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An integrative theoretical understanding of aggression: a brief exposition

L Rowell Huesmann

Institute for Social Research, The University of Michigan, 426 Thompson St., Ann Arbor, MI 48106-1248, USA

Abstract

Like other social behaviors, aggressive behavior is always a product of predisposing personal factors and precipitating situational factors. The predisposing factors exert their influence by creating encoded social cognitions including schemas about the world, scripts for social behavior, and normative beliefs about what is appropriate. These social cognitions interact with situational primes to determine behavior. These social cognitions are acquired primarily through observational learning; so youth who are repeatedly exposed to violence will acquire social cognitions promoting aggression that last into adulthood. Thus, violence can be viewed as a contagious disease which can be caught simply through its observation.

An aggressive behavior is a social behavior intended to injure or irritate another person [1,2] There are four important principles about aggressive behavior that underlie a modern understanding of its occurrence.

First, aggressive behavior, like other social behaviors, is always the product of personal predispositions and precipitating situational determinants.

Second, habitual aggressive behavior usually emerges early in life, and early aggressive behavior is very predictive of later aggressive behavior and even of aggressive behavior of offspring [3,4•,5]. The more aggressive child tends to become the more aggressive adult.

Third, predispositions to severe aggression are most often a product of multiple interacting environmental and biological factors [6] including genetic predispositions, brain trauma and neurophysiological abnormalities, early temperament or attention difficulties, abnormal arousal levels, harsh social environments including family violence, poor parenting, inappropriate punishment, poverty and stress, violent peer-groups and other factors. No one causal factor by itself explains more than a small portion of individual differences in aggressiveness.

Fourth, early learning plays a key role in the development of a predisposition to behave habitually in an aggressive or nonaggressive manner. Most children need to be socialized out

Corresponding author: Huesmann, L Rowell (huesmann@umich.edu).

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of the aggressive inclinations stimulated by the normal or abnormal personal factors mentioned above and taught self-control. The most important learning process for socialization of a youth out of or into aggression is undoubtedly observational learning.

Social information processing

Building on the earlier theoretical formulations [7,8••,9], aggression researchers have established a number of principles of social information processing that explain much better than ever before how predispositions to aggression develop and how situations interact with these predispositions to cause aggression [10–12,13••,14•,15,16].

The principles are best understood by viewing social interactions as a series of social problem solving situations. Individuals – whether children or adults – go about solving social problem rather systematically. The process is summarized in Figure 1.

The process begins with evaluation of the social situation. This is followed by the retrieval of social scripts. Aggressive people have a larger repertoire of aggressive scripts; so they are more likely to be retrieved first. However, the likelihood of a particular script being retrieved is affected by one's interpretation of the social situation as well as one's mood state. If either of these prime a script, the script is more likely to be retrieved. For example, perceiving a situation as hostile will prime aggressive scripts [17•]. Similarly, the presence of a weapon in a situation will make using aggressive scripts more likely [18–20].

A retrieved social script must pass through several filters before it is followed. These filters include evaluations of the likely outcome of using the script – both objective outcomes and emotional outcomes – and whether the script is congruent with the person's normative beliefs. Peoples' normative beliefs tell them what is 'OK' or appropriate to do in a social situation [21]. For example, if a man suddenly discovers that his wife has been unfaithful and retrieves a script for hitting her.; he probably will not hit her if he has a normative belief against hitting females. He is showing 'self-control' by rejecting the impulse to hit her, and it is due to his having strong normative beliefs against hitting females. More aggressive people generally have normative beliefs more accepting of aggression.

The process ends with the decision to behave in a certain way, followed by a post-hoc self-evaluation of the consequences (objective and emotional) of behaving that way, which can lead to modification of social cognitions.

Three particularly important knowledge structures used in this process are stored within a person's associative memory: (1) their schemas about the world used to evaluate social situations, (2) their repertoire of social 'scripts' [22] and (3) their normative beliefs about what are appropriate behaviors for them [21]. Any of these knowledge structures can be modified by the person as the result of the outcomes of a particular social problem solving situation. However, these knowledge structures are most often initially acquired and encoded in memory through observational learning as described later in this chapter.

The role of emotions

It would be a mistake to interpret the above social-cognitive processes as independent of emotional processes. Emotional states affect these processes, and these processes affect emotional states. First, some of the most serious aggressive acts are driven by angry emotions derived from attributions people make about the situation. Second, a person's current emotional state is always one factor that primes the scripts used to solve a social problem. Thus, experiencing an aversive situation instigates anger and aggressive inclinations in many individuals. Third, emotions play a role in the filtering of retrieved scripts to decide whether the script is appropriate to use. If one retrieves a potential script that 'feels bad' when one thinks about it, one is less likely to use it. Consequently, 'desensitization to violence' [23,24] becomes important in affecting risk of aggression. Blood and gore is aversive for most young children, which makes aggressive scripts undesirable. However, the more youths are exposed to violence, the less negative emotions they will experience when thinking about violent scripts, and the more positively they will evaluate violent scripts.

Biological influences on aggression

As mentioned at the start of this article, a variety of biological factors predispose individuals to behave aggressively. However, these biological factors exert their influence on social behavior by affecting social and emotional information processing. Furthermore, most of their influences on aggression are not deterministic effects but rather probabilistic effects. Additionally, many factors only have an effect that is interactive with environmental factors. For example, one study found that having a genetic abnormality that causes lower brain monoamine oxidase only results in increased adult aggression when the child grows-up in a harsh parental environment [25••].

Tempermental and personality predispositions to aggression

Some early individual differences not clearly connected to biology also have an influence on later aggression. For example, toddlers whose temperament appears more fearless seem to grow up to be more aggressive, perhaps because they have less anxious arousal about aggression. Young children who have difficulty delaying gratification tend to be more aggressive later, perhaps because they do not process information deeply. Adults who score high on psychopathy are at higher risk for behaving aggressively, probably because they do not feel negative emotions when they evaluate aggressive scripts. Adults who score high on narcissism (sense of entitlement) behave more aggressively when threatened or provoked [26•], probably because they feel more attacked because they have an inflated sense of self-entitlement.

Socialization (learning) processes influencing aggression

A major task for parents (and society) during any child's development is socializing the child to behave appropriately. Most humans peak in physical aggression at peers (*e.g.*, hitting, shoving, *etc.*) when they are about two years old [27], probably because aggression

yields tangible immediate rewards for them. Thus, they need to be socialized out of aggression. Socialization requires the learning of new connections between social stimuli and social schemas, scripts, and normative beliefs on which social problem solving and social behaviors are based.

Observational learning

Fifty years ago, it was generally accepted that the most important socialization processes were the operant and classical conditioning of the child to behave appropriately by parents and society. We now know that an even more powerful socialization process is observational learning [8••,19•,28••]. Indisputable evidence has accumulated that human and primate young have an innate tendency to mimic whomever they observe [29,30•]. Young children automatically mimic the expressions on their parents' faces, which leads to the automatic activation of the emotion that the parent was experiencing, as expressions are innately linked to emotions [31,32]. Such mimicry of parents' facial expressions aids socialization of the child because they automatically feel happy when a parent is pleased and smiles at them, and they automatically feel sad when a parent is displeased and frowns at them. Children mimic expressions in early infancy and then imitate behaviors by the time they can walk. Imitation is defined as delayed copying of a behavior and represents a higher order cognitive process that simply mimicry. Thus, the hitting, grabbing, pushing behaviors that young children see around them in the family, peers, neighborhoods, or in the mass media are often mimicked immediately and then imitated later. In social information processing terms, the script they observed is mimicked and then encoded for later use.

After imitation results in the encoding of simple social scripts in young children, social interactions hone these scripts through conditioning. As the toddler matures through childhood and adolescence, observational learning becomes more complex and through inferential processes results in the encoding of more elaborate scripts, world schemas, and normative beliefs. Children infer the normative beliefs and world schemas others hold from observations, and then encode them for their own use. Much of this learning takes place automatically [33] without an intention to learn and without an awareness that learning has occurred [34,35]. Repeated observations strengthen the encodings; so the learned social cognitions persist to influence behavior even years later in adulthood.

A variety of factors affect the likelihood of observed social information being encoded into lasting social scripts, normative beliefs, and schemas about the world: the saliency of the scene to the observer, whether the observer identifies with the model, whether the context is realistic, and whether the viewed behavior is rewarded [36,37••].

Environmental influences

Given these principles of how social information processing influences social behavior and specifically aggression and how the social cognitions are acquired that have lasting influence on one's social information processing, let us turn to a brief discussion of the two ways environmental factors influence aggression. Figure 2 illustrates the categories of environmental factors that influence social behavior including aggression. First, situational instigators prime emotions, world schemas, scripts, and normative beliefs during the social

problem solving process. Thus, people are more likely to use aggressive scripts in situations that prime aggressive related emotions or cognitions. Second, the environment in which a child grows up molds the child's lasting social cognitions through observational learning and also through conditioning. An environment for a child that is rich with violence and that provides little monitoring, discipline, or exposure to pro-social behavior is one in which predispositions to aggressive behavior are socialized in children over time until they become habitual and resistant to change. On the other hand, an environment for a child that provides monitoring, appropriate contingent discipline, and exposures to pro-social behaviors, and that protects the child from exposures to violence, is one in which children are socialized out of aggression. Once social cognitions supporting aggression or non-aggressive behavior are acquired and firmly encoded by youth in critical periods of development, they resist change; consequently, the more aggressive child generally grows up to be the more aggressive adult.

Summary: the contagion of aggression and violence

Perhaps the single most important summarizing principle to take away from this review is that violence is like a contagious disease [38]! The mode of infection with violence, however, is different from most diseases. You do not need to be near someone who is infected with violence to catch it; you only need to observe it. Violence begets violence in multiple domains. The contagion of violence occurs within families. The contagion of violence occurs within peer-groups. The contagion of violence occurs within neighborhoods and communities. The contagion of violence occurs through the mass media. Children catch violence from their parents, peers, and mass media. The more violent people you are exposed to in any domain, the more likely you are to catch violence. As Figure 3 illustrates, because of the power of observational learning, youth can easily fall into a downward spiral of contagion of violence.

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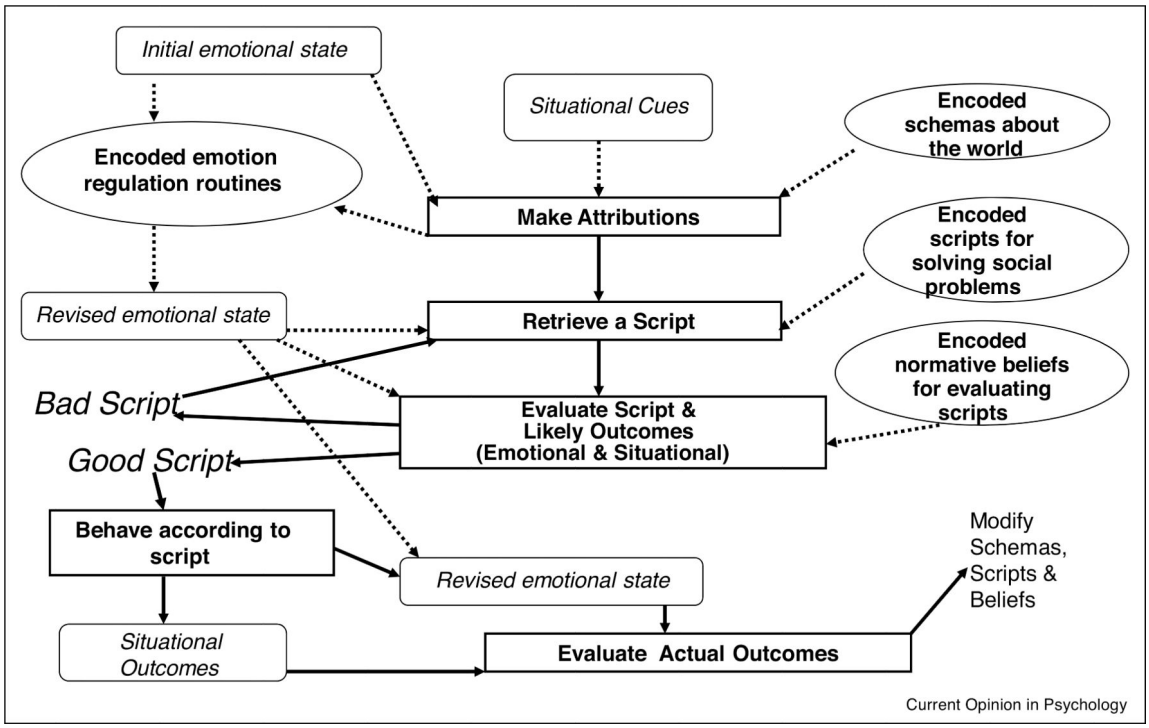

Figure 1.
Information processing steps for social problem solving.

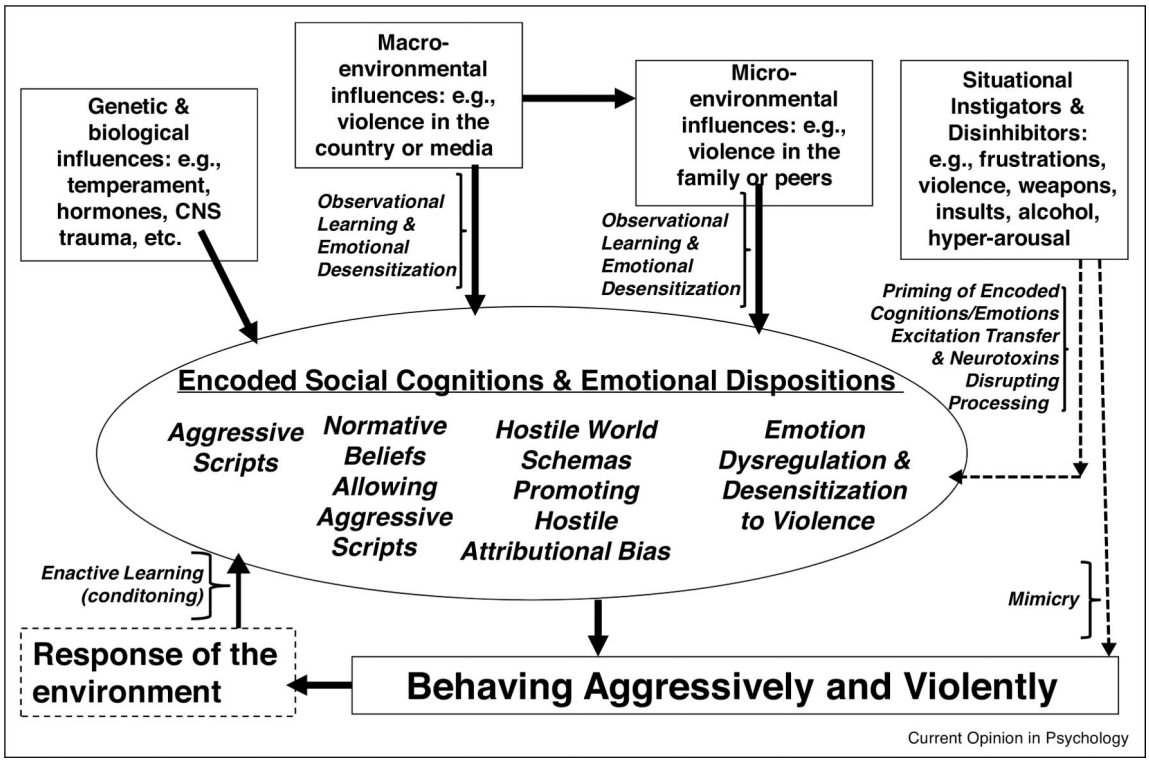

Figure 2.

The psychological processes that promote aggressive behavior and the external inputs to the processes.

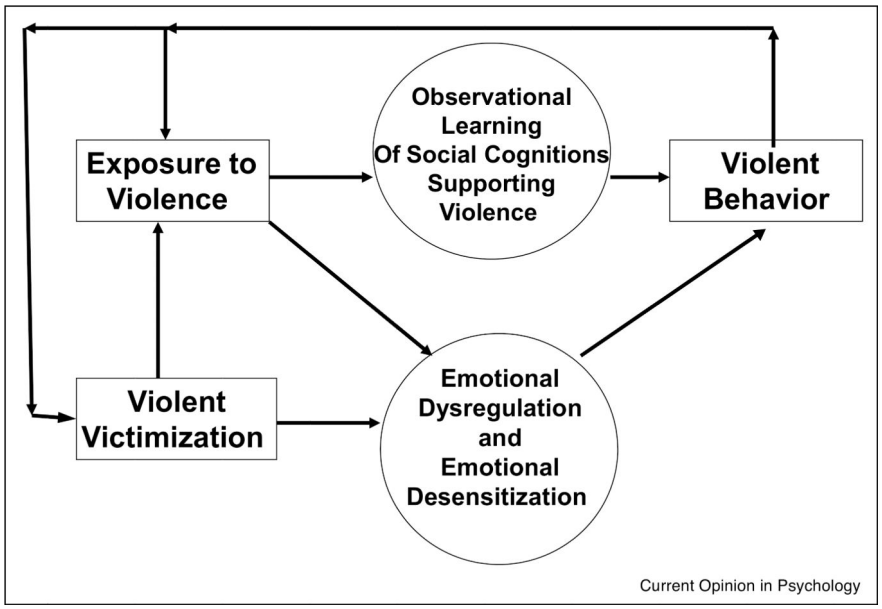

Figure 3.
The downward spiral of contagion of violence through observational learning.