

Why Implicit and Explicit Measures for Aggression Are Not Related: Qualitative Review

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Although previous studies have investigated the dissociation approach of different types of motives, exploring the reasons behind the dissociation between implicit and explicit motives for aggression are still lacking. The present study reviews different (social) cognitions that influence implicit (Conditional Reasoning Test for Aggression, CRT-A) and explicit measures of aggression (Aggression Questionnaire, AQ). The CRT-A assesses individuals' aggressive tendencies through an inductive reasoning process that uses an individual's implicit motives, selective attention, and confirming biases, whereas, the self-reported measures of aggression investigate aggressiveness through a decision making process based on implicit comparison and self-perception. Furthermore, this review suggests possible antecedents of implicit and explicit aggression, such as low versus unstable self-esteem, and social exclusion versus social learning. The implications and future direction of the implicit and explicit measures of personality are also discussed.

Key words : aggression, Conditional Reasoning Test for Aggression (CRT-A), implicit, explicit, dissociation approach

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Assessing an applicant's personality is very significant to any potential employer. In this regard, non-cognitive variables, such as personality, and background information become useful in predicting the performance of the applicant (Johnson, Tolentino, Rodopman, & Cho, 2010; Swider & Zimmerman, 2010) and obtaining valuable information about him or her. One of the popular approaches to investigate an applicant's personality is to ask the candidate to complete a personality survey. However, a self-reported personality assessment is not a very

suitable method since it usually has distorted responses and provides difficulty in decision making (Hooper & Sackett, 2008). Therefore, researchers and practitioners have tried to assess individuals' personality indirectly- concentrating more on implicit measures. It has been observed that when respondents react to the implicit measures (e.g. attitudes, motives, and personality) their responses are quite different from their self-reported responses (e.g. Bornstein, 2002, Frost, Ko & James, 2007, Sablinski, Mitchell, James, & McIntyre 2001). On self-reported

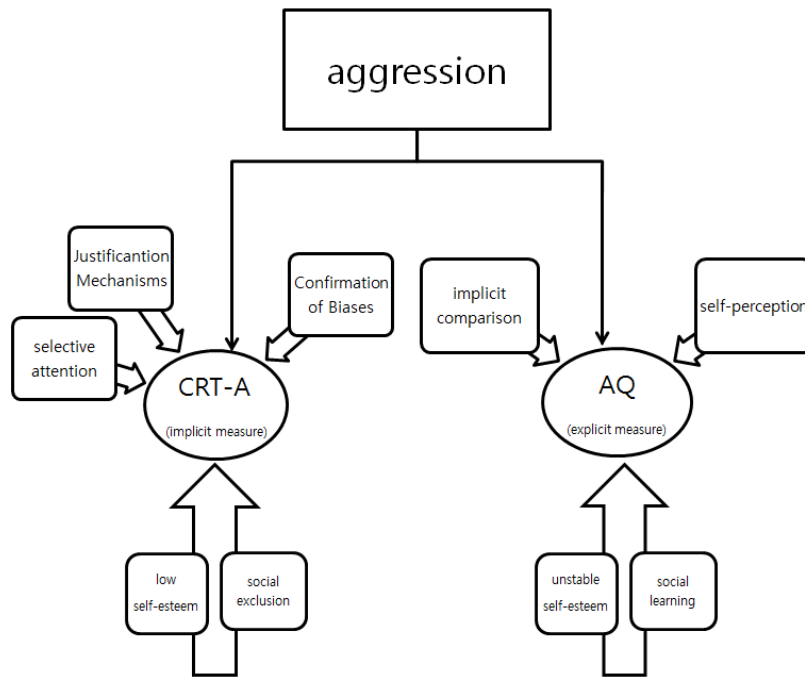


Figure 1. The dissociation approach for aggression

*CRT-A: Conditional Reasoning Test for Aggression

*AQ: Aggression Questionnaire

○: implicit and explicit measures of aggression

□: cognitive sources and antecedents of implicit and explicit measures of aggression

personality tests, true responses, in most cases, are modified and manipulated to make them look ideally good and socially desirable, which causes the discrepancy between the implicit and the explicit personalities. However, if the responses are not manipulated then a different (social) cognition is manifested when individuals respond to the implicit and the explicit personality assessments.

The purpose of this review is to investigate the (social) cognitions and the cognitive processes involved in two different types of personality assessments of aggression - i) implicit measure for aggression: Conditional Reasoning Test for Aggression (CRT-A), ii) explicit measure: Aggression Questionnaire (AQ). Figure 1 shows an overview of the current review. To prepare this review, previous studies have been searched through PsycINFO using the following key words: implicit, self-report, aggression, and dissociation; in addition, the reference lists in the relevant published articles were reviewed. The following section considers a dissociation approach with examples. Next, (social) cognitions that contribute to the implicit measure of aggression and self-reported measure for aggression would be reviewed. Following this, antecedents of above-mentioned two measures would be suggested. Finally, implications, contributions, and suggestions for future research would be highlighted.

Dissociation approach for Personality (Aggression)

Although dual attitudes and motives have a relatively long history, an in-depth discussion of the dissociation approach for aggression is lacking to date. Furthermore, a thorough review of a meta-analytic dissociation approach for aggression has also not been reported yet. For the purposes of this article, the dissociation approach is defined as the CRT-A and self-reported assessment measures of aggression independently to predict different aggressive behaviors, and the relationship between the implicit and explicit measures of aggression is not significant. To utilize the dissociation approach for self-reported and projective tests, Bornstein (2002) proposed three criteria: 1) converging behavior predictions, 2) modest positive correlation, and 3) differential effects of moderating variables. Bornstein's paper, however, mainly focused on implicit motives based on the projective techniques. Since the CRT-A (see James, 1998, James, McIntyre, Glisson, Bowler, & Mitchell, 2004) is not based on projective techniques, all the above three criteria do not apply to the dissociation approach between self-reported aggression and the CRT-A. In this regard, the two most important criteria that demonstrate the dissociation approach, viz. different behavioral prediction and modest correlation between implicit and explicit aggression, will be reviewed in the current

paper.

It is noteworthy that, the implicit and explicit personality measures of aggression predict different constructs of aggression. One of the most well-known studies on the different predictions of the CRT-A and the self-reported measure for aggression was Frost, Ko, and James's study (2007) on college basketball players. The study showed that overt aggression or physical aggression was significantly correlated with both the CRT-A and the NEO Personality Inventory-Revised Angry Hostility Scale (A-H) scores. In the prediction of obstructionism it was found that, there was a positive correlation with the CRT-A score but a negative association with the A-H. In other words, people who acknowledged their aggressiveness through the self-reported measure were less likely to show obstructive behaviors. By contrast, people who did not acknowledge their aggressiveness but were rather implicitly aggressive were more likely to show obstructive behaviors. Furthermore, as a predictor of verbal hostility, the CRT-A displayed no significant role in predicting the verbal hostility, whereas, the A-H predicted the players' verbal hostility prominently.

Another study that demonstrated the differential predictions of the implicit and the explicit aggression measures was by Sablynski et al. (2001) on the issue of theft amongst undergraduate students. The results indicated that the theft showed a significant relationship with the CRT-A scores but not with the AQ

scores. Generally speaking, the CRT-A predicts the covert forms of aggression, whereas, the self-attributed aggression predicts the overt aggressive behaviors.

As the second criterion for the dissociation approach, the CRT-A scores showed modest intercorrelations or non-significant relationships with various self-reported measures of aggression. When analyzed with the Jackson' Personality Research Form (PRF; 1984), the CRT-A scores showed 0.051 and 0.073 intercorrelations with the student and employee data reported by Whanger (2000) and Burrough (2007) respectively. Furthermore, Frost et al.'s (2007) study of basketball players demonstrated almost no intercorrelations between the A-H and the CRT-A ($r = .062$) scores, and Sabynski's (2007) data showed modest ($r = .255$) intercorrelations between the AQ and the CRT-A. It is also to mention that the major explicit measures of aggression, viz. the PRF, the A-H, and the AQ-had almost no relationships with the CRT-A amongst diverse populations. The aforementioned two criteria, viz. the different behavioral predictions and the modest inter-correlations between implicit and explicit aggression assessments, showed that implicit and explicit measures of aggression are not correlated with each other and tap into different facets of aggression. Thus it is important to understand different cognitive sources that contributed to the dissociation for aggression.

Cognitive Sources of the CRT-A

The CRT-A takes a very different approach to measure aggression than those taken by other prominent instruments. The CRT-A assesses an individual's aggressive tendencies based on their unconscious biases, such as hostile attribution, retribution, and potency, which are revealed through their selective attention to negative information and outcomes. Even though the respondents may not be aware of their biases, they tend to justify their belief in aggression and confirm their biases. These cognitions of selective attention, justification mechanisms (JMs), and confirming biases through an inductive reasoning process assess a distinctive type of aggression, the implicit aggression.

Selective Attention

A distinctive feature of an implicit aggression assessment, the CRT-A, is the assessment of aggression through the respondents' selective attention. Aggressiveness is closely related to selective attention in its cognitive process (Schippell, Vasey, Cravens-Brown, & Bretveld, 2003). Since illogical aggressive biases are present in aggressive individuals, such individuals tend to interpret neutral information or view ambiguous events more negatively. When both aggressive and non-aggressive individuals perceive the same events, the aggressive individuals are more likely to notice the negative aspects

(Dodge, 1986; Waldman, 1996). Aggressive individuals mis- and overinterpret other people's intentions, but they are not aware of their misinterpretation or misperception.

The link between aggression and selective attention was supported by the published work of Dodge and Frame (1982). They conducted a study on the kindergarten to fifth-grade boys, and tried to identify that aggressive students use teachers' ratings and peer nominations. The aggressive students were asked to read short stories and respond to "how the outcome had occurred and how he would probably behaviorally respond to the outcome." The stories included ambiguous outcomes such as "losing a pencil and then later seeing a peer holding it in his hand" or "placing a lunch bag on a table, leaving, and then returning to see a peer holding the lunch bag." The participants wrote down short responses and the responses were coded by two independent coders. The results were consistent that the aggressive boys "attributed hostility to peers" significantly more than did the non-aggressive boys. For example, when they found their friend holding a pen that they lost, they tended to assume that their friend took their pen, rather than assuming that their friend had the same pen. In interpreting ambiguous outcomes, aggressive boys focused more on negative outcomes and perceived the situation as more hostile.

In another study Waldman (1996) identified the aggressive boys and investigated their hostile

perceptions. Both the aggressive and non-aggressive boys were shown 5 short video clips. In each video clip, one child destroyed another child's toy with different intentions for each scene: hostile, accidental, prosocial, ambiguous, and a mere presentation in which a child destroyed his own toy and pointed fingers to another child. Waldman hypothesized that, in comparison to the non-aggressive children, the aggressive ones were more likely to interpret a non-hostile intention as hostile. The results showed that aggressive boys tended to perceive and interpret accidental and ambiguous intentions as considerably more hostile than did the non-aggressive individuals.

Implicitly aggressive organizational employees also demonstrate biased perceptions. In Burrough's (2005) research, 260 employees were asked to complete the CRT-A and self-report perceptions on organizational injustice. Because of its subjective nature, the perception of organizational injustice was assessed by a self-reported measure. The results supported the hypothesis that there was a strong positive association between the CRT-A score and the perception of organizational injustice. Implicit aggression showed significant positive associations with each of the three different forms of justice. People who were unconsciously aggressive were more likely to see outcomes that were distributed unfairly (distributive justice), a distribution of outcomes that was not explained (procedural justice), and evidence that they were

being treated improperly (interactional justice) than seen by people who scored low on the CRT-A. Aggressive individuals generally wear a pair of invisible hostile eyeglasses that they cannot take off and therefore, tend to see and perceive others and organizational processes with a distorted and biased view.

As selective attention (attentional bias) is activated automatically and unconsciously, it is expected that such attention is related to hostile biases, since people who are often hostile selectively focus on hostile cues (Eckhardt & Cohen, 1997; Smith & Waterman, 2004; Wilkowski, Robinson, Gordon, & Tropp-Gordon, 2007). Recently Hofman and Schutter (2009) investigated aggressive individuals' attentional biases. Twenty volunteer college students completed the Buss-Perry's AQ (1992) and, in order to assess their selective attentions, their vocal response latencies to 30 angry, 30 happy, and 30 neutral faces were recorded (see van Honk & de Haan, 2001). Interestingly, from the four subscales of the AQ—anger, hostility, physical aggression, and verbal aggression—only physical aggression showed significant positive association with the selective attention to angry faces. This result contradicted the argument of Wilkowski et al. (2007) - "Subsequent studies have shown that individual differences in anger, rather than behavioral aggression per se, are most closely linked to interpretation biases (p. 651)." A possible reason for the inconsistency is self-reported hostility. Hostility is known to be

an unconscious cognitive bias; therefore, one is hardly aware of his/her cognitive biases, and hostility is less likely to be captured by self-report. Self-evaluation of hostility may not capture one's true hostile attribution biases as, "even when people are truthful, self-reports can only reflect what they believe about their orientations, whereas implicit measures bypass this limitation" (Rudeman, 2004, p. 134).

Justification Mechanisms

In every day's life, people always act based on what they believe is right or think is appropriate. This judgment, belief, or idea is not same for everybody. Even in the same situation, people make different judgments and act differently. Although it may not seem acceptable or reasonable to others, they are ready to justify their actions. Thus, aggressive individuals and non-aggressive individuals make different decisions in the same situations, and each party has reasons for their actions, which seem reasonable and rational to them. According to James (1998), the reasoning biases that aggressive individuals use to make their actions appear rational and sensible are called "Justification Mechanisms (JMs)" (see James, McIntyre, Glisson, Green, Patton, LeBreton, Frost, Russell, Mitchell, & Williams, 2005). Although these biases, or JMs, do not sound logical or reasonable to prosocial individuals, they seem to be very sensible and rational to the

aggressive individuals. More interestingly, these biases are implicit in nature and as a result, the aggressive individuals unconsciously rationalize their actions and beliefs using these JMs.

Although unconsciously aggressive individuals have the cognitive biases, JMs, they do not see themselves as aggressive, and they even believe their actions of aggression are justified and rational. Children also justify their actions of aggression and do not see their actions as aggressive. According to Huesmann and Guerra (1997), aggressive children hold normative beliefs towards aggressive actions. The normative beliefs were defined as "self-regulating beliefs about the appropriateness of social behaviors." The researchers developed an assessment of normative beliefs, with sample items such as, "Suppose a boy says something bad to another boy, John. Do you think it's perfectly ok, it's sort of ok, it's sort of wrong, or it's really wrong for John to scream back to the first boy?" Students' aggressive behaviors were evaluated by their peers and each student's response on the normative belief assessment was examined. The results were consistent with the aforementioned JMs; children who held strong normative beliefs tended to demonstrate more aggressive behaviors than did their peers. The aggressive children may not have access to the process of developing normative beliefs about aggression, but they believed it was okay to be aggressive, because aggressive children strongly believe it is appropriate and acceptable while non-aggressive,

prosocial children see it as insensible and illogical. Aggressive individuals hold normative beliefs about aggression and JMs. Although they are not aware of their justification process, their implicit aggression is justified unconsciously, and this justified aggression can be then captured by the indirect measure for aggression.

One the other hand, on the self-reported aggression test, there is no chance for respondents to justify their ratings. For instance, even though one believes that he/she often becomes angry at people because others often make him/her annoyed, one cannot justify and explain in the self-rating test that, why does he/she feel in that way. Therefore, people are more likely to hide or respond less honestly when they want to impress others. If there had been a column asking the participants that why did they get distressed or angry, their responses might be less likely to be distorted, since then the respondents could at least support or explain their aggressive actions. Since explicitly aggressive individuals cannot convince others with the reasons for their aggression, but they still want to be perceived as reasonable, they tend to distort their responses. While the CRT-A assesses aggression through respondents' justification, the self-reported aggression measure misrepresents the aggression of respondents, who want to justify their aggressive tendencies through distortion to make their justifications look good.

Confirmation of Biases

When people respond to the CRT-A by choosing seemingly the most logical alternative they confirm their biases. In other words, they are looking for evidence to support their hypothesis (Wason, 1960). As aggressive individuals respond to the CRT-A, they unconsciously confirm their aggressive biases. Although they may not be aware of their cognitive biases and justification processes, aggressive biases affect respondents' view or interpretation of the premises of the CRT-A, and as they endorse one of the aggressive responses, they implicitly confirm their own biases. The CRT-A not only assesses the presence of cognitive aggressive biases, but also measures each individual's confirmation of the biases. If respondents are directly asked to write down their responses to a premise, their responses may correlate with self-reported aggression because in that case, they have to bring their biases into the conscious level first and then manipulate their responses. Thus, the CRT-A uses a multiple choice format in which the assessment respondents need to choose between prosocial and aggressive responses. (Though there are also two illogical responses, these alternatives are not meant to be chosen, and if participants have a higher than 7th grade reading level (James & Mazerolle, 2001), they are less likely to choose those illogical alternatives.) As the CRT-A is not a free-

response type of assessment, participants need to choose an aggressive or prosocial response after reading a passage, and when they pick an aggressive alternative, they confirm their aggressive cognitive biases.

Cognitive Sources of Self-Reported Aggression

The complement of the CRT-A is a self-attributed aggression. Popular measures for self-reported aggression are A-H (Costa & McCrae, 1992), AQ (Buss & Perry, 1992), and PRF subscale Aggression (Jackson, 1967), ask respondents how much they agree or disagree with a series of statements describing aggressive disposition based on subjective Likert type scales. As participants respond to the questionnaire, they automatically compare themselves to people around them and report relatively. Additionally, their responses on the subjective aggression scale are filtered through their perceptions and self-evaluations. An individual is less likely to report his or her own negative characteristics, and is likely to hold a favorable view of self. When people respond to the self-reported aggression, different cognitive sources from the CRT-A influence the responses such as implicit comparison and self-perception.

Implicit Comparison

Festinger's (1954) remarkable theory of social comparison declared that people tend to understand themselves by comparing themselves to others. To understand how one is doing in a class, he/she needs to compare his/her score with a class average or with the person next to him/her. If he/she receives a higher score than the average then he/she will think he/she is doing well in class. Furthermore, researchers have confirmed the importance of social comparison in a study that showed that people are more satisfied if they receive higher pay than their coworkers than if they receive an increase in net pay (Harris, Anseel, & Lievens, 2008). It is an example of the endless series of social comparisons' that people make in their daily life (Olson & Evans, 1999). This social comparison theory clearly pertains to one's responses on subjective personality measures.

According to Baldwin and Homes (1987), social comparisons tend to be automatic and spontaneous, and influence one's self-evaluations without much effort. Thus, when people respond to an explicit personality assessment that asks them to evaluate themselves, people unintentionally compare themselves with others around them. For instance, when individuals respond to *I easily become angry on others*, they compare themselves to people around them unconsciously, and if they believe they are more likely to become angry than their friends, they

will endorse “agree.”

Heine, Buchtel, and Norenzayan (2008) provided evidence for implicit comparison using subjective Likert type scales on a domain of conscientiousness with samples from different countries. They argued that since people unconsciously compare themselves with others around them the self-reported personality measures would be less valid in predicting objective criteria if cross-culturally compared. For instance, occupational success has been shown to be correlated with conscientiousness (Judge, Higgins, Thoresen, & Barrick, 1999). Heine et al (2008). used gross domestic product (GDP) as an index of occupational success for each country and assessed conscientiousness by NEO-PI-R (McCrae, 2002) with samples from 17 to 55 countries. There was a significant negative correlation ($r = -0.66$) between the aggregated conscientiousness scores and GDP. Heine et al. (2008) concluded that to respond NEO-PI-R (self-report measure) people from different countries used their own reference group, which was different across countries; therefore, the aggregated scores of conscientiousness were not correlated with GDP in the expected direction. In other words, a country which has the highest GDP did not have the highest score of conscientiousness. People in a country with the highest GDP were expected to be highly conscientious, but since they compared themselves with others from their own country, the aggregated conscientiousness score

was not significantly higher than that of people from other countries. Heine et al. (2008) clearly demonstrated that even people from different countries unconsciously compared themselves with others when they respond to a subjective Likert scale.

Furthermore, Crede, Bashshur, and Niehorster (2010) recently claimed that explicit instructions, using a specific reference group could change respondents' scores on a self-reported personality measure. Their argument states that the choice of reference groups is usually unconscious and implicit, but if the respondents' choices of reference groups can be cued by instructions, then the scores could provide meaningfully different information based on the different reference groups. For instance, Crede et al. (2010) asked the participants to complete a 10-item measure of conscientiousness from the International Personality Item Pool (IPIP; Goldberg et al., 2006) using 4 different reference groups: 1) their immediate family, 2) people of the same age and gender, 3) close friends and peers, and 4) people in general. Respondents were also asked to rate themselves without any specified comparison group (reference-free). The results provided significant mean score differences between different reference groups. The respondents' scores were lowest when they compared with their immediate family and highest when there was no reference group or when they compared with people of the same age and gender. Interestingly, scores

with no reference group and a reference group of people in general were significantly different. Crede et al.'s study (2010) illustrated that people implicitly make comparisons as they respond to subjective personality surveys, and can be cued by instruction to compare themselves with different groups of people.

Self-reported personality measures using reference groups have been applied to the domain of conscientiousness. The same concept can be applied to a different personality construct: aggression. As people respond to subjective Likert-scales of aggression, they will compare themselves with others without much effort and intention. Additionally, in keeping with the results of Crede et al.'s study, if they are told to use different reference groups to compare themselves, their scores on self-reported aggression measures will be different.

Self-Perception(Favorable View of Self)

Oftentimes in a police report there is a disagreement between two parties with formal data (e.g. Dunford, Huizinga, and Elliott, 1990; Fleury, Sullivan, Bybee, & Davison, 1998). When multiple witnesses describe the same situation, one story can be different from another, depending on who has reported the incident. This is because people tend to see and perceive an incident from their perspective, and they are likely to hold a favorable view of self.

This same model could be applied to reporting one's own personality. Self-reported aggression basically assesses how one perceives oneself, rather than providing an objective evaluation. It is needless to mention that people have an innately favorable view of self. Thus, the way in which one perceives him- or herself can be different from the way in which others perceive him/her (Clifton, Turkheimer, & Oltmanns, 2004; Farah & Atoum, 2002; Nuijens, Teglassi, & Hancock, 2009).

Physical violence in a romantic relationship tends to be under-self-reported. In a meta-analysis of the conflict tactic scales, John (1999) compared the difference between a self-reported and a partner-reported physical aggression. The study showed that both sexes tended to under-report their own physical aggression and rate higher their partner's physical aggression. Additionally, in Gregoski, Malone, and Richardson's study (2005), college students were asked to complete direct, indirect, "self" and "other" versions of the Richardson Conflict Response Questionnaire. The results clearly demonstrated significantly higher mean scores of direct and indirect aggression for other rather than for self. They concluded that "participants reported they engaged in less Direct or Indirect Aggression than other same-sex people, which suggests they may be under-reporting their own aggressive behavior (p.566)." Furthermore, John (1999) and Gregoski et al.'s (2005) studies also show how people are likely to under-report their own aggression in

comparison to other people's aggression.

Studies of the relation between favorable views of self and aggression have yielded mixed results. Baumeister, Smart, and Boden (1996) proposed that positive views of self are associated with aggression, while Bradshaw and Garbarino (2004) and Salmivalli, Ojanen, Haanpaa, and Peets (2005) suggested that negative views of others are related to aggression. Thus, Bradshaw and Hazan (2006) investigated views of self and other in relation to aggression. They asked participants to complete the Rosenberg Self-Esteem Scale (Rosenberg, 1965) for views of self, the Schema Assessment of Typicality (Burks, Laird, Dodge, Pettit, & Bates., 1999) for views of others, and the AQ (Buss & Perry, 1992) to assess self-reported aggression. The results showed a correlation between views of self and views of others in the prediction of self-reported aggression. The respondents who had more favorable views of self than of others tended to be highly correlated with overt aggression-physical and verbal aggression-subcales of the AQ. Although the study needs a further investigation with various methods of assessing aggression, it shed light on the ways in which views of self and views of others relate to aggression.

Possible Antecedents of Implicit and Explicit Aggressions

The current review suggests different social

cognitions that influence the CRT-A and AQ. In addition to the assessment level, it seems there are different antecedents of the CRT-A and AQ. CRT-A-identifiable aggressive individuals seem to have a low self-esteem and have had experiences of rejection, while self-reported aggressive individuals seem to have an unstable self-esteem and learn aggressive behaviors from the media and people around them. Probable antecedents that explain the dissociation approach of aggression are low versus unstable self-esteem, and social exclusion versus social learning.

Low versus Unstable Self-Esteem

A possible argument concerning implicit aggression is low self-esteem. Although no empirical studies on a direct relationship between low self-esteem and aggression has been reported yet, researchers tend to widely believe that such a relationship exists (e.g. Levin & McDevitt, 1993). However, Baumeister et al.(1996) argued that the cause of aggression is actually threatened egotism rather than low self-esteem and stated, "People with low self-esteem are oriented toward avoiding risk and loss, whereas attacking someone is eminently risky (p. 26)." Baumeister et al. seemed to neglect different types of aggression identified by the CRT-A. Implicit aggression is relatively subtle and covert. Examples of such aggression would include behaviors, such as withholding information, not showing up to work, or cheating, which are not

as risky as the explicit violent aggression. Therefore, low self-esteem may cause less hazardous forms of aggression. Before anyone concludes that there is no direct association between low self-esteem and aggression, it is necessary to explore the relationship between low self-esteem and implicit aggression. If aggressive individuals with low self-esteem tend to avoid risky behaviors, it is likely that low self-esteem is related with only implicit aggressiveness.

On the other hand, people who rate themselves as aggressive tend to have unstable self-esteem. Baumeister and colleagues argued that threatened egotism or unstable self-esteem lead to violence or aggression. Baumeister et al. (1996) demonstrated the development of aggression or violence as caused by threatened egotism. One's egotism is threatened by the discrepancy between an inflated and unstable favorable view of oneself and a negative evaluation by others. If one chooses to reject the outside appraisal and embrace self-appraisal then he/she develops a negative feeling toward the source of threat. This negativity manifests itself as aggression or violence. Since there is no objective measure for self-esteem, threatened egotism has been studied through a fluctuation of self-reported self-esteem (Kernis, Grannemann, & Barclay, 1989). The fluctuation index of self-esteem showed significant associations with self-reported aggression, which means that people who have stable self-esteem tend to be less aggressive.

Social Exclusion versus Social Learning

Another possible antecedent for aggression is social exclusion (DeWall, Twenge, Gitter, & Baumeister, 2009). As humans are social animals, people want to be together with others. If they are rejected by others, they tend to be aggressive toward the targets or even toward neutral parties (Buckley, Winkel, & Leary, 2004; Kirkpatrick, Waugh, Valencia, & Webster, 2002; Warburton, Williams, & Cairns, 2006). Emotional distress has been investigated as a mediating variable of social exclusion and aggression, but a number of studies have failed to provide any conclusive evidence (Gardner, Pickett, & Brewer, 2000; Twenge & Campbell, 2003; Zadro, Williams & Richardson, 2004). Instead, DeWall et al. (2009) proposed a direct relationship between social rejection and hostile cognitive bias. DeWall et al. (2009) manipulated social exclusion as "having a confederate refuse to interact with the participant" and the results showed that the participants who were socially excluded in the experiment were more likely to express hostile cognitive biases than were members of the control group. Hostile biases are one of the most prominent components of implicit motives of aggression, as rejected individuals are not aware of their cognitive biases and exhibit spontaneous and unconscious behaviors of aggression. These biases later appear as an implicit form of aggression.

McClelland, Koestner, and Weinberger. (1989) asserted that implicit motives develop in an early stage of life before language develops, and the motives predict relatively long-term behavioral trends. Implicit motives for aggression also develop at an early stage of life in children who are excluded or rejected at an early age. These children tend to have unconscious hostile biases, which further become activated in the form of implicit aggression. For instance, in 2007 the most terrifying mass murderer in a decade, Seung-Hui Cho, killed 30 students and faculty members at Virginia Tech and finally killed himself (Cho, 2010). After Cho's family immigrated to the US when he was 8, he was bullied by other children and community members. He was remembered as a shy, sullen, and an aloof student, who also stalked the female students in college. On the day of attack he sent a video clip to NBC news in which he mentioned his early experience of being bullied and explained his action as revenge to such aggravation due to his weaknesses. His early experience of rejection transformed into implicit aggression later in his life, but not into explicit aggression, as he did not see himself as an aggressive. Even after killing a number of people and at the point of his own death, he did not think his action was aggressive, illogical, or offensive, while most people all over the world see it as clearly illogical and absolutely unacceptable. Since he did not perceive his behavior as aggressive and justified his action,

his aggressiveness would not be reflected in a self-attributed aggression test, and needed to be captured indirectly.

On the other hand, aggressive individuals who score high on only self-reported tests might not have the same experience as implicit aggressive individuals. Explicitly aggressive people neither have any implicit motive for aggression, nor do they have any justification in their cognitive systems. These individuals' explicit aggressiveness, which often manifests itself as physical aggression such as kicking, punching or hitting, is more likely a learned behavior, picked up from violent media or aggressive adults around them (Drabman & Thomas, 1974; Gentile, Lynch, Linder, & Walsh, 2004; Gentile, Saleem, & Anderson, 2007; Hopf, Huber, & Weiß, 2008). Bandura, Ross, & Ross's (1961) famous study with a Bobo doll demonstrated that children quickly learned violence or aggression. After an experimental group of children were shown a video clip of adults hitting, kicking, and punching a Bobo doll, they imitated what adults did in the video clip (i.e. hitting and kicking the Bobo doll). Conversely, a control group, whose members were not shown such video clips, did not show aggressive behaviors. Though it is still debated that to what extent media violence influences children's aggressive behaviors (Ferguson, 2009; Gunter, 2008; Trend, 2007), it is true that there seems to be at least some effect, because individuals who were exposed to violence at an early age tend to be

more likely to be aggressive later, and more likely to engage in physical aggression (Comstock, 2008).

Discussion

Although researchers in the field of personality have acknowledged the differences in predictions of the CRT-A and the self-reported aggression (Fost, Ko, & James, 2007, Sablynski et al., 2001), no cognitive processes beyond the measurement systems have been investigated thoroughly to date. This paper reviews the cognitive process and social cognitions that account for the differences between conscious and unconscious motives for aggression.

The two measurement systems, viz. the implicit and the explicit measures, are generally influenced by different cognitive processes. When people respond to the CRT-A, their unconscious motives, selective attention, justification, and confirming biases are activated, but when they respond to the self-report implicit comparison, view of self and willingness to manipulate responses come into play. Additionally, on looking behind at the different cognitive processes, different antecedents add to the dissociation. Aggressive individuals, identified by the CRT-A seem to have low self-esteem and have been rejected by others. On the other hand, self-reported aggressive individuals seem to have unstable self-esteem and learn aggressive

behaviors from others or environment.

Implications

When researchers explore the dissociative hypothesis of aggression, they tend to focus on predictive behaviors, such as measures that predict different kinds of behaviors (James et al., 2005; Russell & James, 2008). No one has attempted to understand why such divergent predictions are obtained from assessments of the same construct. This study is novel in that it reviewed different (social) cognitive sources and suggested different antecedents of implicit and explicit aggression. Furthermore, this review provides the implications discussed below for the different fields of psychology.

First of all, this paper provides an in-depth understanding of the personality of aggression for psychologists. Aggressiveness is one of the most undesirable personality, as it is highly associated with numerous social problems from uncivil behaviors such as lying (Bing, Stewart, Davison, Green, McIntyre, & James, 2007), absenteeism (James et al., 2005; Hogan & Hogan, 1989), grievances (Hogan & Hogan, 1989), and traffic violations (Bing et al, 2007) to more-serious malicious behaviors such as sabotage (James, McIntyre, Glisson, Bowler, & Mitchell, 2004), fighting (Gentile, Lynch, Linder, & Walsh 2004), physical attacks, (Frost, Ko, & James, 2007), and murder. Therefore, it is important to understand the personality construct of aggression

and its assessments. For those who attempt to assess aggressive motives or tendencies, this paper has thoroughly reviewed traditional and innovative assessments designed to measure aggression. In addition, the review provides cognitive processes of responding to the assessments; thus, it broadens perspectives for utilizing and understanding assessments of aggression.

Second, for social psychologists, this paper emphasizes the importance of understanding different social environments in which children are raised and how they affect an individual's life and thus, the society, as he/she becomes a teenager and then an adult. Researchers may have the childhood experiences and the impact of social relationships, but not all experiences and memories fade away. As individuals get older, early memories can unconsciously influence their behaviors in terms of how they perceive and interpret other people's intentions. Therefore, it is critical for practitioners in this field to realize how to protect children and young adults from bullying and being picked on by others; although these may not seem serious when they are young, as victims they may build up hostile and retributive biases toward others in later stages of development. Often times, these distorted views and subtle aggressions become more dangerous than the manifested ones (Cho, 2010).

Third, practitioners will benefit from this review because it provides a more in-depth

understanding of personality assessment. Practitioners may have a tendency to use the self-report of personality because it is popular, quick, and easy to conduct without a thorough understanding of the cognitive processes. Especially for practitioners who use a personality assessment for psychological diagnoses or for selecting employees, using a proper assessment is critical. By reviewing the different cognitive sources of implicit and explicit measures for personality, researchers and practitioners will be able to recognize different cognitive processes and thus be able to assess aggression more precisely and accurately. Researchers understand the need to evaluate and understand new innovative measurement systems besides self-report assessments (Bartram, 2007; Pennebaker & King, 1999). Thus, this review offers a thorough evaluation of cognitive processes that researchers need to consider when they develop a new system for assessing personality.

Future Direction

This paper only reviewed two primary forms of aggression, implicit and explicit aggressions, but there can be a number of different types of aggression, such as reactive, proactive, trait aggression, instrumental aggression, relational aggression, and aggressive behavior. A number of these different types of aggression have sprung from the lack of a universal categorical system for aggression (Benjamin, 2008; Crawshaw,

2009; Duncan & Hobson, 1997; Kaufmann, 1965; Ramírez & Andreu, 2006; Richardson & Hammock, 2003; Rosenzweig, 1977; Young, Boye, & Nelson, 2006). As people take revenge on or often be angry on others for a number of different reasons, the types of aggression may also have different antecedents and different behavioral predictions. It is also possible to categorize similar types of aggression into same group. For future studies, a clearer categorization is necessary to investigate and assess aggression in more depth.

Furthermore, the interaction between the implicit and the explicit measures also needs to be investigated. Thrash, Elliot, & Schultheiss (2007) studied moderating variables of implicit and explicit achievement motivation. For instance, people who are highly conscientious tend to have high implicit, but not explicit, motives to achieve. In addition, self-monitoring and preference for consistency affect the interrelations between the implicit and the explicit motives. The Thrash study showed that not all individuals display dissociation between implicit and explicit motives to achieve, and there could be individual differences based on moderating variables. Accordingly, there can be variables that change the relationship between the implicit and the explicit motives for aggression, such as emotional regulation, social desirability, conscientiousness, and honesty. For example, people who are honest are less likely to under-report their aggressive tendencies.

Therefore, the dissociation between implicit and explicit aggression can be moderated by individuals' honesty level.

Also, understanding the dissociation approach with people from different countries would be interesting. Hofer and Chasiotis (2004) argued that implicit motives are influenced by cultural biases. Individuals' implicit biases are vulnerable to what they see, listen to, and learn at their early age. Therefore, implicit biases can be different across cultures, but at the same time there seem to be some common factors in aggression, so the differences may not be too much significant. Furthermore, while people respond to the self-reported measure for personality, they generally compare themselves with others; so selecting different reference groups will make it difficult and might preclude such comparisons among people from different countries. Therefore, it would be interesting to look at whether people across different cultures have similar implicit and explicit motives for aggression or not.

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공격성을 측정하는 조건추론검사와 자기보고형 검사와의 관계 이해를 위한 개관 연구: 분리모델(dissociation approach)을 바탕으로

이 해 주

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기존의 연구들은 다양한 동기(motives)의 분리모델(dissociation approach)에 대해 연구하였으나 암묵적 공격성과 자기보고형 공격성의 분리모델에 관한 연구는 많이 부족한 실정이다. 본 연구는 조건추론검사(CRT-A; James, 1998)를 통한 공격성(암묵적 공격성)과 자기보고형 공격성을 바탕으로 분리모델이 일어나는 (사회적)인지현상을 개관하였다. 조건추론검사로 측정하는 공격성은 귀납적 추리 과정을 통하여 내적인 공격성의 동기, 선택적 주의와 확인 편견을 분석해 개인의 공격성 측정하는 반면 자기보고형 공격성은 무의식중에 일어나는 비교와 자각에 기반 한 의사결정 과정을 따라 공격성을 측정하기에 분리모델이 나타난다. 본 연구는 공격성의 분리모델에서 한 발 더 나아가 공격성의 분리모델이 일어나는 선행 사건들 즉 낮은 자존감과 불안정한 자존감의 차이, 사회생활에서 거절되어 나타나는 공격성과 학습된 공격성의 차이에 대해서 논의하였다. 본 연구는 성격측정도구의 분리현상을 이해함에 있어서 후속 연구들의 이론적 배경을 제언하고 향후 연구방향에 대해서 논의하였다.

주요어 : 조건추론검사-공격성, 암묵적 측정치, 자기보고형 공격성 검사, 분리모델