ISSUES IN MEDICINE
Violence, violence prevention, and safety: A research agenda for South Africa

Catherine L Ward, Lillian Artz, Julie Berg, Floretta Boonzaier, Sarah Crawford-Browne, Andrew Dawes, Donald Foster, Richard Matzopoulos, Andrew Nicol, Jeremy Seekings, Arjan B (Sebastian) van As, Elrena van der Spuy

Violence is a serious problem in South Africa with many effects on health services; it presents complex research problems and requires interdisciplinary collaboration. Two key meta-questions emerge: (*i*) violence must be understood better to develop effective interventions; and (*ii*) intervention research (evaluating interventions, assessing efficacy and effectiveness, how best to scale up interventions in resource-poor settings) is necessary. A research agenda to address violence is proposed.

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Background

Interpersonal violence is the leading cause of injury in South Africa, and the homicide rate is over seven times the global average.[1] Studies have identified risk factors[2-4] and effective interventions to prevent violence.[4] We suggest a research agenda that can support and extend this work, by attending to South Africa's unique situation.

The ecological model, a standard in public health and violence prevention (Fig. 1), views individuals as nested within interactive systems. Individual characteristics influence risk and protective factors that may increase or decrease the risk of aggression and exposure to violence. *Microsystems* are where daily interactions shape their behaviour most closely; *exosystems* comprise contexts that affect the lives of families, their neighbourhoods, extended family systems, and services; and the *macrosystem* comprises more distal influences such as government policies, norms and ideologies, and the economy.

Individuals and violence

Individuals are considered from two perspectives: factors that affect (*i*) the likelihood of aggressive behaviour, and (*ii*) the likelihood of victimisation. In relation to the first, Moffitt suggests a typology of offending: life-course-persistent offenders and adolescence-limited offenders.[5] The former start young and continue for life; evidence suggests that neuropsychological deficits (acquired *in utero* and/or in early childhood) that affect functions such as self-regulation set them on this path, compounded by unsupportive, conflictual parenting.[5]

All the authors are associated with the Safety and Violence Initiative at the University of Cape Town, and Catherine Ward, Floretta Boonzaier, Andrew Dawes and Donald Foster also with the Department of Psychology; Lillian Artz with the Gender, Health and Justice Research Unit; Julie Berg and Elrena van der Spuy with the Centre of Criminology; Sarah Crawford-Browne with the Primary Health Care Directorate; Richard Matzopoulos with the School of Public Health and Family Medicine, and the Medical Research Council's Burden of Diseases Research Unit; Andrew Nicol and Sebastian van As with the Department of Surgery; and Jeremy Seekings with the Centre for Social Science Research.
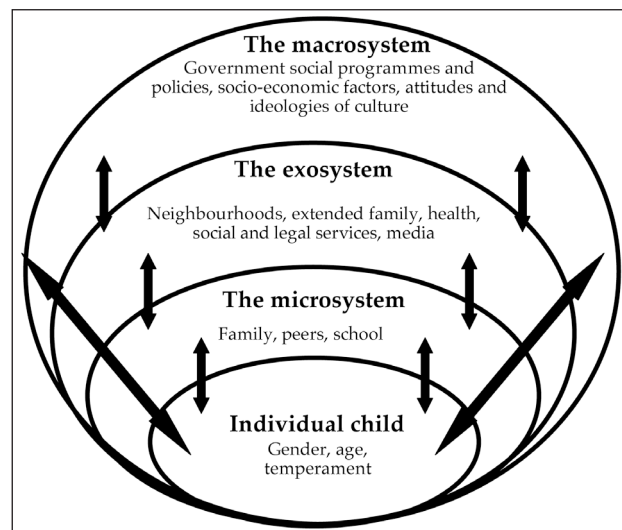
Corresponding author: C L Ward (Catherine.Ward@uct.ac.za)

Fig. 1. The ecological model.

The conduct of adolescence-limited offenders is restricted to that developmental period and declines as they mature into adult roles of work and marriage.[5]

South Africa has high proportions of children exposed to risks for neurological damage in early life: the prevalence of fetal alcohol spectrum disorders is the highest in the world;[6,7] 22.5% of children aged 1 - 9 years were stunted or wasted;[8] and we have high rates of domestic violence and child maltreatment.[9,10] These can all alter neurochemistry and result in aggression.[11,12] Such children may have learning disabilities[13] that if not identified or adequately addressed may cause them to disconnect from school and increase the possibility of delinquent behaviours.[14] Low-cost screening and cost-effective interventions are urgently needed.

A mechanism for reducing harm to others may be the development of a pro-social orientation termed 'empathy-based guilt' associated with harmful transgressions.[15] Children who learn to attend to the harm caused by an action and have a moral rationale for avoiding such harm are likely to internalise orientations to victims that reduce the probability of aggression. We found no studies of South African children's capacity for empathy, or of factors that influence its development or its role in aggression. Studies to understand and determine suitable interventions to enhance empathy are urgently needed.

Many young South Africans experience complex transitions to employment and the formation of an independent household, and

transition to the social status of adulthood may be extended or never completed.[16] The impact of delayed attainment of adulthood on aggression and violent crime, and thereby the larger effect of economic forces (e.g. availability of employment) on individual aggression, should be studied.

Whether violence can be reduced by reducing the vulnerability of potential victims (rather than reducing the aggression of potential perpetrators) should also be explored. Risk for victimisation in South Africa is shaped by context, age and gender: men are more likely to be victims of non-sexual violent crime than women; living in urban environments increases risk;[17] youth are at greater risk than adults;[9] and young black men are at the greatest risk of homicide.[3] Vulnerability is also increased by relative authority or control that the perpetrator has over the victim; low self-esteem or inability to see that victimisation is not warranted;[18] lack of personal support structures; mental illness or mental disability;[18,19] learning disabilities;[20] dependence on the perpetrator (material or emotional); exposure to violence as children and violence over a lifetime;[21,22,23] and substance misuse.[24] How can people with these vulnerabilities be protected and strengthened?

Microsystem contexts

Family

Families in which parents have warm relationships with their children, provide consistent discipline without being harsh, and supervise adequately are less likely to have aggressive children.[25] Where high rates of child maltreatment occur,[10] improving parenting must be a priority. Since only about half of South African children live with both biological parents, and even fewer do so consistently through childhood and adolescence,[26] this must include all caregivers. Research must develop effective, culturally appropriate parenting interventions that are low in cost and easily available to those who most need them. There are some promising interventions from other contexts, but none has been evaluated here,[27] nor have local interventions been evaluated.

Intimate partner violence is prevalent in South Africa.[3] We have insufficient knowledge about how to intervene effectively to reduce domestic violence. Locally and internationally there is no clear evidence that men's violence has been reduced through participation in programmes for batterers.[28,29] There are some promising local alternatives,[30,31] but more research in this area is sorely needed.

School

Schools with clear missions and strong stances against violence have lower rates of bullying.[32] However, many South African schools are in disarray,[33] and over 50% of children report that corporal punishment is used for discipline, despite its being prohibited.[9] This is incongruous with promoting non-violence and pro-social behaviours, and school-based violence prevention programmes and policies must form part of the violence prevention agenda.

Peer group

Much offending does not occur as a single incident with one offender and one victim; it is much more frequently the case that there is more than one offender (for instance, gang or group violence), or multiple acts of violence by one person, over a period of time, against another person (such as domestic violence or child sexual abuse). However, theories of victimisation and offending frequently fail to consider the cumulative effects of multiple victimisations or chronic offending over a lifetime.[34]

Gangs, one form of a violent peer group, are a feature in South African violence. There are many international studies into effective policing and models for detaching young people from gangs,[35] but there is little local research into effective interventions.

Agendas to prevent young people from joining gangs and engaging in delinquency must include pro-social leisure opportunities after school. These can be effective in reducing many risk behaviours, but their mechanisms are little understood and this too needs investigation.[36]

Exosystem contexts

Neighbourhood

Children's caregivers cannot do parenting in isolation, and their effective parenting is influenced by available social support. For poor parents in particular, this often means support in their neighbourhoods.[37] How neighbourhood quality can be improved to better support parenting and the influence of family and neighbourhood characteristics on the development of antisocial behaviour among South African children is also poorly understood. For instance, how do South African children draw on available support to negotiate safety in unsafe families or neighbourhoods?[38] Understanding these inter-relationships can assist in developing better interventions.

Strong neighbouring relationships may influence rates of crime, e.g. by not tolerating groups of young people 'hanging out' on corners.[39] However, how can neighbourhood crime prevention be strengthened without encouraging vigilantism?[40] This must include work on police-community relations, and how these affect crime and violence at the local level.[41] Neighbourhood-level data on violence are key to such research. The South African Police Service must recognise this and make their data available.

Patterns of violence within communities often differ, e.g. within low-income, high-violence neighbourhoods the victims frequently know the perpetrators,[42] unlike in affluent communities. What causes this, and what would be effective interventions for different forms of violence? Policing strategies, tailored to meet the challenges of specific communities, must be documented and evaluated.[43]

Health services

Those affected by violence are at risk of related psychological and social costs and of secondary victimisation from the criminal justice and health systems and society.[44] This may lead to problems such as post-traumatic stress, substance abuse and aggressive responses. The latter make effective services for victims an important part of violence prevention. How can medical and psychological services best be provided? Evidence suggests that recovery from a traumatic experience requires physical or psychological safety.[45] As many South Africans live under continuous threat, it is important to investigate alternative pathways to recovery.

Health services are obvious places to screen for and provide services to reduce aggression, including interventions for substance misuse; promoting maternal health; improving parenting; reducing intimate partner violence; and early detection of child mental health problems associated with aggression. It is critical to investigate whether the state has the capacity to carry out this screening and intervention.

The health system can provide surveillance systems that assess the extent of violence, which are crucial to monitor interventions and to determine their efficacy. The National Injury Mortality Surveillance System (NIMSS) has an important role,[1] but many injuries do not result in death, and until a comprehensive injury surveillance system is established, part of the picture will be missing. Establishing a system that is simple to administer is an important area for research and for implementation.

Policing

Under Apartheid, public order policing was associated with use of force.[46] Since the setting up of constitutional democracy the right to participate in public demonstrations has been liberalised, the role of the police circumscribed and the principle of minimum force professed.[47] However, in the context of increased service delivery protests, police action has become less restrained, suggesting the need for vigilance to ensure application of their principles for strengthening rather than diluting the search for peaceful coexistence.[48]

Clarification is required regarding the roles of the state (e.g. police) and of non-state entities (e.g. private security companies, street committees) in the governance of violence and crime. The non-state is actively involved in governing crime, sometimes duplicating the state and participating in activities beyond what are expected of the state.[41,49-51] More research must map the range of policing-type functions of non-state entities, and investigate the type of non-state/state collaborations and the effects on (un)safety. Normative questions also arise such as who the state (police) should be in relation to the increasing plurality of policing entities and how to regulate and hold to account new configurations of state/non-state governance while ensuring their effective contribution to decrease crime and unsafety.[52,53]

The media

Studies have implicated media violence[54] and values of sexism and materialism[55,56] portrayed in various media as playing a role in driving violence. Yet their mechanisms are poorly understood, and whether these relationships hold in the high-violence areas of South Africa requires investigation.

Macrosystem contexts

Social norms around violence

Despite overviews according importance to a 'culture of violence', the role of norms has been neglected in violence studies in South Africa.[57,58] But there is little empirical basis for these claims, in contrast with the study of violence elsewhere.[4] Cultural and social norms may be divided into two categories: (*i*) violence is deemed legitimate by higher-status individuals (especially men) against lower-status individuals (such as children or women);[10] and (*ii*) the general attitude towards violence in society might consider violence legitimate to resolve disputes or conflicts. Norms may influence violence through shaping the behaviour of possible perpetrators or the behaviour of others present in situations that are conducive to violence, and whose complicity or opposition to the use of violence might serve as fuel or constraint. Investigating norms around violence in South Africa will help in understanding and intervening in relationships between the psychologies of masculinity and femininity, the sociology of opportunity, and the perpetration of violence.

Socio-economic factors

Evidence suggests that violence occurs at higher rates in societies with high levels of economic inequality.[59] Investigation is needed into whether this holds in South Africa, where violence seems to have increased alongside an increase in inequality, high unemployment and income poverty.[60] In high-income countries the relationship between inequality and violence appears to be driven by concerns about status and social exclusion, but there is no strong evidence for this here.

Government policies

There are a number of polices in place in South Africa that are intended to deal directly with violence, e.g. the Children's Act No. 38 of 2005, the Domestic Violence Act No. 116 of 1998, the Sexual Offences Act No. 32 of 2007, and the Victim Empowerment Policy. The links between government, civil society and community-based organisations must be evaluated. This might encompass economic research investigating the human and financial resources to give effect to them, evaluations of existing programmes (do they reach those in need and provide effective services?), and implementation research on providing potentially large-scale programmes.

Some policies may indirectly affect violence. For instance, government policy is turning towards controlling the availability of alcohol to reduce violence and injuries. Research into understanding the relationship between alcohol and violence, which will drive an appropriate, integrated and comprehensive alcohol policy, is desperately needed. Similarly, careful thought must be given to the control and policing of illegal substances, as the illicit economy is a driver of violence. Evidence suggests that law enforcement interventions to disrupt drug markets are unlikely to reduce drug-related violence and instead result in higher gun violence and higher homicide rates.[61] Another government policy needing ongoing monitoring and evaluation is the Firearms Control Act (No. 60 of 2000). Since its implementation in 2004, firearm-related deaths have decreased, but whether this is clearly linked to the new policy needs further investigation.

Conclusion

This is a complex research agenda, within which are strands that might be considered 'meta-questions' that cannot rely solely on health professionals. Health professionals from several specialties all have a role to play in carrying out a comprehensive research agenda for violence prevention in South Africa. But the complex research problems that violence presents demand inter-disciplinary collaboration by the full range of social and human scientists: economists, educationalists, psychologists, sociologists, anthropologists, etc. Only in working together can these problems be sufficiently well understood and effective interventions developed.

Research to understand violence better might take several forms, e.g. understanding 'norms' of violence and how they link several drivers of violence, or understanding factors that influence child development for good or for ill. Intervention research may evaluate interventions and assess efficacy and effectiveness; and once effectiveness has been established, understanding how the intervention might be scaled up and retain that effectiveness. Related questions concern effective implementation of programmes in our poorly resourced settings, e.g. nurse home visitation programmes for the first 2 years of life in the USA reduce later youth violence, but rely on trained, expensive nurses.[62] Can such programmes retain their effectiveness if community health workers are employed instead of nurses?

This paper therefore lays out a comprehensive agenda for understanding violence and promoting safety in South Africa. There are many questions about violence that are as yet unanswered, and there are key roles for many different disciplines in answering them.

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