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EDITORIAL

On Defining Violence, and Why It Matters

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Accurate definitions of phenomena are essential to any scientific enterprise. A definition of violence should be fully capable of accounting for the exclusion of behaviors such as accidents and self-defense, and the inclusion of behaviors such as child abuse, sexual offenses, and manslaughter. Violence research has produced numerous and sometimes conflicting definitions of violence that can be organized into 4 general camps: the exemplars approach, the social psychology approach, the public health approach, and the animal research approach. Each approach has strengths and limitations, but to fully distinguish violence from other behaviors requires incorporating elements from all of them. A comprehensive definition of violence includes 4 essential elements: behavior that is (a) intentional, (b) unwanted, (c) nonessential, and (d) harmful. More sophisticated recognition of some elements is needed. For example, shortened telomeres—a known consequence of child abuse—is a far more serious harm than a scratch or bruise that will fully heal in a few days. Many problems in the field are due at least in part to insufficient attention to definitions, such as minimization of sexual violence, bullying, and other behaviors that do not map onto prototypical exemplars. More precise definitions of violence can improve surveillance, promote more accurate identification of causes and consequences, enhance evaluation of treatment outcomes, and guide development of prevention programs, among other benefits.

Keywords: violence, aggression, definitions, intent, injury

My friend's 3-year-old daughter was a country girl. To her, dogs meant shepherds and other large working dogs. One day, a visitor brought a Chihuahua to her house, which soon started yapping. Perplexed, the little girl asked her parents, "Why that cat barking?" In developmental psychology, this is a classic assimilation error, because of mistakenly incorporating size into her schema for "dog" (Piaget & Cook, 1952). Definitions based on familiar exemplars are just as problematic in science. For example, if you ask a biologist to define "mammal," one possible answer would be "creatures such as dogs, cats, elephants, and lions." However, another biologist could offer a different, equally accurate response: "Creatures such as whales, duckbilled platypuses, bats, and dogs."

You may already be thinking, "Those are not very good biologists." Indeed, both responses are very poor definitions of mammals. The first repeats the assimilation errors of my little friend, by implying that the definition of "mammal" might include characteristics such as walking on four legs or living on land. The second suggests that these two characteristics are not part of the definition, but it is still unclear about the essential elements. Scientific definitions cannot rely only on examples, and especially not on pro-

totypical exemplars. Scientific definitions need to be precise enough to distinguish one thing from another and to provide an underlying rationale for the resulting classifications. For example, biologists need to justify including whale and bat in the "mammal" category, while excluding seahorse and ostrich. Biologists accomplish this by pointing to features that all mammals share, such as being warm-blooded and producing milk for nourishing their young.

The same scientific standards should apply to terms such as "violence," "aggression," and "abuse" (Follingstad, 2017). Regrettably, it is seldom clear how acts called "violence" are like each other, or distinct from other phenomena. Many operational definitions cannot distinguish violent behaviors from quite different acts, such as accidents and horseplay (Hamby, 2016a, 2016b; Lehrner & Allen, 2014). Precise definitions are essential for any scientific enterprise. Accurate definitions are needed for surveillance, identification of causes and consequences, providing appropriate prevention and intervention, and conducting outcome studies.

Furthermore, many controversies in the field are driven in whole or part by arguments related to definitions, such as whether violent video games promote violence or aggression, whether marital rape is as severe as stranger-perpetrated rape (or even if such a concept as "marital rape" exists), the true gender patterns of intimate partner violence (IPV), whether microaggressions really count, and what kinds of peer victimization are most serious (e.g., Calvert et al., 2017; Hamby, 2016b; Sue, 2017; Turner, Finkelhor, Shattuck, Hamby, & Mitchell, 2015; Yllö & Torres, 2016). Our imprecision contrib-

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utes to major miscarriages of justice, such as when rape by an acquaintance is not taken seriously by college campuses or law enforcement, IPV victims experience "dual arrest" when they seek help, or schools fail to protect children.

A precise definition of violence requires four elements. Violence is behavior that is (a) intentional, (b) unwanted, (c) nonessential, and (d) harmful. All four elements are necessary to properly include all acts that belong in the category and to properly exclude similar acts that are not violence, such as self-defense (a form of aggression but not a form of violence), accidents, and horseplay. I elaborate on the rationale for each of the four defining elements and why other elements are not needed, in much the same way that "has four legs" is not relevant to the definition of mammal. I also address some complexities in these distinctions, including the need for more sophisticated recognition of harms not visible to the naked eye. Surprisingly, although there are many definitions of violence (even 10 years ago, Parrott and Giancola, 2007, estimated the number at over 200), there appear to be few detailed rationales for the essential elements of a complete definition. This article presents such a rationale and describes some of the advantages of a more precise definition of violence.

Common Approaches to Defining Violence and Their Limitations

There are four common approaches to defining violence in the scientific literature: the exemplar approach, the social psychology approach, the public health approach, and the animal research approach. Each has strengths and limitations; however, elements of all are needed for a fully functional scientific definition, which is provided in the section on essential elements of a violence definition. As discussed in this section and the one on the essential elements, this will also require some revisiting of the distinction between aggression and violence.

Exemplar Approach

One common strategy is defining through exemplars. For example, the Violence page on the American Psychological Association (APA) website simply says, "Violence is an extreme form of aggression, such as assault, rape or murder" (American Psychological Association, n.d.). This definition does not say what is meant by extreme. The maliciousness of the intent? The extent of injuries? If it includes murder, does it include or exclude manslaughter? Similarly, a recent review in a prominent medical journal offered a confusing mix of exemplars: "The terms rape, sexual violence, and sexual abuse encompass many forms of violence, including sexual harassment and sexual trafficking" (Abrahams et al., 2014, p. 1648). One cannot tell from this definition whether sexual harassment always falls under the definition of rape or whether rape, sexual violence, and sexual abuse are synonyms (correct answer in both cases: No).

Criminal law also often relies on an exemplar approach, by specifying which crimes are considered violent, rather than what elements these crimes have in common. For example, the National Criminal Victimization Survey defines nonfatal violent crime as "rape or sexual assault, robbery, aggravated assault, and simple assault" (Truman & Morgan, 2016, p. 1). Like all exemplar approaches, this leaves many questions unanswered. For example,

why is robbery included in violent crime and not property crime? (Robbery, unlike other forms of theft, requires a direct confrontation with the victim, so there is a reason, but it is not often specified in the literature.)

The main strength of the exemplars approach is that it suggests a range of acts that should be considered violence, and by inference might suggest some shared characteristics. However, in general, it is the weakest of the approaches and incapable of fully defining the boundaries around any phenomenon.

Social Psychology Approach

A second general class of definitions is one common in social psychology and other fields that tend to use the term "aggression" more than "violence" (Parrott & Giancola, 2007). Although it improves on the exemplar approach, the social psychology approach also has problematic elements. A typical version of this approach and a common distinction between aggression and violence is offered by DeWall and colleagues. They define aggression "as any behavior intended to harm another person who does not want to be harmed," and they define violence "as any aggressive act that has as its goal extreme physical harm, such as injury or death" (DeWall, Anderson, & Bushman, 2011, p. 246). This definition was meant to improve on earlier efforts, such as Buss's influential definition, "a response that delivers noxious stimuli to another organism" (Buss, 1961, p. 1). It was soon recognized that Buss's definition was insufficient, because it could not exclude accidents or prosocial acts, such as the dentist causing mild pain to promote better long-term health (Parrott & Giancola, 2007).

The strengths of the social psychology approach are that it presents some version of three of four key elements: intent, unwantedness, and harm. An important limitation of the social psychological approach is that it requires malicious intent—the intent must be to harm, not simply to act. This would omit many offenses that are categorized as violent crimes in most U.S. jurisdictions. Is a bank robber who "accidentally" shoots a hostage guilty of violence? Under the law, yes, but if they claimed lack of intent to harm (just intent to steal), they might not be guilty of violence in the DeWall et al. definition. This approach also does not distinguish self-defense from violence.

Further, the social psychology approach has limitations regarding the harm element. Specifically, it (a) draws the line between harm and extreme harm only by exemplars, leaving it undefined, (b) appears to be limited to physical harm, and (c) suggests a focus on immediate consequences. However, many of the most severe harms caused by violence are long-term harms, such as the longterm physical and mental health effects of child maltreatment, which are far more damaging and costly—both to individuals and to society—than a minor cut or bruise that will heal in a few days (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). Many serious harms are not visible in the same way that a scratch is visible, including dysregulated stress responses, shortened telomeres, suicidality, and chronic diseases (Felitti et al., 1998; Ouellet-Morin et al., 2013; Shalev et al., 2013; Turner, Finkelhor, Shattuck, & Hamby, 2012). The profound personal violation of forced penetration is not well captured by examples that refer to "injury and death," and may inadvertently suggest such harms do not count as violence.

Finally, although definitions with these features are widespread in aggression research with humans (Parrott & Giancola, 2007), the social psychological approach is also inconsistent with common definitions of aggression and violence used in animal research (Natarajan & Caramaschi, 2010). It should be clear how definitions of violence used in human psychological and social science research map onto definitions in criminal justice, animal research, and other related fields (Hamby & Finkelhor, 2000). As discussed below, the animal research field offers a more powerful approach to distinguishing between aggression and violence.

Public Health Approach

The World Health Organization (WHO) has offered one of the stronger existing definitions of violence that is an influential example of the public health approach. Their definition is: "The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug et al., 2002, p. 5). As noted in the authors' commentary on this definition, this definition reflects the need "to include violence that does not necessarily result in injury or death, but that nonetheless poses a substantial burden on individuals, families, communities and health care systems worldwide" (p. 5). This is perhaps the most important strength of the definition, because it clearly establishes harmful health impact as a key defining feature without regard to privileging one kind of health impact (immediate physical injuries) over others. The WHO definition also avoids exemplars and recognizes the probabilistic nature of the connection between the act and the resulting harm.

It is important that the WHO definition also refers to intentional acts *that result in* harm, and they clarify in the text that excludes accidents (tripping and falling onto someone is not violence), but includes reckless or negligent acts (such as shaking a baby, in their example), regardless of whether harming the baby was specifically intended. This is analogous to providing a definition of mammal that captures "whale" and other animals that do not look like the exemplars of the mammal category. They directly address some types of incidents that present definitional challenges, and specify their position.

However, the WHO definition is missing the elements of being unwanted and nonessential. Also, although it is a strength of the definition that it explicitly specifies that the use of physical force is not the only way to commit a violent act, it is problematic that they suggest that only the use of physical force or power (or their threat) can lead to violence. Their commentary is more useful: "The inclusion of the word "power," in addition to the phrase "use of physical force," broadens the nature of a violent act and expands the conventional understanding of violence to include those acts that result from a power relationship, including threats and intimidation. The "use of power" also serves to include neglect or acts of omission, in addition to the more obvious violent acts of commission" (p. 5). This commentary is broad enough to include some of the key offenses that should be deemed violent, such as child neglect, acts of depraved indifference, and other intentional, unwanted harms that often described as acts of omission (this issue is revisited in more detail below). However, it is not clear whether negligence is necessarily connected to a "power relationship."

The Centers for Disease Control and Prevention (CDC) approach also falls within the public health realm. Surprisingly, the CDC does not seem to offer an overarching definition of violence, but they provide definitions for many specific types and subtypes of violence that go beyond a mere list of exemplars (see https:// www.cdc.gov/violenceprevention/). For example, their definition of child maltreatment reads "Child abuse and neglect is any act or series of acts of commission or omission by a parent or other caregiver (e.g., clergy, coach, teacher) that results in harm, potential for harm, or threat of harm to a child" (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008, p. 11). Some of the strengths are the inclusions of so-called acts of omission, the emphasis on harm, and the avoidance of defining-through-exemplars. However, although elsewhere on the CDC website, intent is clearer (e.g., under intimate partner violence), it is not specified here, and the unwanted and nonessential elements are missing.

Perhaps most notably, this definition also points to one of the main problems in this area—that other terms, such as "abuse," are often used when violence is what is being described. This contributes to confusion, such as that seen in Abrahams et al., about whether violence and abuse are synonyms or not. A better option would be a term such as "caregiver violence," which specifies that it refers to violence by caregivers, or at least clarify that "maltreatment" means violence by caregivers, instead of substituting multiple alternative words (maltreatment, abuse), without a clear indication of what the substitution means.

Animal Research Approach

Animal researchers focus on aggression as an adaptive form of social communication, which is aimed at functional endpoints such as the acquisition of food, shelter, mates, and status. Intraspecies aggression rarely causes significant harm, because it is typically highly regulated and controlled by a range of inhibitory mechanisms (Koolhaas, de Boer, & Buwalda, 2010). In contrast, violence is defined as "a pathological form of aggressive behavior that is not subjected to inhibitory control mechanisms and that has lost its function in social communication" (Koolhaas et al., 2010, p 387). Animal violence is often distinguished from animal aggression by characteristics such as the following: (a) minimal preescalatory/ ritualistic behaviors; (b) longer attacks with low withdrawal rates, even in the presence of opponent's submissive or defeat postures; (c) context-independent indiscriminate attacks; and (d) attack-bites toward vulnerable body parts of the opponent resulting in severe injury (Natarajan & Caramaschi, 2010). The strengths of the animal research approach are the avoidance of exemplars and, like the public health approach, the delineation of clear markers for violent behavior. Some of the elements that are common in human research can be seen here in some form, including a focus on behavior that is intentional, nonessential, and harmful.

On first consideration, there may seem to be parallels between "pathological" aggression and the idea of "extreme" harm in some definitions of human violence. However, there are key differences. Only the fourth of the Natarajan and Caramaschi criteria specifically refers to harm; the rest focus on the perpetrator's behavior. This is the sole approach that clearly emphasizes the nonessential nature of violent acts, for example, an animal that continues to bite even after an opponent has submitted. The first criterion also embodies this idea because it is preferable (less risky) to use threat

displays (growls, beating on chest, spreading wings) instead of aggression, when threat displays can accomplish the same goal. This clear rationale for the operationalization of the distinction between aggression and violence could benefit scientific research with humans as well (Natarajan & Caramaschi, 2010).

The Four Essential Elements of a Definition of Violence

The strengths of these four approaches can be incorporated into a single definition that successfully distinguishes violence from other actions. Many bad things happen that are not violence. Even a great many acts that involve some level of physical force are not violence. Fully distinguishing violence from other sorts of behavior, including nonviolent aggression, accidents, horseplay and even sadomasochism, requires four definitional components: nonessential, unwanted, harmful, intentional acts. Although there are, inevitably, fuzzy boundaries around these concepts as well (all scientific concepts have fuzzy boundaries; Zwick, Carlstein, & Budescu, 1987), the following focuses on distinctions that are most useful for advancing the science of violence. Table 1 provides examples of the way these criteria can be applied to a range of behaviors. The goal, of course, is not to define by exemplar, but rather to provide illustrations of the application of these criteria to behaviors that fall within and outside the construct of violence.

Nonessential Behavior: Revisiting the Distinction Between Aggression and Violence

The distinction in animal research between aggression and violence can inform a more precise definition for the scientific study of human violence. One element missing from most definitions of human violence is its nonessential or gratuitous nature. As noted previously, the term "maladaptive" is widely used in animal research to distinguish violence from the broader concept of aggression (Koolhaas et al., 2010; Natarajan & Caramaschi, 2010). Indiscriminate or unnecessarily harsh attacks seldom serve an animal community or even a higher-ranking individual. For example, attacking when a threat display (such as a growl) would be effective is nonessential and risky, and hence maladaptive. Applying this criterion, most of what is studied as "aggression" with human participants would qualify as violence. From bullying to child abuse to intimate partner violence, most intentional, harmful, unwanted behavior that is perpetrated by humans is not necessary for survival or fitness (indeed, it often harms the fitness of both perpetrators and victims). It does not serve a legitimate function, or, perhaps more importantly for understanding human violence, the behavior does not serve a legitimate function that could not also be obtained by nonviolent means. Human behavioral repertoires (physical and verbal) are far broader than other animals. In other words, such behaviors are "nonessential" for survival or fitness.

For example, bullying might be said to have an "adaptive" function, in that it is often perpetrated with the aim of improving social status (like some animal aggression). Bullying can be a successful means of attaining social status (Faris & Felmlee, 2011). However, it is well within the behavioral repertoire of even school-age children to seek social status without resorting to bullying, and not all high-ranking children bully. We now know,

contrary to some formerly widespread beliefs, that bullying is extremely harmful (e.g., Lereya, Copeland, Costello, & Wolke, 2015). Bullying is intentional, unwanted, nonessential behavior that results in harm. Bullying is violence.

Similarly, it is not necessary to use physical chastisement to raise well-behaved children, and even legal (in the United States) spanking has well-documented long-term harms (Gershoff & Bitensky, 2007). Spanking and other physical assaults by caregivers on children are properly considered to be violence. Intimate partner violence is a nonessential method of conflict resolution. Even if the underlying goal is adaptive, humans are capable of nonviolent means of achieving those goals. "Nonessential" also helps avoid the pitfalls of labeling some horrific forms of human behavior as "adaptive" (for good critiques of these pitfalls, see Lloyd, 2003; Travis, 2003).

A good definition is clear about what is excluded as well as what is included. Applying the criterion of nonessential provides more insight into acts that are appropriately considered human aggression, but not violence. For example, some humans, including infants, tod-dlers, older adults with dementia, and those with significant cognitive impairments, have a limited behavioral repertoire and may not be capable of nonaggressive responses to some situations. Toddler tantrums, even when harmful, are aggression, not violence.

Essential behaviors would include self-defense and defense of one's children, which are appropriately considered aggression, but not violence. As illustrated by the example of self-defense, one advantage of incorporating the nonessential element is closer correspondence to legal definitions of violence. Furthermore, this criterion can help exclude a range of prosocial actions. A doctor intentionally treating a sick child with chemotherapy is not engaging in violence, even if the child does not "want" the treatment and some harm is caused, albeit less harm than would be caused by failing to treat the child. See Table 1 for the application of the nonessential criterion to these and other behaviors.

In the cases of both self-defense and medical care, the question of proportion has long been important. In traditional legal scholarship, acts of self-defense must meet three criteria that all pertain to the essential nature of the force: the threat must be immediate, there must not be an opportunity to withdraw, and the force must be proportional to the threat (Hamby, 2014; Kopel, Gallant, & Eisen, 2008). For example, you should not kill an assailant unless the threat to you is potentially lethal. Although there are exceptions to these criteria (the "Castle doctrine" defense and many versions of "stand your ground" laws do not require retreating from your own property), they all help justify the essential nature of aggression in the name of self-defense (for a more detailed discussion of self-defense, see Hamby, 2014; Kopel et al., 2008). A similar balance of judgments is made in medical care decision making. The risk of harm from the treatment or secondary complications must be deemed to be less than the risk from an untreated illness or injury.

Unwanted Behavior

It may seem obvious that violence is unwanted, but this turns out to be an important element for distinguishing violence from other innocuous or even prosocial behavior. There are physically forceful and even injurious acts that are not unwanted (Parrott & Giancola, 2007). Many medical interventions, ranging from sur-

Table 1
Applying the Four Elements of the Violence Definition to Acts Inside and Outside the Boundaries of the Violence Construct

Act	Violence?	Nonessential?	Intentional?	Unwanted?	Harmful?	Comments
		Acts that	are not violence because	they are essen	tial	
Self-defense	Aggression, not violence	Essential	Intentional	Unwanted	Harmful	In classic legal formulation, self-defense must meet 3 criteria: (1) imminent threat; (2) no opportunity to withdraw;)3) proportionate response to threat (e.g., lethal force only acceptable in response to potentially lethal threat).
Toddler tantrums	Aggression, not violence	Essential	Intentional	Unwanted	Occasionally harmful	Toddlers do not have sufficient cognitive or behavioral capacity to choose less aggressive responses to frustration
Medical care of children	Prosocial	Essential	Intentional	Often unwanted	Sometimes harmful	Even risky procedures with adverse side effects are sometimes deemed the safest and healthiest alternative
		Acts that are no	t violence because they	are wanted (co	nsensual)	
Horseplay, joking around, pillow fights	Prosocial	Nonessential	Intentional	Wanted	Rarely harmful	Usually carefully calibrated to not cause any harm
Stunt fights and other acting	Prosocial	Nonessential	Intentional	Wanted	Rarely harmful	Usually significant investment made to avoid harm. If harm, often the result of recklessness or negligence
Contact sports	Prosocial	Nonessential	Intentional	Wanted	Sometimes harmful, but designed to minimize harm	Multiple safety mechanisms in place. Definitional boundary issues related to intentional fouls and other instances of "lack of sportsmanship." Macho culture and high salaries can create atmospheres of coercion and minimization of true harms
Assisted suicide	Debated	Nonessential	Intentional	Wanted	Harmful, although also often relief from pain and suffering	Exemplars are clear cases of desire after a careful balancing of judgement by terminally ill. However, questions of coercion, cognitive capacity, and mental illness complicate many individual cases (especially given financial gain or relief of caregiving for family members).
Sadomasochism, including bondage	Not usually considered violence, even though violates some social norms	Nonessential	Intentional	Wanted	Sometimes, although most often minor	Safety steps often in place. Hard to show true lack of coercion in many instances and "submissive" party vulnerable to having "safe word" ignored.
		Acts that	are not violence because	e of lack of har	rm	
Daily hassles, such as traffic tickets	Nonviolence	Nonessential	Intentional	Unwanted	Not harmful	Harm standard requires a lower bound to eliminate transient pain or distress. (table continues)

Table 1 (continued)

Act	Violence?	Nonessential?	Intentional?	Unwanted?	Harmful?	Comments
Interpersonal rejection	Nonviolence		Intentional	Unwanted	Not harmful	Harm must be probabilistic and usually based on "reasonable person" standard. Someone might claim harm to getting turned down for a date, but that does not make it violence.
Interpersonal conflict	Nonviolence	Nonessential	Intentional	Unwanted	Not harmful	Disagreements are not violence.
		Acts that	are not violence because	of lack of inte	ent	
Accidents	Nonviolence	Nonessential	Unintentional	Unwanted	Sometimes	Accidents are generally unpredictable, unlikely mishaps that could not have been easily foreseen or avoided
Negligence	Nonviolence	Nonessential	Unintentional	Unwanted	Sometimes	Negligence can rise to the level of depraved indifference and if sufficiently reckless, can rise to the level of violence. However, many errors, even if careless and harmful, are not considered violent or criminal
		А	cts that meet criteria for	violence		
Aggravated assault, robbery, murder	Violence	Nonessential	Intentional, usually with specific intent to harm	Unwanted	Harmful	These are the most prototypical exemplars of violence
"Simple" assault	Violence	Nonessential	Intentional, but not always intent to cause harm	Unwanted	psychological harm, or high potential for harm	Surprisingly, one of the most prototypical exemplars for violence and a crime that is classified as violent by the FBI can be borderline cases on these criteria. Assaults that produce injury will often be charged as aggravated assault and some simple assaults do not lead to any observable physical injury and the lasting psychological harm of single simple assaults is not well-established.
Manslaughter	Violence	/iolence Nonessential	Intentional, but intention is not to kill, but rather the intent was to commit an act so reckless or dangerous that the fatal outcome could have been foreseen	Unwanted	Harmful (fatal)	There are many forms of manslaughter that all involve the unlawful killing of another. Examples include the consequence of another felony such as arson (in some jurisdictions called felony murder), crimes of passion, and death due to depraved indifference. Constructive and voluntary manslaughter are always considered violent crimes; sometimes involuntary or negligent manslaughter is not.

Table 1 (continued)

Act	Violence?	Nonessential?	Intentional?	Unwanted?	Harmful?	Comments
Rape and other sexual offenses	Violence	Nonessential	Intentional	Unwanted	Harmful	Another violent act that is intentional, but the intent may be to coerce, exploit, or even impress one's peers, and may not explicitly intend to harm. Some cases have elements of deprayed indifference
Bullying, including relational aggression	Violence	Nonessential	Intentional	Unwanted	Harmful	Formerly minimized, but nov recognized as a source of serious, lasting psychological harm. Also note that a lot of bullying involves "malice aforethought": It is not jus blurting out an angry response, it is a coordinated, planned attempt to harm someone else. For example, bullying often involves lying in wait, or coordinated attempts to spread rumors or exclude a peer. Bullying peaks during the middle school years, when the cognitive skills to plan such attacks are first attained.
Child neglect	Violence	Nonessential	Intentionally reckless or depraved indifference	Unwanted	Harmful	Some offenses that are commonly treated as "acts of omission" could more accurately be considered reckless endangerment.

Note. Rather than simply offering a list of exemplars without specifying why they should all be considered violence, a scientific definition names the essential features of violence and then systematically applies these criteria to distinguish violence from other acts. These criteria are further elaborated in the text.

gery to chemotherapy, are wanted. In contact sports, individuals willingly subject themselves to physically forceful and potentially harmful acts by others. More exotically, perhaps, but just as relevant, there is sadomasochism and other sexual behaviors that include elements of intent and harm, even some extreme enough they have led to accidental death. In these examples, the perceived benefits of the acts are deemed to outweigh the harms or risks of harm (albeit rather idiosyncratically in some cases), and consent to participate is given by all actors.

One important but underappreciated type of wanted and consensual behavior that should also be excluded is horseplay or joking around. Horseplay, such as faux "wrestling," is common among youth. Physical horseplay serves many adaptive social functions, especially during adolescence and young adulthood (Maccoby, 1998). It allows youth to explore physical intimacy outside the family under the cover of "nothing serious" and "just kidding." It allows them to initiate nonsexual touch with prospective romantic partners, and use the response as a guide to whether further advances might be welcome. Many couples engage in this kind of horseplay too (Follingstad, 2017). This kind of physical play is also seen in the animal kingdom and is not considered to be a form of violence but rather, as it is in humans, a type of practice in needed social skills. It is also important to note that all of these

examples of excluded acts have inhibitory mechanisms in place to minimize risk.

As with other definitional elements, one can describe a continuum of wantedness (Hamby & Koss, 2003). Sometimes people get talked into participating in behaviors that they may have legally consented to, but are reluctant participants. In most cases, that would not meet the unwantedness criterion for violence. There are many innocuous examples, such as getting talked into helping a friend move. Constructs such as statutory rape point to developmental complexities, when a youth may believe they "want" a sexual encounter, but society has deemed that they are too young to give informed consent. In most legal jurisdictions, threats of force represent unlawful coercion, but acceding to something based on threats to end a relationship would not. The latter would be considered a balance of judgment. In social psychology, researchers refer to noxious stimuli that one would otherwise be motivated to avoid (Parrott & Giancola, 2007), and that is a helpful threshold for this boundary that can be applied across many social and cultural settings.

One might ask if both "unwanted" and "nonessential" are needed, especially because unwanted is mentioned in many definitions (e.g., DeWall et al., 2011; Parrott & Giancola, 2007) and nonessential seldom is. They are both necessary because some

nonessential acts are still wanted and should not be considered violence (dental care, contact sports, S&M). Likewise, some essential acts are unwanted by the recipient (self-defense, lifesaving medical care of children). Many common everyday behaviors cannot be accurately categorized without reference to both constructs.

Harmful Outcomes

Harm is defined quite differently in the social psychology and public health approaches. The public health approach, as exemplified by the WHO definition (Krug et al., 2002), has more scientific justification. Harm is defined in that definition as: "results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation." Social psychology definitions tend to refer just to "extreme harm." Definitions that suggest that harm requires visible physical injury or death are defining harm too narrowly. Any act that is still having significant, measurable adverse health impacts a half century after its occurrence—such as caregiver violence toward children—should qualify as "extreme" harm. It is borderline irrational to consider a scratch or a bruise evidence of sufficient harm to meet the definition of violence, while less visible but more impactful harms, such as posttraumatic stress, suicidality, shortened telomeres, dysregulated stress responses, and chronic diseases are omitted from the definition (Felitti et al., 1998; Ouellet-Morin et al., 2013; Shalev et al., 2013; Turner et al., 2012). Focusing on typical exemplars has proved particularly problematic here and has led to extensive scientific and public neglect of some of the most harmful forms of violence, such as child neglect and rape.

As with other elements of the violence definition, it is important to determine a threshold for what constitutes notable harm. Transient moments of physical or emotional pain are not usually considered to meet the harm threshold. In the Juvenile Victimization Questionnaire, our lower bound threshold for physical injury is pain that can still be felt a day later (Hamby, Finkelhor, & Turner, 2013). For psychological disorders, the Diagnostic and Statistical Manual typically sets a minimum time period of distress, such as one month for posttraumatic stress disorder (PTSD) symptoms, and also a minimum degree of impact, such as significant distress or functional impairment (American Psychiatric Association, 2013). These obviously require a degree of judgment, but the goal is to focus on harms that have some lasting impact. They need not be "extreme" to have lasting impact, and that undefined term is not a good substitute for these more specific operationalizations.

It is also important to recognize the probabilistic nature of the link between an act and the resulting harm. A single harmful outcome is not sufficient to redefine a whole class of behaviors as violence. For example, some obsessive or delusional individuals may experience a romantic rejection as harmful, and may even develop suicidality or some other highly negative outcome. However, that does not mean that everyone who turns someone down for a date is committing an act of violence. On the other side, a common example is shooting and missing. Someone who attempts to shoot and kill someone, but misses, has perpetrated an act of violence (and the felony of attempted murder). That is the source of the phrase "high likelihood of resulting" in the WHO definition. Focusing on health impacts (both physical and mental), and not

merely transitory emotional distress or momentary physical pain, is also helpful for distinguishing harm that merits the label of violence from other unpleasant events.

Harm is insufficient as a criterion in and of itself, because bruises can be inflicted and bones can be broken in a wide array of activities that are not violence. The element of harm is necessary because there are many unpleasant events that are nonessential, unwanted, and intentional that do not meet criteria for violence, because of the lack of harmful health impacts. All sorts of daily hassles, interpersonal conflicts, and annoying interactions fall into this category, ranging from junk mail to ending romantic relationships (Follingstad, 2017). Over the years, some behaviors have been reconsidered, such as spanking. For centuries, spanking was widely considered harmless or even helpful for child rearing, but is now known to cause many serious, long-term adverse impacts (Gershoff & Bitensky, 2007). New data on long-term brain damage from football (Gavett, Stern, & McKee, 2011) may be leading to a redefinition of acceptable force in contact sports.

Intent

Scientists have also put forth different definitions of intent. In the social psychology approach, most definitions specify "intent to harm" to omit accidents or prosocial acts such as medical care. The public health approach also omits accidents and many prosocial acts of force from the category of violence, but also specifies that intentional behaviors that *result in harm* can also be violence. Most difficult discriminations concern the question of whether reckless or negligent behavior should also count, as promoted by the public health approach. Although few definitions specify it, there are also cognitive preconditions for meeting the criterion of intent. Small children and some with serious cognitive impairment are generally incapable of the capacity to understand and plan their behavior. This is embodied in many laws that minimize liability for young and cognitively impaired actors.

Recognizing that many aspects of intent are continuous, it can still be helpful to focus on three general ranges of intent. At one extreme of the intent continuum, many acts of violence involve clearly malicious intent (Finkelhor, 2008). Everyone agrees that acts that are intended to cause harm meet the intent criterion for violence (American Psychological Association, n.d.; Cook & Parrott, 2009; DeWall et al., 2011; Krug et al., 2002; Leeb et al., 2008; Parrott & Giancola, 2007). This includes actions such as premeditated murder ("with malice aforethought"), which is a more serious felony than various forms of manslaughter (described in more detail below). Most prototypical exemplars of violence involve malicious intent—the barroom brawl, the drunken batterer. Few people "accidentally" throw a punch, or, for that matter, "accidentally" stalk, bully, or harass.

Motive is different than the intent to harm. The intent to harm usually arises from a motive to attain status or resources, and a willingness to pursue those goals illegitimately. For example, (borrowing prototypical exemplars from fiction plots), the motive might be to seize an inheritance prematurely, or revenge. Perceived slights to one's honor are common motives for barroom brawls (Graham et al., 2013). The goals for social status or resources could be pursued through nonviolent means, and many motives are similar to those shared by almost everyone. Some motives are illegitimate or delusional, such as having total control

over one's spouse, or attempting to enact a fantasy about a relationship with a celebrity. Pursuing illegitimate or delusional goals will often lead to violence, but the motives could remain in the fantasy realm, and hence never be connected to violence.

At the other extreme of the intent continuum, many acts that lead to harmful outcomes are unintentional. Someone who trips and falls onto someone else is not intentionally falling. If a child darts into the street at the last second and a careful driver cannot avoid her, that is an accident. It is not violence and it is not a crime. The prototypical exemplars of incidents in this range of intentionality are unavoidable results of unlikely mishaps that are clearly not the fault of the person causing the injury. Other circumstances where the intent criterion is not met include incidents such as injuries from contact sports, if the players were abiding by the rules at the time of the incident. Pillow fights and horseplay are other forms of prosocial, positively intended behaviors. Part of the positive intent in sports and horseplay includes considerable effort to calibrate those interactions to minimize the risk of harm. Again, these are inevitably probabilistic judgments. No behavior is guaranteed to be safe, and some of these behaviors, such as contact sports, carry nontrivial risks of harm, but they are not reckless. Scholars do not treat these sorts of incidents as meeting the intent criterion for violence.

However, these clear-cut examples do not come close to exhausting the range of possibilities regarding intent. Especially, there are a variety of reckless and negligent behaviors. The public health and legal worlds have addressed these nuances more than the fields of social psychology or animal research, and in general, these scholars make the case that many forms of reckless or negligent behaviors are also properly considered forms of violence. Criminal law has developed a range of offenses to handle nuances which are not always well recognized in academic violence research, with particular attention to acts that lead to an unlawful killing.

The crime of manslaughter lacks the specific intent to kill, but involves behavior so dangerous or reckless that a reasonable person could have foreseen the fatal outcome, and many forms are treated as a violent crime (FBI, 2011). Manslaughter helps illustrate that violence cannot be defined solely by a specific malicious intent to enact the obtained result. There are several types, and while all the complexities cannot be summarized here, a few key distinctions and categories should inform the scientific understanding of violence. The most criminal of these types of incidents is known as "constructive manslaughter" or "felony murder" (Berman, 2013). In these incidents, the intentional misbehavior is a felony, such as a burglary or arson, where a fatality occurs that was not the original goal of the criminal. The robber cannot put a box around some malicious intent-stealing, threatening with a weapon, and hostage-taking—and claim blamelessness when these dangerous behaviors lead to a fatality. In most jurisdictions, not only the shooter, but anyone else on the robbery crew, would also be guilty of constructive manslaughter or felony murder (Berman, 2013).

Voluntary manslaughter is often the charge in "crimes of passion." Two examples (and plots of endless TV episodes) are a man walking in on his wife with her lover, or a financially desperate son getting cut out of a will, who then strike the lover or parent. There is intent to assault, but not kill. The provocation and emotional intensity of the situation are considered mitigating factors, but

these are still violent crimes. At a still lower level of culpability is involuntary manslaughter, such as drunk driving that leads to a fatal accident or a carnival worker who did not properly secure all riders. In many jurisdictions, negligent manslaughter is a felony but not a crime of violence (FBI, 2011), unless the degree of recklessness or neglect reaches a level of deprayed indifference.

Depraved indifference. Some criminal negligence can be charged as a violent crime, if it is perceived that the degree of indifference to others' well-being is sufficiently extreme. Other terms such as "callous disregard" are common in this body of law. For example, if the drunk driver has had her license taken away for previous convictions, that could add an element of criminal negligence that would elevate the charge to voluntary manslaughter or perhaps even second-degree murder (Berman, 2013). A drive-by shooting would also represent depraved indifference, even if the explicit intent to kill is not present.

Child neglect. Public health experts have been keen to address the role of negligence because of the problem of child neglect. Child neglect is often described as an "act of omission," but many forms of child neglect might be better construed as acts of recklessness. It is callous disregard or depraved indifference to leave a toddler alone so the parent can go out drinking, or to spend their entire income on Oxycontin and leave no food in the house. Those are reckless choices, and they are also nonessential, unwanted, and harmful. As suggested in the public health model, child neglect is properly treated as violence.

Sexual violence. Sexual violence is often treated as complex with regard to intent—more complex than is probably warranted in many cases—but nonetheless the pervasive misunderstanding of sexual violence warrants some special consideration. Sexual violence is typically motivated by a desire for power and status, including being perceived as sexually experienced and highly sexually active. The "audience" for sexual violence is often not the victim, but the perpetrator's peers, because of offenders' perceptions about peer pressure to have frequent sex, perceptions about the sexual offending of their peers, and the culture of some male peer groups (Hipp et al., 2017; McCauley et al., 2014; Thompson, Kingree, Zinzow, & Swartout, 2015). Other sexual offenders have delusional motives, such as beliefs that sexual violence is a path to intimacy (Hartley, 2001). These numerous cognitive distortions are used to justify intentional violent behavior. Rapists are not "accidentally" penetrating their victims or "accidentally" not noticing their victim is passed out or trying to get away. Like a murderer trying to gain premature access to an inheritance, sexual offenders are willing to use illegitimate, violent means to attain common goals for power and status. Even when the intent to harm is repressed or denied, sexual perpetrators demonstrate deprayed indifference to the foreseeable harms of their behavior. The failure to understand how the elements of violence apply to sexual offenses is one obstacle to justice for victims.

In summary intent cannot be limited to incidents when the perpetrator admits to a desire to cause the specific resulting harm. Intent to engage in reckless and dangerous behavior, where the harmful outcome could have been foreseen if not explicitly intended, has long been recognized to also form intent sufficient to define an act as violent. You cannot shoot into a crowd without the "intent" to kill, and be absolved of a violent crime when someone dies. Many acts that are sometimes defined as acts of omission are better conceived as acts of recklessness or depraved

indifference, including many neglectful parenting behaviors, which are often defined as lack of supervision or lack of providing basic necessities, but could be more accurately defined as choosing to abandon one's children.

Constructs That Do Not Belong in the Definition of Violence

It is just as important to be able to identify extraneous constructs for the definition of violence. Any element that is not needed to fully distinguish violence from other behaviors should be excluded, even if it is true of most violent acts, just as land-based does not belong in the definition of mammal. Some that have been mentioned and deserve some discussion are violations of social norms, anger and hostility, the form of the act, and personal and social characteristics.

Violations of Social Norms

As Krug and colleagues (2002) have noted, some scholars have proposed that violations of social norms are an important aspect of understanding violence and victimization. A representative definition that refers to social norms is: "harm that comes to individuals because other human actors have behaved in ways that violate social norms" (Finkelhor, 2008, p. 23). However, social norms are not a reliable guide to what is, and is not, violence, and can even be used in attempts to excuse violence (Krug et al., 2002). Family violence was tolerated for many years. Some forms of violence against family members have even been explicitly excluded from criminal law, such as the marital rape exemption that only fully ended in the United States in 1994. Social norms are imperfect and variable. Near the time of this writing, Russia voted to decriminalize some forms of domestic violence, but that does not mean domestic violence is less harmful in Russia than it is elsewhere.

Instead, it is better to consider why such social norms exist and what they represent. Many of those who point to social norms are child abuse researchers, who are seeking some way to include neglect and sexual molestation in definitions of victimization or violence. The problem with caregiver neglect and child sexual molestation is not that many people disapprove of them, the problem is that they are developmental insults that overwhelm children's capacities and cause damage that frequently lasts until old age. Another construct is not needed if harm is accurately recognized as more than bruises or broken bones. Further, although I recognize the many challenges in reaching—or even wanting—a universal or pan-cultural definition, the reference to observable health impacts is one way to emphasize the human commonalities across sociocultural groups. Many so-called "cultural" differences are mislabeled. People do not want to be victimized. Like other justifications offered by perpetrators, many claims about cultural endorsements of violence are false excuses meant to protect illegitimate uses of power.

Anger and Hostility

As noted by Parrott and Giancola (2007), some definitions and many measures confound aggression and/or violence with anger and hostility. It is important to keep these distinct. Anger is a common emotion that will be experienced by virtually all people,

and may be the most appropriate response to an injustice. It is the task of self-regulation to keep us from inappropriately acting on angry impulses. When we restrain ourselves, we have avoided violence, no matter how angry we feel. At the other extreme, it has often been noted in the domestic violence and sociopathy literatures that anger is not a prerequisite for violence, either. The classic distinction between instrumental and expressive aggression also recognizes that emotions do not drive all violence. There is no need to refer to the emotions of perpetrators in a definition of violence.

The Form of the Act

Sometimes definitions of violence focus only on physically forceful acts, and there has been some discussion about whether psychological or verbal assaults should count as violence (Follingstad, 2017). Others have documented the wide range of actions that can fall within the realm of violence and aggression, including not only physical and verbal behaviors, but also "postural" threats, vandalism, and other forms of assault (Cook & Parrott, 2009; Parrott & Giancola, 2007). The public health approach also emphasizes that some acts of violence are not expressed as physical assault. Although it is valuable to note the range of violent behaviors, it should be understood that acts of violence need not "look like" prototypical exemplars. Furthermore, many behaviors that "look like" physical assaults are not violence, including tackling in football, jostling in a crowd, and performing stunts in a movie or play. An excessive focus on the form of the act is one reason that major types of violence such as rape and other sexual offenses go underrecognized. Malicious actors can cause substantial, longlasting, even devastating harm without ever throwing a punch. We need to move beyond stereotypes in our scientific approach to violence. Just as mammals do not need four legs, violence does not require punches and slaps.

Other Personal and Situational Characteristics

It is well established that many personal characteristics of the victim or the perpetrator can affect perceptions of violent incidents. These include sociodemographic characteristics such as gender, race, and sexual orientation; behavioral characteristics such as recent alcohol use; and situational and relational characteristics, such as the familiarity of the victim and perpetrator (e.g., Hamby & Jackson, 2010; Sommer, Reynolds, & Kehn, 2016). In some cases, people may be using personal or situational characteristics as imprecise proxies for other elements of the construct of violence. For example, it is well-established that male-perpetrated violence is more injurious than female-perpetrated violence. As a result, in the absence of precise information on harm, people appear to use perpetrator gender to estimate the likely harm of an incident (Hamby & Jackson, 2010). Understanding the impact of these factors is important for understanding victim blame, helpseeking, health care and criminal justice responses, and a host of other important research topics. However, despite the correlation of gender and other characteristics with elements of the violence definition (such as harm), they are conceptually orthogonal and should be kept separate.

Implications

The scientific definition of violence matters because it is the bedrock on which all nomenclature, assessment, theory, and intervention should rest. Some key implications are described below, with highlights summarized in Table 2.

Implications for Terminology

Given the foregoing, many terms can be more precisely defined and standardized for research with humans. Violence is nonessential, unwanted, intentional, and harmful behavior. Violence is a subset of aggressive behavior that is most usefully distinguished from aggression by its nonessential nature, following the animal research model. Aggression includes self-defense, toddler tantrums, and other unwanted, intentional, harmful behaviors that are either necessary to protect oneself or loved ones, or occur because of the limited behavioral repertoire of the perpetrator. The concept of "extreme" regarding harm or maliciousness of intent does not add to the utility of the definition of violence and can be dropped. Instead, a more sophisticated recognition of the true health impacts and the full range of intents are needed. Terms such as "abuse," "maltreatment," or "battering" have never been systematically defined in relation to violence or aggression, and they obscure the commonalities and distinctions among forms of violence more than they illuminate them. Terms that make specific reference to a class of perpetrators, such as caregiver violence, would better identify the distinctive feature of what is now known variously as child abuse or child maltreatment.

The use of multiple vague synonyms or not-quite-synonyms does not advance science. It is not widely known in psychology,

but it took centuries to fully address this issue in chemistry and physics. The transition from the idiosyncratic terminology of alchemists to the standardized nomenclature in use today did not begin in earnest until the late 19th century, and was not formalized until the creation of the International Union of Pure and Applied Chemistry in 1919 (International Union of Pure and Applied Chemistry, n.d.). This ensures that one researcher does not refer to an element as "hydrogen" while another researcher calls the same element "sherrinagen." The field of violence research, and indeed all of psychology, needs to get behind a similar effort.

Implications for Measurement

Once you think about the key elements of a violence definition, it is surprising how few violence questionnaires measure whether a behavior is nonessential, unwanted, intentional, or harmful. Simply reporting a "hit" does not allow one to distinguish a football tackle from a pillow fight from an assault. I have been told by numerous colleagues that survey participants "know what they mean" when they intend to ask about violence, no matter how imprecise their questions are. First, that is no way to conduct science, even if it were true. Second, there are volumes of data indicating that this is not true. Several experimental or quasiexperimental studies show that the operationalization of violence has a large impact on reported rates, gender patterns, and other factors (Finkelhor, Shattuck, Turner, & Hamby, 2016; Fisher, Cullen, & Turner, 2000; Hamby, 2016b; Lessne & Cidade, 2017; Rothman & Xuan, 2012). Furthermore, many people in the general population do not view child maltreatment, domestic violence, sexual assault, and other forms of violence in the same way that most scientists view them. Many people endorse (and commit)

Table 2
Summary of Implications for Terminology, Measurement, Theory, Prevention, and Intervention

- (1) Violence is nonessential, unwanted, intentional, and harmful behavior. The animal research model suggests the most scientifically useful distinction between violence and the broader construct of aggression, by focusing on violence as nonessential aggression (for humans, not in the interest of self-defense or protecting others, and not due to limited behavioral repertoires). Using this distinction, most human aggression meets criteria for violence.
- (2) Harms not visible to the naked eye need more recognition, especially because many of them have far more lasting and damaging effects than minor cuts and bruises. Bullying, corporal punishment, child neglect, intimate partner violence, and sexual offenses all meet all four criteria for violence given the current state of scientific information about them.
- (3) Terms such as "abuse," "maltreatment," and "battering" should either be systematically defined in relation to these four elements or dropped. A proliferation of synonyms or near-synonyms for the same class of behavior does not advance science. Better terms would focus on the distinguishing features of subtypes, such as "caregiver violence" versus "child abuse."
- (4) Survey measures of violence should clearly incorporate all four definitional elements (nonessential, unwanted, intentional, and harmful), ideally in the text of the questionnaire (either in the items, a preamble, or both).
- (5) It should be recognized that measures that simply ask about behaviors such as hitting and pushing are incapable of distinguishing violence from accidents, horseplay, contact sports, and many other unintended or prosocial behaviors.
- (6) Laboratory analogs should specify the extent to which they can model all four elements of violence (recognizing that, by definition, analogs will not fully model all elements). Analogs should not merely present noxious stimuli.
- (7) Measures of harm should include measures of harm not visible to the naked eye, including psychological harm and long-term neurological damage, or at least specify the limitations of scope.
- (8) Theories of violence and theories of change should specify how their proposed mechanisms are related to the production of violent behavior. Theories of violence and theories of change need to pay more attention to motive, depraved indifference, and the precursors to intent to harm or callous disregard for likely harms.
- (9) Programs to prevent or intervene against violence also need to understand these elements. They should know whether their target problem is more likely to be intentionally perpetrated harm, or due to recklessness and callous disregard for others, for example. Instead of calling for general principles of respect and fellowship, a clearer focus on definitional elements would call for a more central focus on the elements of wantedness and consent. This is increasingly common in sexual assault prevention, but might be extended to other forms of violence as well.
- (10) Similarly, people who work with victims should be aware of the full range of harms, and not minimize incidents that do not produce visible bodily injuries. This includes not only specialized victim advocates, but psychologists, health care providers, and criminal justice personnel.

severe corporal punishment, justify domestic violence in cases of infidelity or even "talking back," and believe that women are "asking for it" when they are sexually assaulted (e.g., De Puy, Hamby, & Lindemuth, 2015). Indeed, there are whole subdisciplines of violence research devoted to these issues. There is also evidence of underreporting, because of social desirability, shame, or other factors (e.g., Sugarman & Hotaling, 1997).

These factors probably contribute to the incredibly wide range of prevalence estimates that are common in our field. For example, a recent meta-analysis found rates of physical teen dating violence ranging from 1% to 61% (Wincentak, Connolly, & Card, 2017). That is an unacceptable level of imprecision. Scientists need to rise to the challenge of improving the assessment of all constructs, not stubbornly sticking to claims that everything that has been done in the past is "good enough." Although underlying this reluctance for more precision may be concerns about depressing reporting, existing evidence suggests that better and clearer operationalizations enhance disclosure (Hamby, 2016a).

A clearer definition can also help with other controversies in violence and aggression research. For example, the suitability of laboratory analogs of aggression or violence has been a topic of dispute (Calvert et al., 2017; Tedeschi & Quigley, 1996). Analogs, by definition, need not exactly match the phenomenon they are trying to model and are used when ethics or other considerations keep researchers from creating the full phenomenon in the laboratory. Laboratory analogs for violence typically use a "noxious stimuli" (to use Buss's term), such as an unpleasant electric shock, loud noise, or hot sauce exposure. They cause unpleasantness or even pain, but so transiently that they do not meet the harm criterion for violence. Given that one element of violence cannot ethically be included, it is even more important to be clear about where these analogs stand on the other three elements. They all require the participant to act intentionally. On the matter of nonessential, some paradigms present challenges. In the classic Milgram paradigm (Milgram, 1963), the experimenter insists that the shock is "necessary," and required the participant to dispute that. Some analogs more clearly establish unwantedness than others. For example, in the hot sauce paradigm, researchers explicitly communicate that the confederate really dislikes spicy food. Improving the specification of all four key elements should reduce error in violence research data and aid interpretation of generalizability.

Implications for Theory

Many psychological and sociological theories of violence assume, to a surprising degree, that the precise question of what phenomena they apply to does not need stating. A theory of violence should focus on mechanisms, and how it can come to pass that someone would intentionally commit unwanted, nonessential, harmful acts. The presence of the element of intent requires an understanding of motive, or in criminological terms, "state of mind" at the time the violence is committed. The feminist model of patriarchy is one of the few that explicitly addresses the question of motive, by pointing to the use of power and control in a desire to maintain the patriarchal structure of society. However, in its simplest form, the focus on a single motive limits the patriarchal model. Other single-factor models, such as self-control theory (Gottfredson & Hirschi, 1990), suffer the same problem. The

General Aggression Model (DeWall, Anderson, & Bushman, 2011) and its many social-cognitive cousins cover more risk factors for aggressive acts, but these models also pay insufficient attention to the essential elements. For example, our lack of understanding of how motive develops and leads to intent is one reason why we are still so limited in our ability to explain why one child with an extensive history of trauma becomes a perpetrator, while another mistreated child does not. By not attending to the underlying goals of behavior, our models of change tend to focus on "just say no" instead of teaching children how to use their full nonviolent behavioral repertoire to meet their legitimate needs for social status and resources.

The public health approach, despite better clarity in definitions than most other approaches, has focused mostly on general risk factors, and has not integrated their definition of violence into an analysis of the causes of violence. The Haddon matrix, the dominant conceptual framework in public health, calls for incorporating an analysis of human, agent (such as weapons), and environmental factors, and was originally focused on minimizing the harms of natural disasters, accidents, and other unintentional acts (Haddon, 1970). The matrix has been applied to violence (e.g., Hemenway, 2009), and certainly agents and environmental factors affect the risk of a violent act, but the public health approach needs greater recognition that only human factors define whether an act is violent or not, and a complete approach to violence prevention must include human factors.

Implications for Practice and Policy

A lack of consensus on the definition of violence is the underlying problem in a huge number of challenges to practice and policy (Hamby & Finkelhor, 2000). Reports of rape and IPV are still rarely prosecuted—with under 5% of reports to law enforcement resulting in a conviction, even in recent years (Hamby, Finkelhor, & Turner, 2015). Disbelief in the constructs of rape and battering are still one of the main reasons for this tepid response (Shaw, Campbell, Cain, & Feeney, 2016). Minimization of the harms caused by sexual assault is an everyday problem in the news. We need a more systematic approach to specifying the reasons that bullying, sexual assault, child neglect and other major public health problems should be treated as acts of violence. We should be explicitly seeking to establish a definitional consensus as an essential step to resolving these program and policy issues.

Conclusion

The main problem with most measurement in psychology is that we focus on exemplars. We think about "mammal," and then we write measures with images of cats and dogs dancing in our heads. But the tricky thing to defining mammal is not describing cats and dogs, it is justifying why whales and bats are mammals too, and not fish or birds. Not to belabor the metaphor, but it is equally important to understand why ostriches still count as birds and why kangaroos are mammals, but seahorses are not. To advance the science of violence, we need to study the whales and bats and ostriches of interpersonal behavior—incidents that fall near the boundary of the violence construct—and justify why some should be called violent and others nonviolent.

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