

Global (Dis)Order
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Mapping threats from terrorists and tyrants: language- based detection of socio-psychological risk factors of mass violence

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Abstract

What makes some political leaders resort to extreme forms of violence despite heavy costs that would deter most other political strategists? We present a new risk assessment framework drawing on robust theory and empirical evidence from cognitive anthropology, social psychology, and linguistics. Our project is the first analysis of the links between leader psychology and mass violence based on statistical analysis of the language used by authoritarian leaders. Originally developed to assess the risk of non-state actor violence based on a statistical analysis of terrorist manifestos and chat logs, our psycholinguistic framework may provide a set of diagnostic tools for forecasting levels of violence likely to be instigated by authoritarian leaders. We discuss implications for policy makers and security professionals.

Introduction

Violence against civilian populations, whether perpetrated by state or non-state actors, poses an urgent threat to global security and stability. Emerging technologies have changed the nature and scale of such violence, raising the stakes for prediction and prevention. While the security landscape continues to evolve, our research aims to identify telltale socio-psychological markers associated with extreme forms of violence against civilian populations across time and space. We shed light on cognitive drivers associated with different types of violence and discuss the potential to trace these factors in the language of terrorists and despotic leaders. Many authoritarian leaders strategically use threats of violence to intimidate internal and external adversaries, but is it possible to assess the likelihood that they will turn their words into action?

Several studies have explored patterns in the micro- and macro-environments that make the occurrence of genocides and mass killings more likely. However, the cognitive and psychological mechanisms that link certain identified structural conditions to different types of state-led violence were, until recently, quite poorly understood (Strauss 2012: 546). Our paper discusses new ways in which computational psycholinguistic analysis can contribute to the development of tools to assess the risk of violence in authoritarian regimes and terror groups. We present insights from our previous work, drawing on both theory and empirical evidence from cognitive and evolutionary anthropology, psychology, and linguistics. We originally developed a psycholinguistic framework to establish robust methods to assess the risk of terrorist violence based on a statistical analysis of manifestos of political activists and chat logs of online users (Ebner et al. 2022, 2024). Our ongoing project seeks to adapt and fine-tune this model and to apply it to heads of state and their followers. The aim is to identify the statistically significant warning signs of state-led violence.¹

Our aim is to explain why some heads of state resort to violent means against segments of their own population and/or other countries despite heavy costs that would deter most other political strategists. Our framework may allow us to predict the risk of seemingly irrational (e.g. high-risk or costly) acts of aggression, resulting in genocides and other atrocities, based on the socio-psychological drivers that leaders unintentionally reveal via their speeches, writings, and

1 In this paper, we discuss different types of state-led violence, from targeted killings of political opponents to mass violence. We use the terms 'mass violence' and 'mass killing', following Ulfelder and Valentino's definition (2008: 2) as an event 'in which the actions of state agents result in the intentional death of at least 1,000 noncombatants from a discrete group in a period of sustained violence'.

posts, and to use this knowledge to develop better prevention and intervention mechanisms. This risk assessment approach operates independently of explicit threats of violence, which, we argue, are not sufficient predictors of actual violence unless combined with other relevant factors identified below.

Theoretical perspectives and empirical evidence

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Our approach to understanding why some tyrannical leaders unleash mass violence against their perceived enemies is grounded in previous research into the motivations of violent extremists. The intelligence community typically assesses the risk of violent behaviour by examining capability, opportunity, and motivation, but all too often motivation is narrowly attributed to ideology, overlooking the underlying psychology. Ideology takes the form of assorted doctrines and narratives that people explicitly endorse, largely based on ideas they have acquired from others. However, the psychology driving extreme behaviour is much more deeply rooted in life experiences and personality characteristics, rather than in ideology. Here, we draw upon two well-established fields of research that can shed light on the underlying psychology of violent extremism: identity fusion theory and theories of personality and political behaviour. We will then also explore what makes leaders with high levels of fusion and/or with 'dark triad' personality traits successful in mobilising mass support for violence.

Identity fusion theory

Identity fusion (or simply 'fusion') is an extreme form of group alignment whereby an individual's personal identity becomes fused with the group identity, in turn motivating extreme forms of pro-group action (Swann et al. 2014; Whitehouse et al. 2017). Although fusion can motivate many forms of peaceful pro-group action – from helping those in need to protecting the environment (Buhrmester et al. 2015; Reinhardt & Whitehouse 2024) – it can also prompt willingness to fight and die to protect other members of the in-group. Multiple studies have linked high levels of fusion to significantly elevated risk of pro-group violence when the group is felt to be imperiled; these include studies with Libyan revolutionary battalions (Whitehouse et al. 2014), Indonesian Islamist fundamentalists (Kavanagh et al. 2020),² Brazilian football hooligans (Newson 2019), Cameroonian farmers (Buhrmester et al. 2020), and far-right terrorists (Ebner et al. 2023, 2024).

Fusion results from sharing features essential to personal identity with other members of a group – for example notions of shared blood or ancestry, or shared personally defining experiences stored in episodic memory (Whitehouse et al. 2017).³ The shared biology pathway to fusion likely has its evolutionary origins in kin selection. Our willingness to place ourselves in harm's way to protect a family member evolved because we share genes with close relatives. This may also help to explain why the primary target for fusion in most societies is one's family, as well as why the language of kinship and familial ties is strongly associated with high levels of fusion (Swann et al. 2012). But close relatives may also share life-changing experiences that become defining for the family as a whole, and so the shared experiences pathway to fusion

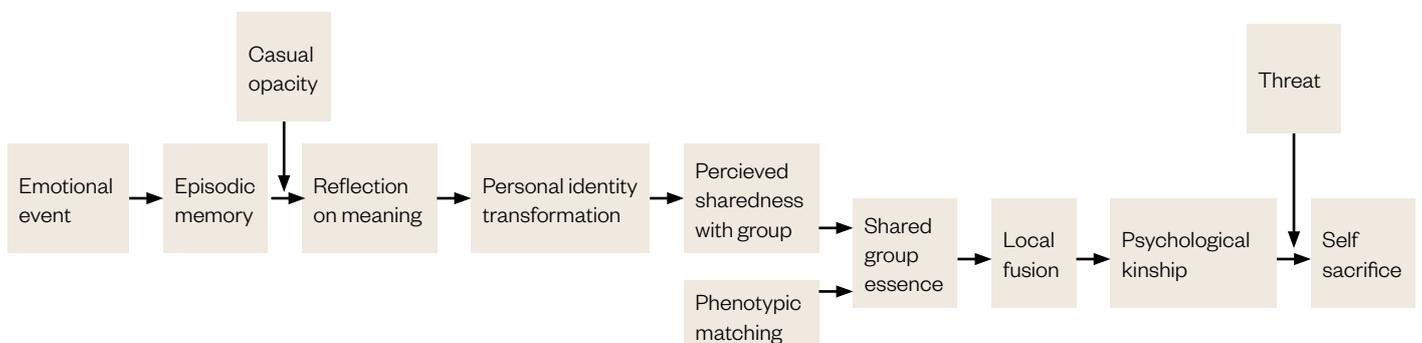
2 Note that this study in the Indonesian context did, however, find that identification was a stronger predictor of extreme violence than fusion.
3 Episodic memory describes the "memory of a specific event; spec. the conscious recollection of events in a person's life; (also) a memory of this type." (Oxford English Dictionary). For more details on fusion via shared transformative experiences.

is also strongly associated with psychological kinship, helping to explain why groups that suffer together (e.g. on the battlefield, or through the performance of painful rituals) are often described as ‘bands of brothers’, sisterhoods, or fraternities (Buhrmester et al. 2015).

Fusion should not be conflated with identification. In highly fused individuals, personal and group identities are activated in unison. By contrast, identification is a ‘depersonalising’ form of group alignment, in which activation of social identities makes one’s personal identity less salient or accessible. Individuals who identify with a group may become fixated on the group’s ideological beliefs, norms, and values, but they lack any personal investment in group interests and are therefore less inclined than fused individuals to risk life and limb to protect the group. Identity fusion is therefore a more powerful form of group cohesion, capable of motivating extreme pro-group action that comes at high risk to self, including acts of terrorism and mass violence (Whitehouse 2018). These differences between fusion and identification are thought to be rooted in the way memories contribute to identity formation (Whitehouse & Lanman 2014). In the case of identification, group alignment is based on the sharing of identity markers (e.g. ideologies, norms, conventions, ritual practices) that are socially learned from other members of the group and stored in semantic memory as part of a general repository of knowledge about how to behave as a normal group member.⁴ This way of aligning with a group does not engage personal identity – indeed, it is a notably depersonalising way of relating to the group, such that thinking about the group makes unique features of the personal self less accessible or relevant. By contrast, fusion results from the sharing of personal essence with the group, creating a synergistic relationship between the two, such that the self is emboldened by the power of the group and any attack on the group is taken personally (Swann & Buhrmester 2015; Whitehouse 2021).

Although fusion creates very strong group bonds, it does not automatically lead to out-group derogation or violence. For example, being fused with one’s family does not entail negative attitudes towards other families. Indeed, fusion often leads to peaceful forms of prosocial action (Buhrmester et al. 2018; Klein & Bastian 2023), and may even motivate efforts to limit or prevent out-group hostility if this is perceived as being in the best interests of the group (Newson et al. 2018). According to the ‘fusion-plus-threat’ model of violent extremism, fusion only leads to willingness to fight and die to protect the group if the group is threatened (Whitehouse 2018).

Figure 1: The ‘fusion-plus-threat’ model based on Whitehouse (2018)



Key:

Horizontal arrows = mediations Vertical arrows = moderated mediations

⁴ Semantic memory is “the part of memory that deals with meanings and concepts, and underlies the ability to recall factual information that is not based on past experience; a memory or recollection of this type” (Oxford English Dictionary)

Personality and political behaviour research

While fusion provides a powerful motivation to engage in extreme behaviours – including forms of self-sacrificial violence if that is what it takes to protect the group – there is also evidence that certain features of personality and individual psychology can affect a person's willingness to engage in acts of seemingly irrational aggression toward out-groups. Indeed, the CIA has been systematically profiling the political personalities of dictators for many years, based on the pioneering work of American psychiatrist Jerrold Post (2004; 2015). Of particular interest is Post's work documenting the widespread presence of narcissistic features across a range of world leaders adopting violent political strategies.

There is growing evidence that the dark triad of personality traits – namely narcissism, Machiavellianism, and psychopathy – is strongly linked to anti-social behaviour, aggression, and violence (Jonason & Webster 2010; Yendell et al 2022). Research in this area also suggests that narcissistic individuals exhibit a higher propensity for violence than other personality types, particularly when threatened, humiliated, or provoked (Baumeister et al 2000; Lambe et al. 2018; Kjærviik & B.J. Bushman 2021; Liu et al. 2021, McDermott 2024). Post's analytical research supports the hypothesis that leaders exhibiting the characteristics of threatened narcissists tend to be prone to violence. For example, Post observed that Osama bin Laden exhibited a highly aggressive form of narcissism, whereas Saddam Hussein demonstrated the fragility and wounded self-esteem typical of vulnerable narcissism (Post 2004; 2015). Research using wargame simulations equally found that individuals with elevated levels of narcissism had a higher likelihood of launching attacks on opponents (Johnson et al. 2006).

Narcissistic traits are frequently observed in the realm of politics, with research indicating that individuals with these characteristics are more frequently found in leadership roles than in the general population (Klaas, 2021). As political scientist Brian Klaas has argued (2021), these dark triad characteristics can have a dual impact – fueling the desire for power among unethical individuals while simultaneously enhancing their effectiveness in acquiring it. Research shows that, while psychopathic traits are present in about 1 per cent of the general population, the incidence among those in senior leadership roles rises to approximately 3.5 per cent (Ibid.).

Leader-follower relationships and the roots of mass support for violence

Fusion theory and personality research also help to explain mass support of political violence. Highly fused leaders who believe that the groups they represent can only be defended through the use of violence excel at mobilising legions of hyper-loyal followers – just like leaders with strongly narcissistic personality characteristics. Feelings of fusion and perceptions of out-group threat can be amplified through the oratory and rhetoric of charismatic leaders and the spread of ideas and images via propaganda, news reporting, and (in today's context) social media. Vicariously sharing the sufferings of other in-group members through immersive footage of atrocities in newsfeeds and YouTube clips can lead to extended fusion, contributing to the spread of violent extremism rooted in events affecting people living thousands of miles from one other (Whitehouse 2024). Research has also shown that fusion with a political leader predicts the willingness of followers to engage in violence against political opponents and out-groups (Kunst et al. 2019). Similarly, charismatic leaders with dark triad personality traits are capable of mobilising devoted, cult-like followers (Post 2004; 2015). They often portray themselves as having supernatural abilities or being 'divinely chosen', activating intuitive beliefs that legitimate social dominance and command loyalty (Meng et al. 2021). As research shows, these narratives leverage psychological predispositions and evolutionary biases of followers, making them more likely to support charismatic leaders who offer salvation (Whitehouse 2024).

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The deadly cocktail of violent extremism

In previous research, we performed a computational linguistic analysis of the manifestos and communication materials of terrorists, comparing them with a non-violent control group of political activists and extremists who never turned to violence (Ebner et al. 2022, 2023). Our study uncovered a consistent pattern across the violent actors: they were fused with their in-group, perceived the demonised out-group as highly threatening, and endorsed the use of violence as a means of defence (Ibid.). We dubbed this blend of psychological factors the 'deadly cocktail of violent extremism' because – like otherwise inert chemicals that only detonate when combined – each factor is harmless in isolation but becomes dangerously explosive when they come together.

Our risk assessment model is grounded in rigorous academic research but has been designed with a view to helping tackle key policy challenges, particularly the development of better early warning systems and conflict prevention strategies. From a prevention and intervention standpoint, one of the most pressing challenges in counterterrorism and strategic intelligence has been to distinguish genuine threats from empty rhetoric. By illuminating the psychological and linguistic hallmarks of credible dangers, our findings have informed the work of intelligence and security agencies, as well as tech firms who have used it to augment their own risk assessments.⁵

Our approach differs from previous efforts to explain mass violence using identity-based theories. Several scholars have made the point that ethnicity-based approaches offer insufficient explanation of different pathways that lead to state-led mass violence and varying degrees of popular participation (Strauss 2007; Fujii 2008). 'Shared biology' – based on ties of kinship or ethnicity – is not the only pathway to fusion. As mentioned earlier, shared traumatic or otherwise personally transformative experiences can also lead to identity fusion and motivate high-risk pro-group activities, including extreme violence in the face of out-group threats. Straus has argued that genocidal violence in Rwanda was dynamic, resembling 'a cascade of tipping points' (Ibid.). Identity fusion can explain these tipping points in both the leadership decisions towards mass violence and popular support for violence (Cf. Buhrmester et al. 2020). In the case of the Rwandan genocide, the assassination of President Juvénal Habyarimana has been widely recognised as the spark igniting widespread violence against Tutsis. However, this also presupposes a highly flammable environment, in the form of heightened levels of identity fusion among Hutus, which in turn likely motivated widespread civilian participation in the genocide.

An important advantage of our framework is that it can be applied to different demographic, economic, cultural, and religious contexts. As the relevant variables are revealed unconsciously in speech, they also reach beyond strategically chosen words of escalation or de-escalation and promise to provide a more reliable predictor than explicit threats of violence. While the strategic use of violence and coercion is relatively well studied, less research has focused on predicting seemingly irrational decisions to use violence on the part of authoritarian and

⁵ Based on its contribution to terrorism prevention efforts of intelligence services and tech firms, this research won the President's Medal of the Market Research Society and was a finalist for the ESRC Impact Award: <https://www.anthro.ox.ac.uk/article/influential-and-life-changing-research-recognised> and <https://www.anthro.ox.ac.uk/article/work-predict-extreme-violence-amongst-online-users-wins-mrs-presidents-medal>

despotic leaders. Nevertheless, our work at the Centre for the Study of Social Cohesion suggests that psychological diagnostic tests that can be carried out without the voluntary participation of the subjects under study may contribute to more accurate forecasting of self-sacrificial acts of violence.

After we noted anecdotal parallels between Putin's language and our 'deadly cocktail of violent extremism', we started investigating the language of violent heads of state more systematically, working towards an evidence-based risk assessment of violent leadership. Based on our previous work, it appears plausible that some violent heads of state share socio-psychological characteristics with violent non-state actors.

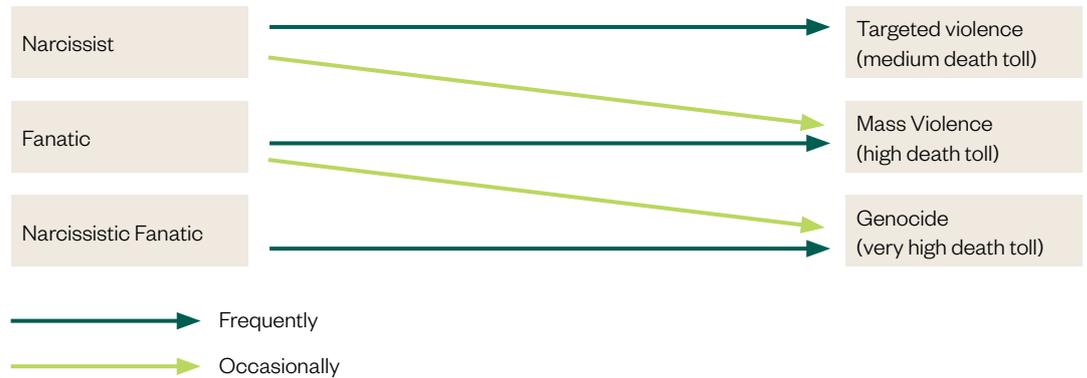
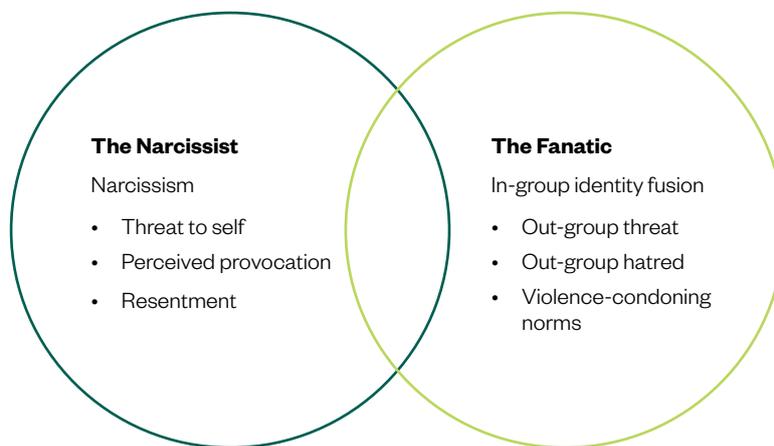
Towards an evidence-based risk assessment of violent leadership

Our aim is to develop sets of theoretically grounded, psycholinguistic characteristics, based on the documented communication of leaders, which can help predict behavioural outcomes. To do so, we propose a new model, rooted in fusion theory and personality research, which is loosely based on the psycholinguistic framework we developed previously to assess the risk of terrorist violence, based on a statistical analysis of manifestos and chat logs of online users. We argue that similar psychological characteristics may be found in despotic heads of state who resort to extreme acts of violence that carry a high risk to the self and may (for that reason) be described as extreme. Our ongoing project is therefore an effort to connect research on non-state terrorism with the study of state-led terrorism.

To develop our research design and hypotheses we conducted interviews with 20 experts on specific violent leaders. Based on these interviews, our hypothesis (pre-registered with the Open Science Framework⁶) is that there are three kinds of deadly despots – the Narcissist, the Fanatic, and the Narcissistic Fanatic – each associated with different kinds of state-led violence. It is important to note that this is not a typology but rather a set of cardinal points or 'attractor positions' towards which different leaders may gravitate.

The first, the Narcissist, describes leaders whose decisions to use violence are driven by selfish interests, to maintain or enhance their own power. When they feel that their life or political career is threatened (by enemies), they may be inclined to use violence against specific opponents to achieve their ends. The Fanatic, by contrast, elevates benefits to the group over personal gain. They are willing to risk their own life to protect their in-group from a perceived existential threat. State-led violence in this scenario would not be a political gamble driven by selfishness but rather a high-stakes activity that is felt to serve a higher purpose. Some leaders, however, gravitate towards both attractor positions, and we refer to these as Narcissistic Fanatics. We would expect these to be the deadliest leaders, combining extreme commitment to their group with grandiose delusions of their own importance and value. Figure 2 illustrates these three pathways towards different forms of violent behaviours, and Figure 3 visualises the traits associated with each.

6 See Julia Ebner and Harvey Whitehouse, "When Despots Become Deadly", Open Science Framework, 2024. Online: <https://osf.io/t9s83>.

Figure 2: Hypothesised Pathways to State-Led Violence**Figure 3:** Psychological Clusters of Violent Leaders

To test these hypotheses, we have developed a mixed methods approach, combining qualitative text analysis with quantitative natural language processing (NLP) analysis to identify patterns in the language of violent leaders over the past 120 years. To this end, we have assembled a unique dataset of the communication materials of historic and contemporary leaders responsible for mass violence against civilian populations, as well as control group leaders who had the capability and opportunity to use systematic violence but did not do so. We have been working with expert translators to produce first-ever translations of primary sources of a number of violent heads of state from across the globe. Specifically, our database covers leaders such as Talaat Pasha, Adolf Hitler, Josef Stalin, Slobodan Milosevic, Nuon Chea, Augusto Pinochet, Yayha Jammeh, Theonestre Bagodsora, Hissène Habré, and Omar al-Bashir, as well as a control group of low- or no-violence authoritarian leaders. The selection of the twenty leaders in the pilot study was based on three criteria: 1.) they were authoritarian and faced with no or low institutional constraints; 2.) they played a critical role in directing or enabling political violence, and 3.) sufficient authentic formal and informal primary sources were available to enable meaningful NLP analysis.

After determining all dependent and independent variables and their respective linguistic proxies, we carried out an intercoder reliability check with five hypothesis-savvy and five hypothesis-blind coders to ensure the reliability of our coding framework. We then proceeded to the NLP analysis, using a three-stage approach to minimise false positives and false negatives: first, we used R to identify relevant linguistic proxies, then carried out manual reviews, followed by AI-based reviews of all resulting datasets. The results were then examined

for their statistical significance, finding initial support for our hypothesised pathways illustrated above. As of July 2025, we are currently in the process of writing up the findings for publication. Having found statistically significant psycholinguistic patterns associated with different violent behaviour outcomes in our pilot study of 700,000 words from twenty historical leaders, we are now expanding the database to over 120 leaders, including contemporary leaders (e.g. Vladimir Putin, Kim Jong-Un, Bashar Al-Assad, Joseph Kony) to further increase the predictive power of our model.

Conclusion and policy recommendations

War studies and military strategy have relied heavily on rational actor models (e.g. game theory), which assume that political activists are driven by ideologies and that leaders try to optimise their advantage and minimise their losses based on rational calculations. Approaches that draw on empirical evidence from evolutionary anthropology and social psychology suggest a different view of the motivations of violent extremists and fanatical leaders but have been neglected in both academic literature and policy practice. While recent studies have increasingly examined processes of ideological radicalisation in terrorist organisations and psychiatric conditions and psychopathologies in leaders, there has been little focus on other psychological drivers that lead to acts of violent extremism.

Our violence risk assessment research can help us understand psychological indicators of proneness to violent action before the signs of a planned intervention become visible in operational or military activities. The insights presented in this paper have implications for both research and policy practices. Next, we provide some recommendations for policymakers and practitioners to improve early warning systems, enhance awareness among populations, and introduce more effective intervention approaches to avoid the rise of leaders prone to extreme forms of violence.

Integrated risk assessments

Our new psycholinguistic approach can complement rational actor models, as well as enhance risk assessments that take threats of violence at face value without considering the more consequential 'deadly cocktail' of ingredients traceable in language. While it is impossible to reliably predict every act of mass violence perpetrated by authoritarian leaders, our research indicates that there are statistically significant psycholinguistic patterns that are detectable in the language of leaders and followers. These include psychological kinship with the in-group, existential threat from a demonised or dehumanised out-group, violence justification or glorification – often in combination with narcissistic personality markers. Our model may therefore offer analysts of authoritarian leader behaviour a powerful new method of assessing the likelihood of state-sponsored violence, substantially extending the predictive power of previous approaches. This could enhance the work of international and national intelligence agencies seeking to forecast and mitigate the violent activities of existing and potential future authoritarian leaders. It is, however, important to treat our findings with caution to mitigate risks associated with psychological profiling and surveillance in the pre-crime space. We encourage continued collaboration between researchers and security services to establish robust ethical standards and evaluation practices, thereby minimising systematic bias.

While it is impossible to reliably predict every act of mass violence perpetrated by authoritarian leaders, our research indicates that there are statistically significant psycholinguistic patterns that are detectable in the language of leaders and followers.

Raising awareness among civilian populations

Targeted education programmes can empower both democratic electorates and citizens under authoritarian rule to critically evaluate political rhetoric and behaviour, enabling them to spot early warning signs of dangerous leadership. In particular, awareness-raising campaigns should equip communities to recognise the manipulation tactics employed by each of the three categories of violent leaders discussed in this paper. Given that the algorithmic architecture of tech platforms can be effectively exploited by authoritarian leaders, strengthening psychological preparedness and resilience among digital citizens should be a priority for educators and policymakers in liberal, democratic countries. For example, misinformation inoculation techniques⁷ and digital citizenship curricula⁸ can help reduce the ‘contagion’ of leaders’ messaging on social media. Although we do not explore leader–follower dynamics or the interaction between state and non-state actors in depth here, further guidance on these topics is available on request.

The role of media and tech platforms in fostering global cohesion

If we develop more effective methods of forecasting state-led violence, this could enable the mass media to provide the public with early warnings that could in turn impact voting behaviour and spark civil response to the rise of authoritarian leaders. It is also possible to imagine ways in which media outlets and digital platforms could help to temper (rather than inflame) ingredients in the ‘deadly cocktail’ at the heart of violent extremism. For example, when disturbing and upsetting images of in-group suffering are broadcast via newsfeeds, it could become part of good journalistic practice or a feature of bridging algorithms distributing pieces of content to social media users to also include similarly potent images of suffering on the other side of the conflict in question. Such an approach may not harm the commercial interests of news and big tech platforms – yet it could serve to reduce out-group hostility and increase support for peaceful outcomes, by activating the shared experiences pathway to fusion to help prevent and resolve intergroup conflicts rather than deepening divisions and perpetuating cycles of violence (Reinhardt & Whitehouse, forthcoming).

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7 See Inoculation Science (<https://inoculation.science/>), drawing on Roozenbeek et al (2022).

8 See ISD’s Digital Citizenship Curriculum (2025): <https://www.isdglobal.org/isd-publications/digital-citizenship-education-programming-toolkit/>.

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