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АГРЕСІЯ ЯК СОЦІАЛЬНИЙ ФЕНОМЕН

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У статті з'ясовується сутність феномену агресії як універсального соціально-психологічного явища. Проаналізовано передумови агресії, соціальний контекст агресії, особливості вибору стратегій реагування. Визначено агресію в людському досвіді як соціальний феномен і невід'ємний компонент буття людини та суспільства. Доведено, що виток та механізм деструктивності на мікро- та макрорівні зумовлені біологічними та соціальними чинниками. Розглядаються теоретичні засади розуміння та вивчення проблем поведінкової та вербальної агресії в сучасній психології, визначено найбільш актуальні аспекти дослідження агресивної поведінки людей. Сучасне суспільство наполегливо демонструє назовні гуманістичні тенденції свого розвитку у всіх галузях науки, культури, економіки. Однак глибинними причинами багатьох цивілізаційних процесів часто називають тенденції агресивності людства: від завоювання життєвого або економічного простору, до експансії культури, моди, або більш локально – лідерства в групі, сім'ї, особистісних відносинах. Саме тому проблема агресивної поведінки набула популярності у світовій психології (А.Басс, А.Бандура, Л.Берковітс, К.Лоренс, О.Кернберг, Е.Фромм, З.Фрейд, К.Юнг та ін.). Вона стала предметом дослідження у військовій та політичній психології, психології менеджменту й економіки, психології міжособистісних відносин. Останнє зумовило підвищений інтерес до даної проблеми і серед психолінгвістів, оскільки міжособистісні відносини – це, в першу чергу, мова і спілкування.

Остання чверть століття дослідження проблем агресивної поведінки та спілкування отримали новий імпульс. Це обумовлено низкою важливих змін у житті сучасного суспільства. Найчастіше активне підвищення рівня агресивності суспільства науковці пов'язують із бурхливим розвитком інформаційно-технічного простору. Маючи безліч привабливих і безумовно позитивних факторів, «медіа революція» 90-х років ХХ століття і створення комп'ютерної мережі Інтернет, принесли з собою масу проблем, які з кожним роком еволюціонують із «негативних» у категорію «небезпечних». Розрекламований і цілком доступний ринок «гаджетів» (від англ.gadget-прилад), залучає до комунікації і розвитку в мережі величезне коло людей практично без обмежень. Вільний від будь-яких часових, вікових, ціннісних, змістових (та багато ін.) «фільтрів», контролю або цензури, разом із цілковитою безвідповідальністю суб'єктів та об'єктів спілкування, інформаційно-комунікативний потік стає все більш загрозливим для психічного світу людини. Вагомою часткою цього потоку є очевидні, потужні агресивні тенденції, вплив яких викликає занепокоєння лікарів, психологів, педагогів, батьків, самих комунікантів.

Ключові слова: *агресія, агресивність, людська деструктивність, поведінкова та вербальна агресія, типи агресії.*

HUMAN AGGRESSION: A MULTIFACED PHENOMENON

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The article investigates the essence of the phenomenon of aggression as a universal phenomenon. Prerequisites of aggression, social context of aggression, peculiarities of choice of response strategies are analyzed. Aggression in human experience has been identified as a social phenomenon and an integral component of human and social existence. It is proved that the origins and mechanism of micro- and macro-level destructiveness are caused by biological and social factors. The article deals with the theoretical principles of understanding and studying the problems of behavioral and verbal aggression in modern psychology, identifies the most relevant aspects of the study of aggressive behavior of people.

Keywords: aggression, aggressiveness, human destructiveness, behavioral and verbal aggression, types of aggression.

Human aggression is a social behavior, and whilst it has been studied from many perspectives, it is theoretical models and empirical research from the field of social psychology that have provided the strongest frame work from which to understand it. This article focuses on the contribution of social psychologists to the understanding of human aggression, providing first some key definitions, then major theories (both classic and contemporary) and a brief summary of social psychological approaches to the study of aggressive behavior. An overview of research findings is presented, including those describing factors within a person that increase the likelihood they will aggress, situational cues that can trigger aggression, internal psychological processes that underlie an instance of aggressive behavior, and processes that increase trait aggressiveness. We conclude by suggesting a ‘risk factor’ framework for understanding societal violence and noting directions for future research.

Definitions and Characteristics of Aggression Definitions

There are three key issues with defining human aggression. First, it is hard to interpret research findings and theories about aggression without a clear definition. Historically, however, many different definitions have been used. As a result, many studies of aggressive behavior are hard to meaningfully compare. More recently, definitions of aggression among social psychologists have converged around the notion that aggression is any behavior enacted with the intention to harm another person who is motivated to avoid that harm (e.g., Anderson and Bushman, 2002; Bushman and Huesmann, 2010). Such a definition is wide enough to capture the full range of aggressive behaviors, and to make allowance for activities that can ‘hurt’ a target person but to which the target of the hurt willingly consents (such as undergoing surgery or engaging in sadomasochistic sex). The second issue is that many laypersons and misinformed professionals use the term aggression interchangeably with related but conceptually distinct phenomena such as anger, hostility and competitiveness. There is no question that in the field of psychology, aggression refers only to a behavior, and not to a mindset or an emotional state. Feelings such as anger, attitudes such as wishing the worst for another, and motivations such as the desire to win or control one’s environment may contribute to a person behaving aggressively but are not aggression per se. To study aggression effectively, such factors need to be clearly differentiated from aggression and from each other. A third definitional issue involves the common practice of using the term ‘violence’ interchangeably with the term ‘aggression.’ Among most social psychologists, violence is a subtype of aggression. More precisely, ‘violence’ is aggression that is intended to cause harm extreme enough to require medical attention or to cause death. Thus, all violent behavior is aggression, but most aggression is not violence. Note that this definition of violence is not synonymous with ‘violent crime,’ which is a legal term, not a scientific one.

Types and Characteristics of Aggression

When considering the many ways in which one human can harm another, it is useful to distinguish between different forms of aggression, and between the different functions that aggression can perform. Different forms of aggression include physically harming another (i.e., physical aggression such as hitting, biting, kicking, clubbing, stabbing, shooting), hurting another with spoken words (i.e., verbal aggression such as yelling, screaming, swearing, name calling), or hurting another’s reputation or friendships through what is said to others verbally or digitally (i.e., relational aggression). Aggression may also be direct (with the victim physically present) or indirect (enacted in the absence of the victim; for example, smashing someone’s property or spreading rumors about them). Aggression also differs by function. It may involve a relatively pure intent to punish/hurt the target person, as in reacting aggressively to provocation (i.e., reactive, affective, hostile, hot, impulsive, or retaliatory aggression) or it may involve a considered and deliberate plan to harm another to gain a desired outcome.

What about a person whose rage drives them to carefully plan the death of another? Such instances do not fit any of these traditional categorical or dichotomous distinctions. A viable alternative approach to understanding the function of aggression is to locate aggressive acts on three dimensions – the degree to which the goal is to harm the victim versus benefit the perpetrator.

Social Psychological Theories of Aggression Theories Outside Social Psychology

This article is focused on the social psychology of aggression, but must be considered as complementing research from other spheres of psychology. Most notably, biological psychology provides many relevant findings, including links to genetic predispositions, hormones, malformation, or damage of brain structures and levels of

cortical and nervous system arousal. Psychodynamic approaches and animal psychology have emphasized aggressive drives, and evolutionary- and animal psychology have focused on aggression in terms of factors related to reproductive success and survival (e.g., dominance and resource-holding potential). Social psychological approaches have tended to include such biological, genetic and personality factors as 'person' factors in their models, but typically have not explored detailed interrelationships among these and related social factors.

Early Social Psychological Theories

For more than 70 years, social psychology has provided a variety of frameworks from which hypotheses about the causes and consequences of aggression could be derived and tested. These theories, although distinct, have also tended to overlap as new knowledge has extended an existing framework of aggressive behavior. The earliest influential theory from social psychology was the frustration-aggression hypothesis.

The Frustration-Aggression Hypothesis During 1939, partially in response to World War II and partially in response to the spreading influence of psychodynamic theories in the US, Dollard et al. (1939) proposed the first systematic theory of aggression. Using assumptions from psychoanalytic theory, they focused on the frustration caused when a goal is blocked, and suggested that "the occurrence of aggressive behavior always presupposes the existence of frustration," and that "the existence of frustration always leads to some form of aggression". Although this theory enjoyed some empirical support, it quickly became obvious that frustration does not always lead to aggression, and that not every act of aggression can be traced back to frustration. Frustration-aggression theory was revised to incorporate the possibility that frustrations can elicit responses other than aggression.

Learning Theories

The earliest theory of learning in modern psychology explains behavior in terms of classical conditioning – learning to associate one thing with another. Pioneered by Pavlov, this approach suggests that once people mentally pair things together, they become 'conditioned' to expect those things to always occur together. This theory was later supplemented with theories of operant conditioning developed by Thorndike and Skinner, which suggest that people are more likely to repeat a behavior that has been rewarded and less likely to repeat a behavior that has been punished. In aggression research it has been shown that children can be taught to behave aggressively through rewarding aggressive behavior (positive reinforcement) or removing a painful consequence after aggression (negative reinforcement). In addition, children learn to discriminate between situations where aggression has a desirable consequence and when it does not, and to generalize this knowledge to new situations. Although such research demonstrates that aggression can be learned through conditioning (e.g., Eron et al., 1971), it was clear by the 1960s that such processes could not explain the acquisition of all learned aggression. Bandura proposed that social behaviors, including aggression, could be learned through observing and imitating others (i.e., via observational learning). In his classic experiments, children observed a film of an actor hitting a 'Bobo Doll' in several novel ways. The children later imitated the behavior in the absence of any classical or operant conditioning. Bandura also developed the concept of vicarious learning of aggression, and showed that children were especially likely to imitate models that had been rewarded for behaving aggressively. In social learning theory (later called social cognitive theory), Bandura hypothesized that the way people mentally construct their experiences is crucial. People may see one person hit another, but will also decide how competent they feel to do the same, and will make assumptions about what constitutes a normal way to respond when someone provokes you. In this way, making inferences about observed aggression not only increases the likelihood of imitating it. There is considerable research support for social cognitive explanations of aggression. People sometimes imitate aggressive models, especially if the aggressive behavior is rewarded or carried out by a person who is heroic, admired, of high status, attractive, or similar.

Mainstream Cognitive Theories

Information Processing and Script Theories The confluence of computer availability and the growing dominance of cognitive approaches in psychology in the 1980s heralded a major change of direction in social psychological aggression research. For the first time, researchers started to conceptualize the acquisition of social behavior in terms of computer-like processes – inputs, outputs, and the processing of information. Two key theories of aggression emerged – the Social Information Processing (SIP) theory of Dodge (1980) and Script theory from Huesmann (1982). SIP theory emphasized the way people perceive the behavior of others and make attributions about their motives. A key construct in SIP theory is the hostile attributional bias – a tendency to interpret ambiguous events (such as being bumped in a corridor) as being motivated by hostile intent. This bias has been extensively studied and has been found to reliably predict aggressive behavior. Script theory emphasizes the acquisition of scripts for behavior (much like an actor's script) through either direct experience or observational learning. Once encoded in semantic memory, scripts define particular situations and provide a guide for how to behave in them. In script theory, a person faced with a particular situation first considers a script relevant to that situation, assumes a role in the script, assesses the appropriateness or likely outcome of enacting the script, and if judged appropriate, then behaves according to the script. If a person habitually responds to conflict by using scripts that include behaving aggressively, these scripts may become more easily brought to mind (i.e., chronically

accessible), become automatic, and generalize to other situations, increasing the likelihood of aggression in a growing number of spheres of life.

Cognitive Neoassociation Theory. Cognitive Neoassociation Theory (CNA) reformulated the frustration-aggression hypothesis within the framework of emerging knowledge about neural connectivity. Assuming that concepts, emotions, memories, and action tendencies are interconnected within the brain's associative neural network, Berkowitz (1989) posited that aversive events such as frustrations, provocations, or unpleasant physical environments produce negative affect, which is neurally linked to various thoughts, feelings, and behavioral tendencies that are themselves linked to both fight and flight tendencies. Importantly, higher-order processes such as making attributions about another's motives or thinking through the consequences of an aggressive response may cause a person to moderate an aggressive impulse in this model.

Aggression Research Methodologies in Social Psychology. As a social behavior, aggression has been primarily studied using methodologies from social psychology. Each of these methodologies has specific strengths and weaknesses, but, importantly, the shortcomings of each methodology can be overcome with the strengths of another. This allows aggression researchers to be strongly confident of an effect where findings converge across methodologies (Warburton, 2013).

Laboratory Assessments of Aggression. Laboratory experiments provide the strongest evidence that a particular factor may play a causal role in aggression. This is because that factor can be manipulated whilst all other factors are (in theory) held constant (e.g., all participants may have an identical experience in the laboratory except for watching a violent or a nonviolent movie clip). Aggression experiments typically measure short-term increases in mild forms of aggression or in known precursors such as aggressive thoughts and feelings. Aggressive feelings are typically measured by having participants rate the degree to which they feel emotions such as anger, antagonism, and unfriendliness. Measuring aggressive behavior itself has a long history involving ethical, reliability, and validity concerns. For ethical reasons, serious harm cannot be used as an aggression measure in laboratory experiments. More recent methods include measuring the duration and/or loudness of aversive 'noise blasts' delivered to an opponent in a competitive reaction time (CRT) game, the amount of hot chili sauce assigned for eating by a stranger known to dislike hot foods, and the number of difficult puzzles that require solving by another person in order to win a reward. Although such measures have been criticized for being unlike 'real-world' situations and subject to biases such as the desire to please (or displease) the experimenter, well-designed modern experiments overcome such problems using careful cover stories and scripts, and have been shown to predict real-world aggression.

Nonexperimental Research about Aggression. Nonexperimental research has the distinct strength that it can examine a wide range of 'real-world' aggressive phenomena and can be used to examine longer-term effects such as the development of a more aggressive personality.

Observations of Aggression in Social Psychology. Some of the earliest and most powerful social psychological research of aggression was conducted through observational research, some in the laboratory (e.g., Bandura's Bobo Doll experiments) and some in the field (e.g., studies of aggression on playgrounds). Such studies have the distinct advantage of observing and recording actual rather than self-reported aggressive behavior, often in the participants' natural environment. Importantly, issues that sometimes arise from self-report questionnaires (e.g., biased responding, lack of self-awareness or capacity to report thoughts and feelings) are not relevant, and populations unsuitable for other forms of research (such as young children) can be examined. However, aggressive behaviors often have a low incidence in observed environments, and ratings of aggression can be somewhat subjective. Researchers overcome the latter issue by creating clear and comprehensive guidelines, detailing behaviors that should be coded (e.g., pushing, shoving, hitting, name calling), and thoroughly training the raters. Also, self-reports may be supplemented by reports of relevant others (e.g., parents, teachers and peers). Indeed, converging data from multiple sources often provides the strongest evidence (Anderson et al., 2007; Warburton, 2014).

Brain Scanning Techniques to Study Aggression

Social psychologists are now using brain-scanning techniques to study aggression, most notably in the field of media violence. Such techniques have the advantages that they can be used on many types of participants. Brain scans are particularly valuable for assessing factors difficult to measure using other methods such as desensitization to violence, fear responses, and emotional arousal. Functional magnetic resonance imaging (fMRI) studies identify brain activity by measuring changes to blood flow, but are accurate only to a few seconds across time. Thus, using both techniques to study the same hypotheses leads to better understanding. Brain-scanning studies have some drawbacks – they generally use small samples because of the cost involved, they need to average images using sophisticated software and sometimes their data are hard to meaningfully interpret. Thus, researchers can compare activation patterns to determine whether changes (such as desensitization) occur over time, one type of stimulus has different effects than another, or different groups (e.g., high vs low media violence consumers) typically respond differently.

Research Findings: Determinants of Aggression Development and Stability

Scholars studying social development have shown that the frequency of physical aggression typically peaks in the toddler years and then decreases across the life span. Importantly, the degree to which one person is aggressive relative to others of the same age is fairly stable across the life span. Aggressive children tend to become adolescents and adults who are more aggressive than their peers.

Person Factors. Numerous factors in a person's make-up have been shown to increase the likelihood of aggressive behavior. Not all are studied directly in social psychology, but all are taken into account in current social psychological models of aggression.

Gender Differences in Aggression Overall, males are generally more aggressive than females, and this applies from early in childhood through the life span. This is especially true for physical aggression and violent behavior, although women are as physically aggressive as men when strongly provoked. Men are more likely than women to use direct forms of aggression, but the reverse is true for women, who are more likely to use forms of indirect aggression, including relational aggression. Within intimate relationships, however, women are somewhat more likely to use physical aggression than men, though for different purposes and with different results. For example, men are much more likely to strike with a fist (women with an open slap), which is one reason why intimate partner violence yields many more women requiring medical attention than men.

Callous Unemotional Personality Traits. There are three personality styles under this umbrella – psychopathy, Machiavellianism, and narcissism. All three are linked with high levels of aggression, lack of empathy, and curtailed emotional responding. Narcissists often respond aggressively when they feel threatened (particularly by insults, humiliations, or other threats to their inflated ego), or when they fear that their flaws may be exposed. Psychopaths, particularly those with secondary psychopathy characteristics, are often impulsive, fearless, and unconcerned about negative consequences to themselves or victims – a potent mix for a person already predisposed to aggression. Machiavellians most typically use instrumental aggression to achieve their goals and feel little or any remorse for harmful consequences to others. They do, however, consider potential consequences to themselves, and are thus more likely to aggress indirectly so that there is little likelihood of being held responsible for their actions.

Impulsivity, Executive Control, and Self-Control. Impulsivity is a temperament variable often noticeable from early infancy, and is a reliable predictor of aggression, presumably because impulsive people have difficulty curbing aggressive impulses. In contrast, people are less aggressive if they have greater control over their emotions, greater self-control, and a stronger capacity to inhibit their impulses (Moffitt et al., 2011).

Intelligence. There is not a great deal of research on IQ and aggression, but some studies have found links between low IQ and higher levels of aggression in children, particularly in children with poor verbal intelligence and/or with low self-control.

Personality Traits. The 'Big Five' Research on the 'Big Five' personality traits and aggression has generally found that people low in agreeableness and high in neuroticism are more aggressive and violent. Furthermore, both of these dimensions are associated with aggressive emotions, and low agreeableness is also associated with greater aggressive thinking (Barlett and Anderson, 2012).

Hormones. The hormone most consistently linked with aggression is testosterone. Males have around 10 times as much testosterone as females, and levels are much higher in older teenagers and young adults than in older men. Interestingly, when people dominate others, their testosterone levels typically increase. There also is evidence that testosterone's effect on aggression is a by-product of its effect on dominance. There also may be links between low levels of estrogen and progesterone and aggression, although results are mixed. Finally, emerging evidence suggests that low levels of oxytocin may be linked with increased aggression.

Genetic Predispositions. Although aggressive behavior has a considerable learned component, studies show that inherited characteristics account for perhaps a quarter to a third of an aggressive predisposition (Tuvblad et al., 2009). More than a dozen genetic markers have been linked with aggressive and antisocial behavior, although links are rarely direct. Typically, genetic predispositions more directly relate to temperament variables such as impulsivity, which are themselves linked with greater aggression. The two most widely studied genetic markers of aggression are a polymorphism in the promoter of the monoamine oxidase A gene (MAOA) and a variation in the 5-HT serotonin transporter gene. Crucially, in line with the emerging field of epigenetics, the MAOA gene polymorphism seems to interact with a child's early environment, so that aggression and antisocial behavior are most likely in those who have this genetic trait and also experience childhood maltreatment (Kim-Cohen et al., 2006).

Social and Personality Psychology Factors Associated with Aggression Reduction. Situational influences can also affect self-control's impact on aggression. DeWall, Baumeister, Stillman, and Gailliot (2007), for example, depleted or did not deplete participants' self-control resources. In the depletion condition, participants were instructed to refrain from reading irrelevant words at the bottom of a video that they watched, whereas participants in the nondepletion condition were not given specific instructions. The effort required to resist the reading of words in the depletion condition was intended to deplete self-control resources. After the video, participants were

provoked or not (i.e., received either positive or negative feedback about an essay they wrote earlier) by an ostensible second participant who, unbeknownst to participants, did not actually exist. Finally, participants were allowed to select the duration and intensity of loud white noise to administer to the other participant as part of a reaction time competition, which is a commonly used measure of laboratory aggression. The intensity and sometimes duration of the noise chosen become the measures of aggression. We note here that it can be difficult to ethically measure aggression in the laboratory and therefore this method and others are necessarily contrived. Nevertheless, behavior in the noise-blast task coincides with the definition of aggression as allocating louder and longer noise blasts will harm someone who seeks to avoid such harm (i.e., loud noise is uncomfortable, irritating, and painful). DeWall et al. (2007) found that depleted participants who were provoked were more aggressive toward the ostensible participant (gave longer and louder white noise) than participants in any of the other conditions. In sum, reducing self-control resources increased the tendency to behave aggressively when provoked. The results of the research by DeWall et al. (2007) and others (e.g., Denson, Pedersen, Friese, Hahm, & Roberts, 2011; Stucke & Baumeister, 2006) reveal that depleting self-control resources increases the tendency to aggress. This research and the work on individual differences in self-control suggest that having more of the resources necessary to engage in self-control reduces the tendency to aggress. This muscle-metaphor view of self-control implies that exercising self-control should strengthen it just like muscles are strengthened via weight training (Baumeister, Gailliot, DeWall, & Oaten, 2006). In the training condition, participants were instructed to use their nondominant hand for two weeks on everyday tasks such as brushing one's teeth and opening doors; the control condition participants did not receive such instructions. The idea was that participants in the training condition would strengthen their self-control resources so that situations that normally deplete their ego would be less impactful. They (Denson, Capper, et al., 2011) expected to reduce aggression among individuals normally prone to this behavior. To test this prediction, they assessed participants' level of trait aggression using standardized questionnaires that reliably measure individual differences in aggressive behavior across situations). After two weeks, participants engaged in the noise-blast task that measures aggression in a controlled laboratory setting. They found that trait aggression significantly predicted higher aggression on the noise blast task in the control condition. However, this relationship was completely eliminated in the self-control-training condition. Self-control training thus reduced aggression for those individuals who are typically more aggressive in their daily lives. Self-control is an important person and situation variable that can reduce the tendency to aggress. Exhibiting self-control is an effortful process that requires mental resources. Strengthening these resources appears to increase self-control and reduce aggression given a provoking situation. The training study by Denson, Capper, also found that trained individuals had less anger than nontrained individuals after the noise-blast task. Such results suggest that increased self-control may reduce aggression by reducing angry affect. It appears that strengthening or increasing self-control through training or other methods could be a reasonable strategy to reduce aggression. Pro-social experiences

Historically, research on the GAM has focused on aggressive situations, angry affective states, and hostile cognitions as factors that increase aggressive behavior (Anderson & Bushman, 2002; DeWall & Anderson, 2011). Thus, anti-social variables promote aggression at all stages of this model. An interesting counter-point is that pro-social variables may reduce aggression, and they may do so at all points of this model. While aggression involves any action designed to harm another person (Baron & Richardson, 1994), pro-social behavior involves any behavior designed to benefit the welfare of another person (Dovidio, Piliavin, Schroeder, & Penner, 2006). As such, pro-social experiences are fundamentally opposed to and incompatible with angry affect, hostile cognitions, and aggressive behavior. Thus, pro-social experiences may reduce aggressive behavior in the same way that aggression-related experiences increase it. We review some work consistent with this idea below. In terms of situational inputs, Greitemeyer, Agthe, Turner, and Gschwendtner (2012) randomly assigned participants to play a pro-social, violent, or neutral video game

Beyond pro-social situations and emotions, pro-social traits are also predictive of reduced aggression. Agreeableness is a trait in the five-factor model of personality (McCrae & John, 1992). It reflects individual differences in the extent to which people strive for social harmony in their interactions with others. People high in agreeableness are predominantly friendly and cooperative, while people low in agreeableness are competitive and unfriendly (Graziano & Tobin, 2009; Graziano & Eisenberg, 1997; Graziano, Jensen-Campbell, & Hair, 1996). Research has shown that agreeableness is negatively related to trait aggression and experiences of anger and positively related to pro-social behavior. A body of work suggests that people high in agreeableness are less aggressive when confronted with hostile situations (e.g., a provocation) likely because they are able to regulate or control their behavior. As discussed above, exposure to aggressive situations can increase aggressive behavior. However, individuals high in agreeableness are capable of overriding this tendency. For example, Meier, Robinson, and Wilkowski assessed participants' agreeableness and randomly assigned them to an aggressive or nonaggressive priming task that required them to determine the synonym of words with an aggressive (e.g., torture or slash) or nonaggressive (e.g., buy or floor) meaning across hundreds of trials. Such tasks prime or activate hostile thoughts (e.g., Carver et al., 1983). Subsequently, participants' aggression was assessed with the noise-blast task. For

participants low in agreeableness, the hostility priming reliably increased aggressive behavior. However, this effect was not at all apparent for participants high in agreeableness. This suggests that individuals high in agreeableness have developed a way of overriding the influence of hostile thoughts on their behavior. Further studies support the idea that individuals high in agreeableness engage in active efforts to override the influence of hostile thoughts. For example, Study 2 of the investigation by Meier et al. (2006) indicated that individuals high in agreeableness activate pro-social thoughts in memory when exposed to hostile information (cf. Haas et al., 2007). Other research shows that such individuals quickly disengage attention from hostile cues but attend more closely to pro-social cues (Wilkowski, Robinson, & Meier, 2006). Across studies, this research suggests that individuals high in agreeableness systematically increase pro-social cognitions presumably to regulate the influence of hostile thoughts. The studies above led Meier, Wilkowski, and Robinson (2008) to suggest that training people to activate pro-social thoughts when confronted with a hostile situation could reduce their aggression. In the experimental condition of their study, words with an aggressive meaning (e.g., kill) presented on a computer screen were systematically followed by words with a helpful meaning (e.g., love) during a purported memorization task. In the control condition, words with an aggressive meaning were systematically followed by nonsense letter strings (e.g., ssss). The idea was that participants in the experimental condition would learn to pair pro-social rather than aggressive thoughts with hostile primes, which should reduce aggression in response to a hostile provocation. After the training procedure, participants engaged in the noise-blast task. The results indicated that participants who completed experimental training were significantly less aggressive compared to participants in the control condition. In summary, pro-social variables across stages of the GAM appear to reduce aggressive behavior. This includes pro-social situations (pro-social video games), pro-social emotions (gratitude), pro-social personality traits (agreeableness), and pro-social-cognitions (accessibility of pro-social concepts in memory). In general, pro-social experiences across a range of situations appear to reduce the impact of the inputs and routes that lead to aggression according to the GAM. Thus, promoting pro-social experiences in a variety of ways such as invoking gratitude, exposing people to pro-social media, or even engaging in tasks that aim to activate pro-social thoughts in the face of aggressive situations may be effective in reducing the tendency to aggress.

Summary and Concluding Thoughts

Social and personality psychologists have uncovered a host of variables that increase the tendency to aggress. Such work is critical in developing a better understanding of this behavior. Individuals and societies interested in reducing this harmful behavior though need more than a list of variables that have a causal impact. We believe that psychologists are now in a good position to use the research literature in social and personality psychology to inform aggression-reduction research and strategies. Models that outline why aggression occurs are a good starting point. The GAM has been extensively used to uncover a host of variables and processes that enhance aggression. Our review reveals that it can also be used to uncover variables and strategies that reduce aggression. We examined three broad factors that limit the tendency to aggress: self-control, pro-social experiences, and appraisal processes. These factors operate at different stages of the GAM and are illustrative of the manner in which this model can be used to uncover aggression-reduction strategies. It would be impossible and likely unwise to completely remove aggression from a society since it can be an adaptive behavior in some situations. Nevertheless, reducing the tendency to aggress is a worthy goal given that less hostile and more cooperative societies are likely healthier, happier, and more productive. Models like the GAM allow researchers to identify what causes aggression in terms of input variables, route variables, and outcome variables. While this research is important, it is also important to identify strategies or variables that reduce the impact of these inputs, routes, and outcomes.

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