

Interpersonal Rejection as a Determinant of Anger and Aggression

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This article reviews the literature on the relationship between interpersonal rejection and aggression. Four bodies of research are summarized: laboratory experiments that manipulate rejection, rejection among adults in everyday life, rejection in childhood, and individual differences that may moderate the relationship. The theoretical mechanisms behind the effect are then explored. Possible explanations for why rejection leads to anger and aggression include: rejection as a source of pain, rejection as a source of frustration, rejection as a threat to self-esteem, mood improvement following aggression, aggression as social influence, aggression as a means of reestablishing control, retribution, disinhibition, and loss of self-control.

As a broad category of behavior, aggression is influenced by an array of biological, psychological, interpersonal, and cultural factors. Behavioral researchers have examined the effects on aggression of variables as diverse as hormones, brain abnormalities, frustration, attributions, ego-threats, observation of aggressive models, deindividuation, and cultural norms (for reviews, see Baron & Richardson, 1994; Berkowitz, 1993; Geen, 1990).

However, one set of common influences on aggression have, until recently, received relatively little attention—those associated with being rejected by other people. Common observation suggests that people often become angry, if not aggressive, when they feel that others have rejected them. Jilted lovers, children ostracized by their peers, assistant professors denied tenure, and contestants who are voted off reality game shows such as *Survivor* are among those in whom one may see evidence of aggressive impulses following events in which they feel devalued, unaccepted, or outright rejected.

In fact, rejection may be one of the most common precursors to aggression. The Surgeon General's report on youth violence (Office of the Surgeon General, 2001) found that social rejection (conceptualized as "weak social ties") was the most significant risk factor for adolescent violence, stronger than gang member-

ship, poverty, or drug use. Furthermore, as we will see, rejection has been implicated in an array of other aggressive behaviors in everyday life, including domestic violence and school shootings. Thus, it seems important to explore whether rejection does, in fact, lead to aggression and, if so, why.

The purpose of this article is to review the research literature that deals with the relationship between interpersonal rejection and the propensity to aggress. Our review focuses on two primary questions: (a) Does the research literature support the hypothesis that rejection reliably increases the propensity to aggress, and, if so, (b) why does the relationship between rejection and aggression exist? On the surface, it seems paradoxical that a person who desired to be accepted would, upon perceiving rejection, respond in angry, aggressive ways that further decrease his or her prospects for acceptance.

Conceptual Issues

To begin, we must make it clear precisely what we mean by rejection and the propensity to aggress, and offer a disclaimer regarding prosocial reactions to rejection.

Rejection

Rejection has been a difficult construct to define for two reasons. First, juxtaposing rejection against accep-

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tance leads one to treat these states as if they were dichotomous when, in fact, shades of acceptance and rejection clearly exist. Second, people often feel (and act) rejected even though they recognize that the other person accepts them. For example, a man who knows that his wife loves him dearly may nonetheless feel rejected, hurt, and angry when she ignores him on a particular occasion. Similarly, a child who is not selected first for a team may feel upset even though she is, in fact, chosen for the team, albeit later in the draft.

To provide a more precise way to conceptualize rejection that avoids dichotomizing experiences into acceptance versus rejection, Leary (2001, 2005) suggested that acceptance and rejection may be viewed as points along a continuum of "relational evaluation." People value their relationships with other individuals to varying degrees. Acceptance involves a state of relatively high relational evaluation in which a person regards his or her relationship with another individual to be very valuable or important, whereas rejection is a state of low relational evaluation in which a person does not regard his or her relationship with another individual as particularly valuable or important.

People's emotional and behavioral responses to acceptance and rejection seem to depend on their perception of how much another person views the relationship as valuable or important. People feel accepted when perceived relational evaluation exceeds some level but rejected when perceived relational evaluation falls below that criterion, regardless of how much others accept or reject them in an objective sense. Thus, people may feel rejected when perceived relational evaluation is not as high as they desire even though they recognize that they are liked, valued, and accepted (i.e., others' relational evaluation of them falls on the positive side of neutrality).

Sometimes, people perceive not only that another individual does not value their relationship as much as they desire but also that their relational value in that individual's eyes has declined relative to some earlier time. Declining relational evaluation, *relational devaluation*, is particularly distressing and seems to lead to the strongest subjective sense of rejection (Buckley, Winkel, & Leary, 2004; Leary, 2001). To use this terminology, our review will focus on the relationship between perceived low relational evaluation, and particularly relational devaluation, and aggression. In some of the studies to be reviewed, participants were explicitly rejected, excluded, or ostracized, but in others they received indications that they had low relational value even though they were not behaviorally excluded.

Aggression and the Propensity to Aggress

Aggression is any physical or verbal action that is performed with the deliberate intention of hurting an-

other living being. People can be hurt in numerous ways, so that deliberately inflicting physical, psychological, social, or financial harm all qualify as acts of aggression.

Of course, people often have an urge to aggress that they consciously control. Indeed, people probably suppress their urges to aggress more frequently than they act on them. For our purposes, it is important to consider the effects of rejection not only on overt aggression but also on aggressive urges. Whether a rejected individual will actually aggress is presumably a function not only of his or her psychological state but also environmental factors and internal constraints.

In many ways, anger can be viewed as the emotional concomitant of the propensity to aggress. According to emotion theorists, anger is associated with an action tendency toward agonistic behavior aimed at removing an obstacle and asserting control (Frijda, 1986). Of course, people do not always aggress when angry, and they may aggress even in a state of calm (as in the case of a murder for hire). Yet, anger is a signal that bodily systems are prepared to take agonistic action. Thus, we will consider literature on the link between rejection and anger in addition to that between rejection and overt aggression.

Prosocial Reactions to Rejection

Although our review focuses on antisocial reactions to rejection, we acknowledge at the outset that rejection may also lead to efforts to increase one's acceptability to others by behaving in socially desirable ways. People are strongly motivated to be accepted and avoid rejection, and signs of low or declining relational value often lead people to take steps to strengthen their social bonds (Baumeister & Leary, 1995; Williams, 2001). In fact, the most common initial response to perceived rejection may be to behave in ways that promote acceptance, for example by doing favors for others, ingratiating, conforming, fostering socially desirable impressions, and otherwise trying to show that one has high relational value.

Indeed, a handful of studies have shown that people who are rejected may make efforts to enhance their acceptance. For example, Williams, Cheung, and Choi (2000) showed that ostracized participants conformed to others' incorrect judgments more than those who were not ostracized, presumably because conformity promotes acceptance. Similarly, Williams and Sommer (1997) found that female (but not male) participants who were ostracized by other group members subsequently contributed more solutions to a group task, although this effect occurred only if their individual contributions could not be identified. Likewise, people who feel that their romantic partner's affection is waning often take positive steps to increase the strength of the bond (Gonzaga, Keltner, Londahl, & Smith, 2001).

Evidence also suggests that rejection leads people to be more attuned to social information about the rejector or rejectors (Gardner, Pickett, & Brewer, 2000), possibly for the purpose of fostering acceptance (although other research shows that recalling past rejections lowers people's empathic accuracy; Pickett, Gardner, & Knowles, 2004). In any case, people regularly respond to real, imagined, and potential rejection by trying to increase their relational value.

Even so, we have chosen to focus our review on anger and aggression because antisocial reactions to rejection are, on the surface, quite paradoxical and contrary to the pervasive desire for social acceptance. The fact that people often react prosocially when they do not feel valued or accepted needs little explanation. The fact that they sometimes respond in an angry and aggressive manner that leads others to dislike, avoid, and ostracize them begs for greater scrutiny.

Overview

The literature relevant to our review is quite varied and scattered, so we have organized it into four distinct but overlapping categories. We deal first with experimental studies that have examined participants' reactions to a rejecting experience, then focus on the role of rejection in instances of violence among adults in everyday life, such as domestic abuse and homicide. The relationship between peer and parental rejection and aggressive behavior among children is then explored, followed by a review of research on whether individual differences in anger, aggression, and hostility are related to a sensitivity to feeling rejected. After reviewing these four areas of empirical research, we turn our attention to a theoretical examination of mechanisms by which rejection may instigate aggression.

Experimental Studies

A number of experiments have examined the emotional and behavioral effects of being rejected by other people. These studies have employed a variety of techniques for making people believe that others do not adequately value them as social interactants, such as leading the participant to believe that other participants have voted against having him or her as a member of a laboratory group, making the participant feel left out of a conversation or an ad hoc ball-tossing game, informing participants that they are likely to end up alone later in life, choosing participants last for a laboratory team, or providing direct feedback that other individuals do not wish to get to know the participant. We include studies in this review if they experimentally manipulated acceptance or rejection and included measures of anger, negative evaluations of the rejecting individuals,

urges to aggress, or acts of overt aggression (or, conversely, lowered prosocial behavior).

Anger

As noted, anger can be viewed as the emotional concomitant of the propensity to aggress. Thus, we begin by examining the effects of interpersonal rejection on anger. Casual observation suggests that people often become angry when they feel devalued, uninvited, or outright rejected, but experimental documentation of this effect is sparse.

To examine the relationship between rejection, anger, and aggression, Buckley et al. (2004, Experiment 1) had pairs of participants exchange personal information about themselves with one another, then rate the degree to which they wanted to work with the other person on an upcoming task. The participants then received one of five levels of bogus feedback indicating the degree to which the other person wanted to work with them. Results showed that participants who received extremely rejecting feedback (indicating that the other person definitely did not want to work with them) reported feeling significantly more angry than those who received neutral or accepting feedback.

In a second experiment, Buckley and colleagues (2004) provided ongoing bogus feedback from another person at 1-min intervals as participants talked about themselves over an intercom. Whereas some participants received consistently rejecting or accepting feedback during their 5-min monologue, some participants initially received rejecting feedback that subsequently became more accepting over time, and other participants initially received accepting feedback that then turned rejecting. Participants in the increasing rejection condition displayed the greatest anger of all groups, being significantly angrier than participants in the constant acceptance and increasing acceptance conditions. Importantly, participants in the increasing rejection condition also felt least valued and accepted.

Williams and his colleagues have studied people's reactions to being ostracized while participating in a ball-toss game on a computer. In this "CyberBall" game (e.g., Williams, Cheung, & Choi, 2000), computer icons representing other people initially tossed an on-screen ball to the participant's icon. Eventually, however, participants stopped receiving the ball from the other players. Even when participants believed they were playing against the computer, ostracized participants reported greater feelings of anger during the game (Zadro, Williams, & Richardson, 2004). In fact, this experiment found that ostracism led to greater anger when playing against the computer than when playing against a virtual opponent controlled by another person.

In a similar experiment (Williams, Cheung, et al., 2000), several ostracized participants mentioned feel-

ing angry when asked to report their thoughts (in this case, participants thought they were playing with other people). One stated, "I am starting to feel left out... getting a little angry that I'm not being included," and another ostracized participant said, "Why are they only throwing to each other?... Okay, this is getting irritating" (p. 758). In another set of experiments, participants were left out of computer chat room discussions (Williams et al., 2002). Although anger was not measured directly in these experiments, some ostracized participants displayed what the authors called *virtual bravado*, responding angrily and sarcastically when they were excluded from the on-line conversation.

Although insults are typically regarded as attacks on a person's desired public identity (Felson, 1978; Tedeschi & Bond, 2001), they may also be viewed as an expression of low relational evaluation. When one person insults another, whether the insult concerns the target's competence, appearance, ethnic group, heritage, or something else, the target is likely to conclude that the perpetrator does not value him or her as a relational partner as much as he or she might desire. Not surprisingly, insults evoke anger and, often, overt aggression. In fact, insults so reliably make people angry that aggression researchers sometimes insult participants to elicit anger and aggression (e.g., Bushman, Baumeister, & Phillips, 2001; Harmon-Jones & Sigelman, 2001).

Although most experiments have found a link between social rejection and anger, some have not. Twenge, Catanese, and Baumeister (2003) had participants meet a group of peers and then learn that either no one or everyone chose them for further interaction. Participants then rated themselves on a set of emotion words, including 8 positive emotions and 33 negative emotions (including 7 words about angry feelings). Surprisingly, no significant differences were obtained in self-reports of angry feelings between the accepted and rejected participants. The authors concluded that rejected individuals may not always report feeling angry because they sometimes enter a state of emotional withdrawal and numbness (see also Williams & Zadro, 2001). Although we do not know why rejection sometimes causes people to become very emotional, whereas at other times they become affectively numb, presumably the likelihood of aggression is low when rejected individuals experience numbness and psychological withdrawal.

Negative Evaluations

People rarely aggress against those whom they like or evaluate positively at a given time. As a result, some degree of derogation of the other person may be a prerequisite for aggression. In light of this, we were interested in the effects of rejection on negative evaluations of the rejecting individual. Presumably, not only is der-

ogation itself sometimes an aggressive act intended to damage another person (by hurting their feelings, undermining their confidence, or tainting their image in others' eyes), but derogating those who reject us might increase the likelihood of aggressing against them.

Several studies have shown that participants criticize, devalue, and derogate those who have rejected them. In perhaps the earliest demonstration of this effect, Pepitone and Wilpizeski (1960) found that individuals who had been rejected subsequently rated their rejectors as less likeable and as having less valid opinions than individuals who had not been rejected. Similarly, Geller, Goodstein, Silver, and Sternberg (1974) found that participants who were ignored by confederates subsequently rated the confederates less favorably than did participants who had not been ignored. In addition, ignored participants did not work as hard to earn a reward for the confederates as did included participants.

After letting participants get to know one another, Leary, Tambor, Terdal, and Downs (1995) led participants to believe that other group members either did or did not want them as members of a laboratory group. Participants who had been excluded by the other group members subsequently rated them less positively than those who had been included. This effect was not obtained when participants were excluded from the group on the basis of a random procedure. Buckley and colleagues (2004) replicated this finding using a paradigm involving rejection by a lone individual rather than a group (Experiment 1) and also found that, compared to participants who received constant or increasing acceptance as they talked about themselves for 5 min, those who received constant or increasing rejection rated the other person less positively, indicated that they liked him or her less, and said they desired to get to know him or her less (Experiment 2).

Twenge, Baumeister, Tice, and Stucke (2001) also found that rejected individuals derogated other people (Experiments 1, 2, and 3). Based on their responses to a bogus personality inventory, some participants were told that they would probably end up alone later in life. Following this feedback, all participants were led to believe that the other participant in their session had insulted them (by criticizing an essay they had written). Participants were then told that their evaluator was applying to be a research assistant in the department and were asked to evaluate him or her for the job. Participants who heard they were going to be alone later in life gave much more negative evaluations to the individual who had insulted them than did participants in the control groups.

Williams and his colleagues have also found this effect after experiences of exclusion in an online chat room (Williams et al., 2002). Participants who were excluded during a chat room conversation subsequently rated the other chat room individuals as less friendly,

helpful, caring, creative, and sincere, and as more boring, dishonest, selfish, and insensitive (Experiment 2). In another experiment (Experiment 3), excluded participants also reported liking the other participants less. In Williams and Sommer (1997), some participants also made derogatory attributions about confederates who excluded them during an in-person ball-tossing game. When asked why the confederates stopped throwing the ball to them, some ostracized participants derogated the others' character (e.g., "they are stuck-up," "they are immature") or described them as dissimilar to themselves (e.g., "they are more aggressive than I am," "they are friends [with each other]," p. 701).

Bourgeois and Leary (2001) led participants to believe that another participant (who was actually a confederate) had selected them either first or last for a five-person team. Participants who thought that they were chosen last subsequently rated the confederates more negatively than those who were selected first.

Using a somewhat different manipulation of rejection, Snapp and Leary (2001) failed to find this derogation-of-the-rejector effect. In their study, two participants located in different cubicles talked about themselves simultaneously over an intercom system, believing that a third participant (actually a confederate) was listening to them from another room. The confederate could ostensibly listen to only one participant at a time and, thus, had to switch back and forth between them. Each participant could tell when the confederate was listening to him or her (rather than to the other participant) by a light that illuminated in his or her cubicle. Over the course of talking about themselves for 5 min, participants' lights in the rejection condition were illuminated only one third as much as participants' lights in the acceptance condition. Thus, some participants believed that the confederate clearly preferred listening to the other person rather than them. Although participants felt significantly more rejected when they thought the confederate had listened to them only one third of the time, neither evaluations of the confederate nor self-reported anger were affected by the acceptance–rejection manipulation. Interestingly, however, participants in the rejection condition liked the other participant less than those in the acceptance condition. In everyday life, people harbor ill-will toward rivals who they believe undermine their acceptance by others.

Aggression, Aggressive Urges, and Decreased Prosocial Behavior

Beyond the feelings of anger and negative evaluations of a rejector, other studies have examined the effects of rejection on the degree to which people engage in, or desire to engage in, acts of aggression.

In a series of experiments, Twenge and colleagues (2001) demonstrated a causal connection between so-

cial rejection and aggressive behavior. Following a 15-min conversation among a group of participants, each participant voted for the two people with whom he or she preferred to work. Some participants were then told that no one had chosen to work with them (rejection), whereas others heard that everyone wanted to work with them (acceptance). They were then told they would play a reaction time game with a new person (who was not one of the rejecting group members). When the opponent lost, the participant was allowed to determine the length and intensity of a blast of white noise (a common measure of aggression; e.g., Bushman & Baumeister, 1998). Compared to accepted participants, rejected participants were significantly more aggressive toward the opponent. Furthermore, this effect occurred whether the new person had insulted them (Experiment 4) or was a completely innocent target with no previous interaction involved (Experiment 5).

Warburton, Williams, and Cairns (2003) likewise showed a link between ostracism and aggression. Participants experienced ostracism or inclusion in a virtual ball-tossing game and also experienced control (or no control) over unpleasant noise. Participants then had the opportunity to aggress against an innocent target; they were told that the target person did not like spicy foods and that they could assign him or her to eat hot sauce. Results showed that ostracized participants who had no control over the noise were the most aggressive, assigning the target person to eat four times as much hot sauce as participants in the other conditions. Thus, when ostracized participants could not control an aversive situation, they were more aggressive toward an innocent target.

Harmon-Jones and Sigelman (2001) examined the effects of a devaluing insult on aggression. After writing an essay, some participants received a relatively negative evaluation from another participant, punctuated by the statement "I can't believe an educated person would think like this," whereas other participants received a relatively neutral evaluation. Compared to participants who received a neutral evaluation, participants who were insulted were more likely to select a decidedly unpleasant-tasting beverage for the other person to drink. Likewise, Bushman and colleagues (2001) found that a similar insult increased aggression in the noise-blasting game.

The results of a quasi-experimental study also showed a link between social rejection and aggression (Kirkpatrick, Waugh, Valencia, & Webster, 2002). Participants first completed several measures, including measures of perceived social inclusion. They were then given the opportunity to assign hot sauce to a peer who did not care for spicy foods (as in Warburton et al., 2003). When entered into a regression equation with global self-esteem, superiority, and mate value, perceived social exclusion predicted a greater allocation

of hot sauce. Thus, participants who reported feeling generally less socially included were more aggressive in the laboratory.

Rejection also appears to affect acts of prosocial behavior. In a series of experiments, Twenge, Ciarocco, Cuervo, and Baumeister (2003) manipulated social exclusion and gave participants the opportunity to act prosocially. Excluded participants donated less money to a student fund, were less likely to volunteer for additional experiments to help graduate students, and were less helpful when the experimenter dropped pencils on the floor. In addition, excluded participants were less cooperative (and more competitive) in a game of Prisoner's Dilemma. Excluded participants were consistently less prosocial, even when prosocial behavior would have benefited themselves (as in the Prisoner's Dilemma game).

In Experiment 1 of Buckley and colleagues (2004), participants selected which of seven audio tapes, ranging in pleasantness from "extremely pleasant" to "extremely aversive," another person would listen to while working on a task. Results showed that rejected participants chose less pleasant tapes than participants who received acceptance or neutral feedback. However, the average tape selected by participants in the extremely rejected condition was "neutral" rather than aversive. Thus, rejected participants did not aggress by assigning aversive tapes; instead, they failed to behave prosocially by assigning pleasant ones (as accepted participants did).

Buckley and colleagues (2004; Experiment 2) also measured urges toward aggression and prosocial behavior. Participants rated how much they felt like reacting in eight prosocial ways (e.g., smiling at the other person) and eight antisocial or aggressive ways (e.g., humiliating the other person). Compared to accepted participants, rejected participants reported that they felt less like performing the prosocial actions but more like performing the antisocial reactions. This study is important in documenting the presence of aggressive urges following rejection even when people do not act on them.

Importantly, the decrease in prosocial behavior among rejected individuals may occur primarily with regard to those who rejected them (however, see Twenge, Ciarocco, et al., 2003). In fact, evidence suggests that rejection by one group may increase the degree to which people behave prosocially toward members of another group (Williams, Cheung, et al., 2000).

Summary of the Experimental Research

With the exception of Snapp and Leary (2001) and Twenge, Catanese, and Baumeister (2003), all of the experimental studies demonstrated that people who think that other people do not value them feel more angry, hold more negative opinions of the person who re-

jected them, feel a stronger urge to aggress, or are more likely to engage in actions that inflict distress or withhold positive outcomes than people who are socially valued. These effects were obtained using a variety of manipulations of relational evaluation (e.g., being voted out of a group, being ignored, receiving explicit feedback that others are disinterested, being chosen last for a team, being insulted), as well as different outcome measures. Thus, rejected people are more likely to feel angry, act aggressively toward other people, and refuse to help others. Although a few studies failed to reveal effects of rejection on aggression, most supported the hypothesis that rejection can lead to the psychological states that underlie aggression as well as to aggression itself.

Anger and Aggression in Everyday Life

William James (1890) was among the first to suggest that rejection in the course of everyday life may precipitate rage:

If no one turned round when we entered, answered when we spoke, or minded what we did, but if every person we met 'cut us dead,' and acted as if we were non-existing things, a kind of rage and impotent despair would ere long well up in us, from which the cruelest bodily torture would be a relief. (p. 281)

The studies reviewed in this section dealt with links between perceived rejection and aggression outside the laboratory, including domestic violence, violent crime, sexual assault, and school shootings. We focus here on studies that used adolescent and adult samples, turning to research on children in the subsequent section.

Self-Reported Reactions to Actual Rejecting Events

In an investigation of the events that provoke anger, Mabel (1994) derived 10 factors from 360 situations that participants reported made them angry. Four of the 10 factors involved feeling rejected: being ignored or treated badly by a significant other, people demonstrating that they don't care about the person, being degraded or treated unfairly and feeling powerless to do anything about it, and having one's authority, property, or feelings being disregarded by others. These findings suggest that a sizable portion of anger-producing situations involve feeling rejected.

Similarly, when people recount real-life instances of rejection, they often report feeling angry and aggressive. A study of incidents in which people's feelings were hurt showed that people who experience hurt feelings (a direct consequence of perceiving that another in-

dividual does not sufficiently value one's relationship) often reported becoming angry and lashing out at those who hurt them (Leary & Springer, 2000; Leary, Springer, Negel, Ansell, & Evans, 1998). In fact, 80% of participants reported that they had expressed anger, and 62% indicated that they had said something "critical or nasty" to the person who had hurt their feelings (Leary et al., 1998). In the same vein, analysis of 737 episodes of real ostracism culled from participants' daily reports found that 43% of the ostracizing experiences were associated with feelings of anger (whereas only 7% were associated with lowered anger; Williams, 2001). Furthermore, interviews with people who have experienced the "silent treatment," often over a prolonged period of time, revealed that anger is a prominent emotion in their accounts. Of course, most of the time, rejection-elicited anger does not lead to overt aggression, but the aggressive urges are often present even if not expressed (Williams, 2001).

General Studies of Real-World Crime and Violence

In a report published in 2001, the Office of the Surgeon General reviewed research on the causes of youth violence. The report found that social isolation was the most significant risk factor for adolescent violence. Somewhat surprisingly, an adolescent's social isolation was a stronger predictor of violence than gang membership, poverty, or drug use. Thus, young people who experience relational devaluation are more likely to be aggressive and violent.

The relationship between rejection and aggression appears among samples of adults as well. Single men, who are more socially isolated than married men, are significantly more likely to commit crimes (Sampson & Laub, 1993). This statistic remains similar even when age is controlled. The link even occurs in the society as a whole: Lester (1994) performed a time-series analysis and found that statistics measuring social integration (divorce, marriage, and birth rates) showed a nearly perfect correlation with homicide rates when matched by year.

Aggression in Close Relationships

Sadly, people often treat those with whom they have close relationships far worse than they treat strangers and acquaintances (Miller, 1997). Many of these instances of verbal and physical abuse appear to stem from events that convey that the individual is not sufficiently loved and valued in the context of a close relationship.

In a study of dating couples, Makepeace (1989) found that rejection accounted for 15% of the violent episodes for those who were dating steadily and 11% of the violence for those who were living together.

These figures may underestimate the role of rejection in dating violence, however, because jealousy accounted for more than an additional 20% of the episodes and sex accounted for another 18–38% (depending on the nature of the dating relationship). Clearly, jealousy entails feelings of rejection (Leary, Koch, & Hechenbleikner, 2001), and many conflicts about sex involve the connotations of sex (or the lack of it) for the degree to which one is accepted and loved.

Feeling rejected is among the most common precipitants in cases of husbands killing their wives (Barnard, Vera, Vera, & Newman, 1982; Crawford & Gartner, 1992). After examining 551 cases in which men had killed their wives, Crawford and Gartner concluded that 45% of the murders occurred in response to a real or imminent separation. In an additional 15% of the cases, the husbands suspected that their wives were engaged in extramarital affairs, which obviously conveys relational devaluation. Along the same lines, Barnard and colleagues (1982) found that men who murdered their wives were more likely to perceive their wives as unfaithful than men who had not murdered their wives. For men, the event that precipitated the actual murder was most often one in which they felt rejected. Not only was the couple typically separated at the time of the murder, but the men explicitly reported being unable to deal with the rejection or their lack of control over their wives. In contrast, Barnard and colleagues found that events that led women to murder their husbands most often involved some form of physical or verbal abuse by the husband.

However, rejection in close relationships does appear to increase other varieties of violence among women. Downey, Freitas, Michaelis, and Khouri (1998) showed that rejected women are most likely to behave aggressively in situations that activate concerns about the loss of a close, intimate relationship. When women perceive that an important relationship is threatened (i.e., feel relationally devalued relative to a previous time), they may respond aggressively.

A great deal of anger and aggression in close relationships arises from jealousy. Jealousy occurs when people believe that another person does not sufficiently value their relationship because of the presence or intrusion of a third party. One study found that men who were abusive scored higher in interpersonal jealousy than those who were not abusive (Dutton, van Ginkel, & Landolt, 1996). In addition, women who are abused and the men who abuse them report jealousy as the most common precursor to violence (Daly & Wilson, 1988). Among both men and women, intimate violence is often provoked by real or imagined infidelity (Barnard et al., 1982; de Weerth & Kalma, 1993) which is perhaps the penultimate cause of feelings of relational devaluation.

Violent husbands are also more likely than nonviolent husbands to report fears about being abandoned by

their partner (Dutton, van Ginkel, et al., 1996; Holtzworth-Munroe, Stuart, & Hutchinson, 1997). Although abusive men will, at times, outwardly condemn their partner and express feelings of callousness, they typically find the possibility of being abandoned distressful (a phenomenon called “masked dependency;” Dutton, 1988). Men who fear abandonment may be overly sensitive to signs of rejection, perceiving even innocuous situations as threats to the relationship. Dutton (1988) suggested that, in abusive relationships, “the most dangerous times for a woman are when she separates, when she seeks shelter, and when she becomes pregnant” (p. 46), all of which raise the specter of devaluation (even the expectant father may worry that the new baby will replace him in his wife’s affection). Thus, it appears that fear of separation, rejection, or abandonment may be an important factor in some cases of domestic abuse.

Attributions for rejection may be important mediators of domestic violence. Partners who blame themselves for the rejection may be more likely to experience depression and withdrawal, but those who blame others (either the partner or third parties) may be more likely to respond aggressively (Levy, Ayduk, & Downey, 2001). For example, compared to nonviolent husbands, violent husbands were more likely to believe that their wives had intentionally tried to hurt them (Holtzworth-Munroe & Hutchinson, 1993). Additionally, violent husbands were more likely to make attributions of negative intent in particular situations, such as those involving perceived rejection. In other situations, such as the wife making a request from the husband, there were no differences in the attributions of violent and nonviolent husbands.

Research shows that real or perceived rejection plays an important role in violence between romantic partners. Of course, not all individuals who feel rejected by their partner respond aggressively. The likelihood of violence appears to depend on several factors, including abandonment anxiety, attribution of negative intent to one’s partner, and an actual or impending separation. Furthermore, we suspect that rejections by intimates evoke stronger emotional reactions of all kinds—including sadness, anxious desperation, and anger—than similar rejections by acquaintances and strangers. No research has directly examined differences in how people react to rejections as a function of whether the individual is in a preexisting relationship with the rejector, and work on this topic is needed.

Nonintimate Aggression

Rejection may also contribute to aggression outside of close relationships. People may react aggressively to real and imagined rejection by friends, acquaintances, and even strangers.

Defending one’s “honor.” Cultural norms may dictate aggressive behavior in response to real or implied rejection. In a “culture of honor,” for example, an individual who insults someone and refuses to apologize or retract the insult must be punished (Nisbett, 1993; Nisbett & Cohen, 1996). Although this retaliatory punishment is typically viewed as necessary to defend one’s honor, these behaviors may also be conceptualized as a reaction to perceived low relational evaluation. An affront to one’s honor typically indicates that the disrespectful person does not adequately value the target as a social participant, relational partner, or (perhaps) human being. Thus, in a culture of honor, violence is deemed appropriate and justified when an individual feels that he or she has been socially devalued.

Among the subcultures that ascribe to a culture of honor is that of the White male southerner (Nisbett & Cohen, 1996). Statistics indicate that, although men from the southern United States do not approve of violence in general more than northerners, they more strongly endorse violence in response to being insulted. Not surprisingly, southern men also have a higher rate of homicides that are provoked by arguments, conflicts, and insults (Cohen, Nisbett, Bowdle, & Schwarz, 1996).

In an experiment comparing northern and southern men, Cohen and colleagues (1996) found that men from the South were more likely to respond to insults with anger and aggressiveness than men from the North. In addition, when participants had been insulted in front of another individual, men from the South (vs. the North) were much more likely to report that their masculinity in other people’s eyes would be affected. Southern men also increased their dominance behavior and aggressiveness when interacting with the observer, even though these behaviors were measured prior to the masculinity rating (Cohen et al., 1996). Thus, when men who subscribe to a culture of honor feel that their public image of masculinity has been undermined by a devaluing insult or taunt, they may try to restore their image of masculinity by responding aggressively.

Sexual assault. Some sexual offenses may also be seen as aggression in response to feelings of rejection. For example, researchers have proposed that deficits in intimacy may be more common among sexual offenders than among nonsexual offenders (Garlick, Marshall, & Thornton, 1996; Marshall & Hambley, 1996; Seidman, Marshall, Hudson, & Robertson, 1994). In fact, male sexual offenders have lower intimacy scores than nonoffenders (Garlick et al., 1996; Marshall & Hambley, 1996; Seidman et al., 1994), and lower intimacy scores correlate with higher levels of hostility toward women (Marshall & Hambley, 1996). Thus, male offenders may feel rejected due to a lack of intimate relationships and subsequently aggress

against those who they feel are responsible for these feelings. Accordingly, researchers have shown that rapists often attribute their lack of intimacy to women (Garlick et al., 1996). Rapists commonly report having conflicts with women arising from perceived or actual rejection that led them to be lonely (McKibben, Proulx, & Lusignan, 1994).

Baumeister, Catanese, and Wallace (2002) proposed that rape is often caused by a combination of narcissism and a sexual refusal (a clear relational devaluation or rejection). This hypothesis was supported by a series of experiments (Bushman, Bonacci, van Dijk, & Baumeister, 2003). In one experiment, a female actor refused to read a sexually arousing passage to a male participant. Narcissistic men who experienced this refusal were subsequently more punitive toward the woman, paying her less and recommending that she not be rehired. At least for narcissists, a sexual refusal can lead to punitive behavior.

Intimacy deficits, feelings of loneliness, and sexual refusals may elicit perceptions of low relational evaluation. Therefore, it is possible that the aggression of individuals who commit sexual offenses is sometimes fueled by feelings of rejection. Moreover, the finding that men who have sexually assaulted women blame women for their perceived rejection suggests that these men are aggressing against women due to their feelings of rejection.

Homicide. Many murders of strangers and acquaintances are acts of vengeance (Palermo, 1997). Examining the context of deadly vengeful acts suggests that perceived rejection is often involved. For example, former employees have returned to their workplace to kill those who fired them. In addition, there have been cases of homicide by individuals who felt that they were rejected because of their race (Palermo, 1997). Levin and Fox (1991) asserted that perceived rejection by family members may lead to murder in extreme cases. For example, a husband who feels intense anger and loneliness due to rejection by his wife may kill "her" children in retaliation as if he were attacking his offensive partner" (p. 90).

In a study conducted by the Federal Bureau of Investigation, the personal histories of 36 sexual killers were examined. One conclusion of this study was that these men did not form adequate bonds of attachment with their primary caregivers and that feelings of social isolation were a factor in their violence (Ressler, Burgess, & Douglas, 1988). Malmquist (1996) proposed that the isolation felt by these men led to extreme anger as they perceived themselves as being rejected by society.

School shootings. Following the rash of school shootings during the late 1990s, many commentators observed that the perpetrators seemed to be particu-

larly lonely and isolated, and that their actions may have been precipitated by rejection by schoolmates or others (e.g., Perlstein, 1999; Peterson, 1999). To determine whether school shootings were, in fact, linked to rejection, Leary, Kowalski, Smith, and Phillips (2003) analyzed all well-documented cases of school violence in the United States from January, 1995 (the year in which school shootings began to receive national attention) to March, 2001. Of the 15 incidents they examined, interpersonal rejection was clearly indicated in 13 of the shootings. In many of these instances, the perpetrator(s) had experienced a pattern of malicious teasing or bullying, or ongoing ostracism that left the perpetrator on the periphery of the school's social life. Importantly, in many of the incidents, the victims included individuals who had teased, bullied, or rejected the shooter. In only two cases was there no evidence whatsoever that the perpetrator had been rejected or mistreated by other people.

As Leary and colleagues (2003) noted, few individuals make it through adolescence without experiencing a certain amount of rejection, yet most do not murder their classmates. Thus, peer rejection alone may not lead to school violence unless the rejected individual possesses other risk factors. In their analysis of the school shootings, Leary and colleagues found that most of the shooters also displayed psychological problems, an abnormal interest in guns or explosives, or a fascination with death that may put an individual at higher risk to perpetrate aggression when rejected.

Narcissism may also play a role. In videotapes made before the incident, the two Columbine shooters made several statements that were remarkably similar to items on the Narcissistic Personality Inventory (NPI; Twenge & Campbell, 2003). For example, Eric Harris said, "Isn't it fun to get the respect that we're going to deserve?", which is very similar to NPI Item 14, "I insist upon getting the respect that is due me." Harris also said, "I could convince them that I'm going to climb Mount Everest, or I have a twin brother growing out of my back. I can make you believe anything," which is strikingly similar to NPI Item 35, "I can make anyone believe anything I want them to." Twenge and Campbell tested this observation in a series of studies and found that narcissists who were rejected reacted with greater anger and aggression than participants who scored low in narcissism.

Although only suggestive, these findings indicate that researchers should begin to search for variables that moderate the occurrence of aggression in the face of rejection. What kinds of individuals do and do not aggress when rejected? We return to this question in the following sections.

Gang violence. Membership in a gang may be prompted by feelings of rejection, and in turn, lead to

violent actions. Social rejection has been identified as a factor in the decision to join a gang (Cairns, Cadwallader, Estell, & Neckerman, 1997). In their 16-year longitudinal study of gangs, Cairns and Cairns (1994) indicated that gang members often felt that they were not accepted elsewhere in society, and Branch (1999) proposed that an adolescent's need to belong may be satisfied through affiliation with a gang. Runaways and homeless adolescents, for instance, are likely candidates for gang membership (Cairns & Cairns, 1994). Garbarino (1999) found that many perpetrators of violence are young men who feel rejected by family members, peers, and society in general. As adolescents individuate from their families and seek new places to feel accepted, a gang may appear to be a viable option for some. Branch (1999) acknowledged many adolescents report that they joined a gang to "gain respect" but argued that underlying this desire for respect is the need for acceptance and approval.

Furthermore, to achieve and maintain acceptance within a gang, members must often engage in violent behavior. Some of this behavior is assigned by leaders of the gang. If a gang member is not given assignments, he may subsequently engage in violent behavior on his or her own, with the intention of gaining the acceptance and respect of other members (Branch, 1999). Consequently, perceived rejection by members of one's gang can result in a recurring cycle of aggressive acts.

Summary of the Evidence Regarding Everyday Aggression

The evidence reviewed in this section goes beyond laboratory experiments to provide support for a relationship between rejection and aggression in everyday life. Perceived rejection has been linked to a number of aggressive acts in daily life, including domestic violence, homicides, school shootings, and gang violence. Not only do individuals who commit aggressive acts report greater feelings of rejection than nonaggressive individuals, but their self-reported motives for aggressing often contain elements of perceived rejection. Most of the studies reviewed in this section were descriptive or correlational in nature and, thus, firm inferences about causality cannot be drawn. Even so, when combined with the results from experimental research, these studies clearly support a relationship between rejection and aggression.

Rejection in Childhood

Peer Rejection

By far the greatest amount of research on the link between rejection and aggression has been conducted on children, most of it involving rejection and aggression in the context of peer relationships. Although all children

are occasionally rejected by their peers, studies show that some children are chronically rejected. In fact, 30–45% of children who can be classified as rejected at one point in time will remain in the rejected category over the following 4 years (Coie & Dodge, 1983).

The designation of children as *rejected* has been made in many ways, through sociometric ratings, peer nominations, self-reports, and teacher ratings, and the measures of aggressiveness have been equally diverse. Regardless of the methods and measures used, dozens of studies have shown that children who are rejected by their peer groups are more aggressive on average than children who are accepted. Several excellent reviews of the relationship between peer rejection and childhood problem behaviors, including aggression, have been published (Cicchetti & Bukowski, 1995; Kupersmidt, Coie, & Dodge, 1990; McDougall, Hymel, Vaillancourt, & Mercer, 2001; Newcomb, Bukowski, & Pattee, 1993; Parker & Asher, 1987; Rubin, Bukowski, & Parker, 1998), so we will touch on only a few pertinent issues here.

The data consistently show that rejected children tend to be more aggressive than children of average or popular status. For example, Dodge (1983) studied the behavior of 48 unacquainted second grade boys before and after a peer social status had been formed from eight different 1-hour sessions of playtime. In the beginning, the rejected boys approached peers more than the other boys, but they were brushed off quickly at high rates. Near the end of the sessions, they stopped attempting to find a playmate because they had such a high failure rate. These rejected boys were more physically and verbally aggressive, and they engaged in more inappropriate behavior, such as standing on tables and interrupting other boys' activities. At the end of the study, the rejected boys were viewed by their peers as highly aggressive, poor leaders, and selfish. In contrast, the popular boys were more physically attractive, less aggressive, and received more positive reinforcement from their peers when initiating a social interaction.

Although average and rejected boys become equally angered and aggressive when provoked, rejected boys behave more aggressively without justification (Coie, Dodge, & Kupersmidt, 1990). Furthermore, once an aggressive exchange has begun, rejected children are more likely to intensify their aggression and less likely to submit than nonrejected children (Coie, Dodge, Terry, & Wright, 1991). Furthermore, both chronic and recent peer rejection predicts externalizing problems, such as aggression, even after controlling for initial levels of psychological adjustment (DeRosier, Kupersmidt, & Patterson, 1994).

Although the link between rejection and aggression in childhood is as incontrovertible as any in psychology, researchers disagree regarding the primary direction of influence. Are aggressive children simply more likely to be rejected by their peers, does peer rejection heighten

aggression, or does some other variable (e.g., poor social skills) underlie both? The evidence supports a variety of causal pathways. First, considerable research supports the idea that aggressive children tend to be more disliked and rejected than nonaggressive children (e.g., Bukowski & Newcomb, 1984; Little & Garber, 1995). However, this direction of influence is irrelevant to our review and will not be discussed further.

More importantly for our purposes, studies that have attempted to determine whether rejection is an antecedent of aggression have obtained positive findings. For example, a longitudinal study of 880 elementary and middle-school students showed that peer rejection was a consistently powerful predictor of future aggression and other externalizing problems. As rejection increased over time, so did the risk of aggressive behavior (Kupersmidt, Burchinal, & Patterson, 1995; see also Merten, 1994).

To make matters worse, children who display behavioral problems, including aggression, are particularly likely to be affected by peer rejection (for a review, see McDougall et al., 2001). One study showed that students who were both rejected and aggressive in grade 5 had nearly a 93% chance of having later externalizing difficulties such as truancy, police contact, or aggressive behavior (Kupersmidt & Coie, 1990). Importantly, these patterns tend to be stronger for boys than for girls, although this difference may partly reflect an inadequate understanding of how aggression manifests in girls (McDougall et al., 2001).

Thus, the data suggest that peer rejection may both precede and result from a chronic pattern of aggression. However, some researchers suggest that, even when peer rejection precedes aggression, rejection per se is not the cause. Rather, rejection may be an incidental marker of some other problematic condition that predisposes children to be aggressive, such as family problems, lack of social skills, genetic predispositions, or psychological difficulties (Burks, Dodge, & Price, 1995). Peer rejection and aggression may both stem from some common underlying factor.

Virtually all of the research on childhood peer rejection and aggression has been conducted at a dispositional level of analysis, comparing rejected and nonrejected children. Thus, we know that children who are frequently rejected also tend to be aggressive, but we do not have much data bearing on the question of whether specific incidents of rejection increase children's propensity to aggress, although circumstantial evidence suggests that this is the case.

Parental Rejection

Children are rejected not only by their peers but also sometimes by parents and other caretakers. Parental indifference, neglect, rejection, and abuse are among the best predictors of behavioral problems in

children, including excessive aggression. In particular, rejection by parents is associated with higher hostility and aggression in childhood (Edens, 1999; Ojha & Pramanick, 1995; Patterson, Reid, & Dishion, 1992; Pemberton & Benady, 1973; Symonds, 1939), and perceptions of low parental support predict childhood aggression, particularly for boys (Garbarino, 1999; Patterson, Kupersmidt, & Griesler, 1990). In fact, one study concluded that parental rejection "was the most prominent predictor of synchronous aggression" (Lefkowitz, Huesmann, Walder, & Eron, 1973, p. 39).

In perhaps the most extensive study of the relationship between parental rejection and children's behavior and personalities, Rohner (1975) examined the correlates of parental acceptance and rejection in 60 societies worldwide. He concluded that "compared with accepted children, rejected children throughout the world are significantly more hostile, aggressive, or passive aggressive," and estimated the correlation between parental acceptance and childhood hostility to be $-.49$ (pp. 100–101).

Several studies have also shown that hostility and anger in adulthood correlate with perceptions that one's parents were less warm and more rejecting, and that one's family environment was less cohesive (Meesters & Muris, 1996; Woodall & Mathews, 1989). Of course, such findings are only suggestive because of the risks of retrospective autobiographical reports. It is just as likely that hostile and angry people misremember their parents as unsupportive as it is that unsupportive parents produce hostile adults.

To address the issue of directionality, Mathews, Woodall, Kenyon, and Jacob (1996) assessed the quality of parent-child interactions and hostility at two points in time. Pubescent boys and their parents were interviewed and observed while trying to resolve disagreements. Three years later, measures of hostility and anger were administered. A high number of negative parental behaviors and a low number of positive parental behaviors during the parent-son discussions predicted sons' hostility and anger three years later, even after adjusting for their initial level of hostility. As the authors noted, these data "demonstrate prospectively that observed nonsupportive, affectively negative family interactions lead to relatively high levels of hostility in boys" (p. 35).

In studying abusive personality characteristics among men, Dutton, Starzomski, and Ryan (1996) found that paternal rejection was the strongest predictor of an abusive personality. Similarly, Barnow, Schuckit, Lucht, John, and Freyberger, (2002) identified parental rejection as a common factor in the development of antisocial personality disorder, which is characterized by callousness and aggressiveness.

Using a large birth cohort of over 4,000 males in Denmark, Raine, Brennan, and Mednick (1994) found

that maternal rejection in infancy had a particularly pernicious long-term effect on boys who had experienced complications during birth (such as breech delivery, the need to use forceps, or long birth duration). Of the boys who had experienced both maternal rejection at age 1 and birth complications, nearly 9% had been involved in violent crime by age 18, compared to less than 4% for those who had experienced either rejection, birth complications, or neither. Maternal rejection did not predict nonviolent crime, and the effect was not moderated by other stressors such as socioeconomic status. It is unclear how these findings should be interpreted, but they support the notion that rejection can moderate the relationship between early stressors and other harmful conditions and vulnerability to antisocial behaviors (Bagwell, Newcomb, & Bukowski, 1998). Clearly, research is needed to study how rejection may interact with other developmental influences.

Summary of the Developmental Evidence

Virtually all studies have demonstrated a robust relationship between rejection and aggression in children. Although most of this research has examined peer rejection, the available studies of parental rejection demonstrate the same effect. The prevailing question has been whether rejection increases the tendency for children to aggress, or whether aggressive children are more likely to receive rejecting feedback from their parents and peers. To the degree that these effects can be disentangled, they both seem to occur. Although some developmental psychologists have resisted the idea that rejection *per se* can lead to aggression (e.g., Burks et al., 1995), when considered in light of the adult literatures examined in this review, it would be surprising if children did not become aggressive when they felt rejected.

Personality Differences in Anger-Proneness, Hostility, and Aggressiveness

The conclusion that interpersonal rejection promotes aggression leads to the hypothesis that individual differences in anger, aggressiveness, and hostility should be related to people's general perceptions of being accepted versus rejected by other people. As we have seen, this relationship seems to hold among children, as the most rejected children also tend to be the most aggressive. Although many individual difference variables may moderate the link between rejection and aggression, two in particular—attachment style and rejection sensitivity—will be reviewed here, both because the conceptual links are clear and because a suf-

ficient number of studies have examined their relationship to aggression.

Attachment Style

Observations of young children revealed aggressive behavior stemming from maternal separation (Bowlby, 1973). For example, children who were separated from their mothers tended to play in more aggressive ways than children not separated from their mothers. Bowlby (1969) described this reaction as "an anger born of fear." This fear is displayed through aggressive acts, as the baby reacts in the only ways that he or she can. The baby may "cry loudly, shake his cot, throw himself about, and look eagerly towards any sight or sound which might prove to be his missing mother" (Bowlby, 1969, p. 38). Attachment theory proposes that attachment systems serve to gain access to the attachment figure. For the baby, the purpose of aggressive actions is coercive. Crying or throwing a temper tantrum will often lead to the parent's return, overcome obstacles in the path of a reunion, and discourage future separation (Dutton, 1998).

These initial infant responses potentially transfer into adult responses, with separation from a loved one leading to shouting, crying, and throwing or smashing objects (Dutton, 1998). In an intimate adult relationship, anger and jealousy in response to a rejection may serve to show the partner how much one cares or deter the partner from leaving. Although these actions appear to be maladaptive in adulthood, their origin in infancy suggests that they may initially serve an important function. Bowlby (1984) contended that the purpose of angry behavior is to protect the relationship, asserting that "in the right place, at the right time, and in right degree, anger is not only appropriate but may be indispensable" (p. 11).

Bartholomew (1990) identified four attachment patterns in adulthood: secure, fearful, preoccupied, and dismissive. Secure and dismissive attachment patterns are not strongly associated with violence (Dutton, Saunders, Starzomski, & Bartholomew, 1994). Securely attached individuals do not fear intimacy that arises within close relationships; dismissively attached individuals tend to devalue the necessity of intimate attachments and, thus, do not often experience relationship insecurity. In contrast, individuals whose attachment style is fearful or preoccupied are more likely to become angry in intimate relationships, particularly when the relationship is threatened.

Men who exhibit a fearful or preoccupied attachment style are more likely to have a history of relationship abuse. In addition, statements consistent with fearful and preoccupied attachment styles had stronger positive associations with measures of anger and jealousy than did statements consistent with secure and dismissive attachment styles (Dutton et al., 1994).

Similarly, in a study measuring the behavior of both husbands and wives, Marchand (2004) reported that individuals who reported being anxious about rejection or abandonment from their partners were more likely to say that they would attack their partner in response to a marital conflict than individuals who did not report attachment anxiety.

People with a preoccupied or fearful attachment style are anxious about gaining approval from their partner yet are fearful of rejection or abandonment. As a result, they vacillate between wanting to be intimate and wanting to avoid intimacy (Dutton, 1998; Dutton et al., 1994). This struggle between craving and fearing intimacy may make these individuals most likely to aggress within a close relationship (Dutton et al., 1994).

Moreover, men with a fearful attachment style were found to consistently attribute negative intent to their partner (Starzomski, 1993, as cited in Dutton, 1998). As discussed previously, individuals who believe that their partner has intentionally hurt them are more likely to respond aggressively. Therefore, men with a fearful attachment style not only struggle between wanting and avoiding intimacy, but they also tend to perceive their partners in a negative light. This combination of an internal conflict and external blame may suggest that individuals who are fearfully attached will be most aggressive in response to rejection.

Rejection Sensitivity

People who are rejection sensitive tend to expect, perceive, and overreact to rejection (Downey & Feldman, 1996; Feldman & Downey, 1994). According to Feldman and Downey, parental rejection causes children to become sensitive to signs of rejection. This hypervigilance for rejection leads people who are high in rejection sensitivity to perceive even ambiguous negative behavior as rejecting (Downey & Feldman, 1996).

Not only do rejection-sensitive individuals perceive rejection in the absence of intentional rejection but, for women, expectations of rejection lead to abusive and aggressive behaviors toward their partners. Downey and colleagues (1998) explored this self-fulfilling prophecy in the context of conflicts occurring in dating relationships. Whereas the behavior of rejection-sensitive men during a conflict did not lead their partners to reject them, the behavior of rejection-sensitive women during conflicts tended to elicit rejecting responses from their partners. Compared to low rejection-sensitive women, high rejection-sensitive women demonstrated more negative behaviors during a conflict, including a hostile or negative tone of voice, demeaning or mocking one's partner, and gestures of disgust or disapproval (Downey et al., 1998). Ayduk, Downey, Testa, and Yen (1999) found that women high in rejection sensitivity

reacted with greater hostility than women low in rejection sensitivity only when the situation involved feeling rejected. Thus, expectations of rejection may result in antisocial, if not aggressive, behavior that leads to rejection. Based on this evidence, it appears that a destructive cycle of rejection may occur in the relationships of high rejection-sensitive women.

Although Downey and colleagues (1998) found that men's expectations of rejection did not lead to behavior that elicited rejection, men high in rejection sensitivity may nonetheless engage in antisocial behaviors when they feel rejected. Downey, Feldman, and Ayduk (2000) revealed that men who were both high in rejection sensitivity and highly invested in their romantic relationship were much more likely to engage in actual violence against their dating partners than either men who were low in rejection sensitivity or men who were high in rejection sensitivity but less invested in their relationships. In contrast, men who sought to avoid intimacy were more likely to reduce their involvement in the relationship in response to anxiety about rejection. Thus, one variable that may moderate the rejection-aggression pathway in the context of relationships is the amount of commitment and investment in the relationship (Downey et al., 2000; Levy et al., 2001). The paradox is that people who are worried about rejection and invested in close relationships behave in ways that damage those relationships when they feel rejected.

Summary of the Personality Research

Research on attachment style and rejection sensitivity suggests that some individuals are more prone than others to be aggressive in response to perceived rejection. Individuals who have a secure attachment style or who are low in rejection sensitivity may be less likely to respond aggressively to rejection.

Psychological Mechanisms Underlying Rejection-Elicited Aggression

Our survey of the literature supports the hypothesis that interpersonal rejection plays a role in the instigation of aggression. A relationship between rejection and aggressive behavior has been found using a wide array of methods, including controlled experiments, correlational research, and longitudinal studies. Furthermore, the findings not only link rejection to enacted aggressive behavior but also to potential mediators of the relationship such as anger and interpersonal derogation.

Unfortunately, few studies have made any effort to understand precisely why rejection sometimes leads to anger and an impulse to aggress, nor when this effect does and does not occur. In this section, we speculate regarding nine possible explanations for the link be-

tween rejection and aggression: rejection as a source of pain, rejection as a source of frustration, rejection as a threat to self-esteem, mood improvement following aggression, aggression as social influence, aggression as a means of reestablishing efficacy and control, retribution, disinhibition, and loss of self-control. Most of these explanations have both conceptual and empirical support, and the current literature is inadequate to eliminate any of them. At present, it seems likely that rejection may lead to aggression via a number of independent routes, which may explain why the effect is so robust.

Rejection as a Source of Pain

The effect of aversive stimuli on aggressive attack is well-documented. In both human and nonhuman animals, physical pain can induce anger and aggression. Rats who receive an electric shock spontaneously attack other rats who are nearby (Azrin, 1967), and physical discomfort increases people's willingness to blast another person with aversive noise (Berkowitz, 1983). The target of the aggression need not have caused the pain, much as a person who hits his thumb with a hammer may fly into a rage despite the fact that the injury was self-inflicted. Findings such as these led Berkowitz (1989) to suggest that all aggression is a response to aversive affect. He reviewed the many physically aversive experiences that have been linked to aggressive behavior, including unpleasantly high temperatures, foul odors, receiving shocks, and immersing one's arm in ice water. Berkowitz argued that these painful and unpleasant experiences cause aggression because they increase negative affect. Given that rejection can cause exceptionally unpleasant emotions (such as hurt feelings, sadness, and jealousy; Leary et al., 2001), it may automatically induce anger and aggression by the same route. Along these lines, Thomas (1995) suggested that the painful feelings that often result from rejection might provoke anger and aggression.

A recent fMRI study provided support for this idea. Eisenberger, Lieberman, and Williams (2003) had participants play the ostracism game, CyberBall, while undergoing an fMRI brain scan. Ostracized participants showed activation in two brain regions that are also active when people experience physical pain. The authors concluded that "social pain is analogous in its neurocognitive function to physical pain, alerting us when we have sustained injury to our social connections" (p. 292). Thus, people who are socially rejected react physiologically much like people who experience physical pain. Given the clear connection between physical pain and aggression, rejection may lead to aggression through this pathway (see also MacDonald & Leary, 2005).

Given the robustness of the relationship between pain and aggression and the extremely hurtful nature of many rejections, we suspect that the sheer aversiveness of the experience may facilitate aggressive behavior. This hypothesis could be tested by administering agents that increase or decrease the pain threshold to determine whether the likelihood or strength of rejection-elicited aggression is affected. Although the painfulness of some rejections may heighten the likelihood of aggression, we doubt that this is the only mechanism by which rejection influences aggression.

Rejection as a Source of Frustration

A second possibility is that rejected people aggress because rejecting events frustrate their efforts to obtain social acceptance or other desired outcomes that depend on acceptance. This explanation fits the perspective of the classic frustration-aggression hypothesis (Dollard, Doob, Miller, Mowrer, & Sears, 1939). The hypothesis that aggression occurs when people perceive an external obstacle to reaching a goal has been supported by numerous studies (Berkowitz, 1989).

As Williams (1997, 2001) noted, ostracism (and rejection more generally) thwarts a number of basic needs, and the resulting frustration may lead to aggression. Frustration may emerge due to the rejecting behavior of a specific individual whose acceptance one desires (as when a person is "stood up" by his or her date) or the rejecting behavior of anyone who thwarts a person's general need for acceptance or belongingness (as when one is snubbed by a stranger or ostracized by a group).

Ojha and Pramanick (1995) favored a frustration-aggression explanation of the link between parental behavior and children's hostility: "As a result of control and rejection by the parents, the basic psychological needs of the child, for example, security, emotional contact and affection, are not met and he feels frustrated which ultimately results into aggressive tendencies" (p. 34).

These first two models, based on aversive stimuli and frustration respectively, regard rejection-elicited aggression as a specific case of more general psychological processes. However, other models posit a particular, unique effect of interpersonal rejection beyond the fact that rejection is aversive and frustrating.

Rejection as a Threat to Self-Esteem

Baumeister and his colleagues have suggested that aggression is sometimes the result of events that threaten a person's ego or lower his or her self-esteem (Baumeister, Smart, & Boden, 1996). Their review of the evidence suggested that losses of self-esteem are associated with an increased likelihood of aggression and violence. They argued that high self-esteem people

who experience a threat may lash out in violence because their favorable view of themselves is not matched by external appraisals.

Williams' analysis of the four needs that are thwarted by ostracism reaches the same conclusion. As Williams (2001) noted, "Ostracism threatens targets' self-esteem because it is associated with punishment; it carries with it the implicit accusation that the target has done something wrong" (p. 61). Thus, when people are ostracized, they begin to wonder what is wrong with them. This musing may lead to lowered self-esteem as ostracized people begin to think that other people do not find them worthy of association.

Given that most ego-threats result from events that connote real or potential relational devaluation (Leary & Baumeister, 2000; Leary et al., 1995), we can just as easily say that these effects are caused by perceived relational devaluation as by threats to the individual's ego or self-esteem. When people are criticized, ignored, or rejected, they are likely to perceive that other people do not adequately value their relationships and experience lowered state self-esteem. Thus, viewed from this perspective, rejection-based aggression arises not from threats to one's ego or self-esteem *per se* but rather from the perception that one's relational value is low. These two competing ways of conceptualizing the mediating role of ego-threat on rejection-elicited aggression could be contrasted by comparing situations in which the reason for being rejected does or does not threaten the individual's ego.

Mood Improvement

People who experience aversive emotions understandably desire to be rid of them. Because unexpressed anger may feel unpleasant and aggression may release anger, people who are angry might conceivably feel better after aggressing. Thus, aggression may sometimes be cathartic, not in the sense of reducing the likelihood of subsequent aggression (a notion that has been soundly discredited; Geen & Quanty, 1977), but in terms of making people feel better afterwards. In fact, studies have found that angry people sometimes find aggressive actions pleasurable (Bushman, Baumeister, & Stack, 1999).

Support for the notion that people may aggress to alleviate aversive feelings of anger is provided by a series of studies by Bushman and colleagues (1999). These studies showed that people were more likely to aggress after being insulted if they believed that aggressing would make them feel better, either because they held existing beliefs to that effect or were provided with information that aggressing was cathartic. Interestingly, Bushman and colleagues found little evidence that aggressing actually reduced angry participants' negative moods. In fact, participants who believed in the usefulness of venting actually felt worse

after aggressing. Their results did suggest, however, that aggression may stimulate positive affect under some circumstances. Whether or not aggression actually improves mood, people who think that it does may be motivated to aggress when rejected. In fact, some recent experiments demonstrate that rejected people actively manage their moods, and that quick mood management after rejection is correlated with heightened aggression (Twenge, Cacho, & MacDonald, 2004).

Aggression as Social Influence

A fourth explanation suggests that people aggress when rejected as a social influence tactic—either to intimidate the individual into not abandoning them or to show more generally that they are not to be devalued or dismissed. One way to induce other people to do as one wishes is to threaten them with harm, but such threats lose their power unless the individual carries through on them at least occasionally. Viewed in this way, aggression can be viewed as a social influence tactic (Felson, 1978; Tedeschi, Smith, & Brown, 1974). Post-rejection aggression can be viewed as an effort to influence other people not to reject the individual. People are often likely to aggress, for example, when they are publicly insulted, demeaned, or devalued (Bond & Venus, 1991; Felson, 1978, 1982). In such cases, the aggressive action may be performed as much for its impact on onlookers as on the rejector. By aggressing, the offended party can demonstrate, not only to the rejector but to others as well, that he or she is not to be devalued, rejected, or treated with disrespect. This is presumably the process that operates in a culture of honor, discussed earlier, in which people feel compelled to retaliate against aspersions upon their image, reputation, or honor.

Pinker (1997) made a similar point about aggression as a means of deterring one's partner from being unfaithful or leaving altogether. Pinker offered an evolutionary argument to explain why aggression in such circumstances is more common among men than women (i.e., the risk of an unfaithful partner to one's reproductive fitness is greater for men due to parental uncertainty), but the use of aggression to induce compliance by one's partner is not confined to men. Of course, people typically do not want to hurt their loved ones, yet they do so because occasional aggression is needed to maintain the credibility of their threats. As Pinker observed, "For every killing of an estranged wife or girlfriend there must be thousands of threats made credible by signs that the man is crazy enough to carry them out regardless of the cost" (p. 489).

In his classic study of violent men, Toch (1992) discussed two types of men who are frequently violent to promote or defend their public images. In Toch's taxonomy, a self-image promoter "works hard at manu-

facturing the impression that he is not to be trifled with.... He goes out of his way to make sure that people understand how important he is and how important it is to him that he is important" (p. 135). Such men preemptively strike so as not to be seen as weak or insignificant and thereby to maintain their influence over others. A self-image defender, in contrast, is exceptionally "sensitive to the implications of other people's actions to his integrity, manliness, or worth" (p. 141). In essence, both types seem to be trying to stave off attributions that may lead people to value them less as social interactants and group members.

Although most of the school shootings seem to be in retribution (to be discussed later), at least some of the perpetrators were seeking public respect as well. After killing three and injuring five in West Paducah, Kentucky, Michael Carneal was quoted as saying "People respect me now." Similarly, Klebold and Harris, the Columbine killers, fantasized that they would be famous, garner respect, and that movie directors would fight over making a movie of their story (Gibbs & Roche, 1999). Thus, the search for respect may have been one of the motivations behind Columbine and other school shootings (Twenge & Campbell, 2003).

This explanation differs from those presented thus far in regarding aggression as an interpersonal tactic intended to influence others' perceptions or behavior rather than a relatively automatic reaction to aversiveness, frustration, negative mood, or ego-threat. We are not suggesting that people necessarily consider the tactical pros and cons of aggression but rather that their goal is sometimes to influence other people's impressions of and reactions to them.

Reestablishing Efficacy and Control

Rejected participants might also seek to establish self-efficacy and control. In several experiments, Williams and his colleagues have shown that ostracism leads to decreased feelings of control (Williams et al., 2002; Zadro et al., 2004). Williams (2001; Williams & Zadro, 2001) suggested that many of the behaviors of people who feel ostracized reflect efforts to reestablish control. Because being ignored, shunned, and disregarded threatens a person's sense of efficacy, people may be motivated to regain it. Thus, verbal and physical aggression may serve to elicit a response—any response—from the otherwise unresponsive rejector. Interviews with victims of long-term ostracism showed that they would sometimes behave provocatively, by yelling, insulting, throwing things, or being physically combative, to get a reaction. In such instances, it may not matter that the reaction itself is an angry, unpleasant one; any reaction may be better than none. Successfully eliciting even an angry response may be hailed as a victory by the rejected individual (Williams, Bernieri, Faulkner, Grahe, & Gada-Jain, 2000).

Warburton and colleagues (2003) supported the idea that control might play a role in the link between rejection and aggression. In this study, participants could either stop and start blasts of unpleasant noise in the laboratory or had no control over the aversive noise. Compared to participants who were not ostracized or who were ostracized and had control, ostracized participants who had no control assigned a peer to eat four times as much hot sauce. Ostracized people who had no control over an unpleasant environment apparently chose to exercise some control by aggressing against another person.

Presumably, rejected individuals use aggression as a means of control primarily when they believe that aggressive actions will lower the likelihood that others will exclude, ostracize, or abandon them. The range of situations in which aggression deters rejection is probably rather small, confined to cases where there is a large status or power differential between the individuals, the rejecting individual has few options for retaliation, and the rejected individual is more concerned with maintaining a nominal relationship with the rejector as opposed to being valued, liked or loved as an individual.

Revenge

Related to this explanation is a seventh one: that people aggress when rejected as revenge or retaliation (Ayduk et al., 1999). The desire for revenge has been cited as the basis of a wide array of antisocial behaviors, including homicide, rape, and other acts of aggression (Counts, 1987; Pfefferbaum & Wood, 1994; Scully & Marolla, 1985). Furthermore, a sense of injustice—the basis of all revenge—is a primary cause of anger and aggression (Brown, 1986).

According to McCulloch, Bellah, Kilpatrick, and Johnson (2001), vengeance may serve at least three functions. First, it balances the interpersonal scales, restoring equity by repaying harm with harm. As we have seen, rejection is experienced as painful (and may even utilize neural pathways involved in aspects of physical pain; MacDonald & Leary, 2005), so that people who are rejected may restore equity by distributing the pain. Second, vengeance may serve as moral instruction intended to teach the offender "a lesson," typically that his or her behavior is unacceptable and will not be tolerated. In the case of rejection, the lesson sometimes involves the perpetrator's global dismissive mistreatment of people and sometimes it involves the perpetrator's treatment of the person exacting revenge. In either case, the message is that the individual can not get away with treating others in this way. Third, vengeance may serve as a face-saving tactic, as in cultures of honor discussed earlier. If the rejected individual perceives that the rejector regards him or her negatively and as not worthy of better treatment, aggression may

send the message, both to the perpetrator and to on-lookers, that the individual is worthy of respect and should not be mistreated (Kim & Smith, 1993).

Evidence that rejection-based aggression is sometimes motivated by revenge is scarce, although several writers have suggested that people may seek revenge for being rejected. For example, Buss (1961) noted that revenge typically occurs after a person has had a chance to “mull over rejections, attacks, and disappointment” (p. 15). In their review of recent school shootings, Leary and colleagues (2003) suggested that the primary motive in most of the school shootings seems to have been retribution, either for an ongoing pattern of ostracism and teasing or for an acute rejection such as a romantic breakup. In fact, many of the cases were characterized by both an ongoing pattern of rejection and a specific rejection experience, suggesting that the recent rejection may have been the straw that broke the camel’s back.

In most cases of revenge, the retaliatory response is more intense and harmful than the original precipitating event (Axelrod, 1984), and this pattern is often seen when people aggress after being rejected. No matter how hurtful rejection might be, beating, maiming, or killing the rejector hardly seems commensurate with being rejected. In light of this, people are likely to exact revenge against those who reject them only when they have given up the goal of being accepted and are motivated by pure retribution.

Loosening Social Inhibitions to Aggress

Another explanation suggests that rejection does not cause aggression but rather loosens the constraints on aggression that exist between people who are on good terms with one another. People who feel socially accepted have an incentive to act nonaggressively and prosocially because they do not wish to harm a valuable relationship or jeopardize others’ goodwill and support. However, once they feel rejected, the costs of behaving antisocially are lowered. As a result, inhibitions against aggression are weakened should the urge to aggress arise for other reasons. Thus, rejected people may feel that they have nothing to lose by being aggressive, especially if they do not believe the other person will ever accept them.

Some recent experimental research supports this explanation, showing that rejection leads to aggression only when the target is not a potential source of belonging (Twenge et al., 2004). In one experiment, participants experienced rejection or acceptance, and heard that they would either interact or not interact with their partner in a noise-blasting game. Replicating previous research, rejected participants who did not expect future interaction were more aggressive than accepted participants. However, rejected participants who ex-

pected to interact further with their game partners were not aggressive. In another experiment, rejected participants were aggressive toward targets who had been accepted by another group (and, thus, seemed dissimilar) and against targets rejected by another group (e.g., low-status individuals). However, they were not aggressive against neutral members of another group, possibly because these individuals were perceived as possible sources of acceptance. In addition, Experiment 3 of Twenge and colleagues (2001) showed that excluded participants were not aggressive toward someone who had praised them, although they were highly aggressive toward someone who had insulted them. If a participant was told that no one had chosen to work with him or her but was subsequently treated kindly by the likely target of aggression, then aggressive behavior did not result. Taken together, these results suggest that rejected people act aggressively toward people who are not potential relational partners (e.g., those who are unavailable for future interaction, dissimilar to them, low in status, or unfriendly). However, rejected people are less likely to behave aggressively toward people who could potentially provide meaningful acceptance (e.g., those they will interact with in the future, are neutral representatives from another social group, or are friendly people).

The second experiment of Williams, Cheung, and colleagues (2000) goes even further, showing increased efforts to be accepted when rejected individuals interact with a new group. Participants who were ostracized or included in a computerized ball-tossing game later did a perception task with a new group of participants. Participants who had earlier been ostracized were more likely to conform with the incorrect judgments of the new group members.

The loosening-of-restraints-against-aggression hypothesis may help to explain why aggression occurs only occasionally after rejection. Being rejected often makes people indifferent, rather than hostile, to others’ welfare, so in many cases, they simply withdraw from contact with the rejector rather than aggress. However, if conditions arise under which aggression may serve a function (in terms of social influence, establishing control, improving mood, retribution, or whatever), the fact that the dissolution of social bonds loosens restraints against aggression increases the likelihood of aggressive behavior.

Lowered Self-Control

Resisting one’s aggressive impulses requires self-control. For example, relationship partners low in self-control are more likely to give in to impulses to respond destructively to their partners by picking a fight, sulking, or issuing an insult (Finkel & Campbell, 2001). After a provocation, yelling and hitting are of-

ten natural and easy reactions, and people sometimes find it difficult to control these aggressive urges.

Unfortunately, rejection itself may reduce self-control. A series of experiments showed that socially excluded participants are more likely to fail at self-regulation (Baumeister, DeWall, Ciarocco, & Twenge, 2004). Rejected participants ate more cookies in the context of a taste test, were able to drink fewer ounces of an unpleasant beverage despite a monetary incentive, did not persist as long in solving puzzles, and had trouble attending to information in a dichotic listening task. In another study, excluded participants tended to make poor, self-defeating choices such as choosing a risky but less profitable lottery, eating unhealthy food, and procrastinating rather than studying for a test (Twenge, Catanese, & Baumeister, 2002).

Rejection may reduce self-control because people do not process information as deeply or carefully after being rejected. A series of experiments showed that people who were socially excluded experienced decrements in cognitive performance (Baumeister, Twenge, & Nuss, 2002). Apparently, rejection undermines cognitive processing so that rejected people do not analyze situations as accurately, consider their options as carefully, or have the necessary cognitive resources to regulate themselves effectively. As a result, they may go with their initial impulse to act in their short-term (but not long-term) interest without engaging in cognitive elaboration and self-regulation as they otherwise might. Given that aggression is typically an impulsive behavior that may feel good in the short term but lead to negative consequences in the long run, failing to elaborate on long-term implications may impair the individual's ability to regulate aggressive actions. Although it is not clear why rejection undermines thoughtful cognition, one possibility is that rejected individuals devote attention to regulating their emotional reactions, leaving them with inadequate resources needed for self-control (Muraven, Tice, & Baumeister, 1998; Twenge et al., 2004).

This explanation is only partial, however, because it does not account for why rejected individuals behave aggressively when they lose self-control as opposed to acting in some other uncontrolled fashion. Even so, it suggests that people who feel aggressive after being rejected may have more difficulty controlling their anti-social impulses.

Summary

The literature provides little or no basis for choosing among these nine hypotheses, and we suspect that most, if not all of them may have some merit. Furthermore, these nine processes appear to be relatively distinct and are not easily subsumed within each other or within broader, more general processes. Given the number of potential routes by which rejection may

heighten the likelihood of aggression, the pervasiveness and robustness of the rejection–aggression effect is not surprising. We hope that future research will test each of these explanations and identify the domain of application for each.

Conclusions

Our review has demonstrated that interpersonal rejection affects not only aggressive behavior but also mediators of aggression such as anger and the derogation of other people. A relationship between rejection and aggression has been demonstrated in numerous experimental, correlational, and longitudinal studies that have been conducted on varied samples using many different operationalizations of rejection and aggression. Furthermore, we have identified nine possible explanations of the effect, some of which have been directly supported by research and others for which the evidence is only suggestive.

Throughout our review, we were continually struck by the paradox of the rejection–aggression effect. Given that human beings are highly motivated to be accepted and to belong to social groups (Baumeister & Leary, 1995), one might expect that people who find themselves socially rejected should quickly take steps to correct this situation, seeking ways to rejoin groups and re-establish relationships. In fact, this often happens, as when people apologize for their misdeeds, seek approval from those who have formed unflattering impressions of them, do favors for those who are angry with them, send gifts to estranged loved ones with whom they want to reconcile, and work hard to convince others that they deserve to belong to a particular group. Yet, in most of the research that we reviewed, rejection was associated with higher aggression. Rather than placate those who rejected them and seek to reestablish their social ties, people became angry, punitive, and aggressive. In many ways, this behavior seems irrational and counter-productive because acting aggressively is more likely to drive people away than to bring them closer. As we have seen, there may be hidden benefits to rejection-induced aggression (in terms of releasing frustration, influencing others, or establishing control, for example), yet this effect may maintain a vicious circle of rejection and aggression in which people who are rejected lash out with aggression that leads to further rejection.

Our review has focused on instances of interpersonal rejection in which a person is rejected by one or more other individuals, presumably for personal reasons. Yet, other lines of research also show that people respond aggressively when their group is devalued, avoided, or excluded by members of other groups (Miller & Major, 2000; Struch & Schwartz, 1989). However, what is unclear is whether people experience

rejection based on group membership as merely a special case of interpersonal rejection or whether group membership intensifies, attenuates, or otherwise changes their reaction (see Crocker & Major, 1989; Miller & Major, 2000).

We must reemphasize that aggression is by no means the only—or even the most common—response to rejection. People who are rejected sometimes react in nonaggressive ways, either by merely withdrawing from interactions with those who have rejected them (Leary et al., 1998; Williams, 2001) or by behaving in ways that they believe will increase their relational value in others' eyes (e.g., Williams, Cheung, et al., 2000; Williams & Sommer, 1997). Even so, our review suggests that perceived rejection (or, more precisely, perceived low relational evaluation) causes angry, aggressive reactions under some circumstances. Considerable research is needed to understand fully the conditions under which these reactions occur and the psychological processes that underlie them.

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