

Aggressive Behavior

New Research

RENAUD BODINE
DANIELLE R. BUCHER
Editors

Psychology of Emotions, Motivations and Actions

NOVA

PSYCHOLOGY OF EMOTIONS, MOTIVATIONS AND ACTIONS

AGGRESSIVE BEHAVIOR

NEW RESEARCH

RENAUD BUCHER

AND

DANIELLE R. BUCHER

EDITORS





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PREFACE

Aggression, as a psychologically hostile and violent behavior, is an act intended to cause physical, mental or social harm, particularly between members of the same species. While we often think of aggressive behavior as physical violence, psychologists also consider instances of a more subtle nature. For example, using rumor to damage another's reputation and public ridicule are both forms of social aggression. In this book, the authors present current research in the study of aggressive behavior. Topics include evolutionary perspectives on aggression; impulsive-aggressive behavior in adolescents; new methods for predicting dominant individuals in mammalian social structure (Sazepuri method); dealing with aggressive patients in healthcare; children's aggressive behavior in cultural context; and prenatal smoking, anger regulation and impulsive aggressive behaviors.

Chapter 1 – This chapter proposes a discussion about the role of anger and aggressive behaviours in psychopathology, namely paranoia, social anxiety and depression. Early evolutionary perspectives on aggression have been arguing that aggression stems from an “inherited” fighting instinct. Aggressive behaviours thus serve an evolutionary purpose. Fighting serves to maximise resources, compete over potential mates and ensure genetic inheritance, maintain social status and the status quo, etc. Newer evolutionary theories of aggression have also argued that over time the effects of social competition on aggression suggest that aggression and violence may be a result of competition over scarce resources. Indeed, under the light of social rank theory humans have evolved into a social hierarchy where certain roles and behaviours have specific functions, such as maintaining the social order and promote resource allocation. Higher rank individuals commonly show aggression towards subordinates to promote compliance and lower rank individuals also develop

feelings of resentment and anger but they may choose not to display them, with fear of retaliation.

This type of arrested anger is a common feature of social phobia and depression. On the other hand, authors also have been arguing that the evolution of aggressive behaviours may lead to paranoid ideation. Paranoia is an interpersonal fear that is characterised by feelings of suspicion of others. Most individuals that show paranoid ideas tend to present hostility towards others, resentment and anger.

Evolutionary accounts thus argue that individuals who are paranoid have developed aggressive feelings and behaviours to defend themselves against the perceived threat and this helps to maintain their paranoid schemata. Their defensive strategies are seen to be a result of the evolved mechanisms of fight vs. flee. An aggressive and hostility view of the world will lead to paranoid ideas and vice-versa, implementing a vicious circle.

Chapter 2 – Among adolescents, some level of aggressive behavior may be considered “normal”, or perhaps even adaptive. However, pathological levels of impulsive-aggression can be disastrous for adolescents, their families, their communities, and society in general. In this chapter, the authors review the state of research on pathological, impulsive-aggressive behavior among adolescents.

The review contains information on incidence and prevalence in the United States, as well as the proposed etiology of impulsive-aggression and its neurological correlates. In these domains, impulsive-aggression is compared with other related diagnoses such as premeditated-aggression and conduct disorder. Issues related to diagnosis of impulsive-aggression are addressed, and a number of empirically-supported treatment options are described. Finally, future directions for research and intervention are discussed.

Chapter 3 – Formation of social hierarchy is characteristic for all of the species with established model of social organization and social behavior. This is a highly relevant issue, as formation of social hierarchies is often accompanied by violence, and violence and aggression are among the most serious problems facing humanity.

In the process of investigation of predictors of dominance majority of the researchers focus on characteristics like animals age, body mass, “weapon” size. Indeed, all of these parameters contribute to the determination of the hierarchic status of an individual. However, in the framework of the project the authors are interested not in physical parameters but in individual’s emotional/cognitive features. The goal of the present study is to define the traits of an organism which determine its certain position in social hierarchy.

For the accomplishment of the goal of the present study, the authors set the following objectives:

- 1 Definition of the “basic” parameters (preexisting before establishment of hierarchic relationship) of aggression, anxiety, physical working capacity, explorative activity, learning ability and etc.
- 2 Determination of hierarchic rank of each of the rats after establishment of hierarchy.
- 3 Statistical analysis of the relation of “basic” properties of the animal to its hierarchic rank and their relative contribution for establishment of dominance pattern.

Considering necessity of investigation of above-mentioned parameters, the authors designed the following structure of an experiment.

Chapter 4 – The impact of aggressive behaviour on health care staff has been an important focus for research over the past two decades. Patient aggression, both physical and verbal, has been shown to cause long term psychological effects, and on some occasions post traumatic stress disorder in affected staff members. Moreover, the threat of possible aggression or violence has been identified as a major stress factor for nursing staff and a potential cause of career burnout. The aim of this chapter is to determine, using systematic review, the extent to which patient-based aggression can impact job performance and patient safety in healthcare.

Past research indicates that rudeness or incivility (verbal aggression) can have an adverse impact on task performance. This incivility also had an impact on helpfulness, with participants who experienced rudeness being less likely to offer a helping hand during the experiment. A similar effect was also found when individuals witnessed incivility directed at someone other than themselves. This adverse effect on task performance has been linked to negative affect, or more specifically negative emotions which are high in arousal, such as anger and fear. Essentially, the perceivers attention becomes focused on the source of these emotions, usually the aggressor, reducing the attentional resources available for other tasks. When this theory is applied to healthcare it becomes obvious that patient-based aggression could have an adverse impact on task performance, with potentially negative ramifications for patient safety.

The final section of this chapter focuses on a recent study which sought to evaluate the impact of aggressive patients on community pharmacists in Scotland, with the aim of encouraging future research in this area.

Chapter 5 – Being a major aspect of socioemotional functioning, aggressive behavior has received much attention from researchers because of its significance for children's adjustment. Research has indicated that although aggression is a universal phenomenon of human species, children across cultures may differ in the exhibition of aggressive behavior in specific situations. Children in different societies may also differ in the forms of aggression. Cultural norms and values may influence the functional meanings of aggressive behavior in social interactions and its associations with adjustment outcomes. Researchers need to investigate in the future both macro-level and micro-level processes in which culture influences the development of aggressive behavior. It will also be important to explore some culturally unique or indigenous forms of aggressive behavior such as group-level aggression in collectivistic societies.

Chapter 6 – Maternal smoking during pregnancy has been consistently linked to a range of mild to severe aggressive behaviors among offspring across the life course. It has been suggested that exposure to cigarette smoke toxins during the prenatal period may cause deficits in the developmental fetal brain that subsequently lead to disruptive behaviors, whereas the precise pathway remains unclear. The authors recently proposed that anger, as a prelude of aggression regulated by the central nervous system, may mediate the link between exposure and increased impulsive aggressive behaviors. The present chapter will provide a summary of the evidence that may either support or challenge the plausibility of the hypothesis. Consistent with the hypothesis, maternal smoking during pregnancy had been reported as associated with increased levels of anger temperament, irritability, and negativity. Altered structure of the prefrontal cortex that was important for emotion regulation was found among the exposed individuals. Anger regulation, aggression and violence may share common neural substrates; individuals with deficits in neural circuitry responsible for anger regulation may be predisposed to aggression and antisocial behaviors. In addition, findings from recent studies utilizing advanced statistical methods to examine the association between exposure and antisocial behaviors that was not consistent with the hypothesis will be discussed.

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Chapter 1

**EVOLUTIONARY PERSPECTIVES
ON AGGRESSION:
CLINICAL IMPLICATIONS**

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*“Anger is an acid that can do more harm to the vessel in which it is
stored than to anything on which it is poured.”*

Mark Twain

ABSTRACT

This chapter proposes a discussion about the role of anger and aggressive behaviours in psychopathology, namely paranoia, social anxiety and depression.

Early evolutionary perspectives on aggression have been arguing that aggression stems from an “inherited” fighting instinct. Aggressive behaviours thus serve an evolutionary purpose. Fighting serves to maximise resources, compete over potential mates and ensure genetic inheritance, maintain social status and the status quo, etc. (Lorenz, 1966).

Newer evolutionary theories of aggression have also argued that over time the effects of social competition on aggression suggest that aggression and violence may be a result of competition over scarce resources (Belsky, 1992). Indeed, under the light of social rank theory humans have evolved into a social hierarchy where certain roles and behaviours have specific functions, such as maintaining the social order and promote resource allocation (Gilbert 2002). Higher rank individuals commonly show aggression towards subordinates to promote compliance and lower rank individuals also develop feelings of resentment and anger but they may choose not to display them, with fear of retaliation (Gilbert 2002). This type of arrested anger is a common feature of social phobia and depression.

On the other hand, authors also have been arguing that the evolution of aggressive behaviours may lead to paranoid ideation (Gilbert et al., 2005). Paranoia is an interpersonal fear that is characterised by feelings of suspicion of others. Most individuals that show paranoid ideas tend to present hostility towards others, resentment and anger (Combs and Penn, 2004). Evolutionary accounts thus argue that individuals who are paranoid have developed aggressive feelings and behaviours to defend themselves against the perceived threat and this helps to maintain their paranoid schemata. Their defensive strategies are seen to be a result of the evolved mechanisms of fight vs. flee (Gilbert et al., 2005). An aggressive and hostility view of the world will lead to paranoid ideas and vice-versa, implementing a vicious circle.

1. INTRODUCTION

Aggression, as a psychological hostile and violent behaviour, is an act intended to cause physical, mental or social harm, particularly between members of the same species. While we often think of aggressive behaviour as physical violence, psychologists also consider instances of a more subtle nature. For example, using rumour to damage another's reputation and public ridicule are both forms of social aggression.

Psychologists commonly agree that there are two types of aggression: instrumental and emotional. Instrumental aggression is an inflicted harm as a means to some other goal other than causing pain. Other goals include personal gains, self-defence or to gain attention. Usually instrumental aggression is precipitated either by immediate conditions e.g. the opportunity to gain with high reward of low perceived risks or by long term conditions e.g. poverty or other challenging behaviours that leads to aggression (e.g. stealing),

the perception of crime as a primary means of respect (e.g. gang behaviour) or when norms foster aggression as way to achieve resources.

Emotional aggression on the other hand is self serving inflicted harm to others. In other words, the goal of emotional aggression is to cause pain to others. Emotional aggression can be calm but usually is calculated and has the purpose of inflicted pain and harm. The immediate conditions that precipitate emotional aggression are a perceived threat to one's self esteem, status or respect, especially in public situations, or as a way to save face and maintain status and power over others.

Aggression is associated to feelings of anger and negative attitudes towards other such as hostility. Anger is the underlying feeling of great annoyance and antagonism or hostility towards others. Anger has varying degrees. It can be rage, which tends to be explosive implying some kind of destructive action or it can be resentment and this refers to a more smouldering indignant type of anger generated from some kind of grievance, or sense of injustice.

It is important to start this chapter by distinguishing aggression from anger because the two terms have been entwined but they refer to different things. Anger is a feeling whereas aggression is behaviour and usually implies an action. One can be angry without being aggressive. This is called the state of arrested anger. People that are feeling arrested anger are angry people but they do not display their feelings of anger instead they tend to restrain them and keep these feelings bottled up (Gilbert, 2002).

We are going to argue during this chapter that feeling anger and or being in a state of arrested anger is as detrimental psychologically as being aggressive, and this may lead to the development of mental health problems such as depressive symptoms.

1.1. Evolutionary Theories of Aggression

Evolutionary psychology provided an interactionist model for viewing the origins of aggression (see Huesmann and Eron, 1989, for a different interactionist model, focusing on the interplay of genetic dispositions, observational learning, and cognitive scripts).

According to evolutionary psychology, all human behaviour is a product of mechanisms internal to the person, in conjunction with inputs that trigger the activation of those mechanisms. Even the simplest behaviours require both a mechanism and an input. Moreover, all psychological mechanisms, at some

fundamental level of description, owe their existence to evolution by selection. Whatever mechanisms humans have whether they are just a few highly general learning mechanisms or a larger number of Lorenzian instincts, or different ones altogether - they originated through the process of evolution by natural or sexual selection. Selection is the only causal process powerful enough to produce complex organic mechanisms (Cosmides and Tooby, 1994; Daly and Wilson, 1983; Tooby and Cosmides, 1992).

Evolutionary theory thus works under the assumption that certain human psychological traits are species typical and have evolved relative to changing conditions in the environment.

This is where many social psychologists study aggression as a response to specific conditions in the environment. Therefore the study of aggression is largely the discovery of environmental behaviour relationships with intervening psychological processes. Advances in human biology offer possibilities of better understanding of socio-biological underpinnings, however earlier biological approaches involved addressing the issue differently. An example of this is the case of an aggressive act where a man has lost his girlfriend due to an affair. He drinks at his local bar and thinks about the girlfriend and the man that had the affair. He becomes angry and drives to the man's house and attacks him. Those who prefer the biological approach see this aggressive behaviour as having a biological basis, whether it is in the brain or in the genes. Thus the primary determinant of aggression arising from biology sees aggression as innate behaviour, and therefore inevitable.

An early advocate of aggression as a biological trait was Freud (1920, cited in Baron and Byrne 2000). He believed that aggression was inevitable as it was the individuals *Thanatos* (the will to die) turned outward, which created ones aggression. He believed that some individuals were naturally more aggressive than others, making aggression, for some an inevitable emotion.

Following Freud, ethological theories studied the biological explanations of animal aggression (Lorenz, 1966). According to ethological theorists, aggression may be involved in the gaining and securing of territories and other resources including food, water and mating opportunities, as well as to protect the self or offspring. Direct aggression can involve bodily contact such as biting, hitting or pushing. Threat displays and intimidating thrusts may also be classed as aggression, and the majority of conflicts are settled in this way; including through display of body size, antlers, claws or teeth; stereotyped signals within a species; vocalizations including bird song; chemicals;

pigments, and aggressive facial expressions. The concept of *agonistic behaviour* may alternatively be used to refer to all of the above.

Additionally, many ethnologists believe that in the animal kingdom, aggression does have certain biological advantages. For instance, hostile behaviour forces a population of animals into new territories. These animals have to adapt to these new environments which increases the genetic flexibility of the concerned species. Another advantageous situation, which arises via aggression, is evident in the mating rituals which involve the male species fighting one another in order to mate with a subsequent female. This perpetuates the selection of the healthier/more vigorous animal.

The ethological perspective argued that in the same way as animals, humans are biologically programmed to be aggressive. Their aggressive energy is an instinctual drive that builds up until it explodes. Aggression is therefore a necessary fighting instinct for competition and survival. Many individuals live in high density areas which lead individuals to aggress externally.

Most social psychologists have since criticised the ethological theories of aggression and have been arguing that they were too simplistic (Berkowitz, 1993). It has been argued that aggression is multifaceted and that instinctive tendencies must likely interact with other factors e.g. environment, context to produce aggression. Also there are cultural differences in aggression that are not accounted for by ethological theories. The instinctual theory assumes that there is a worldwide consistency of aggressive behaviour, whereas there are individual and cultural differences in their aggressive behaviours. Ethological theories only focus as well on one type of aggression, physical aggression; however there are many types of aggressive behaviour, e.g. spreading rumours, passive-aggressive, direct verbal aggression, etc. Since the ethological theories of aggression there were developments and aggression has been perceived not as an instinct anymore but as an adaptive strategy.

Since earlier biological and ethological theories of aggression, modern theories of evolutionary psychology have been claiming that psychological mechanisms are fashioned by selection processes to solve adaptive problems. Fitness is defined in its modern form as "inclusive fitness" (Hamilton, 1964) and does not correspond to intuitive notions of well-being, personal happiness, or adjustment, nor to long-discarded notions of "the good of the species" (Cosmides and Tooby, 1994).

The analysis of adaptive problems that arose ancestrally has led evolutionary psychologists to apply the concepts and methods of the cognitive sciences to scores of topics that are relevant to the study of emotion, such as

the cognitive processes that govern cooperation, sexual attraction, jealousy, aggression, parental love, friendship, romantic love, the aesthetics of landscape preferences, coalitional aggression, incest avoidance, disgust, predator avoidance, kinship, and family relations (for reviews, see Barkow, Cosmides, and Tooby, 1992; Crawford and Krebs, 1998; Daly and Wilson, 1988; Pinker, 1997).

That being said, modern accounts of evolutionary psychology have been arguing that aggressive behaviours served an evolutionary purpose. According to these theories aggression has a function and has evolved to solve adaptative problems in animals and humans (Buss and Schakelford, 1997). So humans have evolved to inflict costs in other humans so that they could solve an array of problems.

The evolutionary theory and research into the effects of competition on aggression suggest that aggression and violence may be a result of competition over scarce resources. Whipple and Webster-Stratton (1991) found that physically abusive families were significantly more low income than nonabusive families.

Belsky (1993) argued that when resources are scarce, by physically abusing the child the parent may be attempting to prevent the child from forcing them into allocating resources which would be at a sufficient cost to themselves and other offspring with more reproductive potential. This idea that the parent attempts to reserve resources for the offspring which have more reproductive potential may explain why in some cases only one child within a large family is abused, or at least abused more than other children in the same family.

In general, the evolutionary theory may offer a possible explanation as to why aggression and violence in society is increasing. Evolutionary theory stresses that high population density results in competition, which subsequently results in aggression. The population is generally increasing; in the UK the population has grown by 7.7% since 1971 (National statistics, 2006). Research has demonstrated that aggression often increases with overcrowding (Schopler and Stockdale, 2005).

Hence aggression serves an evolutionary purpose. According to evolutionary psychology aggression is an evolved domain specific program specialized for solving a different adaptative problem that has appeared during humanoid evolution history. Aggressive programs are activated by a different set of cues in the environment (internal and external cues). Fight behaviours that are a direct consequence of activating the aggressive program are intended

to compete for resources and thus increase the probability of survival and success.

In evolutionary psychology there are certain areas where aggression has been used as a way to solve adaptative problems. These are:

1.1.1. Co-Opt the Resources of Others

Humans, perhaps more than any other species, stockpile resources that historically have been valuable for survival and reproduction. These include fertile land and access to fresh water, food, tools, and weapons. There are many means for gaining access to the valuable resources held by others, such as engaging in social exchange, stealing, or trickery. Aggression is also a means to co-opting the resources of others. Aggression to co-opt resources can occur at the individual or group level. At the individual level, one can use physical force to take resources from others. Modern-day forms include bullies at school who take the lunch money, books, leather jackets, or designer sneakers from other children (Olweus, 1978). Childhood aggression is commonly about resources, such as toys and territory (Campbell, 1993). Adult forms include muggings and beatings as a means to forcibly extract money or other goods from others. The threat of aggression may be enough to secure resources from others.

People, particularly men, often form coalitions for the purposes of forcibly coopting the resources of others. Among the Yanomamo, for example, male coalitions raid neighbouring tribes and forcibly take food and reproductively-aged women (Chagnon, 1983). Throughout human recorded history, warfare has been used to co-opt the land possessed by others, and to the victors go the spoils. The acquisition of reproductively relevant resources through aggression could have selected for aggressive strategies when the benefits, on average, outweighed the costs in the currency of fitness.

1.1.2. Defend Against Attack

The presence of aggressive conspecifics poses a serious adaptive problem to would-be victims - they stand to lose valuable resources that are co-opted by the aggressors. In addition, victims may suffer injury or death, impeding both survival and reproduction.

Victims of aggression may also lose in the currency of status and reputation. The loss of face or honour entailed by being abused with impunity can lead to further abuse by others, who may select victims in part based on the ease with which they can be exploited or their unwillingness to retaliate.