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I³ THEORY: INSTIGATING, IMPELLING, AND INHIBITING FACTORS IN AGGRESSION

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Interpersonal aggression is prevalent and disturbing. This chapter presents a metatheoretical perspective, *I³ theory*, that seeks (a) to impose theoretical coherence on the massive number of established risk factors for aggression and (b) to use the tools of statistical (and conceptual) moderation to gain new insights into the processes by which a previously nonaggressive interaction escalates into an aggressive one (see Finkel, 2007, 2008). *I³ theory* (pronounced “I-cubed theory”) does not advance one key variable (or even a specific set of key variables) as the root cause of aggression. Rather, it seeks to present an organizational structure for understanding both (a) the process by which a given risk factor promotes aggression and (b) how multiple risk factors interrelate to aggravate or mitigate the aggression-promoting tendencies of each. As detailed in this chapter, *I³ theory* suggests that scholars can predict whether an individual will behave aggressively in a given situation by examining the main and interactive effects of the instigating triggers, impelling forces, and inhibiting forces at play.

Scholars have advanced a broad range of theories to understand *aggression*, which in this chapter refers to any behavior carried out with the primary proximal goal of inflicting physical harm on a target who is motivated to avoid being harmed (Baron & Richardson, 1994). (We do not examine in

this chapter other forms of aggression, such as verbal, relational, or sexual aggression.) Craig Anderson and colleagues have sought to integrate many of these theories into a broad metatheory called the *general aggression model* (GAM; Anderson & Bushman, 2002; see Chapter 1, this volume). As with I³ theory, the GAM focuses less on a particular variable or process than on general classes of aggression risk factors and processes. The GAM consists of three main foci. The first emphasizes person and situation *inputs*, or risk factors, for aggression. *Person inputs* include personality traits, gender, beliefs, attitudes, values, long-term goals, and scripts; *situation inputs* include aggressive cues (e.g., presence of guns), provocation, frustration, pain and discomfort, drugs, and incentives (determined by a cost/benefit analysis). The second focus is the interconnected affective, arousal, and cognitive *routes*, or mechanisms, through which the inputs influence aggressive behavior. *Affective routes* include mood and emotion and expressive motor tendencies; *arousal routes* include the strengthening of a dominant action tendency or certain misattribution processes; *cognitive routes* include hostile thoughts and scripts. Finally, the third focus is the *outcomes* of the underlying appraisal and decision processes. Individuals are likely to act impulsively when they lack the resources and motivation to alter their immediate appraisal of the situation. If they possess the resources and motivation, however, they may reappraise the situation and act in a more thoughtful fashion.

I³ THEORY

I³ theory, which is a process-oriented metatheory designed to identify the circumstances under which a nonaggressive interaction can become an aggressive one, has different emphases from the general aggression model. For example, although both metatheories seek to integrate extant theories of aggression into a broad, coherent model, I³ theory incorporates recent research on self-regulation as a core emphasis of the model, and it specifies the novel ways in which aggression risk factors interact to predict aggressive behavior.

The theory begins by posing three questions. First, does at least one individual in the interaction experience strong instigating triggers toward aggression? Second, does that individual experience strong impelling forces toward aggression? Third, does that individual experience weak forces to inhibit or override the aggressive impulses? Each affirmative answer increases the likelihood of aggressive behavior via both a main effect and interactive effects with variables relevant to one or both of the other questions. Whereas the strength of impelling forces is determined by the collective power of the variables that cause the individual to experience an urge to aggress in response to a given instigating trigger, the strength of inhibiting forces is determined by

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In addition to these three initial questions, I³ theory poses a fourth: How do effects of variables in one category (i.e., instigating triggers, impelling forces, or inhibiting forces) interact with effects of one or more variables from the other categories to predict aggressive behavior? As presented in Table 2.1, answering these four questions enables scholars to identify seven key I³ theory effects. Figure 2.1 (which builds on work by Fals-Stewart, Leonard, & Birchler, 2005) illustrates how these seven effects can work together to increase or decrease the likelihood of aggressive behavior.

I³ theory diverges from the aggression theories mentioned earlier in its central emphasis on inhibitory processes. The theory recognizes the importance of instigating triggers and impelling forces, but it argues that such factors cause individuals to enact aggressive behavior only when their collective power is stronger than the collective power of inhibitory processes. Although other theories address the importance of inhibitory processes in aggression (e.g., Chapters 1, 6, 9, and 15), the emphasis on such processes gains new prominence with I³ theory.

Instigating Triggers

The first stage of I³ theory concerns the presence of one or more *instigating triggers*, which are discrete situational events or circumstances that induce rudimentary action tendencies toward physical aggression. As illustrated at the lower left of Figure 2.1, impelling and inhibiting forces are irrelevant when instigating triggers are absent. Even the world's angriest, least controlled person is not aggressive all the time; some situational variable (even if it only serves to activate a long-standing goal or grievance) is required before the person becomes aggressive. Aversive events can trigger (via automatic associative networks or cognitive appraisal processes) hostile cognitive, affective, physiological, and even motor tendencies that prime the individual to aggress (Berkowitz, 1993; Chapters 1 and 9, this volume). I³ theory suggests that certain events can also trigger aggressive tendencies driven by instrumental goals (e.g., having an individual offer you money to beat up his enemy).

Instigating triggers fall into one of two categories: dyadic and third-party. *Dyadic triggers* refer to events or circumstances that the potentially aggressive individual perceives as having originated in the target. Examples include direct provocation (Bettencourt & Miller, 1996), goal obstruction (Dollard, Doob, Miller, Mowrer, & Sears, 1939), and social rejection (Leary, Twenge, & Quinlivan, 2006). *Third-party triggers* refer to events or circumstances that the potentially aggressive individual perceives as having originated in somebody other than the target. The same kinds of triggers that lead

TABLE 2.1
 Theory of Aggression: The Seven Effects

Effect (#)	Effect (Stage)	Effect (Description)	Example	Citation for example
1	Stage 1	Instigating Trigger Main Effect	Social Rejection	Twenge et al., 2001
2	Stage 2	Impelling Forces Main Effect	Testosterone	Dabbs et al., 1987
3	Stage 3	Inhibiting Forces Main Effect	Self-Regulatory Strength	DeWall et al., 2007
4	Stage 1 × Stage 2	Instigating Trigger × Impelling Forces Interaction Effect	Ego Threat × Narcissism	Bushman & Baumeister, 1998
5	Stage 1 × Stage 3	Instigating Trigger × Inhibiting Forces Interaction Effect	Provocation × Self-Regulatory Strength	Finkel et al., 2009
6	Stage 2 × Stage 3	Impelling Forces × Inhibiting Forces Interaction Effect	Physical Proclivity × Negative Outcome Expectancies	Finkel & Foshee, 2009
7	Stage 1 × Stage 2 × Stage 3	Instigating Trigger × Impelling Forces × Inhibiting Forces Interaction Effect	[No Known Example]	[No Known Example]

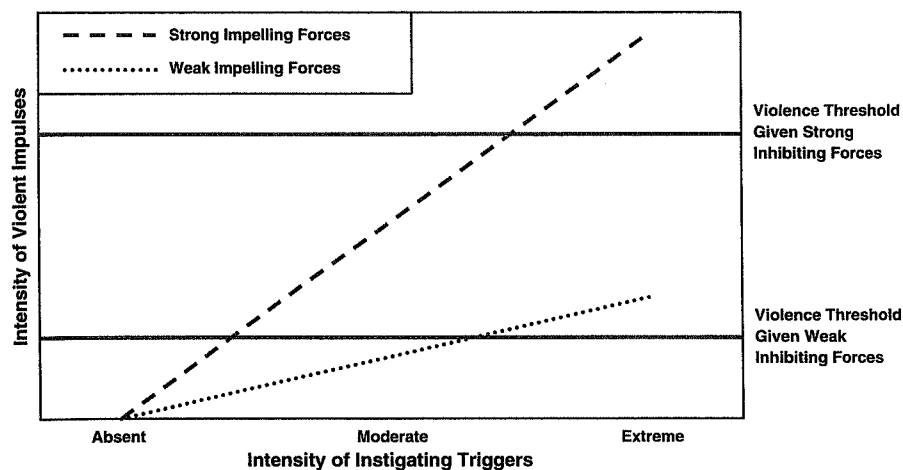


Figure 2.1. How the three components of I³ theory interrelate to predict aggressive behavior. For ease of illustration, impelling forces and inhibiting forces are depicted as if they are binary—either weak or strong. In reality, the intensity of each type of force varies continuously from weak to strong.

to a rudimentary action tendency to aggress against the provocateur can also lead to this tendency with respect to a third party. For example, an individual who feels provoked or rejected may experience an instigation to aggress not only against the source of the provocation or rejection but also (or alternately) toward another target whom the potential perpetrator believes would make a more acceptable or desirable target (e.g., somebody who is less likely to fight back).

Impelling Forces

The second stage of I³ theory concerns risk factors that determine the strength of the aggressive impulse experienced by the individual, through main effects and through interactions with instigating triggers. In some situations, individuals may effortlessly shrug off (or perhaps not even notice; see Chapter 9) an instigating trigger, experiencing virtually no impulse toward aggression. In others, individuals may react strongly to a trigger, experiencing a powerful impulse toward aggression. *Impelling forces* refer to factors that increase the likelihood that individuals will experience an aggressive impulse in response to an instigating trigger. Individuals tend to experience more powerful aggressive impulses when impelling forces are strong than when they are weak (see dashed vs. dotted lines in Figure 2.1), especially to the degree that the instigating trigger is severe.

Impelling forces fall into one of four categories: evolutionary and cultural, personal, dyadic, and situational. *Evolutionary and cultural impellers* refer to features of the potentially aggressive individual's biological or cultural heritage, including evolutionary adaptations and social norms (see Chapters 3 and 10). Examples include adaptations resulting from evolutionary pressures that provided ancestral men and women with a survival advantage for experiencing violent impulses in certain situations (Lorenz, 1966) and social norms delineating the extent to which certain instigating triggers provoke strong aggressive impulses (Nisbett & Cohen, 1996). *Personal impellers* refer to relatively stable characteristics of a given individual that differ from those of many other individuals, including personality characteristics, attitudes, beliefs, interpersonal interaction styles, or biological factors. Examples include dispositional hostility (Norlander & Eckhardt, 2005; Chapters 5 and 8, this volume), narcissism (Twenge & Campbell, 2003; Chapter 11, this volume), and testosterone (Dabbs, Frady, Carr, & Besch, 1987; Van Goozen, Frijda, & Van de Poll, 1994). *Dyadic impellers* refer to characteristics of the relationship between the potential aggressor and the potential target. Examples include dissatisfaction with the amount of power one has in a relationship (Ronfeldt, Kimerling, & Arias, 1998), target-specific jealousy (Dutton, van Ginkel, & Landolt, 1996; Holtzworth-Munroe, Stuart, & Hutchinson, 1997), and feelings of vulnerability or insecurity in the relationship (Carney & Buttell, 2005; Holtzworth-Munroe et al., 1997; Chapters 13 and 14, this volume). Finally, *situational impellers* refer to momentarily activated cognitive, affective, or physiological experiences. Examples include uncomfortable temperatures (Anderson, Anderson, Dorr, DeNeve, & Flanagan, 2000), physical pain (Berkowitz, 1998), and exposure to violent media (Anderson & Bushman, 2001; Anderson, Carnagey, & Eubanks, 2003).

Inhibiting Forces

The third stage of I³ theory concerns risk factors that determine whether individuals will override the aggressive impulses that emerge from the instigating triggers, impelling factors, and their interaction. In some situations, individuals succumb to these impulses, engaging in aggressive behavior. In others, individuals override them in favor of nonviolent behavior. *Inhibiting forces* refer to factors that increase the likelihood that individuals will override aggressive impulses rather than acting on them. Inhibiting factors collectively determine the threshold above which aggressive impulses will manifest themselves in aggressive behavior. If the inhibiting forces are weak (i.e., the lower horizontal line in Figure 2.1), then aggressive impulses need not be especially strong to result in aggressive behavior. If the inhibiting forces are strong (i.e., the upper

horizontal line in Figure 2.1), then aggressive impulses must be strong to result in aggressive behavior.

As with impelling forces, inhibiting forces fall into one of four categories: evolutionary and cultural, personal, dyadic, and situational. Examples of *evolutionary and cultural inhibitors* include adaptations resulting from evolutionary pressures that provided ancestral men and women with a survival advantage for overriding aggressive impulses in certain situations (Baumeister, 2005; Chapter 3, this volume) and social norms or institutions that decrease the likelihood that individuals will act on aggressive impulses (Guerra, Huesmann, & Spindler, 2003; Sampson, Raudenbush, & Earls, 1997; Chapter 10, this volume). Examples of *personal inhibitors* include dispositional self-control (Finkel, DeWall, Slotter, Oaten, & Foshee, 2009), executive functioning (Giancola, 2000; Chapter 6, this volume), and beliefs that enacting aggressive behavior will lead to poor outcomes for the self (Slaby & Guerra, 1988). Examples of *dyadic inhibitors* include partner empathy or perspective taking (Richardson, Green, & Lago, 1998; Van Baardewijk, Stegge, Bushman, & Vermeiren, in press), relationship commitment (Gaertner & Foshee, 1999; Slotter, Finkel, & Bodenhausen, 2009), and relative physical size (Archer & Benson, 2008; Felson, 1996; Chapter 3, this volume). Finally, examples of *situational inhibitors* include sobriety (i.e., vs. alcohol intoxication; Bushman & Cooper, 1990; Denson et al., 2008), nondepleted self-regulatory resources (DeWall, Baumeister, Stillman, & Gailliot, 2007; Finkel et al., 2009; Chapter 6, this volume), and plentiful cognitive processing time (Finkel et al., 2009).

Reviewing the Aggression Literature From the Perspective of I³ Theory

One purpose of I³ theory is to provide a coherent framework for categorizing aggression risk factors and examining the interplay among them. To illustrate how I³ theory can accomplish these goals, we review key findings in the aggression literature through its lens, with a particular emphasis on interaction effects. This review is illustrative rather than exhaustive.

I³ theory encompasses seven key effects: three main effects (i.e., instigating triggers, impelling forces, and inhibiting forces), three two-way interaction effects (i.e., instigating triggers × impelling forces, instigating triggers × inhibiting forces, and impelling forces × inhibiting forces), and one three-way interaction effect (instigating triggers × impelling forces × inhibiting forces). Table 2.1 lists these seven effects and provides an example of each. We discuss examples of these effects in turn.

1. An Illustrative Main Effect of Instigating Triggers: Social Rejection

As shown in the first row of Table 2.1, an illustrative instigating trigger is *social rejection*, which refers to a class of interpersonal processes in which

individuals feel rejected, excluded, or ostracized. Diverse lines of evidence demonstrate that individuals who experience social rejection are more aggressive than individuals who do not (Leary et al., 2006). In one study, participants who had been unanimously rejected by a group of fellow participants administered substantially louder, more painful sound blasts to an unknown stranger than did participants who had been unanimously accepted (Twenge, Baumeister, Tice, & Stucke, 2001, Study 5). In this study, social rejection served as a displaced instigating trigger because the target of the aggression was not a member of the group who had previously rejected the participant. Another study, which provided an in-depth analysis of all well-documented school shootings in the United States between 1995 and 2001, yielded compatible conclusions, with acute or chronic rejection preceding the shootings in 87% of the cases (Leary, Kowalski, Smith, & Phillips, 2003).

2. An Illustrative Main Effect of Impelling Forces: Testosterone

As shown in the second row of Table 2.1, an illustrative impelling force is the androgen *testosterone*. Although testosterone is higher in men than in women, its level predicts aggression in both sexes (Archer, Biring, & Wu, 1998; Dabbs & Hargrove, 1997; see Sapolsky, 1998). In a study of male prison inmates, testosterone levels correlated positively with crime severity; indeed, nine of the 11 inmates with the lowest testosterone levels had committed nonviolent crimes, whereas 10 of the 11 inmates with the highest testosterone levels had committed violent crimes (Dabbs et al., 1987). In another study, female-to-male transsexuals became considerably more aggressive in the first 3 months of androgen injections (Van Goozen, Cohen-Kettenis, Gooren, Frijda, & Van de Poll, 1995).

3. An Illustrative Main Effect of Inhibiting Forces: Self-Regulatory Strength

As shown in the third row of Table 2.1, an illustrative inhibiting factor is *self-regulatory strength*, which refers to the psychological resource that undergirds willful acts of self-regulation. According to the strength model of self-regulation (Baumeister, Gailliot, DeWall, & Oaten, 2006), all such acts depend on a unitary resource that resembles a muscle. The strength of this resource can be temporarily diminished by self-regulatory exertions (leading to a state of "ego depletion"), just as holding a heavy weight fatigues a muscle in the short term but it also can be bolstered over time by adherence to a self-regulatory bolstering "regimen," just as a consistent weight-lifting regimen strengthens a muscle over time. In one study, hungry participants who had, moments earlier, exerted self-regulation by resisting the temptation to eat an indulgent food (a donut; high ego depletion condition) were more aggressive toward a same-sex provoking interaction partner (forcing this part-

ner to eat a snack with plentiful hot sauce despite his or her distaste for spicy foods) than were participants who had previously resisted eating a less tempting food (radishes; low ego depletion condition), even though participants in the two conditions did not differ in how angry they were in response to the provocation (DeWall et al., 2007, Study 1).

Complementing this evidence that short-term self-regulatory exertions can deplete self-regulatory resources and thereby predict elevated aggression is evidence that longer term self-regulatory exertion regimens can bolster self-regulatory strength and thereby predict reduced aggression. A recent study demonstrated that individuals who had adhered to a 2-week self-regulatory strength-bolstering regimen declined significantly from before to after the regimen in their aggressive tendencies toward their romantic partner (Finkel et al., 2009, Study 5). In this study, participants who deliberately regulated either their physical behavior (e.g., brushing their teeth with their non-dominant hand) or their verbal behavior (e.g., making sure not to begin sentences with "I") reported a reduced likelihood of being physically aggressive in response to various partner provocations (e.g., "I walk in and catch my partner having sex with someone"), whereas participants in a no-intervention condition exhibited no change from pretest to posttest.

4. An Illustrative Instigating Trigger \times Impelling Forces Interaction Effect: Ego Threat \times Narcissism

We now turn from I³ theory's three main effects to its three two-way interaction effects. As shown in the fourth row of Table 2.1, an illustrative instigating trigger \times impelling forces interaction effect is *ego threat* \times *narcissism*. Although many scholars have suggested that low self-esteem causes aggression, others have increasingly argued that a form of high self-esteem is frequently more likely to do so. In particular, individuals whose self-views are not only favorable but also unstable, inflated, or uncertain are especially prone toward aggressive behavior when their favorable self-views are socially threatened (Baumeister, Smart, & Boden, 1996; Chapter 11, this volume). One series of studies demonstrated that participants who had experienced an ego threat in the form of insulting feedback about an essay they had written (an instigating trigger) were more aggressive toward the same-sex provocateur (subjecting him or her to painfully loud noise blasts) than were participants who had not experienced an ego threat (Bushman & Baumeister, 1998). The key finding, however, was that this main effect of ego threat was substantially larger for participants who were high in narcissism (an impelling factor) than for participants who were low in narcissism.

Additional research has examined how self-views moderate the link between other instigating triggers (aside from insults) and aggression. One study demonstrated that the link between social rejection and displaced

aggression (painful noise blasts) was substantially stronger for individuals who were high in narcissism than for those who were low in narcissism (Twenge & Campbell, 2003, Study 4), and another demonstrated that the link between social rejection and aggression (aversive hot sauce) was substantially stronger for individuals who were high in rejection sensitivity (those who anxiously expect, readily perceive, and overreact to rejection) than for those who were low in rejection sensitivity (Ayduk, Gyurak, & Luerssen, 2008).

5. *An Illustrative Instigating Trigger × Inhibiting Forces Interaction Effect: Provocation × Self-Regulatory Strength*

As shown in the fifth row of Table 2.1, an illustrative instigating trigger × inhibiting forces interaction effect is *provocation × self-regulatory strength*. As discussed previously, both provocation and self-regulatory strength predict aggression via main effects. Recent studies confirm the I³ theory prediction that incorporating their interaction effect yields a richer story (e.g., Chapter 6). Two recent experiments, one in which the aggression was directed at strangers (aversive sound blasts; DeWall et al., 2007, Study 2) and one in which the aggression was directed at one's romantic partner (forcing him or her to maintain body poses for painfully long durations; Finkel et al., 2009, Study 4), demonstrated that participants were especially aggressive when they experienced both provocation (in the form of insulting feedback) and ego depletion.

Another example of an instigating trigger × inhibiting forces interaction effect is *provocation severity × frontal lobe functioning* (Lau, Pihl, & Peterson, 1995). In this study, participants were preselected if they were in the upper or lower quartile on frontal-lobe-based cognitive functioning, which underlies the ability to control one's impulses (Hecaen & Albert, 1978). Consistent with I³ theory, participants were more aggressive (administering painful electric shocks) to the degree that the opponent had previously provoked them severely rather than mildly (i.e., had administered painful electric shocks to them), but this provocation main effect was substantially stronger among individuals with weak rather than strong frontal lobe functioning (Lau et al., 1995).

Yet another example of an instigating trigger × inhibiting forces interaction effect is *provocation salience × alcohol consumption* (Densen et al., 2008). In this study, participants who had just consumed four alcoholic or placebo beverages were provoked in either a salient or a subtle way and then had the opportunity to aggress against their provocateur by determining for how long the provocateur would have to keep his or her hand immersed in iced water. Participants were more aggressive in the salient provocation condition than in the subtle provocation condition, and this effect was significantly stronger in the alcohol than in the placebo condition.

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A final example of an instigating trigger \times inhibiting forces interaction effect is *provocation level* \times *relationship commitment* within the context of an ongoing romantic relationship (Slotter et al., 2009). In these studies, participants were more aggressive toward their romantic partner after he or she had provoked them, and this provocation main effect was especially strong among participants who were low in relationship commitment. Extending work suggesting that commitment promotes prorelationship behaviors in other conflictual relationship domains, such as forgiveness (Finkel, Rusbult, Kumashiro, & Hannon, 2002), it appears that individuals who are highly committed to their romantic relationships are able to override aggressive impulses when their partner provokes them.

6. *An Illustrative Impelling Forces \times Inhibiting Forces Interaction Effect: Physical Proclivity \times Negative Outcome Expectancies*

As shown in the sixth row of Table 2.1, an illustrative impelling forces \times inhibiting forces interaction effect is *physical proclivity* \times *negative outcome expectancies*. Individuals vary in the degree to which they prefer physical versus cognitive tasks, and a relative preference for the former predicts increased tendencies toward aggression and criminal behavior (Gottfredson & Hirschi, 1990). Individuals also vary in the degree to which they believe that engaging in aggressive behavior will cause them to experience negative outcomes, such as physical harm or social derision, and stronger beliefs in this causal link predict decreased tendencies toward aggression (Slaby & Guerra, 1988). One recent study examined whether physical proclivity (an impelling factor) interacts with negative outcome expectancies (an inhibiting factor) to predict aggression toward a romantic partner (Finkel & Foshee, 2009). Results revealed a strong positive association of physical proclivity with self-reported aggressive behavior over the previous year, but only when negative outcome expectancies were low. It seems that the tendencies to prefer physical to cognitive tasks predicts greater aggression among individuals whose aggression is not restrained by beliefs that being aggressive will bring about negative effects for them, but not among individuals whose aggression is so restrained.

7. *Instigating Triggers \times Impelling Forces \times Inhibiting Forces Interaction Effects: A Null Set*

Although the three main effects and the three two-way interaction effects reviewed previously are key components of I³ theory, the instigating triggers \times impelling forces \times inhibiting forces three-way interaction effect represents the most important component of the theory. Indeed, the theory suggests that all three of the preceding two-way interaction effects are moderated by third variables from whichever category is not represented in that two-way interaction.

Testing for such a three-way interaction would not be difficult. For example, it would be easy to examine (a) whether the ego threat \times narcissism (instigating trigger \times impelling factor) interaction effect is moderated by an inhibiting factor (e.g., self-regulatory strength, alcohol consumption, strong relationship commitment), (b) whether the provocation \times self-regulation strength (instigating trigger \times inhibiting factor) interaction effect is moderated by an impelling factor (e.g., testosterone, physical proclivity, dispositional anger), and (c) whether the physical proclivity \times negative outcome expectancy (impelling factor \times inhibiting factor) interaction effect is moderated by an instigating trigger (e.g., social rejection, ego threat, provocation). Testing for such interaction effects is an important direction for future research.

DISCUSSION

I³ theory seeks (a) to impose enhanced theoretical coherence on the vast array of aggression risk factors by identifying how each of them increases the likelihood of aggression (via instigating triggers, impelling forces, and/or inhibiting forces) and (b) to examine the manner in which risk factors from one category interact with those from one or both of the other categories to predict aggressive behavior. In the preceding section (also see Table 2.1 and Figure 2.1), we reviewed specific examples of how certain risk factors fit into I³ theory and how they interface with variables from the other I³ theory categories.

One important direction for future research, aside from providing the first tests of I³ theory's instigating trigger \times impelling factor \times inhibiting factor three-way interaction effect, will be to develop and hone empirical procedures for classifying a given risk factor into an I³ theory category (instigating trigger, impelling forces, and/or inhibiting forces) or perhaps into more than one category if a given variable both increases aggressive impulses and decreases restraint. In this chapter, we have relied on theory to determine, for example, (a) that social rejection, ego threat, and provocation are instigating triggers; (b) that testosterone, narcissism, and physical proclivity are impelling factors; and (c) that self-regulatory strength, lack of alcohol consumption, and negative outcome expectancies are inhibiting factors. One limitation of this approach is that existing theory is in many cases not sufficiently developed vis-à-vis the I³ theory parameters to allow for definitive classification. For example, we are reasonably confident that dispositional self-control predicts reduced aggression in large part by raising the inhibition threshold (see the horizontal lines in Figure 2.1), thereby increasing the likelihood that individuals will override aggressive impulses. That said, perhaps such dispositional self-control also predicts reduced aggres-

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How might scholars use empirical procedures to determine whether a given variable promotes aggression by increasing aggressive impulses or by decreasing restraint? One promising approach is to adapt recent developments in process dissociation paradigms used by social cognition researchers. Scholars have recently modeled behavior on laboratory tasks to discern the degree to which participants exhibit certain automatic tendencies (e.g., toward prejudice or discrimination) and also controlled tendencies that override these automatic tendencies (Payne, 2001; Sherman et al., 2008; see also Jacoby, 1991). After developing empirical procedures for distinguishing impulses toward aggressive behavior from self-controlled processes that override those impulses, scholars will be able to examine the association of a given risk factor with both (a) individuals' tendencies to experience impulses to aggress and (b) their tendencies to override those impulses (Chapter 6, this volume). We predict that variables such as testosterone, narcissism, and physical proclivity will correlate positively with the automatic aggressive tendencies identified by these process dissociation procedures and negligibly with the controlled tendencies that override these automatic tendencies. In contrast, we predict that variables such as self-regulatory strength, sobriety, and negative outcome expectancies will correlate negligibly with the automatic aggressive tendencies identified by these process dissociation procedures and positively with the controlled tendencies that override these automatic tendencies.

Once scholars determine (using theoretical tools, empirical tools, or both) which risk factors function by strengthening aggressive impulses and which function by weakening behavioral inhibition processes, I³ theory may hold promise for interventions designed to reduce aggressive behavior. For example, the theory highlights the importance of inhibitory factors (especially self-regulation) in predicting aggressive behavior, and scholars have suggested that interventions designed to help individuals override their impulses are likely to be more effective than interventions designed to prevent them from experiencing those impulses in the first place (e.g., Baumeister, 2005). To the degree that such scholars are correct, interventions designed to strengthen inhibitory forces may turn out to be more effective on average than interventions designed to weaken impelling forces. Early research inspired by I³ theory suggests that inhibition-relevant interventions at the dispositional level (e.g., building self-regulatory strength via bolstering regimens), relational level (e.g., strengthening relationship commitment), and situational level (e.g., having participants wait 10 seconds before responding to a provocation) can reduce aggressive behavior (Finkel et al., 2009; Slotter et al., 2009; see Finkel et al., 2002, for evidence that relationship commitment is amenable to experimental manipulation). And, as discussed earlier, distal inhibitory

factors such as prevalent social norms also seem to influence aggressive behavior (Guerra et al., 2003; Sampson, Raudenbush, & Earls, 1997; Chapter 10, this volume), which hints at the possibility that large-scale social interventions could potentially reduce aggression at the societal level.

In conclusion, I³ theory is an attempt to categorize aggression risk factors into instigating triggers, impelling factors, and/or inhibiting factors and to identify the interplay among variables across categories (see Figure 2.1). To the degree that extant theory provides good reason to believe that particular risk factors fit relatively neatly into one of the I³ theory categories, the theory provides an immediately accessible agenda for future research, oriented less toward identifying additional risk factors than toward identifying (a) the processes by which risk factors, considered in isolation, increase aggression and (b) the manner in which they interact to do so. In the long run, I³ theory can inform interventions designed to help individuals manage their aggressive impulses in a constructive manner. Indeed, scholarship may well progress to the point where interventions can be tailored to the specific inhibiting risk factors most relevant to a given person, perhaps reducing one individual's aggression by bolstering self-regulatory strength and reducing another individual's aggression by bolstering empathy. Such tailored interventions, which would require valid assessment instruments, hold particular promise for reducing the prevalence and severity of interpersonal aggression.

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