to reappraise the situation and to select a more socially acceptable aggressive action (Wallenius et al., 2007).

Wallenius et al. (2007) examined the relationship between social intelligence and direct and indirect/relational aggression in 478 Finnish 10- and 13-year-old school children. Participants' social intelligences were measured by a revised version of the Social Intelligence Scale (Kaukiainen et al., 1998). The scale consisted of 10 items (e.g. I notice if others lie easily, I am able to get my wishes carried out, I am aware of the weaknesses of others). All children estimated how well each item fits them on a 5-point scale, from not at all to very well. The aggressiveness was measured by the Direct and Indirect Aggression Scale (Björkqvist et al., 1998). The scale consisted of 10 items which described direct physical aggression and 12 items which describe indirect relational aggression (e.g. I make friends with others as a kind of revenge, I say bad things behind the other one's back.). All participants used a 5-point scale to estimate how often they showed such behaviors, from never, very seldom to very often. The researchers found that social intelligence was associated with indirect/relational aggression and "socially intelligent boys, as compared to boys with less social intelligence, were capable of using socially more acceptable ways to express indirect aggression" (Wallenius et al., 2007).

Another study conducted in Finland (Kaukiainen et al., 1999) also investigated the relationship between social intelligence and physical, verbal and relational aggressions with total 526 schoolchildren from three age groups (10, 12, and 14 years old). Social intelligence was measured using the Peer-Estimated Social Intelligence Scale (Kaukiainen et al., 1995). All children rated their classmate on 10 items (e.g. is able to get along with people, is able to guess the feeling of others, is able to take advantage of others, if his/her wants). Estimations were made on a five-point scale (0 = not at all, 4 = very often). Aggression was measured with the Direct and Indirect Aggression Scale (Björkqvist et al., 1992) which was previously described. Their results showed that physical and verbal aggression yielded nearly zero correlation to social intelligence, and indirect /relational aggression correlated positively with social intelligence in all age groups. The more an individual used indirect /relational aggression, the higher is his/her level of social intelligence.

Physical/direct aggression demands mostly physical strength and verbal aggression demands verbal skills. To

use indirect aggression, the individual must be able to harm others while continuing to be perceived by others in a favorable light. At the same time, the individual has to interpret the reactions of others and accommodate his/her behavior for the social manipulation not to backfire. These are all demanding skills requiring high levels of social intelligence (Björkqvist et al., 1992; Kaukiainen et al., 1999).

In short, if one's social cognition reflects a hostile attribution style, then one is more likely to exhibit aggressive behavior. The same applies to positively biased self-perceptions; if one's cognition is positively biased, there is an increase in the probability of aggression. Those who have higher social intelligence also are more likely to be involved in relational aggression as opposed to physical aggression.

Conclusion

Unlike physical aggression, associated with social aggression, relational aggression harms others by manipulating and damaging peer relationship both purposely and more likely indirectly. The reviewed literature exploring potential internal factors related to relational aggression in children and adolescents suggested that children are likely to act more or less innately aggressive based on results of the twin studies, circadian rhythms investigation, and survey study. A rather high percentage of children and adolescents involved in relational aggression behavior seem to express a belief that relational aggression is common and a natural tendency. Anger and envy/jealousy are emotions that drive and encourage children's aggressive impulses, while empathy works on aggressive behaviors in the opposite way by decreasing the probability of aggression. Social cognition appears to play a role on the internal factors related to relational aggression: relationally aggressive children hold significantly more hostile attributions for relational provocation than do non-aggressive children; positively biased self-perception (that is, the level of perceived peer acceptance is higher than the level of actual peer acceptance) is linked positively with relational aggression; and generally speaking, the more a child engages in relational/indirect aggression, the higher the individual's level of social intelligence.

For both practitioners and researchers in education, it is very important to be aware of the concept of relational aggression and be familiar with the related factors in order to further understand children's behaviors and reasoning. This allows more effective efforts in reducing and restraining relational aggressive behaviors based on current research findings, such as creating a friendly and fair educational environment, in which there is less anger, envy and jealousy. Developing and strengthening child-

ren empathy, and helping children understand themselves appropriately, without biases and also to understand others correctly without assumptions of hostility and so on.

It is expected that future researchers will pay more attention to the practice level in relational study. Researchers should not only tell us what the manifestation symptoms are, what the causes are and how to measure relational aggression etc., but also how to restrain/reduce relational aggressive behaviors effectively.

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