Understanding the Complexity of Human Aggression: Affective, Cognitive, and Social Dimensions of Individual Differences in Propensity Toward Aggression

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Abstract

Human aggression is a complex phenomenon operating at multiple levels. Converging evidence distinguishes ‘hot’ aggression, impulsive and emotionally-centered, from ‘cool’ aggression, cognitively based and instrumental. The correspondence of these aggressive response patterns with individual differences in Propensity toward Aggression was investigated. Our data (from 477 Italian adults) map ten of these aggression indicators into the personality space defined by the Five-Factor Model (FFM) of personality. The quadrant containing most of these variables is defined by Emotional Instability (the negative pole of Emotional Stability) and Hostility (the negative pole of Friendliness). Factor analysis uncovered two factors that accounted for nearly 60 percent of the variance in Propensity toward Aggression: Emotional Responsivity and Positive Evaluation of Violence. Practical implications for issues of health and disease, violence, and interventions for different forms of adults’ and children’s aggression are outlined.

INTRODUCTION

Attempts to understand human aggression at a ‘generic level’, as actions intended to hurt someone, have been criticized as inadequate unless researchers distinguish between different types of aggression and their distinctive determinants and regulatory mechanisms (Bandura, 1986; 1991). Experimental research on human aggression has been dominated by two competing orientations: the psychodynamic

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and neo-associationist approaches versus the social-learning and social-cognitive approaches. The former focus primarily on affective/motivational aspects of aggression, emphasizing the importance of 'impulsive aggression', and paying attention to the excitative and involuntary processes instigating aggressive responding (Berkowitz, 1989; 1993; Geen, 1990). The contrasting focus, on the instrumental nature of aggression and the mechanisms responsible for the acquisition and regulation of aggression, characterizes the social-learning and social-cognitive views (Bandura, 1973; 1986).

Two other approaches to the study of aggression, and as divergent as the emotional versus cognitive ones noted, are those represented by the personologists and the experimental social psychologists. The personological approach itself has several variants. The more traditional approach centers around personality traits as largely inborn dispositions, that account for variations between people in aggressive behavior (Buss and Plomin, 1984; Olweus, 1979). An alternate personological perspective examines individual differences or personality dimensions as hypothetical constructs or affective-cognitive structures that develop during ontogenesis, and are assumed to mediate aggressive behavior (Caprara, Barbaranelli and Comrey, 1992; Caprara, Barbaranelli, Pastorelli and Perugini, 1994; Caprara and Pastorelli, 1989). Although interest centers on the role of personality characteristics in mediating the expression of aggressive behavior, contemporary investigators hope to relate individual differences to environmental events that elicit/inhibit/maintain aggressive behavior. After briefly outlining some major features and contributions of these approaches, we will describe our research program designed to explore individual differences in aggression by recognizing its multi-dimensional character and the operation of affective as well as cognitive processes in many forms of aggression. Finally, we will suggest ways to investigate the interactions of person and situational variables in emotionally triggered aggression and cognitively anchored aggression, while also describing practical interventions for preventing or controlling aggression.

In this regard, some experimental social psychologists have asserted that the analysis of aggression (and other socially important behaviors) has overly relied on dispositional (personality) approaches while underplaying the power of situational variables. Dramatic demonstrations of the 'power of the situation' have been used as evidence that situations often matter more than one would predict. Moreover, in such novel contexts, where prescribed roles constrain behavioral options, individual differences play a minor role (Milgram, 1992; Zimbardo, 1972; 1979). It remains to be demonstrated whether a more sensitive use of current assessment methods of individual differences could enlighten the various processes underlying individual–group or person–situation interactions. Alternatively, there may be some strong behavior settings that are 'alien' to the usual functioning of most individuals and thereby, minimize the role of individual differences in predicting their behavior.

The centerpiece of the frustration–aggression hypothesis (Dollard, Doob, Miller, Mowrer and Sears, 1939) was the specification of motivational dynamics by which blocked goals instigated retaliatory acts to remove them or their agents and surrogates. Displaced aggression of the original impulse onto safer, or more readily accessible, targets was also a contribution of this conception. From this early version of an arousal theory of aggression came the concept of reactive–impulsive aggression, introduced by Berkowitz (1974; 1989; 1993). His thinking spawned
research that was directed toward examining the roles of excitatory and involuntary processes in aggression that was automatic or reflexive. Recent contributions of Berkowitz (1989) on aggression associative networks substantially translate into the cognitive perspective previous intuitions on the role played by automatic mechanisms in the dynamic of aggressive behavior.

A quite different tact was taken by Bandura (1973; 1986), who applied a social-learning analysis, and more recently a social-cognitive approach, to aggression as goal-directed, instrumental behavior. In this view, understanding proceeds not from identifying more or less automatic associations between excitatory processes and behavior, but rather from uncovering basic processes of learning and self-regulatory mechanisms, on one hand, and situational determinants, that either facilitate aggression or inhibit its expression, on the other.

These alternative conceptions of aggression have been designated by Geen (1990) as affective and instrumental forms of aggression. Similarly, the social developmental approach of Dodge and Coie (1987) mirrors this distinction with theirs that compares reactive and proactive forms of aggression. The reactive form of aggression is typically an immediate, impulsive, emotional response to feeling provoked. In its instrumental form, aggression involves some degree of planning to achieve a goal, thus is a more cognitively based aggressive means to an end, and usually occurs over a longer time frame than the more spontaneous reactive aggression.

It is apparent, then, that there is consensus about the operation and basic characteristics of two different forms of aggression. Despite the seemingly clear conceptual distinction between cognitive and affective aggression, that clarity is challenged, when accounting for the actual interdependences of affect and cognition in any given behavior analysis. Therefore, it is appropriate to posit that impulsive–reactive aggression is more under the guidance of excitatory–automatic process, while proactive aggression is more under the guidance of self regulatory–intentional processes.

An interesting analogy to this two-factor model is found when one examines research that relies on self-reported measures of aggression. Buss and Durkee (1957) reported two factors in their Hostility Inventory (BDHI). The first was defined by the Resentment and Suspicious scales (with the addition of Guilt in women), and constituted an Experience or Awareness factor. The second factor, Expression, was primarily defined by Assault and Verbal Hostility. This two-factor structure has been widely replicated (see e.g. Bending, 1962; Spielberger, Jacobs, Russell and Crane, 1983). Subsequently, factor analysis of the BDHI scales uncovered two dominant factors: (i) Neurotic Hostility and (ii) Reactive or Expressive Hostility (Siegman, Dembroski and Ringel, 1987). The first factor reflected the experience of anger and the tendency toward mistrust and resentment. It correlated with proneness to experience anxiety, depression, and somatic symptoms. This more internally centered form of aggression contrasts with the external nature of the reactive form of hostility. This reactive aggression was unrelated to anxiety, reflecting instead the tendency to argue with others, to verbally express angry feelings, and to physically assault others, when provoked.

A three-component structure of aggression emerged from a recent factor analysis of Buss and Perry's (1992) Aggression Questionnaire. The instrumental or motor component of behavior is Physical and Verbal Aggression, involving hurting and
harming others. The emotional or affective component of behavior is found in the Anger component, involving physiological arousal and preparation for aggression. Finally, the cognitive component of behavior is Hostility, involving feelings of ill will and injustice.

While such correlational findings of the multi-dimensional nature of individual differences in response to aggression self-report measures offer an interesting correspondence to the multiple-modality conception of aggression from the experimental literature, what are missing are efforts to bring specific individual differences in aggression into the realm of a broader personality perspective. Research from our laboratory has been directed toward bridging this gap. We, along with others, have raised questions of the role personality characteristics play in mediating aggressive behavior (see e.g. Dengerink, O'Leary and Kasner, 1975; Malamuth, 1984; Olweus, 1978; 1980; 1984; Pitkanen-Pulkkinen, 1981).

At the core of our research program is the belief that the systematic study of individual differences in aggression can refine the lens needed to focus on the basic processes and mechanisms underlying the various forms of aggression that have been uncovered by experimental research. Additionally, we believe that understanding the interaction of personality and situational aspects of aggression will allow for more precise and robust predictive power and will point more clearly to modes of intervention. (For a review see Caprara, 1987; Caprara and Pastorelli, 1989; Caprara, Perugini and Barbaranelli, 1994; Caprara et al., 1994b).

We have identified a triad of personality variables that are predictors of aggression in the laboratory as well as in field settings in real life. These constructs have appeared repeatedly in factor analyses of data collected in different countries with diverse populations. They are Irritability, Hostile Rumination, and Tolerance toward Violence. Irritability, defined as the tendency to react impulsively and rudely to even a slight provocation or disagreement, emerged as a relevant predictor of laboratory measures of aggressive behavior. This was especially so in a series of studies conceived in the context of the Frustration–Aggression hypothesis and its derivatives, when impulsive aggression played a major role, that is, automatic and out-of-awareness forms of aggression (see Caprara, 1983; Caprara, Cinanni, D'Imperio, Passerini, Renzi and Travaglia, 1985; Caprara, Renzi, Alcini, D'Imperio and Travaglia, 1983; Caprara, Renzi, Amolini, D'Imperio and Travaglia, 1984; Caprara, Renzi, D'Augello, D'Imperio, Rielli and Travaglia, 1986).

Hostile Rumination is the inclination toward prolonged rumination, increasing, or at least maintaining, the desire to retaliate in some hostile manner following an instigation (Caprara, 1986). This variable accounted for a significant portion of the variance in aggressive behavior (in experiments analogous to those previously mentioned) when cognitive processes, such as memory, attribution, and planning, played a major role. Results from these investigations forced us to reexamine the traditional dichotomy between forms of aggression by identifying the variance accounted for by relatively more affective or more cognitive components of aggression (Caprara, Gargaro, Pastorelli, Prezza, Renzi and Zelli, 1987).

Concerns over the multiple manifestations of violence in modern society impelled us to develop an indicator of individual proneness toward violence. Tolerance toward Violence is defined as a positive attitude toward justification of different forms of violent conduct (Caprara, Cinanni and Mazzotti, 1989). Although this
indicator was not included as a mediator variable in experimental designs, its
relation to aggression resulted from a high correlation with a measure of personal
involvement in violent acts (Caprara, Mazzotti and Prezza, 1990).

Two factors emerged from second-order factor analyses of these scales (on data
collected on both large samples of Italian adult subjects and U. S. college
students). These analyses included other indicators of individual differences
associated in various ways with aggression (such as Emotional Susceptibility and
Fear of Impending Punishment), as well as with antagonists of aggressive conduct
(such as Need of Reparation). The first factor was recognised as Emotional
Responsivity, based on its relationship to negative affectivity, while the second
factor was labelled Proneness to Aggression, based on its relationship to hostility
(Caprara, Manzy and Perugini, 1992; Caprara, Perugini, Pastorelli and
Barbaranelli, 1990). These two second-order dimensions were confirmed
independently in factorial studies that included markers of broad personality
factors, such as those described by the Comrey Personality Scales (CPSs; Comrey,
1970; 1980; 1995), and by the Five Factor Model (FFM; Goldberg, 1993; McCrae
and John, 1992) of personality traits (Caprara et al., 1992; Caprara, Perugini,
Barbaranelli and Pastorelli, 1993).

Thus we may conclude that a provocative correspondence appears to have
emerged recently that two different forms of aggression exist. The validity of this
generalization comes from such diverse fields of research as experimental studies of
aggression, correlational research on self-reported measures of aggression, and
personality dimensions of aggression.

Focus of the present study

Our objective here is twofold: first, to examine the latent structure stemming from a
conjoint analysis of a host of well established indicators of disposition to aggression;
second, to ‘map’ such indicators of disposition to aggression, as well as their higher-
order latent components, into the personality space defined by the FFM of
personality traits. We have undertaken this research fully sensitive to the duality of
aggression, which can be affectively charged, impulsive, reactive, and involuntary,
but also can take the form of the cognitively regulated, instrumental, proactive,
intentional, voluntary, goal-directed, and cold-blooded form of interpersonal
hostility.

We believe that the utility of an individual differences approach lies in
discovering the regularities and generalities in a person’s responses to given
stimuli in particular situations. Using these relatively stable differences between
individuals, researchers are able to predict behavior patterns and to offer
intervention strategies designed to modify outcomes. This approach conceives of
personality traits as constructions that develop during ontogenesis to mediate
both affective and cognitive interactions between the person and the environment.
In this regard the systematic study of individual differences is no longer divorced
from the study of external situational variables. Rather, it aims to encompass
both the study of internal mechanisms and the study of relevant ‘environmental’
variables that operate at stimulus, social, context, structural, and cultural levels to
influence individual and group behavior.
METHOD

Participants

Participants in this study were 534 adult subjects, with a mean age of 34.9 years (SD = 7.6); 268 were male (mean age, 34.8 years; SD = 7.6), while 266 were female (mean age, 35.0 years; SD = 7.5). All subjects were well educated, middle-class Italians. In some analyses, sample size was reduced due to list-wise deletions of cases with missing data, as indicated in each data table.

Scales administered

Each person was individually administered a battery of the following scales.

(i) The Irritability (I) scale measures the tendency to react impulsively, controversially, or rudely at the slightest provocation or disagreement. It consists of 30 items (20 effective, ten control), such as, 'I think I am rather touchy', and 'Sometimes I shout, hit, kick, and let off steam'.

(ii) The Hostile Rumination (HR) scale measures the tendency to maintain or even increase the desire for vengeance, in opposition to the tendency to quickly recover from ill feelings or desires to retaliate. It consists of 20 items (15 effective, five control), such as, 'It takes many years for me to get rid of a grudge', and 'I do not forgive easily once I am offended'.

(iii) The Tolerance toward Violence (TV) scale measures the individual proneness toward the justification of different kinds of violence (violence with ideological and political connotations, violence against people and their property, apparently gratuitous violence for its own sake). It contains 29 items (26 effective, three control), such as 'Since society is basically violent it does not make any sense to punish the single individual who resorts to violence', and 'Today there are many more reasons to resort to violence than in the past'.

This first set of aggression scales was answered on six-point self-report measures, ranging from 1 (completely false for me), to 7 (completely true for me), excluding the intermediate position. Different response options were available for each of the remaining scales, as noted after each description below.

(iv) The Aggression Questionnaire (AQ; Buss and Perry, 1992) was developed as a revised version of the Buss and Durkee Hostility Inventory (BDHI; Buss and Durkee, 1957). It contains 29 statements arranged in four subscales: Physical Aggression (nine items), Verbal Aggression (five items), Anger (seven items), and Hostility (eight items). Each item was rated on a scale of 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me).

(v) The Trait Anger Scale (TAS; Spielberger et al., 1983) is a rationally and empirically derived self-report, ten-item scale that assesses how frequently an individual experiences anger. Individual items were scored on four-point scales, with alternatives ranging from almost never to almost always.

(vi) The Anger Out Scale (AO; Spielberger, Johnson, Russell, Crane, Jacobs and Worden, 1985) is a rationally and empirically derived self-report eight-item
scale, that assesses the tendency to express anger outwardly. Individual items were scored on a five-point scale, ranging from almost never to almost always. (vii) The Moral Disengagement Scale (MD; Bandura, 1986) measures eight cognitive mechanisms that operate to alleviate the experience of blame associated with the violation of internalized norms: moral justification, distortion of consequences, diffusion of responsibility, displacement of responsibility, euphemistic labelling, dehumanization of victims, advantageous comparisons, and attribution of blame. The scale consists of 32 statements developed according to the eight mechanisms listed above (see Caprara, Barbaranelli, Vicino and Bandura, 1996) rated on five-point scales, ranging from 1 (totally disagree) to 5 (totally agree). Factor analyses of these items showed a clear mono-dimensional structure; Cronbach’s alpha was about 0.90. Accordingly, a total score on Moral Disengagement was obtained by simply summing the 32 scale items.

(viii) The Big Five Questionnaire (BFQ) is a new questionnaire developed to assess the FFM of personality traits (Caprara, Barbaranelli, Borgogni and Perugini, 1993; 1994). Because of its newness, we will detail here some of its psychometric properties and validated features.

A number of review papers have shown the value of the FFM in the lexical approach (Caprara and Perugini, 1991; Digman, 1990; John, 1990; John, Angleitner and Ostendorf, 1988; McCrae and John, 1992; Wiggins and Pincus, 1992). The same factors, or alternate versions of them, emerged from the analysis of trait terms (adjectives or nouns) taken from the dictionary, across variations in procedures of evaluation (self-report versus ratings), techniques of factor extraction and rotation, sample characteristics (sex, age), countries and languages (e.g. USA, Germany, The Netherlands, Italy, Taiwan). These five factors were identified as I, Extraversion/Introversion or Surgency; II, Agreeableness or Friendliness/Hostility; III, Conscientiousness or Will; IV, Neuroticism/Emotional Stability; V, Intellect or Openness to Experience.

These same five factors appear when phrases contained in inventories are used to assess personality (Ostendorf and Angleitner, 1992). Results of conjoint or singular factor analyses of established questionnaires, such as Cattell’s 16PF, Eysenck’s EPQ, Comrey’s CPS, and others, have been interpreted as supporting the FFM (Boyle, 1989; Krug and Johns, 1986; McCrae, 1989; McCrae and Costa, 1985). As noted by McCrae and Costa (1989) the FFM is a framework for interpreting the other personality systems and their dimensions. If the Big Five are not the only broad factors of personality, at least they are the most recurrent, and could then provide a common language and a framework for orienting research and assessment in personality psychology.

It is important to clarify (as suggested by an anonymous referee) that among the supporters of the FFM there are important differences. In this regard Goldberg and Saucier (1994) posited that the literature on the five factors reveals at least two different conceptions. In the psycholcexical tradition the so called 'Big Five' are considered as a framework structure for the taxonomy of phenotypical traits of personality (see Goldberg, 1993). Within the framework of the questionnaire approach the five factors are considered as a model of genotypical traits of personality (see McCrae and Costa, 1985). Within this approach the five factors are
considered as *causal* determinants of individual differences, basal endogenous tendencies that have a strong basis in the genes and that shape thoughts, feelings, and actions of people. Within the psycho-lexical approach the five factors have a less ambitious and fundamentally *descriptive* goal: in fact they serve to organize the thousands of terms that, in the different languages, are used for describing personality (see Ostendorf and Angleitner, 1994).

Compared to the other major instrument for assessing the FFM in the domain of personality questionnaires, the NEO-PI (Costa and McCrae, 1985; Costa, McCrae and Dye, 1991), the BFQ is more parsimonious in the number of facets referred to for each primary dimension (two instead of six for each dimension), and in the total number of items (132 instead of 240). The BFQ shows also a major difference with the NEO-PI in the first dimension, which has been named ‘Energy’ in the BFQ, while in the NEO-PI it is ‘Extraversion’. Although the two dimensions are highly correlated (see Table 1), in using the label ‘Energy’ we intended to stress the aspects related to activity, dynamism, and potency, which are at the core of the first of the Big Five factors, but are not fully conveyed by the term ‘Extraversion’.

The definitions of the principal dimensions of the BFQ and their facets are as follows.

(i) The dimension *Energy* (*E*) refers to those characteristics that in the literature are referred to as Extraversion (McCrae and Costa, 1987), or as Surgency (Norman, 1963). This dimension is organized into the following two facets: ‘Dynamism’, which refers to activity and enthusiasm, and ‘Dominance’, which refers to assertiveness and self-confidence.

(ii) The dimension *Friendliness* (*F*) refers to the factor that is usually labelled as Agreeableness (McCrae and Costa, 1987) or Friendliness versus Hostility (Digman, 1990). This dimension is organized into the following facets: ‘Cooperativeness/Empathy’, which refers to concern and sensitivity towards others and their needs, and ‘Politeness’, which refers to kindness, civility, docility, and trust.

(iii) The dimension *Conscientiousness* (*C*) refers to self-regulation in commitments and achievement (Digman, 1990; McCrae and Costa, 1989). This dimension is organized into the following facets: ‘Scrupulousness’, which refers to

*Although the more recurrent label for the first factor of the Big Five has been ‘Extraversion’, we preferred to use the label of ‘Energy’. This was not a mere nominal matter. In our opinion, the label ‘Energy’ seems to be a more appropriate definition considering the ambiguity carried by the term *Extraversion*. Often this label implies a conception of Factor I that overestimates the interpersonal dimension and runs the risk of overlap with Factor II (Agreeableness), while understating the important component of activity or energy which other systems have rightly underscored (Buss and Plomin, 1984; Comrey, 1980; Guilford, 1975; Hogan, 1986; Strelau, 1983; Zuckerman, Kuhlman, Thorquart and Kiers, 1991). Whereas Extraversion could be fully defensible in a two- or three-factor system, as the Eysenckian one (Eysenck, 1990), it introduces in the FFM a kind of redundancy to the interpersonal dimension while shadowing important aspects which are not elsewhere rescued. We also believe that, in the domain of self report, personality dimensions tend to subsume temperamental dimensions. As a consequence, a five-factor model that includes the two main dimensions that recur in practically all temperamental systems (i.e. Activity and Emotionality) undoubtedly gains in comprehensiveness. One may question the value of using a term such as ‘energy’ which is so loaded by dubious meanings in the biological and psychological literature. However, we think that is a matter of linguistic or cultural convenience to use the label ‘Energy’ or ‘Activity’ to name Factor I of the Big Five. Whereas in Italian ‘Energy’ is fine, in English ‘Activity’ may be preferable.*
dependability, orderliness, and precision, and 'Perseverance', which refers to the capability to fulfill one's own tasks and commitments.

(iv) The dimension Emotional Stability (S) refers to personality characteristics often considered under the labels of 'Neuroticism' and of 'Negative affect' (McCrae and Costa, 1987; Watson and Tellegen, 1985). This dimension is organized into the following facets: 'Emotion Control', which refers to the capacity to cope adequately with one's own anxiety and emotionality, and 'Impulse Control', which refers to the capability to control irritation, discontent, and anger.

(v) The dimension Openness (O) refers to the factor labelled 'Culture' (Norman, 1963), 'Intellect' (Goldberg, 1990), or 'Openness to Experience' (Costa and McCrae, 1985; see also De Raad and Van Heck, 1994). This dimension is organized into the following facets: 'Openness to Culture', which refers to the broadness or narrowness of one's own cultural interests, and 'Openness to Experiences', which refers to openness to novelty, tolerance of different values, and interest in different people, habits, and life-styles.

Each facet scale contains 12 items; half the items are positively worded with respect to the scale name, and half are negatively worded in order to control for possible acquiescence response set. The Lie (L) scale is designed to assess the 'social desirability' type of response set and contains 12 items. In replying to the 132 items in the questionnaire, the respondent has a five-choice answer scale that ranges from complete disagreement (1, very false for me) to complete agreement (5, very true for me).

The psychometric characteristics of the BFQ are summarized in Table 1. Its factor structure, obtained by principal axis factoring of the ten facet scales, with a tandem criteria orthogonal rotation (Comrey and Lee, 1992), was consistent with the expected hypotheses. It revealed high stability across different groups of subjects with different demographic, cultural, and linguistic characteristics, to whom the questionnaire was administered under different conditions. The factor scores resulting from the principal factors analysis showed a substantial overlap with the scores for the expected five dimensions (see the Rft index in Table 1). The internal consistency and temporal stability of the dimension and facet scales were quite satisfactory (see the Cronbach alpha and test–retest reliabilities), as well as their stabilities across different languages. The construct validity, convergent and discriminant, was established by correlations with standard markers of the FFM, such as the NEO-PI. Those correlations are substantial, ranging from 0.62 to −0.80. Note that the −0.80 correlation between our BFQ S (Emotional Stability) scale and the NEO-PI N (Neuroticism) scale is due to their reversed scoring.

Statistical analysis

The initial step in our procedure was to examine dimensions underlying individual differences in Propensity toward Aggression, doing so by performing a principal components analysis on the following scales: Irritability, Hostile Ruminations, Tolerance toward Violence, Physical Aggression, Verbal Aggression, Hostility, Anger, Trait Anger, Anger Out, and Moral Disengagement. To test the stability of the factor solution across sexes, correlations between factor structures from separate
Table 1. Psychometric characteristics of the BFQ

<table>
<thead>
<tr>
<th>BFQ facet scales</th>
<th>Rotated factors</th>
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<tbody>
<tr>
<td></td>
<td>E</td>
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<tr>
<td>Dynamism</td>
<td>0.69</td>
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<tr>
<td>Dominance</td>
<td>0.67</td>
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<tr>
<td>Cooperativeness</td>
<td>0.01</td>
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<tr>
<td>Politeness</td>
<td>0.03</td>
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<td>Scrupulousness</td>
<td>0.08</td>
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<tr>
<td>Perseverance</td>
<td>0.46</td>
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<tr>
<td>Emotion Control</td>
<td>0.20</td>
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<tr>
<td>Impulse Control</td>
<td>0.10</td>
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<tr>
<td>Openness to Culture</td>
<td>0.00</td>
</tr>
<tr>
<td>Openness to Experiences</td>
<td>0.25</td>
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<tr>
<td>Percentage of variance explained</td>
<td>12.52</td>
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<table>
<thead>
<tr>
<th>BFQ dimensions</th>
<th>E</th>
<th>F</th>
<th>C</th>
<th>S</th>
<th>O</th>
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</thead>
<tbody>
<tr>
<td>Cronbach alpha(^a)</td>
<td>81</td>
<td>74</td>
<td>81</td>
<td>90</td>
<td>76</td>
</tr>
<tr>
<td>Rtt (test–retest)(^b)</td>
<td>86</td>
<td>77</td>
<td>84</td>
<td>83</td>
<td>77</td>
</tr>
<tr>
<td>Stability across languages(^c)</td>
<td>98</td>
<td>98</td>
<td>97</td>
<td>99</td>
<td>95</td>
</tr>
<tr>
<td>Rft(^a)</td>
<td>94</td>
<td>94</td>
<td>95</td>
<td>99</td>
<td>98</td>
</tr>
<tr>
<td>Correlations with NEO–PI analogous dimensions(^d)</td>
<td>66(E)</td>
<td>65(A)</td>
<td>65(C)</td>
<td>-80(N)</td>
<td>62(O)</td>
</tr>
</tbody>
</table>

Note: Decimal points omitted. Loading of BFQ facets referring to the same factor are in *italics*.\(^1\)

\(^a\)N = 2309; \(^b\)N = 133; \(^c\)congruence coefficients (Tucker, 1951) among factor solutions derived from 2309 Italians, 733 Americans, and 1298 Spaniards; \(^d\)N = 670.


HSQ = Communalities.

Rft = Correlations among factor scores and a priori scores obtained by the sum of the 24 items constructed to measure the factor.

NEO–PI Dimensions: E = Extraversion; A = Agreeableness; C = Conscientiousness; N = Neuroticism; O = Openness to Experience.

Principal components analysis performed on male and female subgroups were computed using the Everett method (1983).

The second step was to correlate scores on each of the ten scales that comprise Propensity toward Aggression with the five factor scores of the BFQ. Those BFQ factor scores were derived from factor analysis of the ten facet scales that comprise the BFQ. In addition, we correlated each of the factor scores emerging from a factor analysis of the ten Propensity toward Aggression scales with the BFQ factor scores\(^2\).

\(^1\)Unlike the practice used in other studies (e.g. McCrae and Costa, 1989), the scales were not jointly factored with markers of the Five Factors. As noted by Gurtman, 'The advantage of this approach is that, it yields a ... space unaffected by the inclusion of the scales themselves (which could conceivably distort the structure)' (1991, p. 676, note 1). A consequence of this practice, however, is that, because shared variance is excluded, estimation of the correlation of a scale with the FFM will be lower than it will be when joint factor analysis is applied (Gurtman, 1991; Wiggins and Broughton, 1991). However, we believe that our method is preferable because the obtained results are clearer and less confounded than if a conjoint factor analysis were used.
RESULTS

Let us first examine the latent components of indicators of individual differences in Propensity toward Aggression, as shown in Figure 1. The principal components analysis of the ten scales shows the clear emergence of two principal components. Only the first two components have an eigenvalue greater than 1.0, with steadily diminished values evident from the third through the tenth components. The first two components were then rotated using the varimax method of rotation.

Table 2 presents the rotated factor solution, as well as the percentages of variance explained by the rotated factors and the eigenvalues of the non-rotated components. The graphical representation of this analysis is presented in Figure 1.

The first component is represented by major loadings of Irritability (IRR), Anger (A), Anger Out (AO), Trait Anger Scale (TAS), Physical Aggression (PA), and Verbal Aggression (VA). It is reasonable to interpret this component as a dimension related primarily to impulsive and expressive aspects of aggression.

The second component is represented by major loadings of Tolerance toward Violence (TV) and Moral Disengagement (MD). Hostile Rumination (R) and Hostility (H) are both characterized as cognitions bound by negative affect, with Hostile Rumination also having a vindictive, compulsive orientation. They also have major loadings on the first component, but have high loadings on the second component as well. Our interpretation of this second component conceives of it as a dimension related primarily to cognitive and instrumental aspects of aggression, and tolerance toward, or acceptance of, the consequences of violence.

The correlations between the factor structures for males and females were identical, that is, \( r = 0.99 \) for both factors. Thus, it is evident that there is high stability for our factor solutions and, further, that our results can be generalized across gender.

One of the most important statistics reported in Table 2 is the high level of variance explained by the two factors extracted from our factor analysis of the ten measures of individual differences in Propensity toward Aggression. The combined amount of variance explained, 59 percent, is partitioned into 38 percent for Factor 1 and 21 percent for Factor 2. We will have more to say about this result in the discussion section.

The data in Table 3 help to clarify and broaden our interpretation of the meaning of the two major components of aggression and of their relationship to the BFQ factor scores.

Conscientiousness and openness

BFQ-Conscientiousness and BFQ-Openness appear to be negligible in understanding individual differences in Propensity toward Aggression, since none of the ten scales nor the second-order components had any correlations with them greater than 0.30.

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3An oblique rotation of the unrotated factor pattern was attempted according to the Oblimin rotational method and resulted in two slightly correlated factors \( r = 0.29 \). We preferred to remain with the ‘simpler’ and more usual Varimax orthogonal solution for several reasons: because the two oblique factors were correlated 0.96 and 0.99 respectively, with the orthogonal one, and because the pattern of correlation with the FFM remained substantially unchanged.
Figure 1. Graphical representation of the positioning of the ten indicators of individual differences in Propensity toward Aggression in the factor space of Emotional Responsivity and Positive Evaluation of violence (N = 477). Scales: IRR, Irritability; A, Anger; AO, Anger Out; TAS, Trait Anger Scale; PA, Physical Aggression; VA, Verbal Aggression; R, Hostile Rumination; H, Hostility; TV, Tolerance toward Violence; MD, Moral Disengagement.

Table 2. The factor analysis of individual differences in propensity toward aggression (rotated factor structure, variance explained by rotated factors, and eigenvalues of unrotated factors)

<table>
<thead>
<tr>
<th>Scales</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>HSQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRR</td>
<td>82</td>
<td>27</td>
<td>76</td>
</tr>
<tr>
<td>A</td>
<td>79</td>
<td>13</td>
<td>74</td>
</tr>
<tr>
<td>AO</td>
<td>78</td>
<td>-07</td>
<td>43</td>
</tr>
<tr>
<td>TAS</td>
<td>77</td>
<td>14</td>
<td>78</td>
</tr>
<tr>
<td>PA</td>
<td>61</td>
<td>33</td>
<td>49</td>
</tr>
<tr>
<td>VA</td>
<td>61</td>
<td>19</td>
<td>41</td>
</tr>
<tr>
<td>R</td>
<td>52</td>
<td>39</td>
<td>64</td>
</tr>
<tr>
<td>H</td>
<td>52</td>
<td>41</td>
<td>44</td>
</tr>
<tr>
<td>TV</td>
<td>07</td>
<td>88</td>
<td>61</td>
</tr>
<tr>
<td>MD</td>
<td>19</td>
<td>85</td>
<td>61</td>
</tr>
<tr>
<td>Variance explained</td>
<td>38.3%</td>
<td>20.8%</td>
<td>59.1%</td>
</tr>
</tbody>
</table>

*Note:* Decimal points have been omitted. Loadings higher than 30 are in *italics.*

Scales: IRR, Irritability; A, Anger; AO, Anger Out; TAS, Trait Anger Scale; PA, Physical Aggression; VA, Verbal Aggression; HR, Hostile Rumination; H, Hostility; TV, Tolerance toward Violence; MD, Moral Disengagement Scale.

HSQ = Communalities.

Eigenvalues of non-rotated factors: 4.55, 1.35, 0.78, 0.71, 0.64, 0.57, 0.40, 0.38, 0.34, 0.28.
Table 3. Correlations of aggression scales and of second-order factors with the Five-Factor Model of personality

<table>
<thead>
<tr>
<th>Scales</th>
<th>E</th>
<th>F</th>
<th>C</th>
<th>S</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRR</td>
<td>07</td>
<td>-32**</td>
<td>-07</td>
<td>-62**</td>
<td>-17**</td>
</tr>
<tr>
<td>A</td>
<td>11*</td>
<td>-19**</td>
<td>-07</td>
<td>-58**</td>
<td>-07</td>
</tr>
<tr>
<td>AO</td>
<td>05</td>
<td>-30**</td>
<td>-15**</td>
<td>-55**</td>
<td>05</td>
</tr>
<tr>
<td>TAS</td>
<td>10</td>
<td>-29**</td>
<td>-11*</td>
<td>-53**</td>
<td>-08</td>
</tr>
<tr>
<td>PA</td>
<td>25**</td>
<td>-34**</td>
<td>-11*</td>
<td>-30**</td>
<td>-03</td>
</tr>
<tr>
<td>VA</td>
<td>32**</td>
<td>-25**</td>
<td>-07</td>
<td>-32**</td>
<td>13*</td>
</tr>
<tr>
<td>R</td>
<td>11*</td>
<td>-42**</td>
<td>01</td>
<td>-29**</td>
<td>-11*</td>
</tr>
<tr>
<td>H</td>
<td>-09</td>
<td>-30**</td>
<td>04</td>
<td>-42**</td>
<td>-11*</td>
</tr>
<tr>
<td>TV</td>
<td>04</td>
<td>-28**</td>
<td>-16**</td>
<td>-07</td>
<td>-10</td>
</tr>
<tr>
<td>MD</td>
<td>09</td>
<td>-37**</td>
<td>-18**</td>
<td>-12*</td>
<td>-23**</td>
</tr>
<tr>
<td>AGGR1</td>
<td>15**</td>
<td>-32**</td>
<td>-07</td>
<td>-68**</td>
<td>-01</td>
</tr>
<tr>
<td>AGGR2</td>
<td>05</td>
<td>-34**</td>
<td>-13*</td>
<td>01</td>
<td>-20**</td>
</tr>
</tbody>
</table>


N = 477; *p < 0.01; **p < 0.001.

Thus, these important dimensions of personality can be removed from our analysis of the substrate of individual differences in aggression.

Energy

For the BFQ-Energy Factor, it was found that the only scale that was substantially correlated with it was Verbal Aggression (r = 0.32). This correlation can be traced to the presence in that personality scale of items related to dominance and assertiveness. Such findings are consistent with those of Buss and Perry (1992) who reported a comparable correlation (r = 0.49) between Verbal Aggression and Assertiveness. The only other scale with a moderate correlation with this personality factor of Energy is Physical Aggression (r = 0.25). Therefore, the Energy dimension of personality seems to be limited in its relevance to an individual’s Propensity toward Aggression.

Friendliness and Emotional Stability

A quite different profile can be seen in the broad pattern of significant relationships between BFQ-Friendliness and BFQ-Emotional Stability and most of the ten propensity toward aggression scales, as well as the second-order components underlying them. These robust correlations are all negative, indicating that in general, propensity toward aggression increases as one is less friendly, or more hostile interpersonally, and less emotionally stable at an intrapersonal level of functioning. In examining each of the individual measures as they relate to these BFQ factors, we highlight the following relationships:
Irritability has the highest correlation with Emotional Stability ($r = -0.61$), and a moderate one with Friendliness ($r = -0.32$). Anger is expressed most strongly as the second highest correlation, after Irritability, with Emotional Stability ($r = -0.58$), and but weakly with Friendliness ($r = -0.19$). Anger Out shows a similarly high correlation with Emotional Stability ($r = -0.56$), and also a moderate one with Friendliness ($r = -0.30$). Trait Anger reveals a similar pattern of a robust correlation with Emotional Stability ($r = -0.53$), and a weaker one with Friendliness ($r = -0.29$). Physical Aggression is correlated similarly and moderately with Friendliness ($r = -0.34$) and Emotional Stability ($r = -0.30$). Verbal Aggression is somewhat more highly correlated with Emotional Stability ($r = -0.32$) than with Friendliness ($r = -0.25$). Hostile Rumination has the highest correlation of any of the scales with Friendliness ($r = -0.42$), but also a moderate one with Emotional Stability ($r = -0.29$). Hostility also loads on both personality factors, but more strongly so on Emotional Stability ($r = -0.42$) than on Friendliness ($r = -0.30$).

The final two measures differ from all the others in that they both relate only to Friendliness and not at all to Emotional Stability. Tolerance toward Violence correlates moderately with Friendliness ($r = -0.28$), and not with Emotional Stability ($r = -0.07$). The same is true for Moral Disengagement which shows a relevant correlation only with Friendliness ($r = -0.37$), while the correlation with Emotional Stability was $-0.12$.

**Aggression composites**

Finally, the bottom of Table 3 shows the correlations between the second-order components of the ten scales, reduced to two Aggression composites, and each of the BFQ factors. Recall that AGGR-1 is Emotional Responsivity, while AGGR-2 is Positive Evaluation of Aggression. AGGR-1 is correlated negatively with both BFQ factors, but very strongly so with Emotional Stability ($r = -0.68$) and more modestly with Friendliness ($r = -0.32$). In sharp contrast, our AGGR-2 component correlates only with Friendliness ($r = -0.34$), and not at all with Emotional Stability ($r = 0.01$).

**DISCUSSION**

These analyses have uncovered a surprisingly elegant correspondence between the features of two central forms of aggression, that have been repeatedly identified, and two primary dimensions of individual differences related to aggression. In turn, those individual differences can be located in a specific quadrant of a Personality Space created by the FFM of personality, and measured by the Big Five Questionnaire (BFQ).

The Five-Factor Model has been chosen as the canonical reference model to describe personality by most of the researchers working in the area of personality assessment (see e.g. Goldberg, 1990; 1992; McCrae and John, 1992). Thus, we advocate that other researchers use this standard to enhance the comparability of research findings across diverse populations of respondents in various assessment settings.

Using a relatively large sample of non-college adults who completed a battery of ten scales each previously shown to relate to aggression, we have identified two main
factors that explain the bulk of the variance (59 percent) in Propensity toward Aggression. The first factor, accounting for 38 percent of the variance, represents the impulsive, affective dimension of aggression. The second factor, accounting for 21 percent of the variance, represents the social-cognitive and instrumental dimension of aggression. This factor's substance is to be found in Tolerance for Violence, an attitudinal measure, and in Moral Disengagement, a set of cognitive measures, as well as in Hostile Rumination, a measure of obsessively hostile thinking, and Hostility, a measure of interpersonal aggression.

Conclusions

Several conclusions emerge from this central finding of our research. First, there is an obvious match between these factors summarizing a set of individual difference constructs and the two forms of aggression that have been well established across a variety of fields of research on aggression. The impulsive, reactive, emotional type of aggression is reflected in our factor Emotional Responsivity, a kind of temperamental factor. The more proactive, cognitive, and instrumental type of aggression finds its reflection in our factor Positive Evaluation of Violence, an evaluative, social-cognitive factor. Since the best marker variables of this factor are Tolerance toward Violence and Moral Disengagement, and since they are both rooted in the person's value system, we think of them as learned social orientations.

The second conclusion calls attention to the fact that, while most of the examined individual differences in Propensity toward Aggression can be reduced to these two main dimensions, only Emotional Responsivity is reducible to the FFM of personality for a considerable portion of its variance. The second factor can be reduced to the FFM in only a relatively small portion of its variance. Thus, the FFM is confirmed as a personality framing for understanding individual differences in aggression, specifically for the dimension of impulsive aggression. However, as one might expect, this analysis confirms that the FFM is only in part adequate to explain the multi-dimensional nature of aggression.

After identifying all the variance traceable to nine of the most frequently used assessment instruments in research on individual differences in aggression (plus a new promising one, Moral Disengagement), there is still a significant portion of variance (41 percent) unaccounted for. Beyond measurement errors, there will be a substantial portion of variance attributable to variables outside the person, to the social setting, to cultural, historical, political, and other macro-level constructs. Thus, it remains for future research to specify the percent of remaining variance after partialling out the contributions from individual differences that are traceable to specific situational variables. Clearly one next step then is to regress the Propensity toward Aggression variables, studied here, on a set of objective measures of aggression used in research that varies situational features of the behavior setting.

Comparisons with other personality--aggression research

In comparing our results with those of other researchers, several clarifications are in order. First, the principal component analysis of the ten indicators of the propensity to behave aggressively yielded a solution quite similar to those when scales or items from standard aggression questionnaires were subject to conjoint factor analyses (see
Buss and Durkee, 1957; Spielberger et al., 1983). One of our components was identified as a dimension related to impulsive, expressive aspects of aggression, similar to that found in our previous studies, labelled as Emotional Responsivity. The other reflected the cognitive component of aggressive tendencies; it was identified by high loadings on Tolerance toward Violence and Moral Disengagement. It was similar to the dimension our previous research had found and labeled Proneness to Aggression (Caprara et al., 1994 b; c).

Secondly, recall that Buss and Perry (1992) used their new Aggression Questionnaire to uncover three components of aggressive behavior, an instrumental or motor performance component, an affective component, and a cognitive component. In our study, a single common factor joined the emotional component (represented by Anger) and the instrumental or motor one (represented by Physical and Verbal Aggression, and other measures of anger expression). The cognitive component (represented by Hostility) correlated with both our affective and social-cognitive components. It is likely that this difference is due to the broader spectrum of aggression measures examined in our study, as well as to our higher-order factor analysis.

**Practical implications**

Our research has a number of implications for issues of health and disease, violence, intervention strategies, and also for education of ‘at risk’ children to prevent their spiralling of negative self-feelings into aggressive outbursts.

**Coronary diseases and hostility**

Consideration of the separate roles played in aggression by intrapsychic processes, such as emotional responsivity, and interpersonal ones, such as hostility, leads to a comparison with a new body of research from the field of coronary artery disease (CAD) and coronary heart disease (CHD). There is a surprising degree of overlap with the kind of research on aggression we have been discussing. Hostility has been identified as a key variable in increasing one’s vulnerability to these kinds of circulatory disease. But the path is neither simple nor direct. Two different forms of hostility have been distinguished (Costa, McCrae and Dembroski, 1988; Stone and Costa, 1990). Hostility, as an ‘intrapsychic affect’, is manifested in the tendency to experience anger, frustration, or rage frequently, intensely, and across many situations. The other form that hostility may take is as an aspect of interpersonal behavior. Then, it is manifested in an antagonistic orientation toward other people, and typically expressed in a cool, unemotional behavioral style.

Both kinds of hostility have been linked to the FFM of personality traits. The intrapsychic type of hostility is found to be a facet of Neuroticism, while the interpersonal type of hostility is a facet of the dimension of Agreeableness versus Hostility. This distinction has been of great utility in the research on CAD and CHD. The neurotic, ‘hot blooded’ form of intrapsychic hostility is associated with anxiety, somatic complaints and hypochondriacal tendencies—but does not predict either of these disease conditions. Only the antagonistic, ‘cold-blooded’ form of interpersonal hostility is associated with severity of CAD and CHD. These two types of hostility seem to have paradoxical effects since the one that is self-focused does
not predict coronary diseases, while the one that is other-focused does predict the likelihood of suffering from one of these coronary conditions. It is the latter, interpersonally focused form of hostility that is at the core of our second major aggression factor. Awareness of this distinction can inform CAD and CHD treatment programs by attempting to discover the cost of expressing interpersonal hostility in terms of social adjustment and somatic well-being.

**Violence**

By successfully mapping indicators of individual differences in Propensity toward Aggression, and its underlying components, into the personality space created by the FFM of personality, we have located the 'violence danger zone'. It is found in the quadrant of that personality space defined on one dimension by Emotional Instability, and on the other by Hostility. Aggression is best predicted among those who score high on the affective dimension of Emotional Stability (versus Neuroticism) and on the interpersonal dimension of Friendliness or Agreeableness. Thus, the intersection where the potential for violence should be greatest is among individuals who are most anxious, unstable, and temperamental, and who are also least friendly and least agreeable in their relationships.

A special danger to society occurs when those who are emotionally unstable and social isolates join volatile groups of like-minded members with violence on their agenda, such as terrorist groups and some fighting gangs. Groups serve the multiple functions of enhancing excitation through communal, high-intensity activities, diffusing individual responsibility, anesthetizing individual anxiety, lowering social accountability, and normalizing deviant behaviors that are congruent with group norms. They can promote a state of deindividuation that 'liberates' behavior from its usual cognitive controls, enabling the actor to take actions that are normally inhibited, notably violent, anti-social actions (Zimbardo, 1970). Here earlier prevention should aim to provide two separate strategies: to substitute affiliations with a more positive social orientation, and to teach effective coping mechanisms to deal with recurring sources of conflicts, frustrations, and threats. These kinds of prevention are likely to fare better than post hoc remedies.

**Education/prevention with 'at risk' children**

Among young children (to 10 years of age) previous research of ours has revealed that a single dimension largely combines emotional instability, physical and verbal aggression, and moral disengagement. However, as children mature, a separate second dimension emerges, of a more social-cognitive nature, where Tolerance for Violence, Hostile Rumination, and Moral Disengagement come to the fore, as in our second aggression factor (see Caprara et al., 1994 b; c). Younger children's aggression then needs to be controlled by reducing situationally based sources of provocation and irritability, enhancing self-control mechanisms, and providing means for lessening anxiety over being socially rejected by peers and teachers. This strategy should help avoid the impulsive aggression and social rejection that combine into a vicious circle leading to the colder, proactive forms of hostile rumination and moral justification of violence (see Caprara and Zimbardo, 1996). With older children, interventions must add the social dimension of teaching concern for others
and specifically building interpersonal social skills to reduce occasions of interpersonal hostility.

Interventions

It is mostly the second form of aggression, the proactive, the socially-cognitively based, that should be influenced by abstract societal representations of future costs of current violent acts, such as disciplinary actions, fines, or threats of imprisonment. Thus, different types of social influence, persuasive communications, and propaganda efforts need to be tailored to people with these differing personality foundations for their aggressive tendencies. So, while suitable threats and incentives might work to modify proactive forms of aggression, the best medicine for the more volatile forms of impulsive aggression might include changing salient stimulus or structural features of habitual behavior settings that expose certain vulnerable people to recurring provocations. One example concerns the often debated issue of TV violence. Since it is well documented that certain people are more vulnerable to aggressive exposure and media models than others (Caprara, D’Imperio, Gentilomo, Mammuccari, Renzi and Travaglia, 1987; Huesman, Eron, Lefkowitz and Walder, 1984; Huesman and Malamuth, 1986), special efforts are called for to target such individuals for ‘protection’ against the noxious effect of aggressive exposure.

Another example concerns the business world, where job layoffs of qualified personnel because of ‘corporate restructuring’ can lead to violent reprisals by otherwise non-aggressive men. Instituting a sensitive counseling program that prepares employees for this traumatic event, when companies have lead time in anticipating such unemployment, could alleviate hostile, even lethal reactions in those who are most emotionally unstable.

However any interventions into violent behavior must recognize its enormous complexity and host of contributing factors, only one of which is individual differences in what we have called Propensity toward Aggression. Olweus (1991) has demonstrated that it is possible to reduce significantly the aggressive behavior of school bullies by a massive public campaign that involved parents, teachers, and school administrators, as well as the children in question—bullies and victims. Some forms of intervention must come at societal and governmental levels, such as gun control laws, and reduction of the ‘almost continuous exposure to glorified, unrealistic violence in the entertainment media’ (Lore and Schultz, 1993, p. 23).

New directions in aggression research

It is vital for future research on aggression to begin systematic multi-modal investigations that go beyond the traditional boundaries of experimental, cognitive, personality, health, and social psychology, by better utilizing and integrating the wisdom from each area. We now know, with some certainty, that it is essential to define which form of aggression is being studied, the impulsive, affective variety or the proactive, cognitive variety. We can increase our level of specification by also shaping our data collection and analyses with the insights about causal determinants and self-regulatory cognitive mechanisms. Next, we need to link various outcomes to alternative sets of individual difference variables, as in the case of research on CAD and CHD.
The person, the situation, and aggression

Finally, we can return with renewed confidence to the study of aggression by understanding it in Lewinian terms as the interaction of person variables with situational variables (Lewin, 1943). Experimental social psychologists have tried to demonstrate the power of situational variables over dispositional ones by using paradigms in which naive subjects are put into novel behavior settings, such as mock prisons (Zimbardo, 1972), or blind obedience to authority situations (Milgram, 1974). Such alien environments minimize the dynamic role of personality by reducing the opportunities for 'characteristic' ways of responding (as measured by personality scales). Personality traits are predictors of aggressive behavior when people are observed in settings more familiar to them, or when they report on how they usually behave in previously experienced settings, or when it is possible to predict how salient situational features might be perceived differently by those with different personality structures.

When individuals are studied in novel situations that are not of their choosing, that they would typically avoid or escape from, then knowing their habitual response patterns will be of value in behavioral predictions only if such knowledge allows us to capture the latent logic that organizes their behavior patterns. As situational variables become stronger, individual differences become less significant in predicting or controlling behavior. It is when such external influences are moderate or ambiguous that personality factors are more likely to come into play (Mischel, 1984).

We can think of personality not as inborn entity, but as a learned filter for relating in consistent ways to other people and to various types of behavior setting, and we can think of social features of those settings as exerting powerful controls on an individual's attention, memory, motivation, emotions, and activation of scripts and schemas. Together, they influence behavioral outcomes (see Ross and Nisbett, 1991). The time has come to understand how person and situation matter in their complex interplay, when our goal is a fuller understanding of the nature of human aggression and societal violence.

For this purpose individual differences related to different forms of aggression may help to investigate how different patterns behave in different situations and which are the constraints of different situations with regard to the stability of different patterns. Whereas the study of patterns leads to the study of more basic processes which underlie mental structures which supervise over aggressive behaviors, the knowledge of multiple and reciprocal influence between processes, situations, and behaviors can be further expanded (see Caprara, 1996). Ultimately interventions aimed at preventing and changing aggression can be grounded on more solid bases.

REFERENCES


Boyle, G. J. (1989). 'Re-examination of the major personality-type factors in the Cattell, Comrey and Eysenck scales: were the factor solutions by Noller et al. optimal?', *Personality and Individual Differences, 10*: 1289–1299.


Caprara, G. V. (1983). 'La misura dell'aggressività: contributo di ricerca per la costruzione e la validazione di due scale per la misura dell'irritabilità e dellasuscettibilità emotiva' ['A research contribution via the construction and validation of two scales for the measurement of irritability and emotional susceptibility'], *Giornale di Psicologia Italiana, 9*: 91–111.


Zimbardo, P. G. (1972). 'Pathology of imprisonment', *Society, 6*: 4, 6, 8.

