The General Aggression Model

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Aggression is defined as behavior intended to harm another who is motivated to avoid that harm (e.g., Anderson & Bushman, 2002) and is conceived as a continuum ranging from mild (e.g., insult) through moderate (e.g., hitting) to extreme harm (e.g., murder). Various types of aggressive and violent behaviors are commonplace worldwide. Enumerating factors that predict aggression is important and useful at informing interventions. However, the wealth of research on predicting aggressive behavior reveals that no single predictor accounts for much variance in any one aggressive act. Rather, myriad risk factors are likely present in extremely aggressive behaviors. Understanding aggression requires sound theoretical models that account for underlying psychological processes, personality predictors, and situational factors involved in producing inappropriate (and appropriate) aggression. This encyclopedia entry describes one comprehensive model: The General Aggression Model (for further reading, see Anderson & Bushman, 2002; Anderson & Carnagey, 2004; Anderson & Huesmann, 2003; Barlett & Anderson, 2013; DeWall, Anderson, & Bushman, 2011).

The General Aggression Model: Overview

The General Aggression Model (GAM) is a dynamic developmental social-cognitive model of aggression. GAM was derived from the theoretical underpinnings of several domain specific theories of aggressive behavior, including Script Theory (Huesmann, 1988), Social Learning Theory (Bandura, 1973), Cognitive Neo-Associative Theory (Berkowitz, 1993), Social Information Processing Theory (Crick & Dodge, 1994), and others. GAM delineates causal processes that link learned and situational variables to subsequent aggressive behavior. The overall model can be partitioned into two highly related sets of processes. Proximate processes
detail how variables in the immediate situation influence aggressive behavior through changes in state-based thoughts, emotions, arousal, and decision processes. Distal processes detail how repeated learning episodes develop into long-term aggressive tendencies that shape personality.

**General Aggression Model: Proximate Processes**

**Input Factors.** Proximate processes in GAM begin with two types of inputs: Situational and person factors. Situation factors are variables in the immediate social environment that likely foster (or inhibit) aggressive behavior. Many such factors have been identified, such as provocation, alcohol consumption, heat, media violence, and others. Person factors are variables that the person brings with them to the situation, such as dispositional characteristics related to aggression (e.g., disagreeableness, trait aggression), beliefs, attitudes, and mood.

**Present Internal State.** The input factors influence aggression by influencing at least one of the three types of present internal state variables: aggressive cognition, aggressive affect, and physiological arousal. Internal state variables are inter-correlated, each influencing the others. For example, hot temperatures increase aggressive behavior primarily by increasing aggressive affect and arousal, whereas media violence seems to increase aggression primarily by increasing aggressive cognitions. Additionally, person and situational input factors may influence internal state variables (and therefore aggression) either additively or interactively. For example, presence of hunting guns increases aggression by one type of person (e.g., nonhunters) while having little impact on another (e.g., hunters) (Bartholow et al., 2005).

**Outcomes.** Input factors affect the next GAM stage – appraisal and decision processes – through changes in internal state. This stage of GAM includes several complex appraisal and decision processes that range from automatic to more controlled. The process begins with an immediate appraisal (or attribution) regarding an event. This immediate appraisal is largely
automatic — relatively effortless, spontaneous, and without awareness. Such immediate appraisals have implications for behavior. For example, if the event is some type of harm (e.g., getting bumped) and the immediate appraisal implies that it was intentional; the implication is that some type of retaliation or escape behavior is needed. If no further processing of the event occurs, the ensuing behavior will be impulsive. However, if three conditions are met then further effortful processing takes place: there must be sufficient time, cognitive capacity, and motivation to accurately appraise the event to trigger reappraisal processes. In other words, if an individual is satisfied with the immediate appraisal, or the immediate appraisal is deemed unimportant, or there is insufficient time or cognitive capacity, then the immediate appraisal stands as a guide to behavior.

Re-appraisal is defined as actively seeking out additional information to clarify one’s current feelings and/or the environment and is a highly controlled cognitive process. One or several re-appraisal searches may occur. At some point the re-appraisal process concludes and the ensuing behavior is termed thoughtful.

Note that re-appraisal does not guarantee a non-aggressive outcome. Indeed, the re-appraisal process may confirm an immediate hostile appraisal, or even come up with a more hostile interpretation and rumination processes that can yield an even more seriously aggressive behavior. However, if an alternative view of the situation is generated, one that is not hostile, the result will be thoughtful non-aggressive behavior.

In sum, the proximate processes delineated by GAM flows as follows: event —-> input factors —> immediate appraisal —> re-appraisal (if necessary) —> thoughtful or impulsive behavior, either or which can be aggressive or non-aggression. Furthermore, whatever behavior is enacted feeds back into the situational input of the next episodic cycle. Also, the consequences
of the behavior (i.e., how others respond, success, failure…) feeds into long term distal processes.

General Aggression Model: Distal Processes

A single episodic cycle of the proximate processes acts as a learning trial. Using a developmental lens, GAM delineates how multiple learning trials influence the development of aggression-related knowledge structures and subsequent aggressive personality. GAM postulates that repeated learning, rehearsal, and positive reinforcement of aggression-related events influence the accessibility, ease of activation, and automatization of several aggression-related knowledge structures. Although not an exhaustive list, GAM explicitly includes (a) aggressive attitudes and beliefs, (b) aggressive expectation biases, (c) aggressive behavioral scripts, (d) aggressive perceptual schemata, and (e) desensitization processes.

One distal learned knowledge structure is the formation of aggressive attitudes and beliefs. GAM predicts that continued positively reinforced aggressive behaviors will lead to the development of aggressive attitudes and beliefs. If one learns that aggression is acceptable, that such behavior is not punished and that it sometimes is rewarded, then the more positive beliefs about and feelings towards using aggression in the future result.

A second learned aggression-related knowledge structure is the formation and automatization of aggressive behavioral scripts (Huesmann, 1988). Scripts are mental representations of the usual progression of events typical social situations. Such behavioral scripts provide people with a mental “road map” for how a social event or interaction is likely to unfold. When activated, scripts guide interpretations of observed events as well as one's own subsequent behavior. Rehearsal of scripts that end in aggression increases the likelihood that such scripts will be activated in similar future social interactions. If those scripts include
successful outcomes from behaving aggressively, and fail to include other harmful side effects (such as pain and suffering of others, or oneself), then such aggressive scripts will likely be used to guide behavior. With repeated practice, aggression-facilitating scripts can become highly accessible and automatized, effectively pushing non-aggressive scripts which could be used to defuse conflict situations out of consideration.

Similarly, aggressive perceptual and expectation schemata can be formed. Perceptual schemas are used to identify everything, from common objects (e.g., chair) to complex social situations (e.g., provocations). Related to aggression, the accessibility of aggressive perceptual schemas is related to the interpretation of ambiguous situations as aggressive, rather than benign. Aggressive expectation schemas are knowledge structures where individuals tend to infer or perceive hostile intent from other’s behavior. In other words, we expect others to behave in an aggressive manner towards us (e.g., the hostile attribution bias). This has clear implications for aggression, because if we expect a passerby to physically attack us, or misattribute hostile intent where there was none, we become more inappropriately aggressive ourselves.

Another developmental aspect of GAM concerns emotional reactions to scenes or thoughts about violence. Specifically "desensitization" is defined as a decrease in emotional reactivity to real life violence, often indexed by emotion-related physiological measures such as heart rate and skin conductance. Media violence has been found to produce such desensitization to real violence, resulting in lowered empathy and less helping towards victims of violence, and increased aggressive behavior. The latter effect likely results from the lack of negative emotional reactions to thinking about and choosing aggressive scripts to enact.
The General Aggression Model postulates that the continued development, rehearsal, and automatization of these (and perhaps other) pro-aggressive knowledge-structures leads directly to increases in what is generally termed "aggressive personality." In short, knowledge structure changes become a part of one’s constitution, and these changes in personality feed back into the proximate GAM processes as a person input variable.

**General Aggression Model: The Whole Picture**

A strength of the General Aggression Model is the developmental interplay between the proximate and distal processes. GAM predicts that each cycle of the proximate processes serves as a learning trial. If aggression is reinforced in many or most such learning trials (including observational learning), then the distal processes lead to increased accessibility and favorability of aggression-related knowledge structures—the person becomes more aggressive at the personality level. Thus, situational variables (e.g., repeated exposure to aggression, in the home, community, or school, as well as through media) can increase aggressive personality over time; in turn, the increased aggressiveness of one's personality later influences the proximate processes by changing the person input factors.

Similarly, GAM also notes that the development of an aggressive personality can even influence the *situational* input variables within the proximate aspect of GAM. Aggressive individuals sometimes seek out activities and friends that are antisocial in order to reaffirm their aggressive tendencies. They also change the aggressiveness of common, everyday interactions, turning them into conflict situations and forcing others to behave aggressively towards them.

GAM explicitly notes that distal learning processes are affected by biological and environmental modifiers, variables that likely change the developmental learning trajectory of aggression-related stimuli. For instance, being maltreated as a child (environmental variable) has
especially harmful effects on those with certain genetic profiles, dramatically increasing violent criminality.

**Conclusion**

The General Aggression Model is a useful at predicting the likelihood of a single aggressive episode and the development of an aggressive and violent personality (Daffern, et al., in press). Its strength lies in its integrative nature of other domain specific aggression theories, ability to incorporate both short-term and long-term learning processes, level of sophistication regarding mediating processes, and level of understanding regarding complex interactions between myriad situational and personality variables that predict such a complex social behavior as aggression.

**References**


