6.0 SUMMARY

Aggression among adolescents is a growing problem and is considered as a significant predictor of future social, psychological, behavioural, and academic problems. Consequences of hostility and aggressiveness continue to be a burden on not only the perpetrators and victims but also the development of human societies at large. Administrators, teachers, and parents seek points of intervention for aggressive behaviour with the goal of making schools more stable places of peace. Understanding the causes of hostility and aggressiveness and controlling it are therefore important concerns in the social scientific research agenda. Among the causal factors responsible for aggression, various models acknowledge the contribution of individual characteristics, the family, the community, and situational factors to the expression of aggressive behaviour.

*Human aggression* is any behaviour directed toward another individual that is carried out with the *proximate* (immediate) intent to cause harm. In addition, the perpetrator must believe that the behaviour will harm the target, and that the target is motivated to avoid the behaviour. Behavioural and social scientists have different explanations of aggression. 

**Freudians** believe that aggression, like sexuality, is an innate drive or instinct in each of us. Aggression stems from universal, innate tendencies and it is our innate death wish/instinct (*Thanatos*) directed outwards. According to **Evolutionary theories**, aggression is a part of human nature and individuals are ‘programmed’ for violence by our biological nature. **Drive theories** maintain that humans have an internal motive or drive to harm others, which normally lays dormant and when exposed to certain external conditions, this drive is aroused and the result is aggression. Theses external conditions may include loss of face or frustration. This theory is summarized by the **frustration-aggression hypothesis** which state that (1) frustration
always leads to some form of aggression, and (2) aggression always stems from frustration (i.e., there are no other causes of aggression). However, research suggests that the frustration-aggression hypothesis is only partially correct. Cognitive neo-associationistic model claimed that frustration yields anger rather than aggression. For anger to lead to aggression, certain cues would be required. These could be environmental stimuli associated with aggressive behaviour, the frustrating object or a person. According to social learning theories, people acquire aggressive responses the same way they acquire other complex forms of social behaviour—either by direct experience or by observing others. Social learning theory explains the acquisition of aggressive behaviours, via observational learning processes, and provides a useful set of concepts for understanding and describing the beliefs and expectations that guide social behaviour. Excitation transfer theory notes that physiological arousal dissipates slowly. If two arousing events are separated by a short amount of time, arousal from the first event may be misattributed to the second event. If the second event is related to anger, then the additional arousal should make the person even angrier.

In 2002, many of these theories were integrated into one model which theorists termed as the “General Aggression Model” (Anderson & Bushman, 2002). The model is based on the concept of knowledge structures and how they operate to produce behaviour. The three main foci concern of this model are (a) person and situation inputs; (b) cognitive, affective, and arousal routes through which these input variables have their impact; and (c) outcomes of the underlying appraisal and decision processes. Social cognitive approaches to aggression and social competence have exerted increasing influence in explaining aggression. Perhaps the most comprehensive of these approaches is Crick and Dodge's (1994) social information processing model, which attempts to link sequential social cognitive processes with children's
social behaviour. The present research work is mostly based on social information processing model and general aggression model, which explain social behaviour as an outcome of the way individual process social information.

Crick & Dodge’s social information processing model attempts to link sequential social cognitive processes with social behaviour. The model proposes that to react appropriately to social situations, social information has to be processed in an orderly fashion: (1) the information has to be encoded accurately; (2) the encoded information has to be represented correctly; (3) an interaction goal need to be specified; (4) response alternatives have to be generated; (5) these response alternatives have to be evaluated and from these responses, an optimal response has to be selected; and (6) the selected response has to be enacted. Atypical processing during any of these steps may lead to aggressive behaviour.

According to this model, two stages of information processing are seen as most relevant to hostile reactivity. The first stage involves attending to and encoding hostile cues in the situation. The second stage involves forming a more global interpretation of the overall situation. Hostile biases at either stage of information processing are seen as predisposing one toward increased anger and reactive aggression. Aggressive individuals tend to have distorted interpretations of the relevant social interaction that may be an indicator of distorted social information processing in the negative social encounter. The social information processing model has been studied extensively using samples from the general population and clinically aggressive boys in middle childhood. Aggressive boys have been found to differ from their non-aggressive peers at all six steps of social information processing model. Compared to their less aggressive peers, aggressive boys encode less relevant information, attribute more hostile intentions and feelings of glee, and have fewer feelings of guilt or shame, particularly when
they are in a negative emotional state. Aggressive boys have also been found to become relatively angrier and less sad and to regulate their anger in a less adaptive manner than non-aggressive boys. Aggressive boys typically generate more aggressive responses and evaluate aggressive responses less negatively than non-aggressive boys. Finally, aggressive boys have been found to respond less flexibly in the sense that they do not adapt their social information processing to different situations. Furthermore, of all the social information-processing steps related to aggression, the interpretation of cues step has received the most research attention (Orobio de Castro et al., 2002). In particular, the aspect of intent attribution (the perception of why another acts the way he does in any given situation) is central.

Individual’s response in any negative social situation is hypothesized to depend on how he encodes and interprets available information in the immediate social context, such as the expressions of emotion on the peers’ faces, and how he accesses and evaluates potential actions. One individual may encode non-hostile emotion cues, interpret the peers’ actions as benign, and decide that ignoring the peers’ behaviour would be the most appropriate action. Another individual may interpret the peers’ behaviour as malicious, experience anger, and decide that verbally insulting the peers is the most appropriate behavioural recourse. This tendency to interpret the intent of others as hostile even when social cues fail to indicate a clear intent is called ‘hostile attribution of intent’. Hostile attribution of intent in turn are believed to cause aggressive behaviour, instigate more problematic social interaction, and thereby limit non-aggressive interactions that could provide opportunities to learn pro-social behaviour. Thus it is suggested that hostile attribution may be a key element in the development and persistence of behavioural problems over time.
The review of literature reveals that beside hostile attribution of intent, there are many variables significantly associated with aggression. In present study, mainly four aggressive tendencies were discussed and assessed after intervention. These were irritability, impulsivity, emotional susceptibility, and narcissism. Irritability has been defined as an unpleasant mood characterized by reduced control over temper that may result in irascible verbal or behavioural outbursts. The idea that irritability leads to aggression is consistent with Berkowitz’s cognitive neo-associationistic model. This model posits that aggression is the result of negative affect, which includes irritability. Second dependant variable included in the present study was impulsivity which has broadly been defined as the tendency to respond quickly and without reflection, the inability to inhibit behaviour when inhibition is the appropriate response or the inability to delay gratification when tolerance of delays produces a less risky outcome. Impulsive aggression is associated with self-reported impulsivity, neuroticism, physical aggression, and anger. Another dependent variable, emotional susceptibility is defined as a stable tendency to feel distressed, inadequate, and vulnerable to perceived threats. It is a propensity to experience negative affect and a tendency to become upset and defensive when confronted with personal attacks and insults. Emotional susceptibility or anger proneness may motivate an unfortunate cycle in which children perceive anger and hostility in others and react averisely and aggressively toward them. Narcissism is characterized by an overly exaggerated and conceited self image, extreme concern over others’ opinions of oneself, a need to feel superior to and dominant over others, manipulativeness, exhibitionism, and an overall sense of strong (albeit unstable) egotism. Highly narcissistic individuals have unrealistically positive views of themselves, and they maintain these views via several mechanisms, such as derogating others, making downward comparisons, and construing various situations to fit with their
unrealistically high self-esteem. Narcissists tend to be impulsive, fail to learn from their mistakes, and are prone to many forms of aggression including verbal, physical, and violence. The primary focus of the research work was to reduce hostile attribution of intent with social cognitive intervention which was further supposed to reduce all these aggressive tendencies (mentioned above) among aggressive adolescents.

Hostile attribution of intent has become an important element in the development of aggressive and behaviour, therefore the present research work proposed to devise a social-cognitive intervention for aggressive adolescents to reduce hostile attribution of intent so as to prevent aggressive tendencies and enable them to enhance their adjustment and interpersonal relations. The present research was carried out in two parts. In the first part, the hostile attribution of intent of aggressive and less aggressive males and females was assessed. The second part of the study was consisted of social cognitive intervention that was given to aggressive individuals to reduce aggressive tendencies.

**PART I**

**Objectives**

The specific objectives of Part I were to study;

1. the difference between aggressive and less aggressive individuals on HAI
2. the difference between individuals high and low on four dimensions of aggression (anger, physical aggression, hostility & verbal aggression) on HAI
3. gender differences in HAI.
Hypotheses

Based on the review of literature, following hypotheses were formulated.

1. Aggressive individuals would exhibit more HAI as compared to less aggressive individuals.

2. Individuals high on sub-dimensions of aggression i.e. anger, physical aggression, hostility & verbal aggression, would exhibit more HAI as compared to individuals low on these sub-dimensions.

3. Males would be higher on HAI as compared to females.

Part I of the study was 2X2 Analysis of Variance (ANOVA) with two dimensions of aggression (high and low) and gender (males and females). A total of 313 subjects (163 males and 150 females) with the mean age of 13.60 years (SD=1.03 years) were randomly selected from various schools of Patiala and Chandigarh (Punjab). Out of 313 participants, 250 participants (125 with high scores on aggression & 125 with low scores on aggression) were screened in with the help of Aggression Questionnaire (Buss & Perry, 1992) and later confirmed by teachers. Based on the hypothetical social scenarios framed by Graham et al., (1992) & Hudley & Graham (1993), five hypothetical scenarios for the present work were formulated and used to assess Hostile attribution of intent.

After scoring of questionnaires, both males and females were categorized into two groups i.e. ‘high on aggression’ group and ‘low on aggression’ group. Corresponding scores of these two groups on hostile attribution of intent explorer were compared to see whether participants high on aggression and low on aggression differ significantly on it or not. Above mentioned procedure was also applied to study the effect of four sub-dimensions of Aggression Questionnaire, i.e. anger, physical aggression, hostility & verbal aggression. Participants were
divided into high & low on these dimensions by same procedure used for total scores. Then four separate ANOVAs (2x2) with two levels i.e. high & low of each dimension and two levels of gender were applied. Results of the part I of the study were as follows.

- Individuals who were high on aggression scored significantly higher on hostile attribution of intent as compared to those who were low on aggression (Table 1.2).
- No gender differences were observed for hostile attribution of intent. Males scored almost equal to females on hostile attribution of intent. Neither main effect of gender nor its interaction with aggression came out to be significant for hostile attribution of intent (Table 1.2).
- Hostile attribution of intent has been found to be higher among individuals high on anger as compared to those who were low on anger (Table 1.5).
- Hostile attribution of intent has also been found to be significantly higher among individuals who were high on physical aggression as compared to those who were low on physical aggression (Table 1.8)
- Individuals high on hostility scored significantly higher on hostile attribution of Intent as compared to those who are low on hostility (Table 1.11).
- Significant higher level of hostile attribution of intent has been found between individuals who were high on verbal aggression as compared to those who were low on verbal aggression (Table 1.14)

In sum, it can be stated that significant main effect of aggression and its all four sub-dimensions were found for hostile attribution of intent. Individuals high on aggression were also found to be higher on hostile attribution of intent. However no significant main effects of gender were found for hostile attribution of intent, showing males and females scored almost
similarly. Thus, both males and females need to be given some intervention to reduce their hostile attribution of intent that would result in reduced aggression levels.

The findings of the study were explained within the framework of social information processing model as it has been considered an important construct in the explanation of human aggression. In the present study, individuals high on aggression showed more hostile attribution of intent as compared to less aggressive ones because aggressive individuals’ social information processing tends to be faulty at encoding and interpretation step. Since, such individuals encode peers’ behaviour as malicious; they experience anger and further insult the peers verbally or physically. On contrary, less aggressive individuals encode non-hostile emotion cues, interpret the peers’ actions as benign, and decide that ignoring the peers’ behaviour would be the most appropriate action. In ambiguous situations, highly aggressive individuals make their social decisions quickly, ignore available social cues, and therefore behave in a maladaptive manner. In a negative situation, aggressive individuals believe that a peer has been intentionally harmful and further retaliate with aggression. Therefore, part I of the study implicated that for controlling aggression, hostile attribution of intent has to be modified. Thus, in the light of other related researches and present findings, a social cognitive intervention based upon a social information processing model was devised and applied on aggressive adolescents in Part II of this study to reduce hostile attribution of intent and other aggressive tendencies.

**Part II**

In Part II of the present research work, a social cognitive intervention was conducted to reduce hostile attribution of intent among aggressive adolescents which is supposed to further decrease tendency to behave aggressively and to reduce other correlates of aggression among both males
and females. For assessing the effect of Intervention on aggressive tendencies, besides Aggression and Hostile attribution of Intent, four other correlates of aggression i.e. Irritability, Impulsivity, Emotional susceptibility and Narcissism were taken as dependent measures.

**Objectives**

The primary objectives were to study the effect of SCI on;

1. Hostile attribution of intent
2. Aggression
3. Irritability
4. Impulsivity
5. Emotional susceptibility
6. Narcissistic features
7. Aggression, hostile attribution of intent, impulsivity, narcissistic features, irritability & emotional susceptibility for both males and females separately

**Hypotheses**

On the basis of review of literature, following hypotheses were formulated.

1. Individuals in experimental group would exhibit less hostile attribution of intent as compared to individuals in control group
2. Individuals in experimental group would exhibit less aggression as compared to individuals in control group
3. Post-intervention scores on hostile attribution of intent and aggression among individuals in experimental group would be significantly less than their pre-intervention scores
4. Individuals in experimental group would show less irritability as compared to individuals in control group

5. There would be less impulsivity among individuals in experimental group as compared to individuals in control group

6. Individuals in experimental group would score less on emotionally susceptibility as compared to individuals in control group

7. Individuals in experimental group would show less narcissistic features as compared to individuals in control group

8. Social cognitive intervention would be effective for both males and females

The sample for Part II of this study comprised mostly of those individuals who were screened in as ‘High on Aggression’ in first part of the study. In Part II, out of Initial 313 individuals (in Part I), 126 aggressive individuals (70 males & 56 females) with mean age of 13.40 (0.86) were selected. After assignment of all individuals into experimental and control group, these two groups were compared on aggression and hostile attribution of intent scores which were obtained while screening aggressive individuals for Part 1 of the study and no significant differences were found between the two groups (Table 2.2), making it comparable groups. Experimental group was then given 6-session social cognitive intervention and to avoid unethical practice, neutral or unrelated issues like study habits, time management, & career selection were discussed with participants in control group.

Social cognitive intervention was designed specifically for the present research work with material and activities appropriate for the age group of 12-15 years. Apart from standard curriculum, subjects were given some home assignment after each session in which they have to note some observation and do some relaxation exercises for which they were trained briefly.
during each session. After fifteen days of last session, one session of general interaction with them was scheduled to get feedback which came out to be very satisfactory & in favor of Social-Cognitive Intervention.

After the intervention, all the aggressive individuals, both in experimental and control groups were administered seven questionnaires, six of dependent measures namely, hostile attribution of intent, aggression, irritability, impulsivity, emotional susceptibility, narcissism and one post experimental questionnaire, to assess the effectiveness of intervention in reducing aggressive tendencies among aggressive individuals. To test the hypotheses, primarily experiment control group design was used to examine the effect of social cognitive intervention; however Pre-post intervention scores were compared for aggression and hostile attribution of intent with the help of one way ANOVA. One way Multivariate Analysis Of Variance (MANOVA) was applied to analyze the significance of difference between experimental and control group collectively on all dependant variables. Further a series of univariate Analysis Of Variance (ANOVA) with 2 levels of Intervention (experimental and control group) was applied to analyze the significance of difference between experimental and control group on all dependent measures for combined sample. Separate one way ANOVAs for both males and females were also calculated.

Results of the study show that social cognitive intervention was effective in reducing aggressive tendencies among adolescents. Main findings of the study were as follows:

- The difference between control group and experimental group on all the variables has been found to be statistically significant proving effectiveness of social cognitive intervention in reducing aggression and its correlates (Table 2.6).
• Individuals who received 6-session intervention showed fewer tendencies to behave aggressively as measured by PEQ than their counterparts in control group (Table 2.3).

• The intervention has been found to be effective in reducing hostile attribution of intent among aggressive adolescents in experimental group. (Table 2.6).

• Individuals in experimental group showed less aggression as compared to control group. Significant difference has been observed between both groups (Table 2.6).

• Irritability has been found to be lesser among individuals in experimental group as compared to those in control group (Table 2.6).

• The effect of intervention is found to be significant for impulsivity as the difference between experimental and control group came out to be highly significant (Table 2.6).

• Significant difference has also been observed between experimental and control group on emotional susceptibility where experimental group showed less extent of emotional susceptibility (Table 2.6).

• On narcissistic features also, individuals in experimental group were lower than those in control group. However difference between these two groups is smaller for narcissism as compared to other variables in the study, but it was able to reach to the significance level (Table 2.6).

• Thus it can be stated that all the hypotheses proved true in present study. Social cognitive intervention has been found to be effective in reducing all the aggressive tendencies measured in the form of six dependent variables i.e. hostile attribution of intent, Aggression, irritability, impulsivity, emotional susceptibility, and narcissism. Experimental group showed significant decrease in all these variables.
• In pre-post intervention comparison, no significant difference was observed in control group on aggression and hostile attribution of intent. However, Post intervention scores in experimental group showed marked decline for aggression scores and hostile attribution of intent. (Table 2.9).

• Both males and females in control groups showed more aggressive tendencies as compared to experimental group as they scored significantly higher on all dependent variables as compared to those in experimental group (Table 2.10 & 2.13).

This difference in all the dependent variables can be explained with the assertions made by attribution and appraisal theories (e.g., Weiner, 1985, 1986; Lazarus, 1991), Social information processing model (Crick & Dodge, 1994), and the General aggression model (Anderson & Bushman, 2002). Findings can be attributed to specific intervention in which faulty cognitions of aggressive adolescents were modified. In the intervention participants were trained to process social information accurately that resulted in reduced hostile attribution of intent and subsequent aggressive tendencies. Therefore, social cognitive intervention can be applied to aggressive adolescents as the present research work has proved its efficacy in reducing aggressive tendencies.