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„Political development between politicization and radicalization: Understanding and measuring adolescents' and young adults' unconventional political development and engagement “

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“We must learn to lift as we climb.”

(Quote attributed to Angela Davis, intersectional feminist writer)

The road towards completing a dissertation is oftentimes an uphill battle and can, indeed, feel like climbing a mountain with no summit in sight at times. Luckily, throughout my time in academia, I’ve been surrounded by wonderful colleagues and friends who have shared the climb and the struggles, and we have lifted each other up at various points; **“sisterhood is powerful”** (Robin Morgan), if it weren’t, I wouldn’t be where I am now. So I extend my special thanks, in no particular order:

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List of publications in this dissertation

Reiter, J., Doosje, B., & Feddes, A. R. (2021). Radicalisation and deradicalisation: A qualitative analysis of parallels in relevant risk factors and trigger factors. *Peace and Conflict: Journal of Peace Psychology*, 27(2), 268.

Reiter, J., Dono, M., Lüftenegger, M., & Botes, E. (submitted, 24 February 2023). Radicalism, extremism, other? Developing and validating the Adolescent Radicalisation Outcomes Questionnaire (AROQ). *Terrorism and Political Violence*.

Reiter, J., Knorr, A., Lengersdorff, L., & Pfundmair, M. (submitted, 25 February 2023). Same same but different? How much of a difference does it make how we operationalize attitudes towards political violence in radicalisation studies? *Group Processes & Intergroup Relations*.

Preamble

“Violence shows them how much we’re willing to give up”, said Griffin. “Violence is the only language they understand, because their system of extraction is inherently violent. Violence shocks the system. And the system cannot survive the shock. You have no idea what you’re capable of, truly. You can’t imagine how the world might shift unless you pull the trigger.” (Kuang, 2022, p.397)

Theoretical Background

R.F. Kuang’s 2022 novel *Babel, or The Necessity of Violence* follows the hero, Robin, and his group of friends throughout their first years as students at 19th century Oxford university, during the peak of British colonialism; the group share the fate of being foreign-born children who were plucked from their home countries during childhood by British men to be raised to become translators at Oxford, a job which, within the novel, is essential for British colonialist expansion and the enrichment of the Empire. Over the course of the novel, the friends begin to realise how their fates are linked to colonialism and the exploitation and brutalization of their home countries, and join a guerrilla resistance group, within which discussions quickly turn to the pros and cons of using violence as a means to their political goals – fighting the British empire and ending colonialism.

In spite of *Babel*’s fictionality, the story illustrates several core points of radicalisation research; firstly, it is highly illustrative of the context dependency of terms like “radicalisation”, “extremism”, and “terrorism”. A saying goes “one man’s terrorist is another man’s freedom fighter”, and indeed, the white British characters in the story would in all likelihood be calling Robin and his friends a terrorist organization, while contemporary readers of the novel would struggle not to sympathise with the protagonists and may well find their means defensible. Secondly, the story of how the characters end up joining the resistance group reflects risk factors for and trajectories towards radicalisation which are common in radicalisation research

(e.g., experiencing injustice and feeling a need for justice, van den Bos, 2020; relative deprivation, King & Taylor, 2011; Macdougall et al., 2018). These experiences of injustice, deprivation, and discrimination begin in childhood and early adolescence for the protagonists, which is in line with the social-developmental model of radicalisation (Beelmann, 2020). Finally, the story is set at the protagonists' transition from adolescence to emerging adulthood, which aligns with research pointing to this developmental period as the key time for radicalisation processes (e.g., Beelmann, 2020; Jahnke et al., 2020; Nivette et al., 2021).

Indeed, adolescence and early adulthood are periods in life where many facets of a person's psyche form, among them various political beliefs and attitudes, as well as ideas of identity, belonging, and purpose (Jahnke et al., 2021). What starts as vague notions about society and what is right and wrong at large solidifies into concrete political values and ideas, as well as political behaviour. Within political behaviour, we distinguish conventional and non-conventional forms of political participation (Duncan, 2022), with conventional participation including activities like voting and becoming a party member, and non-conventional forms including volunteering, community service, and attending protests. An extreme form of non-conventional political behaviour would, of course, be the engagement in political violence.

In parallel fashion, we might refer to conventional and non-conventional forms of political development in terms of beliefs and attitudes; radicalisation could then be referred to as such 'non-conventional development'. Radicalisation is understood as a process whereby people get involved in radical groups or ideologies – marked by antinormative ideas - and end up committing to them to the point of sacrificing for them or exercising violence (Kruglanski et al., 2014). The “or” in the previous sentence is key, as not all potential outcomes of radicalisation involve political violence.

This ties into the three problems of radicalisation research that this dissertation aims to address: Firstly, that there is no overall consensus on the definitions of radicalisation and

radicalisation outcomes and, hence, the outcomes of radicalisation that a given study investigates are not always well defined or consistently labelled; secondly, that most of radicalisation research so far has been conducted on adults rather than adolescents, partly because thirdly, the field lacks suitable quantitative measurement instruments which have been developed and validated to suit adolescents.

Radicalisation and its Outcomes

Radicalisation literature is highly interdisciplinary and combines various theoretical backgrounds; with this breadth comes some terminological and conceptual confusion, as has repeatedly been discussed (Sedgwick, 2010). An essential distinction that is not always drawn clearly enough is that between *radicalism* and *extremism* (Bötticher, 2017); moreover, within radicalism, recent literature which has not yet gained widespread attention in the radicalisation community in spite of its theoretical value has established a differentiation between *benevolent* and *malevolent radicalism* (Reidy, 2018, 2019)

The central aspect in which all three constructs differ is the stance they take towards violence: Benevolent radicalism endorses purely self-sacrificial behaviour, rather than interpersonal violence (this includes passive and active self-harm for the sake of political protest, e.g., hunger strikes or taking extreme risks of physical harm), while malevolent radicalism is not normatively in favour of interpersonal violence, but allows it under certain circumstances (Bötticher, 2017; Reidy, 2019). Extremism is normatively fully in favour of violence perpetrated against members of an outgroup to reach a political goal, making the latter the psychological underpinning of terrorism (Bötticher, 2017; Doosje et al., 2016; Reidy, 2019). Further, there are fundamental psychological differences between both radicalisms on the one side and extremism on the other (Bötticher, 2017; de Lange & Mudde, 2005). Extremism is supremacist and oriented towards authoritarian enforcement of ideas, while radicalism inherently supports universal human rights and equality and is open to diversity of opinions; it seeks to

convince rather than enforce, and to emancipate rather than oppress (Bötticher, 2017). Radicalism believes in the universality of its morality, applying to everyone because the radical inherently believes that everyone is capable of doing the right thing and can be convinced to do so, while extremism is inherently hierarchical and holds a particularistic morality which only applies to ingroup members, as only the ingroup is seen as worthy of being subject to these moral standards (Bötticher, 2017).

These three concepts are, in the understanding that this dissertation follows, the possible outcomes a radicalisation process can have, depending on the narrative of radicalisation itself (Reidy, 2018) and on whether the radicalisation process is completed (Neumann, 2013). Hence, if one were to label it correctly, most radicalisation research is actually focused on extremism, as the acceptance of violence as a legitimate political tool (Doosje et al., 2016; Macdougall et al., 2018) is frequently considered the central and final product of the radicalisation process (McCauley & Moskalenko, 2017; Moghaddam, 2009; Kruglanski et al., 2014; Weber et al., 2018).

Adolescence and Emerging Adulthood as Key Periods of Radicalisation

Most radicalisation research has been conducted on adults, resulting in retrospective data that reflect adult cognitive skills and needs. However, a growing body of evidence points to adolescence (early to late teens; APA, n.d.a) and emerging adulthood (late teens and twenties; Arnett, 2000) as the key developmental periods for radicalisation. Following the social-developmental model of radicalisation (Beelmann, 2020), risk factors increasing later vulnerability to radicalisation begin to develop during early childhood, while the proximal radicalisation processes themselves occur between early adolescence (starting at age 14) and emerging adulthood (Arnett, 2000). While radicalisation typically takes place during adolescence (Jahnke et al., 2020; Nivette et al., 2021; Sikkens et al., 2017, 2018), the following period of emerging adulthood is typically the time for deradicalisation and disengagement (e.g., Wolfowicz et al., 2019,

in whose meta-analysis age was consistently negatively related to radicalised attitudes and behaviours). There are parallels to research which has found desistance from criminal behaviour to be most prevalent in the same time period (e.g., Jahnke et al., 2020; Moeller & Scheithauer, 2022).

From a developmental point of view, there are multiple reasons why adolescence is a time of particular susceptibility to radicalisation. During adolescence, a variety of psychosocial maturation processes are not yet completed, which affects impulse control, ability to resist peer influence, and perspective taking (e.g., Mulvey et al., 2004; Nivette et al., 2021). Moreover, with the transition to adulthood come new roles and responsibilities, such as employment, establishing one's own home, and perhaps a family, which can fulfil previously unfulfilled needs for social status, social belonging, sense of purpose and existential meaning, all of which are, when unfulfilled, known to be prominent motives in the radicalisation process (Macdougall et al., 2018; Nivette et al., 2021; Sikkens et al., 2017). The search for a sense of self, a definition of one's identity, is both a key developmental task during adolescence and a need that can, in lieu of other opportunities, be fulfilled by a radical ideology or group (Feddes et al., 2015; Jahnke et al., 2020).

Measuring Radicalisation: Methodological Considerations

When searching for or constructing a suitable measurement instrument for radicalisation outcomes, there is a choice to be made between types of measures: Shall the focus be on attitudes or behaviour, and if the former, shall the measurement approach taken be direct or indirect? Each type of measure comes with its own advantages and disadvantages. In line with Gawronski and De Houwer (2014), the terms direct and indirect describe measurement procedures while the terms explicit and implicit describe the associated measurement outcomes. Thereby, in direct measurement procedures, the measurement outcome results from participants' self-assessment of the attribute in question. Often, direct measures are related to

intentional, conscious, resource-dependent, or controllable outcomes. An indirect measure is marked by an outcome that does not result from self-assessment or an outcome that results from self-assessment of an attribute that differs from the attribute being measured (Moosbrugger & Brandt, 2020). Hence, an outcome is implicit if the impact of the psychological attribute of interest on participants' responses is unintentional, unconscious, resource-independent, or uncontrollable (Moors & De Houwer, 2006).

Given that radicalisation is a sensitive subject, direct measures are highly susceptible to social desirability bias. The value of self-report measures is also limited for psychological constructs which are introspectively inaccessible (Gawronski & De Houwer, 2014), which might be the case if, for example, a respondent is strongly deceiving themselves in order to protect their self-image or reduce cognitive dissonance, or if the respondent's self-reflective abilities are simply limited. Indirect measures, by contrast, reduce social desirability, but can be less valid due to other sources of measurement error (Fisher, 1993; Fisher & Tellis, 1998) and difficulties with their interpretation (e.g., Fiedler et al., 2006). Moreover, they may be more time-consuming than comparable direct measures, as more items are required to observe a pattern indirectly than to ask directly about a certain attitude; for example, the Implicit Association Test consists of multiple practice blocks and test blocks à 20 trials each, resulting in at least 100 trials per test (Greenwald et al., 2003). Behavioural measures, on the other hand, are difficult to obtain, particularly in an area where the behaviour in question will typically range between non-conventional political participation and outright illegality. Moreover, as described above, there is a disconnect between political violence and radicalisation, as not all radicalisation leads to people engaging in violent acts; even when they do, this violence is the final outcome of the process, thus behavioural measures capturing earlier stages would be more valuable. Engagement with or donations to radical groups, seeking out information about radical groups or causes online, and similar actions are all potential behavioural variables, but as it would be a grave invasion of respondents' privacy to measure these directly

(e.g., by monitoring online traffic), the most feasible operationalization is self-report. Self-report of behaviour comes, however, with the same potential drawbacks as self-report of attitudes – social desirability and deception.

It is thus unsurprising that direct attitudinal measures are dominant among existing radicalisation outcome measures. The most common group of measures is related to political violence, ranging from sympathy (e.g., Bhui et al., 2020; Chabrol et al., 2020; Doosje et al., 2013) and support (e.g., Kalmoe, 2014; Nivette et al., 2017; Pfundmair & Mahr, 2022) to hypothetical intentions to engage in it (e.g., Moskalkenko & McCauley, 2009). Other measures focus on attitudes beyond political violence and are consequently more ideology-based; for example, those who define extremism as a strong conviction of a certain set of values or an ideology accordingly construct measures focused on ideological content (Brandt et al., 2015; Zwicker et al., 2020). There are measures of agreement with specific ideological positions (e.g., Baier et al., 2019; Conway et al., 2018), agreement with specific modes of government such as autocracy and dictatorship (e.g., Baier et al., 2019; Ozer & Bertelsen, 2018), and measures operationalizing radicalisation outcomes through multiple facets, such as Doosje et al.'s (2012, 2013) radical belief system, which consists of perceived illegitimacy of authorities, ingroup superiority beliefs, perceived distance to other people, social disconnectedness, attitudes towards violence and violent intentions. However, what the existing measures all share is that they were not developed and validated to be suitable for adolescents, though some have been used on adolescent samples regardless. In general, the measures have undergone varying degrees of standard measurement development and item construction procedures. The result is that many, even the frequently used measures such as Moskalkenko and McCauley's (2009) Activism and Radicalism Intentions Scales (ARIS), violate principles of item construction by, for example, being too vague, being ambiguously worded, or combining multiple statements in one item. For example, the ARIS item "I would continue to support an organization that fights for my group's political and legal rights even if the organization

sometimes breaks the law” contains several terms open to interpretation; in relation to which of the respondent’s social identities does the group the item talks about stand? How does the group fight for these rights? Which laws are being broken – from graffitiing public property to murder, there is a wide range of room left for interpretation here. Moreover, the item presupposes that one would support the group to begin with and then merely asks about continuing to support it.

There are specific challenges to be considered if one wishes to measure radicalisation outcomes in an adolescent sample: Firstly, an instrument suitable for adolescents must be constructed to meet their cognitive needs and to reflect their reality of life. There is interpersonal variability in cognitive development in adolescence; even at the same age, reading comprehension and cognitive abilities may differ substantially during this period of rapid development (e.g., OECD, 2023). Thus, items must be worded in such a way that they accurately capture the complexity of the subject matter, but are not too complex to be understood by the target audience. The basic principles of questionnaire construction demand that items be formulated clearly and unambiguously: Sentence structures should be clear and simple (avoiding, for example, double negations or multiple dependent clauses), and difficult terms, jargon, and abbreviations should be avoided (Moosbrugger & Brandt, 2020). In terms of item content, the content needs to be unambiguous, i.e., not open to multiple interpretations; this is aided by avoiding absolute words such as “always”, “never”, etc., providing definitions for difficult concepts and terms, and restricting the item content to one statement at a time, rather than connecting multiple statements (Moosbrugger & Brandt, 2020).

Moreover, the range of knowledge about the world and political ideas is bound to vary substantially in this age group, perhaps even more so than among adults; thus, items must be balanced between being specific enough that participants understand what the item is getting at and being vague enough that the content of the item can be generalised beyond a singular

instance. This is, besides the general understandability of the items, an issue in item development where cognitive interview pretesting is crucial, whether using the think-aloud method or the technique of probing respondents to elaborate on their response choice, explain their understanding of certain words, or report any difficulties they encountered (Beatty & Willis, 2007). Finally, items must be worded so as to minimise the effects of social desirability, e.g., by using forgiving language or providing neutral framing (e.g., Bäckström et al., 2009; Charles & Dattalo, 2018). Under the umbrella of social desirability, both self-deceptive enhancement and impression management pose problems to be mitigated (Moosbrugger & Brandt, 2020). Radical or extremist views are often not socially acceptable, and depending on the setting and circumstances of data collection, respondents may fear punishment – whether social or even legal – for revealing such views or accompanying behaviours. This problem can be somewhat mitigated by assuring total anonymity and gaining the respondents’ trust that this promise will be kept (Moosbrugger & Brandt, 2020), though it cannot be erased completely.

Finally, once items have been developed following these principles, the measurement instrument resulting from them must be valid and reliable. There are multiple facets of validity that can be established, including those based on theoretical reasoning and content (face validity, content validity, and construct validity), those based on statistical assessment (factorial validity), and those based on external criteria (criterion validity, predictive validity, incremental validity, convergent validity, and discriminant validity; Hartig et al., 2020). If multiple types of validity can be established, this strengthens the argument that the instrument is overall a valid measure of the target construct. Besides being valid, a measurement instrument must also be reliable. As with validity, there are several ways to establish reliability: Common ways include the test-retest method, the parallel-forms method, the split-half method, and the internal consistency method (Danner, 2016; Gäde et al., 2020), the latter of which is commonly estimated using McDonald’s ω (Hayes & Coutts, 2020). Complementing these classic

methods of establishing reliability, there is the alternative of using CFA to test a measurement model's fit with the given data (Schermelleh-Engel & Gade, 2020). The state-of-the-art best practice is for validity and reliability to be established on a different sample than the one used for initial item development, which can be accomplished by either collecting new data or randomly splitting an existing data set in half prior to calculations (Botes et al., 2021).

Aims of this Dissertation

The aims of this dissertation are twofold. Firstly, due to the outlined lack of conceptual clarity in terms of radicalisation outcomes and the connected lack of consensus on the details of their definitions, this dissertation aims to gain an understanding of the process of radicalisation itself and the driving forces behind it, and to provide working definitions of which different outcomes can be attributed to the process of radicalisation. Secondly, because the field is in need of studies conducted during adolescence and, hence, of properly validated instruments suitable for adolescents, this dissertation aims to develop and validate such a measurement instrument for three types of radicalisation outcomes.

Synopses of Papers

First Paper: Radicalisation and deradicalisation: A qualitative analysis of parallels in relevant risk factors and trigger factors.

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Author contributions:

Conceptualization	JR
Methodology	JR
Software	/
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Formal analysis	JR
Investigation	JR
Resources	/
Data curation	JR
Writing - original draft	JR, BD, AF
Writing - review & editing	JR, BD, AF
Visualization	JR
Supervision	BD
Project administration	JR
Funding acquisition	/

Note. CRediT taxonomy of author contributions.

In line with the dissertation's first aim of gaining an understanding of the process itself and its driving forces, the first paper focused on radicalisation as a process and aimed to explore parallels between the factors facilitating radicalisation and deradicalisation. A distinction can be drawn between risk factors, trigger factors, and motives, whereby risk factors are persisting states or circumstances which, over the course of their duration, result in general psychological strain which increases personal vulnerability, while trigger factors are discrete events which can prompt or catalyse movement between phases within the process of radicalisation (Feddes et al., 2017). Motives are relatively stable dispositions which interact with risk and trigger factors by affecting their importance and salience, depending on psychological needs (Macdougall et al., 2018). Motives are hence the central elements connecting the different elements of the radicalisation process. Using theoretically guided thematic analysis (Braun & Clarke, 2006; 2016), a coding scheme was established containing motives, risk and trigger factors drawn from previous literature. The scheme was then applied to two data sets: five narrative interviews with people who had explored and then disengaged from radical or extremist religious ideologies, and seven semi-structured expert interviews with employees of German deradicalisation programmes. After all data were coded and interrater overlap was established for the coding scheme, themes were formed over several codes, guided by the central question of identifying parallels and differences between the factors central to the processes of radicalisation and deradicalisation.

Following Macdougall et al. (2018), we distinguished six motives: the need for social belonging (Harris et al., 2014; Macdougall et al., 2018), emotional uncertainty (Doosje et al., 2013), need for existential meaning (Cottee & Hayward, 2011; McBride, 2011), need for status (Webber et al., 2018; Webber & Kruglanski, 2018), need for sensation (Nussio, 2017; Schumpe et al., 2020), and need for justice (van den Bos, 2020). These were the central points around which themes were formed, which in turn included fitting risk and trigger factors. Five themes were constructed for the process of radicalisation: compensating for domestic or social

problems, experiencing and compensating for exclusion, constructing facets of social identity, improving personal status, and seeking out a sense of purpose or existential meaning. The first three themes share a distinctly social focus: Membership in a radical group and participation in its activities can offer stability, clear social structures, and strong and stable social affiliation, all of which can serve to *compensate for domestic or social problems* (e.g., absence of stable parental figures, a home life disrupted by criminality and economic distress, etc.), to *compensate for social exclusion* (e.g., through experiences of bullying or discrimination), and to *construct facets of one's social identity* (which is helpful for those with strong personal insecurity). The fourth theme connected the social and the personal: Being an active member in a radical group opens up opportunities to establish oneself within a group hierarchy, to take on tasks that the group values, and to receive recognition from the other ingroup members, thus *improving one's personal status*. The final theme is, by contrast, highly personal and internal: People *seeking out a sense of purpose and existential meaning in life* may find these things in a radicalised ideology, and joining a radical group can significantly simplify their life by giving them clear and simple rules to follow in order to live in accordance with said ideology. As such, joining and fully committing to a radical group also results in substantial complexity reduction in many areas of life.

Five themes were constructed for the process of deradicalisation: improving one's social surroundings, experiencing acceptance and inclusion, improving personal status and self-image, finding structure and stability, and disillusionment and maturing out. With the exception of the last theme, the themes constructed regarding deradicalisation by and large mirrored the themes of radicalisation: Where domestic and social problems and social exclusion are conducive to radicalisation, *improvements of these social or domestic problems* and *experiences of inclusion and belonging outside a radical group* foster deradicalisation. Similarly, *improving personal status and self-image* through means other than activism within the radical group and *finding something outside the group to give one structure and stability* – an

example for both being finding fulfilling and stable employment – reduces the appeal of radicalisation as a vehicle of need fulfilment, thus contributing to deradicalisation. Finally, an often central element of deradicalisation which can co-occur with the other themes is *disillusionment and maturing out* – that is, over time, people tend to develop away from the radicalised ideology they were adhering too, either because they find it no longer fulfils their needs or does not fulfil them to the extent they previously expected, their needs change, or because they find it to be conflicting with other needs they have. This theme in particular emphasised the pivotal role of adolescence and emerging adulthood for (de-)radicalisation, and is in line with previous research reporting on a negative relationship between age and radicalised attitudes (e.g., Wolfowicz, 2019).

Second Paper: Radicalism, extremism, other? Developing and validating the Adolescent Radicalisation Outcomes Questionnaire (AROQ)

Authors: Reiter, J., Dono, M., Lüftenegger, M., & Botes, E.

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Validation	/
Formal analysis	JR
Investigation	JR
Resources	ML
Data curation	JR
Writing - original draft	JR, MD, ML
Writing - review & editing	JR, MD, EB, ML
Visualization	JR, EB
Supervision	ML, EB
Project administration	JR
Funding acquisition	JR

Note. CRediT taxonomy of author contributions.

In line with both the first aim of providing conceptually clear working definitions of radicalisation outcomes and the second aim of operationalising these outcomes in a way that is suitable for adolescents, the second paper in this dissertation began the development of the measure for which the need was described above: The Adolescent Radicalisation Outcomes Questionnaire (AROQ). Based on a theoretical work by Bötticher (2017), expanding upon the historical and conceptual differences between radicalism and *extremism*, and on Reidy (2018, 2019), who distinguishes *benevolent* from *malevolent radicalism*, the theoretical framework behind the instrument and this study recognizes these three as distinct outcomes that can all stem from the process referred to as ‘radicalisation’. The differences between extremism and radicalism are fundamental: Extremism is supremacist and aims to enforce its ideas in an authoritarian manner, while radicalism is inherently supportive of universal human rights, equality, and diversity of opinions, seeking to convince rather than enforce, and to emancipate rather than oppress (Bötticher, 2017). Inherent in radicalism is the idea of a universal morality which applies to everyone because radicals hold the inherent belief that everyone is capable of doing the right thing and being convinced to do so, while extremism is based on hierarchy and a particularistic morality which only applies to ingroup members who are, in that sense, worthy of being subject to these moral standards (Bötticher, 2017). Finally, both radicalisms and extremism differ in their attitude towards political violence: While the benevolent radical opposes interpersonal violence, but is willing to harm and endanger themselves in a self-sacrificial manner for the sake of a political cause, the malevolent radical does not generally approve of political violence, but may still make use of it sporadically, when particular circumstances seem to justify it. By contrast, extremism is the attitudinal underpinning of terrorism and political violence at large (Bötticher, 2017; Doosje et al., 2016); extremists consider violence to be a valid - and sometimes the only - way to impose their views, which is why the term ‘non-violent extremist’ is being rejected altogether in parts of the literature (Becker, 2021; Schmid, 2014).

From these definitions, four psychological constructs were derived which are pivotal to these outcomes, in varying degrees: Political system preference, political and religious (in-)tolerance, ingroup superiority beliefs, and political violence legitimization. Over the course of two quantitative data collections ($n = 1260$ and $n = 622$), cognitive interviews ($n = 8$), and expert ratings ($n = 4$), scales to measure these constructs were developed and validated for adolescent samples (aged 14-20).

For each scale, the factor structure was examined using PCA, the fit of the measurement model to the data was tested using CFA, and the internal consistency was evaluated using McDonald's ω . The scales are face valid, and their construct validity was established using the expert ratings. Factorial validity was established as described above, and convergent and discriminant validity were partly established using measures of related constructs: The Activism and Radicalism Intention Scales (ARIS; Moskalenko & McCauley, 2009), and the Social Dominance Orientation short scale SDO₇ (Ho et al., 2015).

Political system preference was operationalised using nine items, three each for autocracy preference, democracy preference, and anarchy preference. The autocracy ($\omega = .72$) and anarchy ($\omega = .75$) scales were satisfyingly reliable, while the democracy subscale did not achieve sufficient internal consistency ($\omega = .53$). Factorial validity was established as the three-factor-model achieved close fit ($\chi^2(24) = 42.348$; $p = .012$), with all fit indices meeting the necessary cut-offs ($CFI = .984$, $TLI = .976$, $RMSEA = .051$, $SRMR = .069$; Kenny, 2020).

Political and religious tolerance were two separate scales with five identical items each, differentiated by the anchor question. Both scales (political tolerance: $\omega = .84$, religious tolerance: $\omega = .86$) were highly reliable. The political tolerance scale achieved close fit according to most fit indices ($CFI = .984$, $TLI = .969$, $SRMR = .064$), except for the RMSEA which missed the proposed fit cut-off of $< .08$ ($RMSEA = .085$; Kenny, 2020). The religious

tolerance scale achieved close fit ($\chi^2 (5) = 11.642; p < .001$) and all fit indices met the cut-off requirements ($CFI = .993$, $TLI = .985$, $RMSEA = .066$, and $SRMR = .052$).

Ingroup superiority beliefs were measured with a single, twelve-item-scale, the items of which are nested within two anchoring questions describing different contexts. The scale was highly reliable ($\omega = .97$). The scale achieved close model fit ($\chi^2 (54) = 48.320; p = .692$; $CFI = 1.00$, $TLI = 1.00$, $RMSEA < .001$, $SRMR = .044$).

Political violence legitimization consisted of subscales for benevolently radical violence, malevolently radical violence, and extremist violence, each of which were operationalised by ten items nested within two vignettes. Each of the scales was highly reliable: benevolently radical violence ($\omega = .90$), malevolently radical violence ($\omega = .93$), and extremist violence ($\omega = .93$). This model with three factors fit the data well ($\chi^2 (402) = 783.439; p < .001$) according to most fit indices ($CFI = .973$, $TLI = .970$, $RMSEA = .056$), with the exception of the SRMR which did not indicate fit ($SRMR = .114$).

In sum, the second paper of this dissertation produced a questionnaire consisting of four reliable and valid scales specifically designed for German-speaking adolescents; individual scales or the complete questionnaire can be used to measure facets of the radicalisation outcomes benevolent radicalism, malevolent radicalism, and extremism.

Third Paper: Same same but different? How much of a difference does it make how we operationalize attitudes towards political violence in radicalisation studies?

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Conceptualization	JR, MP
Methodology	JR, MP, LL
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Investigation	JR, AK
Resources	JR
Data curation	JR, AK
Writing - original draft	JR, MP, AK, LL
Writing - review & editing	JR, MP, AK, LL
Visualization	JR
Supervision	/
Project administration	JR
Funding acquisition	JR

Note. CRediT taxonomy of author contributions.

Finally, by way of further exploration and validation of the previously presented measure of radicalisation outcomes, the third paper used the measure of political violence legitimization from the second paper and explored how it would relate to other types of measures of attitudes towards political violence. Specifically, building on the distinction between direct and indirect attitudinal measures and behavioural measures introduced above, measures from each category were compared, embedded in two currently salient political contexts: climate protection activism and anti-Covid-19-measures activism.

The vignettes from the second paper were included as a direct measure, the other direct measure being Moskaleiko and McCauley's (2009) Activism and Radicalism Intentions Scales (ARIS). Two indirect measures were included: Firstly, an adaptation of the IPANAT (Quirin & Bode, 2014), a task in which the participant rates the fit of various positive and negative emotional adjectives to artificial words in order to deduce their current mood. In our study, we combined the task with semantic priming, i.e., the idea of affecting the way a word is processed by presenting a different, related stimulus before (APA, n.d.b); that is, in the control condition, participants merely rated the fit between the artificial words and a list of adjectives, whereas in the experimental condition, participants first completed a pseudo-task in which they processed short definitions of benevolently radical violence, malevolently radical violence, and extremist violence, by assigning them to one of the artificial words each and reinforcing that connection through repeated processing. Instead of emotional adjectives, we used normatively charged positive and negative adjectives (such as good, bad, useful, unnecessary...) to rate the artificial words. The other indirect measure used was an endorsement experiment (Blair et al., 2014), a measure which specifically seeks to reduce social desirability. To achieve this, the sample is split into multiple groups, and one item is constructed for each group. The items contain a neutral element, such as a not particularly sensitive policy, and the sensitive element of interest, e.g. a particular political group. The control group is only presented the neutral element, while a number of experimental groups are presented with a

combination of the same neutral element and a sensitive element each. By way of Bayesian analysis, the information gained from the control group on the approval rate of the neutral element is then used to discern the approval rate of the sensitive elements in each experimental group. Finally, as a behavioural measure, we designed a donation experiment. Participants were recruited via the platform Prolific and were thus set to receive financial compensation; they were offered the opportunity to donate a portion of their compensation to a group from a list of real groups who are either active – depending on the condition – in the realm of climate protection activism or anti-Covid-19-measures activism. After deciding on the donation, participants were asked to state for each of the available groups whether they thought the group would engage in property damage and/or interpersonal violence for its political goals; the behavioural outcome measured was the ratio of money donated to groups the participants believed to be violent.

Relations between the direct measures were relatively high and consistent, although, like in the previous paper, the vignettes measure and the ARIS scales did not always relate in just the way they theoretically should, presumably on account of the vignettes being the more nuanced, less abstract and vague measure. The behavioural measure (donation experiment) proved uninterpretable; while manipulation checks suggested that the majority of participants did believe the donation was real, in the relatively small sample of $n = 194$, no one was willing to donate to a group they thought was violent. A very small number of participants donated to groups they thought were non-violent but would damage property, but this behaviour did not relate to the other measures, and the strength of evidence was weak due to the minuscule subsample. Among the indirect measures, the endorsement experiment worked decidedly better than the adapted IPANAT measure, producing overall consistent and frequently strong evidence.

In sum, the political violence legitimization scale from the instrument developed in the second paper proved reliable and valid on two different, thematically specified samples (climate activism and anti-Covid-19-measures activism) in the third paper. The study also reiterated the difficulties with producing meaningful and functioning indirect and behavioural measures on the highly socially sensitive topic of political violence. Finally, the process of pre-screening participants for the two thematic conditions in the third paper showed that the climate activism sample was more uniform and consistent in terms of views on the subject than the anti-Covid-19-measures sample; while this may partly be due to bias caused by who does and does not sign up for sites like Prolific, it also points to the context of climate activism as a contemporary, well-suited social context for studying nuances in the process of radicalisation.

Discussion

This dissertation set out to investigate the process of radicalisation and its driving forces, to provide working definitions of which different outcomes can be attributed to this process, and to then operationalise these outcomes by developing and validating a measurement instrument suitable for adolescents, due to the key role of this developmental period in radicalisation.

General discussion of studies' findings

In reference to the first two aims, it transpired that not all radicalisation processes are equal; they may often be rooted in legitimate grievances and values that are not per se socially destructive, as the first paper found. Common themes in the process of radicalisation revolved around compensating for unmet social or personal needs, and could also include the pursuit of higher existential meaning in life, for example by fighting against perceived injustices. The second and third paper both differentiated between three outcomes of this process: benevolent radicalism, malevolent radicalism, and extremism. Extremism is the highly destructive societal force behind terrorism which has been the focus of much research; by contrast, radicalism takes a different, progressive rather than oppressive approach to politics. If we think back to the fictional anti-colonialist group from the novel *Babel Or The Necessity of Violence* cited in the beginning of this dissertation or to historical activist movements who would severely endanger themselves for the sake of disrupting the status quo and effecting political change, from the suffragettes over the movement around Gandhi and his hunger strikes to the long-standing tradition among environmental activists of chaining themselves to machines to halt construction or other industrial work, we may conclude that far from being by nature socially destructive, benevolent radicalism can be a pivotal driving force of social change.

The first paper also hinted at the importance of adolescence as a developmental period for radicalisation, a fact evidenced by a growing body of literature. Adolescence is a

developmental period marked by finding one's bearings in life, figuring out one's identity, values, social belonging, goals and aspirations. During this time of looking for so many things and having very few of them figured out yet, radical or extremist groups and ideologies can have a strong appeal; they can simplify life by providing clear rules for how to be and whom to be with, what to do and what not to do, and by clearly sanctioning violations of these rules. They can provide a sense of community and social belonging to individuals who may be struggling with social exclusion. They can provide substantial puzzle pieces to the question of identity, they can provide opportunities to prove oneself and increase one's self-esteem and social status when these opportunities are lacking in one's current life, for example due to unemployment, struggles with accessing or succeeding in education, or persistent experiences of discrimination and societal devaluation. All this substantiates the need for radicalisation research to be conducted with adolescent populations; yet the overall body of radicalisation research largely consists of research conducted on adults, and moreover, much of the research has been small-scale and not using quantitative data. Even in the growing body of quantitative research the instruments used are often not developed as carefully as one would hope, leading to violations of basic principles of item construction and lack of cognitive pretesting to ensure the validity of the items.

The psychometric and methodological investigations in the second and third paper were conducted in response to these issues, with the goal of fulfilling the dissertation's third and final aim. The second paper established the internal consistency, content validity, and factorial validity of all four developed scales in the AROQ. However, the questionnaire is not without flaws and thorough development of some of the scales should be considered ongoing; in terms of reliability, a collection of longitudinal data would be needed to establish test-retest-reliability. As the field is in need of longitudinal studies to examine whether proposed risk and protective factors are actually predictive of radicalisation outcomes, information on how reliable the AROQ is over time if applied repeatedly is needed. As for validity, the

validation based on other measures used as external criteria (concurrent and discriminant) is flawed and, to some degree, circular in a study arguing that a new instrument is needed because the existing instruments are not good enough. Hence, a more theoretically sound and more practically relevant way of validating the scale would be by establishing predictive validity using a variety of radicalised behaviours; “a variety” because, as mentioned above, only some people who radicalise end up engaging in political violence, and hence other behaviours which are in line with the other radicalisation outcomes need to be measured as well. Examples could be seeking out information on certain groups, making donations to groups or causes, or public and semi-private acts of communication (i.e., posts on social media, forums, etc.).

In addition to direct measures such as the AROQ, indirect and behavioural measures could also be explored, as was the case in the third paper. While the priming measure (the adapted IPANAT) was simply not feasible and, had the manipulation fully functioned as intended, would have been difficult to interpret, the endorsement experiment proved to be a parsimonious and viable indirect alternative to directly asking participants’ support of certain policies or groups. Although the measure requires a larger sample size due to the random split into multiple conditions, it can be a valuable supplement to direct measures in the context of sensitive political items. Similarly, behavioural measures like the donation experiment are promising, but, based on the third paper, require a substantially larger sample to be viable. While most participants believed the donation was real and thus, in principle, the manipulation was successful, in the rather small sample of just under 200 participants, there was no one who would donate to a group they thought was violent and only a few participants donated to a group they thought would engage in property damage. The larger the sample, the more likely one would find participants who would donate to groups they considered violent. This paradigm should also be further developed in future studies, for example by switching up the

groups available to choose from, providing more context for the choice, or perhaps embedding the experiment in economic game paradigms.

Conclusions

In spite of the aforementioned room for further development of the measurement instrument presented in the second paper, this dissertation overall has a number of particular strengths that heighten the value of its findings. It is a particular strength of the first paper that it combines different sources of information, namely self-reports and expert interviews, to investigate the driving forces behind radicalisation and deradicalisation; using such different sources to answer the same questions helps strengthen evidence for the themes that do overlap and reveals the limits and biases of each perspective on the process for the themes that are different. Moreover, combining qualitative and quantitative approaches, as this dissertation does, enriches understanding of the process of radicalisation and informs quantitative operationalisations of various constructs at later stages in research better than if the first step had already been quantitative. The advantage of combining both methods is even more salient in the second paper, which included cognitive interviewing in the item development and pretesting process; this transpired to be a key step in developing this instrument for adolescents and led to substantial changes in item development. A further clear strength of the second paper is the range of age groups it included; as mentioned, adolescence is a substantial developmental phase during which changes in development can occur rapidly. As such, including a range of ages from early adolescence to emerging adulthood in the questionnaire development and validation ensures that the questionnaire is applicable to a broader audience within the target developmental phases than if it had been developed on a single, narrowly defined sample. The third paper connected the violence legitimisation measure within the AROQ to other similar measures and to current political contexts – COVID and climate change – thus evidencing the measure’s applicability to different populations and contexts.

Overall, this dissertation contributes to the field of radicalisation research by conducting conceptual work on the outcomes of radicalisation, providing differential working definitions of benevolent radicalism, malevolent radicalism, and extremism, and providing a reliable and valid instrument for measuring these three radicalisation outcomes in adolescent samples. It also explores further possibilities for other types of measures. The dissertation overall lays part of the groundwork for a re-orientation of the field towards clearer outcome definitions, methodological rigour, and towards the primarily relevant, yet so far under-researched age group of adolescents. Yet an instrument should not be considered “done” after two studies; there is room to improve, develop, and validate further, as outlined above, and these are certainly endeavours for future research beyond this dissertation.

Future Directions

While the Covid-19 pandemic and the political alliances forming around it largely dominated the political landscape in Western Europe for a large portion of the past two years, another conflict has steadily overtaken it: the issue of climate change and the activism surrounding it. This political context is currently highly salient, continually gaining relevance, and is particularly relevant to adolescents who are, by nature of the problem, bound to be impacted by climate change for a much larger portion of their lives and to a larger degree than older generations. This makes it an ideal case study for understanding the process of radicalisation and its different outcomes; there are various activist groups such as “The Last Generation”, “Extinction Rebellion”, and “Just Stop Oil” who are continuously engaging in a variety of unconventional political behaviours, ranging from civil disobedience over acts of property damage to acts of self-endangerment which fit well under the definition of benevolent radicalism, such as gluing themselves to the streets during heavy traffic hours. At the same time, we are observing a counter-radicalisation towards malevolent radicalism, potentially even extremism, on the side of those opposing the “climate-glueers”, as they are known in German-

speaking media; periodically, videos of people physically attacking the activists as they glue themselves to the street surface online (e.g., letzteGenAT, 2022 February 1), and graphic descriptions of violent fantasies are shared in anti-Covid-measures Telegram groups – for example, using an axe to chop off the hands glued to the street – as the political alliances formed there turn to a new common enemy (Bonvalot, 2022 November 22).

This dissertation began with the quote “violence shows them how much we’re willing to give up”, from a recent novel on a fictionalised struggle against British colonialism turned violent. In a way, we’ve come full circle, and in a way we haven’t – of the two sides described in this currently salient political conflict around the climate, only one is resorting to violence (albeit sporadically), and it’s not the side that is giving anything up. Meanwhile, the climate activists who dedicate time and resources to forms of protest that endanger their physical wellbeing in multiple ways are giving up considerable parts of their life. While the quote in the beginning was exemplary of malevolent radicalism, it is benevolent radicalism which seems to be developing around this political issue. This also gives rise to interesting implications about the role of altruism in radicalisation. Interesting times are ahead for radicalisation research if it is finally conducted on and with adolescents.

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Radicalization and Deradicalization: A Qualitative Analysis of Parallels in Relevant Risk Factors and Trigger Factors

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We analyzed five narrative interviews with individuals who disengaged from Islamist extremist and Salafist ideologies in an early stage of radicalization (Study 1) and seven semistructured expert interviews with employees of German deradicalization programs (Study 2) to explore which root factors are common to both radicalization and deradicalization and how they manifest. Employing a coding-reliability approach to Thematic Analyses, we constructed five themes central in radicalization and deradicalization, respectively. Parallels between radicalization and deradicalization (themes: social surroundings, exclusion vs. acceptance, social status, self-definition, and structure/sense of purpose) as well as the specifics of our particular sample—female explorers of religious extremism—and implications for future research are discussed.

Public Significance Statement

Interview data from young adults who had explored religiously radicalized movements in the past (specifically, the Salafist movements in Germany, mainly the group around German public preacher Pierre Vogel) as well as from experts working in German deradicalization programs are analyzed. The most important factors influencing radicalization and deradicalization were related to social belonging and social identity. Preventative efforts should focus on social inclusion, countering discrimination, and proactively working with youth to resolve identity crises.

Keywords: radicalization, deradicalization, thematic analysis, social identity, disengagement

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To date, a substantial body of literature has been produced on the process of radicalization. To a lesser extent, the same has been undertaken for the processes of deradicalization and disengagement (Barrelle, 2015; Bubolz & Simi, 2015; Doosje et al., 2016; Horgan et al., 2017; Winter & Feixas, 2019), where disengagement describes the behavioral side and deradicalization the attitudinal side of distancing oneself from extremist ideologies and groups (Della Porta & LaFree, 2012). Little focus has been placed on the relation between radicalization and deradicalization and how factors that play a key role in the former might influence the latter. Generally, some coherence is expected between the factors that played a part in a person's radicalization and deradicalization (cf., Barrelle, 2015;

Sikkens et al., 2017; Winter & Feixas, 2019), but comparative studies are scarce. This question is interesting because it speaks to the validity of inferences drawn from radicalization research to deradicalization. By extension, this is also of practical relevance: If there is high similarity between the factors relevant for radicalization and deradicalization, deradicalization counselors are well advised to explore their clients' radicalization history extensively. We approach this question using qualitative data from interviews with individuals who disengaged during the early stages of radicalization (Study 1) and expert interviews with employees of deradicalization programs (Study 2).

Root Factors

Numerous factors have been identified which influence the process of radicalization. Sometimes these are discussed as root factors in a broad sense, while other authors draw distinctions between risk factors and trigger factors. Risk factors are persisting states resulting in general psychological strain which leaves the individual vulnerable to radicalizing influences, while trigger factors are conceptualized as discrete events which prompt or catalyze a transition from one stage of (de)radicalization to another (Feddes et al., 2015). The same trigger factor can have radicalizing or deradicalizing effects, depending on other factors such as a person's motivational structure or their framing and appraisal of the event. By contrast, risk factors are not discrete events, but permanent states which build up their influence on the process (cf., Kruglanski & Fishman, 2009). Finally, in addition to risk

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factors and trigger factors, some studies investigate psychological motives of radicalization (Macdougall et al., 2018). Motives are distinct from these other root factors in that they are largely personality inherent and stable over time and interact with other factors: The presence of other root factors can make a motive more salient, while strong motives also enhance sensitivity to certain, thematically related root factors.

The root factors which we identified—drawing on literature on risk factors, trigger factors, and psychological motives—and included in our coding system are discussed in the Methods section below. These factors are embedded in the process of radicalization and deradicalization.

Radicalization and Deradicalization

There is overall agreement that radicalization is a multiphasic, dynamic process, the course of which is influenced by root factors. The occurrence of trigger factors can prompt shifts between phases, while the presence of risk and protective factors can more generally speed up or slow down these movements. Exiting this process at any stage is referred to as deradicalization or disengagement, depending on whether attitudinal or behavioral change is central. With our data, we explore which root factors are common to both radicalization and deradicalization and how they manifest.

Epistemological and Methodological Preface

Qualitative methods exist within a framework of epistemology and methodology; the researcher's assumptions on what can be known and how research can produce this knowledge shape the choice of appropriate methods and the interpretation of results (Carter & Little, 2007). It is important to explicate these assumptions because the key criterion for a qualitative study's quality is the internal consistency of epistemology, methodology, choice of method, and presentation of results (Carter & Little, 2007).

We assume that, certain distortions such as hindsight bias and social desirability bias aside, people's true attitudes, experiences, and opinions can be accessed through interviews. The study was not conducted with a constructivist approach, but with the participant as the subject from whom information is obtained. Although our study is not suitable for model testing (due to sample restrictions) and remains explorative, every step of the process was guided by theory. Data collection differed between studies 1 and 2 (details below), but for data analysis, a set of codes was constructed based on an extensive literature review concerning the process of radicalization and deradicalization and its root factors. In doing so, we paid attention to include empirical as well as major theoretical works.

The literature review phase stopped when we reached saturation, that is, we could no longer find articles adding new factors to our framework. The initial, purely theory-based codebook was expanded with a grounded theory approach (see below). After all interviews had been coded, a second coder was instructed with these definitions to code two randomly chosen interviews (one from each study). Differences between the coders were discussed, and inter-rater agreement was determined. This is due to a methodological approach which expects to produce at least a shared interpretation marked by replicability.

Although this approach is at odds with more constructivist approaches to qualitative research, it suited our interest: We had a theoretical model which guided our expectations and wanted to see how well this analytical framework would fit the set of field data we managed to gather.

Method

In Study 1, we analyzed data collected from five interviewees who had passed through the early stages of radicalization (explorative behavior and brief group membership) and then disengaged or deradicalized. In Study 2, we analyzed expert interviews with seven consultants from different German exit programs which support members of radical groups who are willing to disengage. Approval was granted by the ethics committee of the University of Göttingen.

Method Study 1

Sample

Data were provided for secondary analysis by the Criminological Research Institute of Lower Saxony in the form of the anonymized transcripts of five narrative interviews conducted with Muslims who self-identified as devout and who had, in the past, explored radical ideologies, but not moved on to phases of serious involvement. Participants had been recruited via Facebook and Instagram and self-selected for participation (see Table 1 for more information about the interviewees). The interviews passed on to us were part of a sample of 12 narrative interviews which were part of the Research Center's more general sociological research on Muslim identity formation. Therefore, these interviews were not tailored to our research. The five interviews passed on to us were selected by the researcher at the Research Center who was in charge of their sociological study based on who had mentioned by name public figures who are considered to be radical Islamist preachers and/or part of the Salafist scene in Germany and described involvement with them (such as engaging with their videos and attending

Table 1
Overview of Participants in Study 1

Code	Duration of interview	Age	Gender	Nationality + ethnic affiliation (if specified)	Educational background	Relation to Islam
S1P1/BILG01	120 min	21	f	German with Turkish background	BA in Islamic Theology	Native Muslim
S1P2/BINJ02	111 min	21	f	German	BA in Psychology	Convert
S1P3/BINJ03	136 min	33	f	German	Unemployed, no education beyond high school	Convert
S1P4/BINJ06	146 min	21	m	German with Algerian background	BA Social Work	Native Muslim
S1P5/BINJ07	141 min	24	f	German	BA Sociology	Convert

meetings). The public figure who was decisive for the selection of several interviews in this sample was Pierre Vogel, public preacher and most famous member of the Salafist association EZP (German acronym for “invitation to paradise”), a group continuously monitored by the Federal Office for the Protection of the Constitution.

As such, Study 1 was based on a convenience sample. Out of the population of interest—people who had at some point been engaged in the radicalization process, for example, by being in touch with radical groups or seeking out extremist content online, but had since disengaged/deradicalized—this was a very particular subsample: Only Islamist/Salafist radicalization was represented and the sample was predominantly female. Moreover, self-selection bias has skewed this sample toward particularly open and self-reflective individuals.

Interviews

The interviews had been conducted in different cities in Lower Saxony (Germany). The interviews opened with a general narrative prompt inviting participants to share their experiences with finding their Muslim identity; subsequently, the interviewees talked freely, without interruption, except for clarification or elaboration on certain aspects, so as not to cut the narrative short. The narrative interviews were conducted by a sociologist who is very familiar with this approach. One possible limitation in this study is that we did not conduct these interviews ourselves, and due to this as well as due to the open format of the narrative interview, they were not as intentionally focused on our research questions as the semistructured interviews in Study 2. Nevertheless, the overall topic of the interviews was the same and examination of the data proved them to be well suited for the purposes of our study.

Analysis

Data were analyzed using a theory-based coding scheme. An original set of codes was developed within a theoretical framework prior to the first analysis of the data and subsequently built on inductively.

To analyze the texts, we took a “coding reliability” type of approach to Thematic Analyses (Braun & Clarke, 2016): The coding scheme included definitions and establishing intercoder agreement was part of the process. Two interviews were first chosen at random for an initial reading. Thereafter, an initial set of codes (discussed in more detail below) was created based on a previous review of current literature. They were then applied to one of the initial interviews as well as a newly selected third one. During this step, other recurring topics were identified as relevant to the research questions and added as codes. After the authors agreed that theoretical saturation was reached, the resulting final coding scheme was applied to the entire data set. Intercoder agreement was assessed on a subsample (see below).

Coding Scheme. The original codebook contained 16 trigger factors, 7 risk factors, and 7 psychological motives derived from literature review; 10 codes were added in the iterative steps between initial, theory-based codebook and theoretical saturation. The minimal coding unit was a sentence. If the same topic was expressed in more than one sentence without interruption by another topic, the entire coherent segment was marked with the corresponding code. The final, complete coding system, including definitions and

examples, can be found in the Supplementary Online Materials, supplement S1.

The first group of root factors derived from literature review was trigger factors. Trigger factors are events that can occur in the immediate domestic environment, for example, in the form of confrontations with death (Kruglanski et al., 2009), domestic problems (Sikkens et al., 2017), the loss of educational or professional perspectives (Feddes et al., 2015; Özerdem & Podder, 2011), or detention and imprisonment (Kruglanski et al., 2017). They can also be facets of intergroup interactions, such as direct experiences of discrimination (Frounfelker et al., 2019; King & Taylor, 2011), racism or exclusion, or negative experiences with public authorities (Frounfelker et al., 2019), or they can be reflective of the social environment in general, such as actively cutting social bonds (Doosje et al., 2016) which can result more generally in social alienation (Bélanger et al., 2019), establishing contact with radical groups or individuals, and participating in radical group activities such as training camps. Finally, there are possible trigger factors which are more abstract than personal, such as confrontations with propaganda (Baugut & Neumann, 2019, 2020), perceived attacks on the in-group, and governmental policies targeting the in-group or radicalization (Feddes et al., 2015). Finally, a key trigger factor for deradicalization and disengagement (Barrelle, 2015; Bjørge, 2011) is disillusionment. The ultimate moment of disillusionment has been described as a turning point in empirical studies of deradicalization (e.g., Horgan et al., 2017). The perceived costs and benefits of staying versus leaving may change gradually (Horgan et al., 2017) until action in the form of disengagement is triggered by disillusionment (Bjørge, 2002). Disillusionment may relate to the ideology itself (i.e., losing one’s conviction of the ideology and its system of postulates) or to experiences with the social and practical components of a radical group or movement (i.e., losing the illusion that membership in the radical movement will fulfill one’s needs; Bjørge, 2002; Bubolz & Simi, 2015).

Feddes et al. (2015) theorize about a moderation of the effects of these trigger factors by sociodemographic variables and psychological motives. These psychological motives form the second group of root factors included in the coding system: The motives which have been identified as pivotal in the radicalization process are the need for social belonging (Harris et al., 2014; Macdougall et al., 2018), emotional uncertainty (Doosje et al., 2013), need for existential meaning (Cottee & Hayward, 2011; McBride, 2011), need for status (Webber et al., 2018; Webber & Kruglanski, 2018), need for sensation (Nussio, 2017; Schumpe et al., 2020), and need for justice (van den Bos, 2018, 2020). Research concerning these motives as a coherent system and possible moderations is still in its early stages (Macdougall et al., 2018).

The final group of root factors identified and included in the coding system is risk factors. Literature on general risk factors of radicalization is, by contrast, more systematically advanced. Doosje et al. (2012, 2013) test a model including six factors with robust results: First, relative deprivation (both individual and collective; see also Borum, 2003; King & Taylor, 2011; Macdougall et al., 2018; Moghaddam, 2005) describes a perception that the individual or the entire in-group are at a symbolic or material disadvantage compared to an out-group. Second, the degree of in-group identification determines to what extent one feels that belonging to one’s in-group is central to one’s identity. It has been demonstrated to relate to uncertainty (Reid & Hogg, 2005) as well as intergroup bias

(Castano et al., 2002). Third, intergroup anxiety is an emotional response to perceived intergroup conflicts and their consequences (Stephan & Stephan, 1985; Turner et al., 2007, 2008). Fourth, perceived threat pertains to symbols representative of the in-group or to the in-group itself in economic or physical terms (e.g., the looming threat of poverty or intergroup violence). Such threat perceptions can increase readiness to act in perceived self-defense (McCauley & Moskaleiko, 2008). Personal uncertainty pertains to identity and circumstances in life. Radical ideology presents an opportunity for easy uncertainty reduction by providing simple answers to complicated questions. Finally, perceived injustice, within the context of intergroup relations, is the perception that a group the individual relates to is being treated unfairly and the individual should be doing something about it (van den Bos, 2018).

The factors added during the iterative expansion of the coding system were a harmful social environment, mental health issues, positive social influence, critical thinking, perspective taking, positive attitudes toward the democratic/legal system, commitment, responsibility, reactance, and experiences of violence (see Supplement S1). Not all codes were applied frequently or fit into coherent themes; some only played a role for one person and would therefore be more central in an individual case study. Because we focused on themes that could be constructed across the whole collected data set with reasonable consistency, not all codes are mentioned in the analyses.

Interrater Agreement. After all interviews had been coded by the first author (Coder A), an external fellow researcher (Coder B) received thorough coding training by A and coded one of the interviews. The training involved a comprehensive instructional document including code definitions and coding rules and a conversation to clear up any further questions. Basic coding rules included that it was possible and sometimes necessary to apply multiple codes to the same data item, that codes were meant to be applied generously (i.e., including the context of a particular event if necessary), and that most codes could be applied both in the positive and negative sense (i.e., to mark the presence or explicit absence or opposite of the code; a difference which was considered later during analyses).

As there were five interviews (10 hr 54 min in total), the interview chosen for double coding by a random number generator (S1P4, 2 hr 26 min) made up 22% of the data set (*Note:* An S stands for Study and P stands for Participant). After B had finished coding this interview, the initial level of interrater agreement was established. Agreement was defined as any instance of the same code being applied by both coders to a content-wise coherent segment. Calculation of any reliability index requires data to be predivided into a fixed number of units, resulting in a number of data units on which raters agreed and disagreed, respectively. In our study, raters created the data units while coding. Thus, the data to which no codes were applied remained undivided into units—we can count the units on which the raters agreed, but not those on which they disagreed. Consequently, our evaluation of interrater agreement is limited to the percentage of overlap.

A and B then discussed all instances of disagreement together to determine the cause of the disagreement and whether it could be resolved. B was instructed beforehand that for each instance of disagreement, the possible outcomes were resolution in favor of A, resolution in favor of B, or nonresolution of the disagreement. The amount of interrater agreement was then reassessed. Table 2 shows

the resulting overlap in percent before and after discussion. Of the conflicts that were resolved, 63% were resolved in favor of coder A, 33% in favor of coder B, and 4% found another resolution (see Supplement S2). Considerable improvement in intercoder overlap post discussion indicates the overall good reliability of the coding system; prediscussion discrepancies were mostly due to simple lapses of concentration caused by the large number of codes or by uncertainty resulting from the occasional vagueness of the data material. Overlap remained low for the codes *policies aimed at the in-group* (50%), *meeting a radical person* (33.33%), and relatively low for *experiences of discrimination* (75%).

Method Study 2

Sample

We conducted seven semistructured expert interviews. The target group was consultants at German state-run or privately run exit programs ($n = 6$ and $n = 1$, respectively), aimed at helping individuals to exit radical groups. We contacted all state-run programs and the larger privately run programs we could find and invited them to participate; interviews were conducted with volunteers in Bavaria, North Rhine-Westphalia, and Thuringia.

We were interested in the perspectives of professionals who worked directly with radicalized individuals seeking help to exit their radical group. We aimed to include participants working with different ideological backgrounds of radicalization. In the context of Germany, the largest (i.e., most salient and most common) types of extremism are radical Islamism/Salafism and right-wing extremism. Most programs focus on these two ideologies, while also attending to left-wing extremism and purpose-specific militant groups, such as the PKK (Kurdistan's Workers Party), on the side. Similarities between religious and political radicalization have been found in terms of risk factors (Doosje et al., 2012, 2013; Schils & Verhage, 2017), individual motivations (Webber & Kruglanski, 2018) and factors leading to disengagement and deradicalization (Barrelle, 2015; Harris et al., 2017; Webber & Kruglanski, 2018). Hence, we were interested in exploring various ideologies together instead of selecting only political or religious extremist ideologies.

Nineteen state-run and privately run exit programs were invited to participate in expert interviews. The participants who responded positively to this invitation were interviewed face-to-face at their own offices during June 2018, after which the recorded interviews were transcribed. Table 3 shows a descriptive overview of the sample.

Interviews

We conducted semistructured interviews; guiding questions (see the Supplementary Online Materials, supplement S3) were developed based on the same literature review as the codebook and the findings from Study 1. The interview consisted of an introductory part (own professional background and daily routines at work), a part about radicalization, another about deradicalization (during both: recognition of different types, examples), and a final concluding part in which interviewees could make concluding remarks, add information, or ask questions. The parts about radicalization and deradicalization followed an explorative logic: First, interviewees

Table 2*Measures of Intercode Agreement per Code, Calculated Before and After Discussion*

Code	Overlap % 1 ^a	Pre	Post
		Overlap % 2 ^b	Overlap %
Need to belong	28.57	35.71	92.86
Personal uncertainty	41.67	41.67	91.67
Need for status	80	80	100
Trigger: confrontations with death	nV	nV	nV
Trigger: domestic problems	37.5	50	100
Trigger: loss of academic/professional perspectives	45.45	70	100
Trigger: experiences of discrimination/exclusion	0	25	75
Trigger: negative experiences with authorities	54.55	54.55	90.91
Trigger: detention	nV	nV	nV
Trigger: cutting social bonds	50	50	100
Trigger: meeting a radical person	0	0	33.33
Trigger: joining a radical group	14.29	14.29	100
Trigger: marriage	nV	nV	nV
Trigger: participating in training camps/courses	100	100	100
Trigger: confrontations with propaganda	20	20	100
Trigger: calls for action	nV	nV	nV
Trigger: perceived attack on in-group	33.33	50	100
Trigger: policies directed at in-group or radicalization	100	50	50
Disillusionment	0	nV	nV
Risk factor: perceived deprivation	33.33	33.33	100
Risk factor: intergroup anxiety	0	nV	nV
Risk factor: in-group identification	0	40	100
Risk factor: perceived threat	0	nV	nV
Risk factor: perceived injustice	25	25	100
Risk factor: mental health issues	nV	nV	nV
Risk factor: harmful social environment	28.57	44.44	100
Experiences of acceptance, inclusion	33.33	33.33	100
Positive developments of the social environment	50	47.83	95.65

Note. The table only presents a subset of the variables measured.

“nV” stands for “no value”—this code did not appear anywhere and was correctly not coded by either of the coders.

^a Basis of calculation: number of agreements (each agreement is coded as 1, each disagreement as 0) divided by total number of codes (sum total of codes used by both coders is used).

^b After the first round of coding, coder B received additional explanations of a number of codes (specifically: “Discrimination,” “Meeting a radical person,” “Joining a radical group,” and “Disillusionment”) which they had not understood completely or correctly. Coder B then had the opportunity to reevaluate their coding before discussion of the interview with coder A. The first two columns represent those two coding rounds. The column “Post Overlap,” by contrast, presents results after the complete and final discussion of all codes.

were prompted with an open-ended question to state which factors, in their opinion, posed a risk for radicalization, facilitated deradicalization, and which events they had observed to trigger concrete steps in the (de)radicalization process. Once they had finished talking—uninterrupted by the interviewer except for clarifications—the interviewer specifically inquired about whichever factors from the theoretical framework they had not mentioned yet.

Analysis

The interviews were thereafter transcribed using the software f4transkript according to standard transcription rules as outlined by Fuß and Karbach (2014) and checked against the original sound recordings for accuracy. The method of analysis and coding procedure were analogous to Study 1.

The order in which the interviews were coded was determined by a random number generator. As there were seven interviews (9 hr 36 min total), the interview randomly chosen for double coding (S2P4, 1 hr 33 min) made up 16% of the data set. Table 4 shows the resulting overlap in percent before and after discussion. Of the resolved conflicts, 58% were resolved in favor of coder A, 32% in

favor of coder B, and 10% were resolved otherwise (Supplement S2). The substantial rise in agreement after discussion paralleled that in Study 1; however, agreement remained low for *joining a radical group* and *meeting a radical person*. Although clearly distinct in theory, the lines blur in practice. Frequently, both coders had marked the same sections of the text with either one of these codes because in the interviewee’s account, it was not clear whether the person had joined a coherent group or was just loosely meeting with some people.

In addition to the rise in intercode agreement post discussion in both studies, prediscussion agreement was also higher in Study 2 for half of the codes (a total of 18 codes were used in both studies and thus allowed for this comparison), indicating learning effects during coding. Finally, the interviewees from Study 2 were provided with their transcripts and a draft of the analyses and given an opportunity to respond and request corrections (which none of them did).

For Study 2, transcripts are available on motivated request to the first author; for Study 1, contact to the Research Center which provided us with the data will be gladly established upon request.

Table 3*Overview of Participants in Study 2, Including Information on Them, Their Programs and Clients*

Code	Information on participant and program					Information on clients		
	Professional background	Ideology	Time at current job	Time in professional field ^a	Duration interview	Nr. clients simultaneously	% Voluntarily ^b	Avg. duration of treatment
S2P1/CH2707	Social worker/pedagogue	I	2 years	10 years	01:09:03	14	50	2–5 years
S2P2/BR1311	Police/homeland security agent	R/L	3 years	20 years	01:01:09	9	100	3–5 years
S2P3/MK2105	Social pedagogue	R ^c	2 years	28 years	01:14:14	13	> 50	5 years
S2P4/BJ1903	Police/homeland security agent	I	2.5 years	Unknown	01:33:40	12	Unknown	Unknown
S2P5 ^d /RR2608	Social psychologist	R	10 months	10 months	01:02:51	Unknown	< 50	Unknown
S2P6/MK1428	Homeland security agent	R/L	14.5 years	Unknown	01:32:22	14	< 50	Unknown
S2P7/EJ1611	Police/homeland security agent	R	17.5 years	Unknown	02:02:56	5 (“a handful”)	100	3–5 years

Note. I = Islamism; R = Right-Wing Extremism; L = Left-Wing Extremism.

^a Work in roughly the same sector—for example, S2P2 has been with his current deradicalization program for 3 years but has been a member of the police force for 20 years.

^b To some extent, it has been clarified unanimously by all of the interviewees, all participants of the programs have to be there “voluntarily” because their approaches do not include the option of working with people against their will. The question of percentage of voluntary participants here refers to how many of the participants get in touch with the program themselves, as opposed to being sent there by a judge, a parole officer, etc.

^c This person was not only responsible for right-wing extremism but also for motorcycle gangs, allowing her to draw comparisons between radical and nonradical group-based crime.

^d This person was the only one to work in a non-state-run program.

Results

Based on the frequency of and emphasis on different root factors, we constructed several themes. By constructed, we mean that we collated thematically related codes into larger constructs according to what made sense within the framework of existing psychological radicalization and deradicalization literature. We conclude that these themes are central to both radicalization and deradicalization in the views of both deradicalized individuals and experts. Therefore, we present a combined analysis of both studies. Table 5 shows the constructed themes.

Themes in Radicalization

Compensating for Domestic/Social Problems

It was described as a common occurrence that individuals become vulnerable due to severe domestic problems and problems in their social network—for example, interview S2P2, line 122: “The risk factors I know of are almost exclusively social environment and family.” All experts talked about either a peer group encouraging harmful behavior and/or leading the individual into radicalization, or bad relationships with the parents. Being part of a radical group is one way to compensate for such issues, and radical groups—in particular, right-wing extremist groups—take advantage of this. For example, one expert describes his clients’ strong desire for community and group affiliation:

Conditions [at home] are often precarious, (...) and the children who are socialized like this don’t develop high self-esteem, and then they search for people they can hold on to, for group membership—they are accepted in those groups, they are treated well, and in the end that is what causes this strong connection to the right-wing scene. (S2P2, line 202)

Another expert emphasized the effects of lacking social support at home:

This has really been, throughout these seventeen and a half years, the central, recurrent theme in all deradicalized clients’ biographies. It is very noticeable that, in most cases, a father figure was nonexistent, and therefore they sought this father figure among older [group members], older like-minded people, just anyone who would take their hand and give them a feeling of security and [promise] “I’ll give your life direction.” That is the mark of all deradicalized biographies. (S2P7, line 187)

The expert placed strong emphasis on the role of lacking attachment figures in prompting radicalization; it was very salient to him that many of his clients sought to compensate a lack of close social bonds in their family elsewhere and radical groups took advantage of this desire by offering a group to bond with (in line with other findings on the role of domestic problems, Sikkens et al., 2017).

Other domestic problems described by deradicalized interviewees were mental health and drug abuse issues in family members, poverty, intrafamilial conflicts and custody battles. For example, male 21-year-old S1P4 (line 138) whose parents had been placed in investigative custody for allegedly smuggling drugs, stated the following: “Then they were in custody and from that moment on [...] I began to devote myself to Islam. I was 17, and from that day on, I changed completely.”

Both samples placed emphasis on the cutting of social bonds as a factor furthering radicalization where the process had already begun and hindering eventual disengagement and social reintegration. A participant in Study 1 had witnessed the progressive radicalization of an acquaintance who had eventually departed to join the Islamic State (IS) or Daesh fighters in Syria: “(...) when he began to

Table 4

Measures of Intercode Agreement per Code, Calculated Before and After Discussion

Code	Pre	Post
	Overlap % ^a	Overlap %
Need to belong	35.71	86.67
Personal uncertainty	50	100
Need for status	40	80
Trigger: confrontations with death	100	100
Trigger: domestic problems	55.56	100
Trigger: loss of academic/professional perspectives	40	100
Trigger: experiences of discrimination/exclusion	50	100
Trigger: negative experiences with authorities	42.86	100
Trigger: detention	66.67	100
Trigger: cutting social bonds	100	100
Trigger: meeting a radical person	20	20
Trigger: joining a radical group	37.50	62.50
Trigger: marriage	33.33	100
Trigger: participating in training camps/courses	nV	nV
Trigger: confrontations with propaganda	80	100
Trigger: calls for action	nV	nV
Trigger: perceived attack on in-group	100	100
Trigger: policies directed at in-group or radicalization	nV	nV
Disillusionment	75	100
Experiences of acceptance, inclusion	0	100
Risk factor: perceived deprivation	nV	nV
Risk factor: intergroup anxiety	0	nV
Risk factor: in-group identification	80	100
Risk factor: perceived threat	0	50
Risk factor: perceived injustice	50	100
Risk factor: mental health issues	40	100
Risk factor: harmful social environment	20	100
Positive developments of the social environment	12.50	100

Note. The table only presents a subset of the variables measured, selected according to relevance to the topic of this article.

“nV” stands for “no value”—this code did not appear anywhere and was correctly not coded by either of the coders.

^a Basis of calculation: number of agreements (each agreement is coded as 1, each disagreement as 0) divided by total number of codes (sum total of codes used by both coders is used).

become ... I don't want to say extreme, but when he began to practice [his religion] more strictly, he ... somehow, he became very withdrawn into himself (...)" (24-year-old Muslim convert S1P5, line 4282). Experts in Study 2 stressed that membership in a radical group typically entailed the gradual loss of all outside contacts, which resulted in severe loneliness after disengagement (S2P7, line 70); leaving a radical group could mean leaving one's entire friend and support network, which is a fundamental obstacle.

Experiencing and Compensating for Exclusion

The need for social belonging was named as the central factor by different experts in Study 2 (particularly so for right-wing extremists). When this need is strong and a person is confronted with experiences of exclusion, be it on a personal or societal level, radical groups may offer an alternative way of fulfilling this need by joining them. The deradicalized interviewees reported experiences of discrimination and exclusion in a variety of contexts (school, family, close social circle, media, and other official contexts). For example,

female 21-year-old S1P1's vulnerability was heightened by constant and severe experiences of bullying during her school years.

Other interviewees described the effects of negative experiences with the authorities, although these descriptions were ambiguous: Although the experts tended to view such experiences, for example confrontations with the police, as a deterrent from further engagement with radical ideologies, the deradicalized interviewees' descriptions of negative experiences with authorities portrayed them as trigger factors. For example, 21-year-old Muslim convert S1P2 recalled her parents' custody battle and specifically how she was treated at court as a traumatic childhood event. Government officials and representatives of the judicial system are representatives of the majority society, its rules and values. Therefore, although bullying in school or domestic problems can make someone feel a lack of connection to their immediate social surroundings, negative experiences with such authorities can prompt a feeling of social alienation (cf., Bélanger et al., 2019) and disconnectedness from said society.

In relation to this, joining a radical group was cited as an important factor progressing radicalization or affirming one's commitment to an explored radical ideology in both studies. Our participants in Study 1 placed particular emphasis on social interaction in online spaces—several interviewees stressed the role of WhatsApp groups.

Emphasis was placed in both studies on perceived attacks on the in-group and governmental policies directed at the in-group or at radicalization; both codes frequently overlapped with the codes discrimination, negative experiences with the authorities and with each other. Examples include a 33-year-old Muslim convert (S1P3) presenting the case of her local government creating a comic intended to warn against Islamist radicalization and distributing it in schools; a comic that, to her, stigmatized and demonized all Muslims:

It was meant to warn children against the evil Islam because this comic portrayed all fully veiled women as terrorists' wives or something and that's just not okay. Or all bearded men are sinister looking terrorists. That's not information or spreading awareness, that's pure propaganda. (S1P3, line 3677)

Although this government measure was well intentioned, this interviewee clearly perceived it as a strong in-group attack and, as a result, her relationship with German society was negatively affected. Another example from the same interview was the case of a German law prohibiting women in face veils from driving cars.

There may not be a need to distinguish different levels and sources of discriminatory experiences in this context because the large overlap of codes pertaining to this topic suggests that whether discrimination occurs in the shape of one person harassing someone with racist slurs, or in the form of a government policy that systematically disadvantages an entire group and is perceived as an attack on the in-group, it tends to make the person feel pushed out of majority society, which in turn causes them to seek group affiliation elsewhere.

Constructing Facets of Social Identity

For some people, group membership does not only offer companionship but also an opportunity for self-definition. When struggling with identity issues, radical groups can be a key element in social identity construction. An example is provided by this expert

Table 5*Summary and Definitions of Constructed Themes***Themes in radicalization**

Compensating for domestic/social problems	Radical groups can offer stability and social structures to compensate for problems in the home life—for example, crime-related instability, economic distress, absence of a stable parental relationship.
Experiencing and compensating for exclusion	Radical groups can present an opportunity for strong and stable social affiliation, which can be attractive to people experiencing continuous exclusion, discrimination and loneliness.
Constructing facets of social identity	For those who are personally insecure and looking for an external criterion to define their identity, the affiliation with a radical group can be key in social identity construction; in other words, joining a radical group enables them to define who they are as whom they are surrounded by.
Improving personal status	When someone perceives their status as low, for example, due to lack of professional success, academic perspectives, or precarious socioeconomic status, radical groups can offer ways to enhance their status. Taking on tasks in the group and participating in the fight for a cause can lift a person's status both in their own and others' eyes.
Seeking out a sense of purpose, existential meaning	In the search for a purpose in life, radical groups can offer clear and simple answers; the ideology they pursue typically presents a goal of fundamental importance and clear implications regarding how to live in accordance with that goal.

Themes in deradicalization

Improving social surroundings	Cutting off destabilizing relations/relations with people within a radical group or forming new, stable, and supportive social relations outside the radicalized scene is helpful in deradicalization and sustainable social reintegration.
Experiencing acceptance and inclusion	Experiences that make a person feel included in the majority society and allow them to identify with it can decrease their susceptibility to radical groups; these groups often argue that they offer community to people rejected by the majority society.
Improving personal status and self-image	Experiences which improve perceived status, such as academic success, finding employment, etc., can decrease the motivation to compensate for low status by joining a radical group.
Finding structure and stability	Finding other elements which can provide structure and stability in day-to-day life, such as stable employment, can end susceptibility to a radical group which offers clear and simple structures.
Disillusionment and Maturing Out	After some time in a radical group, some people find that it no longer satisfies the needs that originally drew them into it, either because their needs change and they simply mature out or because they find the group and its ideology are not what they were supposed to be.

who describes the struggle of intersecting identities and trying to resolve this conflict by strengthening one's bond with one particular group identity:

The identity type is certainly the largest portion. I think that's psychologically also due to adolescence: Who am I, where am I from? For example, I have a Turkish background, I'm perceived as a Turkish person, but maybe I don't even speak the Turkish language and I try to define myself via religion, to find my identity (...). (S2P1, line 54)

We also found several segments coded as personal uncertainty (the second most frequently described motive) to be connected with questions of identity construction and the resolution of these questions provided by group affiliation; illustrated, for example, by this right-wing extremism expert's statement about gender and identity:

There's something very martial about the right-wing extremist scene, especially for the men. There's a huge obsession with masculinity. Everyone needs to have big [i.e., muscular] arms and so on. And for women, too, there are clear roles. And that offers a lot of security. (S2P3, line 92)

The expert described how strict and often traditional gender roles can form a potent mould to shape one's identity, which radical groups actively utilize to appeal to insecure potential new members. The descriptor "martial" links masculinity to violence, which is in line with previous statements made by another right-wing extremism expert about how much physical brutality occurs inside the right-wing extremist scene itself:

We have a young woman who said as follows: "I have never encountered worse violence than internally, among members of the scene. Conflicts with political opponents, with foreigners, with left-wing extremists, or

with the police have never been brutal to the extent that I saw when two comrades were beating each other." (S2P7, line 128)

Violence has long taken a central role in the conceptualization of traditional masculinity (see, e.g., Morgan, 1987), which explains why the expert links "martial" and "masculine" with such ease in his observations. In a different strand of literature, it has also been suggested to conceptualize radicalization toward political violence as a process of martialization (Haggerty & Bucerius, 2018).

In-group identification, building or affirming one's identity through membership of a particular social group, is a root factor that radical propaganda often seeks to appeal to, as described by an interviewee from Study 1:

[They] say 'Look, you're only being bullied here, just go to a Muslim country. Everything is great there and your children won't learn any infidel things from infidels, they'll learn Islam instead' and so on (a 21-year-old German female with Turkish background: S1P1, line 1842).

However, this can be a potent factor even without specifically targeted propaganda. For example, male interviewee S1P4, who grew up in a Muslim, German-Algerian household, describes his strong fascination with the status of being Muslim as a child despite his lack of concrete knowledge (line 67):

I always wanted to be Muslim. I don't know why, but when I was little, when I wasn't thinking about it as much yet, it wasn't a religion to me, it was more like ... being Muslim was like being Spiderman or something, like a hero.

He highlighted that the connection of group affiliation to social status was apparent to him, despite not really understanding what the

group affiliation entailed. Affirming one's group identity often entails performing the identity in certain ritual ways, for example, by following dress codes or other behavioral rules set by a group; as a 33-year-old convert (S1P3, line 1395) put it as follows: "It's not like I have a lot of background knowledge about it. I just told myself, I'm a Muslim now, I want to wear a headscarf, because that's part of it." This description points to ritual performances for self-affirmation of her personal chosen faith. This indicates that there is overlap between in-group identification and the theme of seeking structure (to be discussed below).

Among the experts, those working with former Islamist and PKK group members placed considerably more emphasis on in-group identification than the experts on right-wing extremism. This is interesting considering in-group identification has been linked to both right-wing extremism and Islamist extremism in existing literature (Doosje et al., 2012, 2013).

Improving Personal Status

When someone perceives their status as low, for example, due to lack of professional success, academic perspectives, or due to precarious socioeconomic status, radical groups can offer ways to enhance their status. Interviewees described a desire to feel important or powerful and how radical groups can offer to fulfill this desire—for example, Muslim male interviewee S1P4 described the radical group he later became affiliated with as follows: "For me they were, whenever I saw them on the internet, they were stars, like celebrities. Then, I really saw them in [city] and told them 'I want to join you.'"

As with previous motives, we observed agreement between people with own radicalization experiences and experts:

(...) many say that in the beginning, they were just tagging along, and then while the first crimes are being committed, one just gets carried away, and you feel very powerful, you think "wow, awesome, I'm a total hero now." (S2P3, line 98)

This expert emphasized the strengthening of group ties as well as the boost in personal confidence and self-image which are intertwined with participating in delinquency together. Another expert added the following:

What I notice over and over again, and that's not necessarily independent from a quest for identity, is a quest for power. (...) This quest for power in the sense of "I want to be looked up to and to be the one in charge." That is, I think, a very important motivator—not for all of our clients, but for some. Especially those with narcissistic personality structures. (S2P1, line 54)

Achieving a position of power over others and validating one's identity through others' approval are often, as this expert described, two sides of the same medal.

Correspondingly, the loss and lack of *academic or professional perspectives* was one of the central trigger factors in both studies. Problems with school, higher education, or finding a job were mainly reported as factors in early phases of radicalization, heightening vulnerability or encouraging exploration—for example,

I moved from there directly into my first own apartment in [city], and there I tried to find an apprenticeship position, which I didn't get back then. I wanted to train to be a doctor's assistant. Around that time, I met my first husband, got married, had children, goodbye apprenticeship. (female 33-year-old S1P3, line 637)

This interviewee, who eventually converted to Islam, described her difficulties on the labor market prior to and around the time of her first forays into religiosity. This relates to social identity construction in that academic and professional success is directly linked to societal standing. When these perspectives are missing, a person's perceived social status as well as their self-worth can suffer, both of which they may seek to compensate through other means (which participation in a radical group can offer).

Seeking out a Sense of Purpose, Existential Meaning

When people search for a purpose in life, radical groups can offer clear and simple answers; the ideology they pursue typically presents a goal of fundamental importance and clear implications regarding how to live in accordance with that goal.

In line with this, some interviewees expressed a longing for clear and strict rules in their life, for example, S1P3, a Muslim convert (line 1181): "In Islam, everything makes sense. Islam has an explanation for everything. (...) There's nothing, no questions, no essential questions are left unanswered. Everything is explained. And no other religion offers that."

This description showcases a strong desire for absolute answers and total clarity, containing elements of both the need for existential meaning and for uncertainty avoidance.

Need for justice was rarely mentioned in both our studies. This might reflect that this motive is generally minor compared to the previously described ones, or that people who are strongly motivated by a need for justice are less likely to deradicalize than those with other central motives. Either way, the need for justice aligns with the purpose-seeking theme, not least because of a substantial line of previous literature highlighting the importance of need for justice as a predictor of radicalization (e.g., Doosje et al., 2013; King & Taylor, 2011; Mühlhausen, 2017; van den Bos, 2018, 2020). With respect to the quest for structure and purpose, striving to obtain justice for a group can clear up several big uncertainties about life.

In relation to this, perceived injustice and any experiences of discrimination and deprivation which may produce this feeling pertain to this theme. In our samples, interviewees rarely stated a generalized, persistent perception of injustice in their current society—in fact, in half of the instances of this code, respondents explicitly stated that they experienced *no* injustice, as did this Muslim female interviewee:

[There are] these radical youths who think "everyone is against us." No, in Germany you have so many possibilities, more than you have in some Muslim countries. In Tunisia, there used to be a headscarf prohibition. In Turkey, you were not allowed to study at the university with your headscarf, in Turkey! Sometimes, we have so many rights in Germany, so many opportunities, so much support, and the German state spends so much money on projects and you really just have to make use of them. (S1P1, line 4134)

Alongside describing that she did not feel unjustly treated in Germany, she also emphasized that the international comparisons frequently employed by radical groups' advertisements are often false. The experts placed more emphasis on this factor and drew connections to realistic or symbolic threat perceptions, as illustrated by this expert's statement:

What I hear, what I get from the right-wing extremists is xenophobia, a group-based hatred against people. What I hear about are the Maghreb

states, the refugees from Afghanistan, from Syria, those are who the right-wing extremists are focused on, “they rape German women” and all that nonsense, of course. “They get money from the state they don’t deserve, and my grandmother doesn’t get that,” even though—those are the classic stereotypes being perpetuated, and on the internet, they spread nonstop. (S2P6, line164)

This illustrates the emphasis on *perception*: When it comes to threat, it can be just as potent a factor in radicalization when it is merely imagined as when it is real.

Themes in Deradicalization

Improving Social Surroundings

Cutting off destabilizing relations or relations within a radical group or forming new, stable and supportive social relations outside the radicalized scene is helpful in deradicalization. Several right-wing extremism experts stated that most of their clients were motivated by a need to belong and that they had many clients choosing to disengage after finding a stable romantic partner from outside the group, thus fulfilling their need to belong (e.g., S2P2, line 58; S2P7, line 120; S2P5, line 125). In contrast, radical-Islamism-expert S2P1 (line 266) observed, “(...) wanting to deradicalize because of true love, that hardly ever happens. Reasons are usually more egotistical.”

Having a harmful social environment and cutting social bonds outside the group during the radicalization process cause the person to be bound more tightly to the group (now their only in-group) and cause problems during disengagement due to loneliness or continuously being drawn back in. Hence, exit programs focus on changing the person’s social environment, for example, by tying their help to the condition of ending certain contacts or helping the person move somewhere new and start over (e.g., S2P1, line 162). In relation to this, experiences with discrimination and exclusion continue to be a problem during social reintegration—be it due to prejudice against the person’s criminal convictions or due to their appearance giving away their past (e.g., S2P7, line 72).

In parallel to the theme of compensating for domestic problems in radicalization, the improvement of relationships with attachment figures can be central in deradicalization. A third of all descriptions of positive developments in the social environment given in Study 1 alone concerned the parents, indicating the key role attachment figures play in shaping vulnerability to radical ideologies. This was matched by a strong emphasis on attachment figures by right-wing extremism expert S2P7 (line 183) who perceived father figures as a pivotal factor in most of his cases.

Experiencing Acceptance and Inclusion

Radical groups often argue that they offer community to people rejected by the majority society. Thus, when a person experiences acceptance and inclusion outside the radical group, the group can lose its appeal, making it easier for the person to disengage. An example of such positive experiences was given by a female Muslim convert who wears a full-face veil (niqab):

It has to be said, most people in Germany are completely okay. Most people really have no problem with it. (...) Once I was filming in [city] with [German TV station] and they really wanted to hear all the insults from the people there. We had to walk through [city] for hours and talk

to people until we heard some negative opinions because most people said “I have no problem with it” [the interviewee’s face veil]. (S1P3, line 2345)

This interviewee’s experiences of acceptance of her choice to wear the religious face veil positively shaped her relationship with and perception of German society. Of course, it is noteworthy that this person grew up in Germany and was socialized as a member of the majority religious community (Christian) and only converted to Islam in her early adulthood. Therefore, the basis for her relationship to German majority society and how “being German” fits into her identity is different from that of someone who immigrated to Germany and has a longer history of being “othered” by majority members. Still, from her statement that “they really wanted to hear all the insults,” it is apparent that the filming crew and possibly she herself went into the project expecting a negative intergroup experience and strong exclusion. To have such a clear expectation decisively disproven and be met with overwhelming acceptance instead was certainly beneficial for her.

Improving Personal Status and Self-Image

There was a particular focus on the experts’ part on generating experiences of professional, academic, or similar success—for example, finding a job, pursuing further education, or even volunteering somewhere—which can boost their clients’ self-image and thus make them less dependent on the false sense of status that membership in a radical group can give them. Notably, this corresponded to a report from the one male interviewee in Study 1 who recounted leaving Salafist circles after finding a job:

He is my boss today. He helped me so much. But, the only condition he had was, he told me I could no longer be in contact with Pierre Vogel and so on, because he didn’t want that at all. On the one hand, I understood, on the other hand, I didn’t. But I did it, even though it was hard, because like I said, they had helped me before. I was always grateful to them and always will be. (S1P4, line 431)

By “they had helped me before,” he was referring to an earlier part of the interview in which he described that he became responsible for his younger siblings at a young age after his parents were arrested for drug-related offences. He described rejecting help from the Social Services and Child Protective Services out of pride and, as a consequence, coming under great financial strain, at which point the Salafist group around Pierre Vogel effectively supported him by providing groceries. However, his new-found employment resolved these problems and enabled him to regain a better position in life. He complied with his employer’s wish to break off these contacts out of gratitude. At the same time, being able to earn money and provide for his family by his own efforts improved his social status, which had previously been lowered by being perceived as dependent on help.

Finding Structure and Stability

Providing structure and stability in day-to-day life can end susceptibility to radical groups, which often offer clear and simple structures to those who are lost and disoriented. One right-wing extremism expert described how he utilizes means of providing stability in his work to support those particularly seeking out structure: “With a pure follower-type, it’s very important to give

him stability, and to replace the group by that—that works very well” (Interview S2P2, line 86). Notably, although some experts spoke about providing structure, as did this interviewee, they did not describe providing a sense of existential meaning in the same way. This might be because it is much more difficult to give someone meaning, or because what ultimately will create meaning in a person’s life is something deeply personal that has to be discovered of one’s own accord.

Disillusionment and Maturing Out

Among those who do disengage from radical groups, disillusionment is a very common experience. While any number of factors may culminate, and while it may happen gradually or suddenly, eventually they result in the realization that the extremist ideas or groups the person has been engaging with are not serving the expected purpose, that is, do not fulfill the needs intended to fulfill (anymore), or they are violating other pivotal needs. This can occur as a simple result of needs and priorities changing as a person grows up in which case it is referred to as “maturing out” (S2P6, line 91). The average age of disengagement was placed around the mid to late 20s by our experts (S2P7, line 120; S2P2, line 102; *ibid.*, line 110) because around this time, many people notice that the path they are following is going nowhere (S2P2, line 102). Once this time window closes, one expert deems deradicalization unlikely: “Our experience is this: if someone remains in the right-wing extremist scene until the age of 30, and they shape their life around this, it is unlikely that they will leave the scene after that” (S2P2, line 118).

It can also be triggered by concrete, external events. For example, one interviewee (S1P3) enjoyed the online sermons on Pierre Vogel’s YouTube channel, but was so disappointed in the way his followers behaved that she distanced herself from the group. It can also occur more internally: Another female interviewee who converted to Islam (S1P2) described disillusionment with the state of her own knowledge from which a connection can be drawn to recent research conceptualizing monopoly on truth as a key cognitive component of radicalization (Dono et al., 2018). That is, radical groups commonly market their views as irrefutable truths which are entirely resilient against criticism or outside arguments—a belief which people adapt to varying degrees as they radicalize. Thus, the realization that her own knowledge about Islam was far from as complete and correct as she had assumed induced disillusionment in this interviewee. Another interesting factor which can induce disillusionment cited by one of the experts was intergroup contact, “For example, maybe I think ‘all foreigners suck,’ but my neighbor Mohammed, he’s okay—these contradictions pile up” (S2P3, line 50). This ties in with the long line of research on intergroup contact theory which has put forward substantial evidence that positive quality contact with out-group members diminishes intergroup bias and prejudice (Pettigrew & Tropp, 2006).

When such a moment of disillusionment occurs, it allows the person to gain distance from their own radicalization process and look at it from a new perspective:

It’s part of the process, if it happens eventually that you feel disappointed in your brothers, that you feel betrayed, that you notice “okay, this all hasn’t been quite what it was promised to be. No loyalty, no sticking together.” In other words, if you’re disappointed—disillusioned—ultimately, that can make you question yourself and your behavior. And as you’re questioning everything, you realize “what’s

this group ever actually done for me, and what negative things has it brought me?” (S2P4, line 120)

Deradicalization counselors will attempt to induce disillusionment by utilizing their clients’ personal life goals (S2P5, line 121).

Discussion

We conducted a small-scale, two-part interview study, taking advantage of different data sources, to explore which root factors are common to both radicalization and deradicalization and how they manifest. In Study 1, we analyzed primary-source data from participants who had disengaged in the early stages of radicalization, while in Study 2, we collected secondary-source data from professionals in the field of deradicalization and disengagement support.

We employed an extensive set of theory-based and inductively created codes, some of which we then collated into overarching themes. We identified five meaningful themes connected to radicalization: compensating for domestic and social problems, experiencing and compensating for exclusion, constructing facets of social identity, improving personal status, and seeking out purpose and existential meaning. We also identified five meaningful themes connected to deradicalization: improving social surroundings, experiencing acceptance and inclusion, improving personal status and self-image, finding structure and stability, and disillusionment and maturing out.

Limitations

The study’s small and specific sample and generally explorative direction naturally prohibit generalizations drawn from our results. Locally, our results cannot be separated from the context of Germany (different regions of Germany were represented in the sample). Typologically, all tentative conclusions are limited to individuals who eventually do disengage/deradicalize. Different patterns of factors may be at work during radicalization for people who remain radicalized than for those who can eventually disengage. Our sample in Study 1 was also very particular because it was mostly female (four out of five interviewees), which is very unusual given that radicalization and ideologically motivated crime are a predominantly male issue (see, e.g., the German annual prosecution statistics (Statistisches Bundesamt, 2019, p. 28),¹ and because it only included religious (Islamist) extremism. In Study 2, our sample was skewed by self-selection bias: The experts were likely the most open and self-reflective members in their organizations, while their organizations, in turn, were likely more transparent and equipped with better resources than those who declined (e.g., for lack of time or hesitation to report seemingly insufficient results).

There are other limitations to both data sets which offset each other to some extent: In Study 1, primary-source data from the population of interest were collected, which means direct access to relevant information. However, there are cognitive biases inherent in retrospective data, such as omitting, adjusting, and overstating or

¹ Articles 129a to 130 Par. 4 of the German Penal Code are various ideologically motivated crimes; note that in the Criminal Prosecution Statistics referenced here, the rows marked with *i* stand for the total number of crimes and the rows marked with *m* for the number of crimes committed by males. The statistics show that all of these ideologically motivated crimes were committed by mostly men.

understating some facts. A narrative changes over time, whether it is being told to others or to oneself, and this is difficult to reflect for interviewees. In contrast, the expert interviews in Study 2 provided less personal accounts which were perhaps less affected by repeated reflection and narrative adaptations, but at the cost of having only secondary-source data which may lack insight into certain aspects. Moreover, the experts' personal biases, shaped by their identities, beliefs, and life experiences, are inextricably linked with their perceptions of their clients, which shapes the data collected from them.

Other limitations concern the methods of data collection and interpretation: First, the narrative interviews in Study 1 provided to us for secondary analysis by another (sociological) research team were not specifically targeted at our research questions and produced a different kind of data than our own Study 2. Second, our measure of interrater reliability was limited to an overlap percentage (for reasons explained above), which is not a statistically ideal measure for interrater reliability.

Parallels in Radicalization and Deradicalization: Themes

Combining various root factors, we constructed five themes pertaining to radicalization and deradicalization, respectively, which were not identical, but parallel in several ways. Compensating for domestic and social problems during radicalization is paralleled by improving social surroundings during deradicalization, experiences of exclusion obviously parallel experiences of inclusion, constructing facets of social identity and improving personal status are paralleled by improving personal status and self-image, and finally, seeking out a sense of purpose and existential meaning is, to some degree, paralleled by finding structure and stability. This parallel, however, is not perfect; from the accounts we received from our interviewees, it seems that definitively finding existential meaning is not necessary to begin disengagement and deradicalization. This search is a gradual process and can take place in parallel to and after disengagement, provided the conditions are met to make this possible. Finally, disillusionment and maturing out was a pivotal deradicalization theme.

These results are overall in line with radicalization literature highlighting the central role of uncertainty and the quest for significance and definition as a motivator (e.g., Dugas & Kruglanski, 2014; van den Bos, 2018), as well as with early findings on the central role of the need to belong as a general psychological motive (e.g., Baumeister et al., 2007; Baumeister & Leary, 1995). The combination of need to belong and personal uncertainty in the "constructing facets of social identity" them is also in line with Social Identity Theory (cf., Tajfel & Turner, 1979, 1986).

This pattern of results is in line with another recent article which similarly combined data on the early and more advanced stages of radicalization: Pfundmair et al. (2019) identified as crucial factors in the process of radicalization the personal needs for transcendence, significance, and control, which correspond to our themes of "seeking out a sense of purpose, existential meaning" and "improving personal status," as well as various group cohesion processes which correspond to our themes of "compensating for exclusion" and "constructing facets of social identity." These parallels are notable as they indicate the robustness of our findings despite the clear limitations of our samples.

Parallels in Data Sources: Primary and Secondary Source

Most root factors proved important in both studies and the construction of the themes from them was equally plausible, demonstrating substantial overlap between primary and secondary-source data. Nonetheless, we observed differences concerning individual factors: Experts gave less space to the need for existential meaning in their narratives than did the formers in Study 2. For other factors, the groups disagreed on the direction of a factor's effect (e.g., the experts were much more convinced of the positive effects of confrontations with public authorities and imprisonment than the formers). We suspect that such differences in focus are, on the part of the formers, due to social desirability and stigma hindering them from admitting to certain things (need for status and mental health issues) and, on the part of the experts, due to an inclination to focus on factors they can practically target with their exit programs (professional perspectives, exposure to propaganda and radical people, exposure to a harmful social environment, and negative experiences with authorities) and due to a lack of access to more abstract, private factors (in-group identification).

Differences may also be due to Study 1 focusing on the early stages of the radicalization process of the formers, while the experts in Study 2 had more insight into the later stages. For example, negative experiences with authorities were ascribed a clearly negative influence by formers, often overlapping with experiences of discrimination and producing negative feelings toward the state and society. This can fuel feelings of relative deprivation, a factor considered key in the early phases of radicalization (e.g., Moghaddam, 2005). By contrast, the experts ascribed a positive influence to negative experiences with authorities, perceiving them as one of the main triggers of people's motivation to disengage.

The Specifics of Female Religious Radicalization and Early Disengagement

The sample of Study 1 was particular, in that four out of five interviewees were female and all of them had engaged with religious extremism before disengaging early on. A tentative comparison of religious and political types of radicalization leads us to suggest that the unique individual motivational configuration is key. Which motives are pivotal to a person determine to which radical group or ideology they are more likely to feel attracted, but they also determine the influence of risk, trigger, and protective factors by making certain factors more salient than others. The experts we interviewed overall agreed that right-wing extremists are most frequently motivated by a need to belong or a need for status rather than an actual strong belief in their ideology; they agreed that in search of fulfillment of these needs, the radical group is basically interchangeable. They also described this group as frequently coming from broken families and suffering from disadvantages in terms of intelligence and education, resulting in low self-esteem which they seek to compensate by increasing their status elsewhere. Interestingly, right-wing extremists were described as particularly likely to have their deradicalization triggered by a new romantic partner, which, as a form of positive development in the social environment, also speaks to their need to belong.

By contrast, our explorers of religious extremism in Study 1 were more focused on the search for structure and for purpose. The one male interviewee also described his affiliation with a Salafist radical group as a strong boost for his social status—the group members were “like celebrities” to him and he thought of the Muslim identity as being like a superhero since his early childhood. Therefore, aligning himself with the radical group made him feel stronger, more powerful, and more important. The female interviewees were overall more focused on clear answers, structure, and in a way peace; one interviewee explained that Islam held an answer for everything and no question in life was left open, something which no other religion could offer. Fully subscribing to such a system of rules and axioms can be a great source of peace and comfort, both on a mundane and an existential level.

They also differed in their descriptions of disengagement and deradicalization. The male explorer of religious extremism disengaged after his life conditions changed, relieving him from economic pressure (he found a new job he was very happy with) and enabling him to improve his social status and self-image (he could provide for his family and no longer felt like he was dependent on help). This is also in line with many of the experts’ descriptions of what they focus on when supporting disengagement from various groups: They change their circumstances to make them a part of society, and the change of ideas follows. In contrast, when the female explorers of religious extremism explained what made them turn away from the radical community they had been interested in, their reasons were more cognitive: They described disillusionment with the community they had joined—being put off by other members’ behavior or starting to doubt ideological postulates—or, in one case, disillusionment with the state of their own knowledge. Radical groups typically operate on the assumption that they hold a monopoly on truth, and they give members a sense of power and security by convincing them that they will share this knowledge so that no questions will be left unanswered. This interviewee, however, described that as the group was trying to convince her of supposedly clear and unambiguous postulates of Islam, she realized that she knew far less than she had thought and that she had underestimated the complexities of religion. This personal disillusionment caused her to step away from providers of clear and simple answers and to spend more time studying and questioning religious principles.

Importantly in the German context, there are differences in the stigmatization experienced after disengagement. Former left-wing extremists face few obstacles and social resentment when trying to return into the centre of society, while former right-wing extremists are considerably more stigmatized, as one of the experts explained (S2P7, line 132). Another expert explained that former Islamist extremists face equally grave stigmatization, in particular if they have a criminal record for terrorist acts (S2P1, line 34). These differences in stigma are an important factor in the deradicalization process and must be addressed by exit programs. It is helpful to distinguish, as suggested by Demant et al. (2008), between normative factors (the ideological reappraisal that takes place during deradicalization), and affective and continuance factors (the social stabilization and reintegration that is required to maintain the deradicalized and disengaged state). Both Demant et al. and interviewee S2P3 in our study warn that the affective

component seems to frequently be neglected in deradicalization programs.

Conclusion

We had a small and very particular, but also particularly interesting data set at our disposition. Female explorers of (religious) radicalization are not frequently the focus of empirical works (see, e.g., Hoyle et al., 2015); violent extremism is predominantly a male issue, and because the focus in research is often on violent extremism, female interviewees are difficult to find. Our sample is not only interesting from this gender perspective but also in terms of timing: Although the fascination with radicalization in its ultimate, escalated stage, violent extremism, is understandable, it is the study of those who deradicalize or disengage early on that is more likely to give us ideas about how deradicalization takes place in most cases, how it can be supported, and how radicalization might even be prevented. After all, most people who explore radical ideologies at some point never end up turning to violence.

There was overall agreement between the experts and the formers that social status and the life conditions that contribute to it (academic success, employment, economic strain, etc.), the social implications of domestic problems, exclusion and discrimination versus inclusion, acceptance and improved social surroundings, identity definition and clear structures, and the search for a sense of purpose and meaning were key themes in (de)radicalization processes regardless of the ideological direction. Interestingly, we observed differences in deradicalization between our one male explorer of religious extremism whose narrative was very focused on social status and tangible changes in life conditions (economic conditions and employment), and our female explorers of religious extremism, whose prompts for deradicalization were more cognitive and self-conscious, all centering around disillusionment and questioning pillars of the ideology.

The deradicalization experts informed us that they typically help their clients change their life circumstances—they motivate them to cut off contacts within the scene, they help them find employment, a new apartment if needed, and they encourage them to find new free-time activities where they can make new non-radicalized friends. They reported that these tangible measures were very helpful to their clients, and looking at the interviews from Study 1, it seems that such assistance could have prevented our one male interviewee from making contact with the radical group he associated with for a while. In his narrative, he stated that he turned to religion the day his parents were arrested for drug trafficking, and he became aware of the group he would later join soon after. It is unclear whether his parents’ criminal activities were related to economic strain and could thus have been prevented by the social system; however, had there been financial and psychosocial assistance available to him and his siblings after their arrest that he had felt comfortable accepting—he stated that he was too proud to accept such help from the State—he might not have felt drawn to the group in the first place.

But, what about the female explorers of religious extremism? There are tangible support programs that could have improved their lives, for example, one reported prolonged traumatic bullying during her childhood, another reported great difficulties on the labor market and experiences of discrimination due to her religious attire. Antibullying programs at school, targeted labor-market

initiatives which focus on supporting minorities entering the labor market, and antidiscrimination initiatives could have improved their quality of life. However, based on their narratives, it is not clear whether and how this would have affected their (de)radicalization; while they described these experiences and events as difficult and, in a way, making them vulnerable, in their explanations of how they came to explore these ideologies they focused more on wanting structure, wanting someone to provide clear, simple rules and unambiguous explanations, and in some cases, being on a more general quest for purpose and meaning in life. Correspondingly, their focus in deradicalization was not on changing life conditions, but on cognitive factors: disillusionment, questioning whether a group really was what it claimed to be, whether ideological axioms were really true and even whether their own knowledge really was what they thought. So, if not the typical intervention and prevention measures, what would these interviewees have needed in terms of support to prevent them from exploring these radical ideologies and/or to assist their disengagement? Arguably, nothing. They were equipped with the skill of critical thinking, the self-confidence to question the axioms of the new ideology they were interested in, and the self-reflectiveness to recognize gaps in their own knowledge. Their search for existential meaning and stability and structure in their life was both fundamentally human and legitimate; they encountered radical ideologies and communities, explored them, evaluated them with their cognitive skills, and discarded them before becoming involved more seriously upon finding that they were not what would fulfill their needs. An exploration that takes such a course and therefore results in harm to no one is not inherently problematic.

What remains, then, is a question worth exploring in the future studies: Is this, perhaps, the difference between those who disengage/deradicalize early on and those who are dragged along by the group and need assistance in disengaging? Are these protective factors equally relevant to people with different central motives than seeking existential meaning and seeking structure and stability? Moreover, future studies should utilize adolescent samples wherever possible. Interviewees in both studies described radicalization as something that begins in adolescence; yet, virtually all studies are conducted with adults giving retrospective information which is therefore inherently biased. Surveying adolescent samples could eliminate this bias; moreover, longitudinal studies could investigate whether the factors that seemed protective among our female explorers of religious extremism are indeed related to earlier disengagement or even avoidance of exploration of radical ideologies.

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Second Paper: Radicalism, extremism, other? Developing and validating the Adolescent Radicalisation Outcomes Questionnaire (AROQ)

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**Radicalism, extremism, other? Developing and validating
the Adolescent Radicalization Outcomes Questionnaire
(AROQ)**

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Abstract:	The process of radicalization is often discussed and investigated without a clear outcome definition, as is the similar concept of extremism; moreover, research is usually conducted on adults, despite studies pointing to adolescence as the crucial time during which radicalization processes develop. Building upon previous literature, we propose three possible outcomes of the radicalization process: benevolent radicalism, malevolent radicalism, and extremism. To operationalize these outcomes, we develop a questionnaire measuring four constructs, namely political violence legitimization, political and religious (in-)tolerance, political system preference, and ingroup superiority beliefs. We developed an instrument specifically suitable for adolescents, using $n = 1260$ German-speaking adolescents (13-20 years) in item development and $n = 622$ in scale testing and validation. The resulting 61 items and five scales were developed and validated through a combination of item analysis, cognitive interviewing, exploratory and confirmatory factor analyses. Support was found for each of the five scales in terms of reliability, discriminant and concurrent validity. We therefore found the Adolescent Radicalization Outcomes Questionnaire to be a valid and reliable instrument.

Radicalism, extremism, other? Developing and validating the Adolescent Radicalization Outcomes Questionnaire (AROQ)

Since the end of World War II political extremism has been one of the main objects of study within the field of Political Psychology. Despite the abundance of research and explanatory models produced over the years, there are still certain inconsistencies in how we define and operationalize extremism.

First, there is a lack of clarity on whether extremism is violent *per se* (Bötticher, 2017; Knight et al., 2022; Schmid, 2014; Striegher, 2015); many attempts at a minimal definition are centred around the acceptance of violence as a means towards political ends (Doosje et al., 2016; Macdougall et al., 2018; cf. King & Taylor, 2011). Political extremism has also been used to label strong political opinions or convictions that deviate from political moderation (Brandt et al., 2015; Zwicker et al., 2020). Similarly, parts of the literature treat radicalism and extremism as the same construct, i.e. as interchangeable outcomes of radicalization processes, despite criticism of this approach (Bötticher, 2017; de Lange & Mudde, 2005; Kruglanski, 2018). Lastly, some accounts of extremism are specific to certain ideologies or belief systems (Altemeyer, 1981; Webber et al., 2017), as opposed to global measures. It becomes evident that we lack a clear, shared perspective on what is and is not extremism, which translates into a wide variety of measurement instruments. Many of these, especially when they carry the label 'extremism', focus on accepting or performing violence as a political means. A staple is the RIS (Radicalism Intention Scale) which measures willingness to participate in political activities that imply the use of violence without explicit references to the ideology that is being defended (Moskalenko & McCauley, 2009). Other scales also focus on political violence, but in reference to a particular belief system or ideology (Webber et al., 2017). A third type of scale measures extremism as a strong conviction for a certain set of values or ideology (Brandt et al.,

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2015; Zwicker et al., 2020); conceptualizations like this are common in studies researching ‘nonviolent extremism’. We argue that this confusion derives partially from the fact that radicalism and both forms of extremism are all feasible products of a radicalization process. Depending on whether this process is completed and other contextual factors the ‘end-product’ may be either extremism as the acceptance of violent means or strong and unconventional convictions like those described in radicalism and other conceptions of extremism (Neuman, 2013; Reidy, 2018).

This array of different approaches and scales poses one of two major problems, as the object of study becomes blurred and inconsistent, and may fall victim to the jingle jangle fallacy (Kelley, 1927), as the label ‘extremism’ sometimes refers to vastly different psychological and behavioural configurations. We may even find ourselves putatively discussing the same processes, when in reality we mean different phenomena. This is detrimental to the task of understanding all the processes that fall under the ‘extremism umbrella’; when researchers are using different definitions and operationalizations of extremism and radicalism, but giving them the same names, this affects the accumulation of evidence over time, which is a key element of the scientific process.

The other major problem of radicalization and extremism research is connected to its target audience. Most research thus far has been conducted with adults, with results reflecting adult cognitive skills and needs. Nevertheless, past research has demonstrated that adolescence can be a time of heightened vulnerability to harmful influences (e.g., Blum et al., 2002; Heinke & Persson, 2016), and many deradicalized people place the origins of their radicalization during adolescence (e.g., Sikkens et al., 2017). Hence, to understand the full scope of the process of radicalization, it is crucial to focus research on adolescence and emerging adulthood.

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To contribute to solving these issues, the main goal of this study is to provide a novel questionnaire for measuring multiple radicalization outcomes under the ‘political extremism’ umbrella. To this end, the questionnaire will consist of multiple scales corresponding to main definitional aspects of radicalism and extremism. We aim for an instrument that is intelligible by early and late adolescents (ages 14 - 18).

Extremism and Other Products of the Radicalization Process

Extremism, at least when understood as the acceptance of violent means as legitimate political tools (Doosje et al., 2016; Macdougall et al., 2018) is considered a product of the radicalization process (McCauley & Moskalenko, 2017). Radicalization is understood as a process whereby people get involved in radical groups - groups with antinormative ideas - and end up committing to them to the point of sacrificing for them or exercising violence (“counterfinality”, Kruglanski et al., 2014). In most models, a legitimization of the use of violence as political means forms the end of this process (McCauley & Moskalenko, 2017; Moghaddam, 2009; Kruglanski et al., 2014; Webber et al., 2017). However, as already noted, there are several phenomena that fall under the ‘extremism umbrella’ and that have different cognitive and behavioural implications beyond violence. We argue that these other definitions correspond to different products of the radicalization process that depend on the narrative of radicalization itself (Reidy, 2018) and whether the radicalization process is completed (Neumann, 2013). Accordingly, incomplete or benevolent radicalization processes may not end in extremism but rather in radicalism - which can then be either benevolent or malevolent (Reidy, 2018).

Radicalism and extremism are often used in close proximity to one another in the literature, despite notable differences in their definitions (Bötticher, 2017; de Lange & Mudde, 2005). This may be due to the fact that both are associated with a particular intensity in terms

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of commitment to ideological convictions (Kruglanski, 2018). However, where extremism is supremacist and oriented towards enforcing its ideas in an authoritarian manner, radicalism is inherently supportive of universal human rights, equality, and open to diversity of opinions; it seeks to convince rather than enforce, and to emancipate rather than oppress (Bötticher, 2017). Radicalism holds a universal morality, applying to everyone because it holds the inherent belief that everyone is capable of doing the right thing and being convinced to do so. In contrast, extremism is hierarchical and holds a particularistic morality which only applies to ingroup members who are, in that sense, worthy of being subject to these moral standards (Bötticher, 2017). Finally, a central difference is the legitimization and acceptance of violence as a way of *doing* politics. In this sense, a defining characteristic of extremism that differentiates it from radicalism is that the former is the attitudinal underpinning of terrorism and political violence (Bötticher, 2017; Doosje et al., 2016). While radicals may make use of interpersonal violence sporadically, but without legitimising it, extremists consider violence to be a valid - and sometimes the only - way to impose their views, which has led some scholars to discard the taxonomy of a 'non-violent extremist' altogether (Becker, 2021; Schmid, 2014).

Within radicalism, there is a further, noteworthy distinction to be made: Sometimes we observe people who strictly oppose using violence against others but are willing to go to extreme lengths endangering or harming themselves for a political cause (Reidy, 2018; 2019). Such readiness to use self-sacrificial violence cannot be categorised as extremism. A valuable distinction to accommodate this phenomenon is offered by Reidy (2018): *benevolent* versus *malevolent radicalism*. Thereby, those who “stay within social norms but take them to an extreme level of self-sacrifice, [for example by] risking one’s life to benefit others in an objectively and consistently prosocial manner” (Reidy, 2019, p. 1) qualify as benevolent radicals. To put it in terms of Bötticher’s (2017) classification, the malevolent radical might

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use violence against others without considering it a justified means, whereas the benevolent radical would reject this altogether, but make use of violence against themselves.

Based on these theoretical grounds, we aim to develop a questionnaire that focuses on the process of radicalization and that distinguishes between three main outcomes of it: benevolent radicalism, malevolent radicalism, and extremism. We differentiate these outcomes along the following psychological constructs.

Psychological Dimensions of Radicalism(s) and Extremism

The selected constructs are derived from the definitions of radicalism and extremism presented by Bötticher (2017) and common outcome measures from radicalization literature. They pertain to two questions which are pivotal for the identification of one's position on the political spectrum between moderatism, radicalism(s), and extremism: What are one's political views on a societal macro-level, and how does one think those views should be enacted?

Political System Preference

An argument can be made that radicals and extremists are distinguished by their preferred political system and way of governing. Policies could be enacted either because they became societal consensus, or they could be forced into practice in undemocratic ways. Different attitudes towards imposition and violence in radical and extremist groups have been observed in the literature (Altemeyer, 1981; Bötticher, 2017). Extremists' conception of politics tends to feel more comfortable with illiberal authorities (Altemeyer, 1981; Conway III et al., 2018) and prefer strict social hierarchies (Pratto et al., 1994; Reeve, 2021), which should make them overall more prone to prefer autocratic governance. By contrast, there are many examples of radical parties participating in the advancement of democracies (van Hiel et al., 2021). Moreover, radicalism does not necessarily rely on social hierarchies and is in many

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occasions diametrically opposed to them (Willis, 1984). As such, radicalism may be considered emancipatory and against the current establishment but within the democratic realm (Bötticher, 2017).

Political/Religious Tolerance

While the first dimension measures how one's views are promoted, this dimension measures how an individual would prefer to deal with competing views. Tolerance has been a staple of radicalization research embedded in different concepts, e.g. dogmatism (e.g., Rokeach, 1954). If political tolerance is the willingness to allow others to freely express ideas which one opposes (Sullivan et al., 1982) then extremism with its tendency towards authoritative imposition (Bötticher, 2017; Doojse et al., 2016) is by definition intolerant. In contrast, malevolent and benevolent radicalism may be relatively tolerant as they are reformist in character, turning against the establishment but not automatically the people who carry it (cf. Bötticher, 2017). It should also be noted that tolerance may vary depending on which outgroup is being referenced and how important the issue at hand is to oneself. People, for instance, will be more tolerant towards attitudes that do not conflict with any moral convictions, while it can be expected that they will not display the same tolerance when they feel some moral conviction is threatened (Tetlock et al., 2000). Hence, to achieve a more comprehensive assessment, our proposed measure includes both political and religious tolerance, thus covering two very broad opinion-based outgroups.

Belief in Ingroup Superiority

Another main focus of research in political attitudes closely related to one's macro-level view of societal structures are attitudes towards social hierarchies, e.g. social dominance orientation research (e.g., Pratto et al., 1994). Research on extremism has shown that, for extremist groups, the preference for hierarchy is not merely based on hierarchy stripped of any

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social identity considerations (i.e., it is not strictly meritocratic). Rather, it radiates in intergroup competition, with extremists tending to overvalue their group and morals, denigrate outgroups and their values, or a combination of both; these superiority and inferiority beliefs can be based on a variety of differences, such as ideological, ethnic, religious, national, or other (Doosje et al., 2012; Ozer & Bertelsen, 2018). Conversely, radicalism is, in most instances, supportive of universal human rights and equality (Bötticher, 2017; Willis, 1984). As such, differences between extremism and radicalism regarding ingroup superiority may be inferred, with extremists likely having stronger ingroup superiority perceptions than radicals. On the other hand, radicals may feel stronger ingroup superiority than political moderates specifically regarding opinion-based group identities, as their political opinions tend to be stronger and rooted in moral convictions, and thus more likely to be perceived as universal (Skitka et al., 2015).

Political Violence Legitimization

Benevolent radicalism allows for self-sacrificial violence, but not violence against others (Reidy, 2018); malevolent radicalism does not generally regard violence against others as a justified means, but might resort to it without explicitly legitimising it, while extremism regards violence against outgroup members as justified and correct (Bötticher, 2017; Doosje et al., 2016; Reidy, 2018). Notably, what matters for this classification are the normative attitudes towards violence rather than actual behaviour. What makes an extremist is their normative approval of violence as a means to achieve political goals rather than their personal willingness to actually perpetrate it, since personal readiness to commit acts of violence is dependent on other personal dispositions and contextual factors (Bötticher, 2017). It is perfectly possible for an extremist to never commit the acts of violence they normatively endorse, due to lack of opportunity, fear of self-injury, fear of consequences, or any number of reasons. Due to the

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strong focus on political violence in radicalization research, attitudes towards violence have been the most commonly measured radicalization outcomes (Doosje et al., 2012; Feddes et al., 2015; Furnham et al., 2020; MacDougall et al., 2018; Moskalenko & McCauley, 2009; Nivette et al., 2017; Ozer & Bertelsen, 2018). Therefore, we have included the assessment of political violence legitimization in our measure, which should also be one of the main differentiating aspects between benevolent radicalism, malevolent radicalism and extremism.

Aims

Here, we aim to develop and validate a measurement instrument consisting of multiple, individually useable scales which serve to operationalize different outcomes of the radicalisation process (specifically, benevolent radicalism, malevolent radicalism, and extremism) in a way that is suitable for German-speaking adolescents (ages 14 and up).

Method

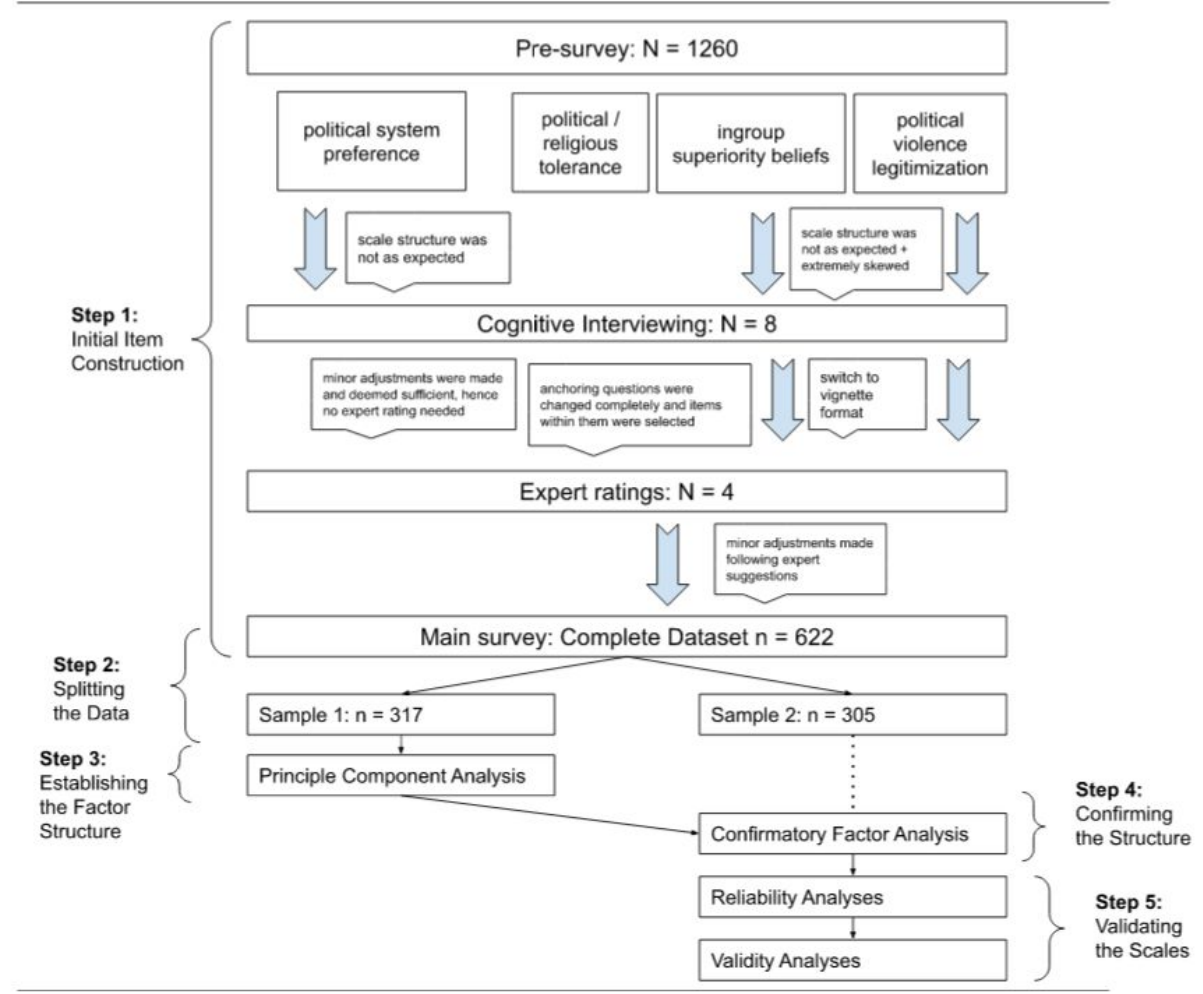
The process of developing the questionnaire consisted of five sequential steps (see Figure 1) and multiple data collections. The first and largest portion of the process was dedicated to constructing the initial items. This first step involved an iterative process of literature research, quantitative testing, cognitive interviewing, and expert rating. By the end of this step, a second sample was collected using a final set of items. This process was also used to gradually adapt the questionnaire to a younger audience: The age range was 16 - 20 years in the first survey and 14 - 18 in the final data collection. The final sample was then randomly split in half (step 2) to establish the scales' factor structures on the resulting first half (step 3) and confirm them on the second half (step 4). Subsequently, in the final fifth step, sample 2 was used to examine the reliability and criterion validity of the scales. All

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analyses were performed using JASP 0.16.4.0 (JASP Team, 2022) and the lavaan package in R (Rosseel, 2012).

Figure 1

Research Methods Flowchart



Note. All details can be found in the accompanying OSF project, folder 2: Pretesting Documentation.

This article is accompanied by an OSF project https://osf.io/6d4nh/?view_only=40113dc81c63431b8b444887109e6e66 containing preregistrations, questionnaires (English and German), documentation including cognitive

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pretesting and the data collection process, and the final data sets. The study was approved by the [BLINDED] ethics review board (Ref. 00589).

Step 1: Initial Item Construction

Initial items were developed through an iterative process of theoretical discussion and review of existing measures in the literature. After initial quantitative analyses ($n = 1260$), many items were revealed to have non-normal distributions and were of low quality, we therefore decided further qualitative investigation was necessary. Following cognitive interviews and expert review, the items were changed substantially and questionnaire development and validation could commence. All details regarding the first set of items and changes made, as well as the pretests and the cognitive interviews can be found in the accompanying OSF folder.

Cognitive Interviewing and Expert Ratings

Cognitive interviews with eight 13–15-year-olds were conducted online (approximately one hour; two girls, two non-native speakers; see Supplement 1). Due to schools being overwhelmed with COVID-19, access to the target group was severely limited, leading to this small sample. The sample was recruited from one academic highschool ($n = 5$) and one middle school ($n = 3$) in the same sub-urban/semi-rural region, resulting in some range of socio-economic background and relative cultural similarity.

Variations of items measuring political system preference, ingroup superiority and political violence legitimization were presented. After answering the questions, a variety of cognitive prompts were used, such as why they had chosen a response option, how they interpreted certain words or phrases, whether they could give examples, and whether they found anything difficult to understand or uncomfortable to answer.

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Following the cognitive interviews, new versions of items were sent to four experts for ratings of intelligibility and relevance to the construct. The experts were selected according to whether they were able to read German and had research expertise concerning political attitudes, radicalization and adolescents. The measures were finalised for the second data collection following the expert ratings.

Changes Implemented and Final Set of Items

Figure 1 gives an overview of the item and scale development for each of the five scales. All final items were rated on a scale from 1 to 7, with 7 signifying the highest agreement or most positive evaluation of a statement. See Supplements 2 and 3 for details on the development process.

1. Political System Preference.

Items for the political system preference scale were adapted from the democracy-authoritarianism-preference scale from the World Values Survey (Ariely & Davidov, 2011), consisting of three items each for autocracy, democracy, and anarchism. Participants rated these statements from 'very bad' to 'very good'. Over the course of item development, the democracy items were shortened and the word 'minorities' was replaced by 'very small groups' to reduce social desirability. The original autocracy items, which simply gave examples of autocratic modes of government, were replaced with three items describing the features of autocracy instead, making them more equivalent to the others. This change resulted from the findings that the original autocracy subscale did not uphold its intended unidimensional factor structure and that interviewees found the wording of some of the items too abstract and complicated; see Table 1 for the final nine items.

2. Tolerance (Political and Religious).

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Tolerance was assessed with two versions of the five-item scale used by Dono et al. (2018), in which participants are asked to rate whether their most disliked partisan or religious group should be given certain political rights (e.g., holding public rallies). Scale means were calculated separately. The lists of political groups that contextualised the items were adapted to the country context. Participants were not asked to disclose their most disliked group, so as to reduce social desirability; see Tables 2 and 3 for the final five items each.

3. Ingroup Superiority.

The scale was loosely modelled after questions from the European Social Survey (2014), with two question anchors with seven items each (see Table 4 for the twelve items and anchors). One anchor focuses on close social contact among peers, while the other focuses on a hierarchical relationship; these situations are easier to relate to than the previous, abstract items, as we learned during cognitive pretesting. Both include the elements political opinion, nationality, clothing habits (e.g., religious dress), cultural background, eating habits (e.g., vegetarianism / veganism), religion, and sexual orientation. The questions are theorised to cover facets of the same construct and therefore intended to be used as one scale. This measure of willingness to associate with members of other social groups in hierarchical and non-hierarchical settings serves as an age-appropriate proxy for ingroup superiority, as superiority turned out to be too abstract a concept for the age group.

4. Political Violence Legitimization.

This scale was developed as six vignettes, two of which describe benevolently radical violence (hurting/endangering oneself, but not others; *BRV*), malevolently radical violence (hurting others, but regarding it as morally wrong; *MRI*), and extremist violence (hurting others and fully approving of it; *EV*), respectively. The vignettes are short descriptions of a

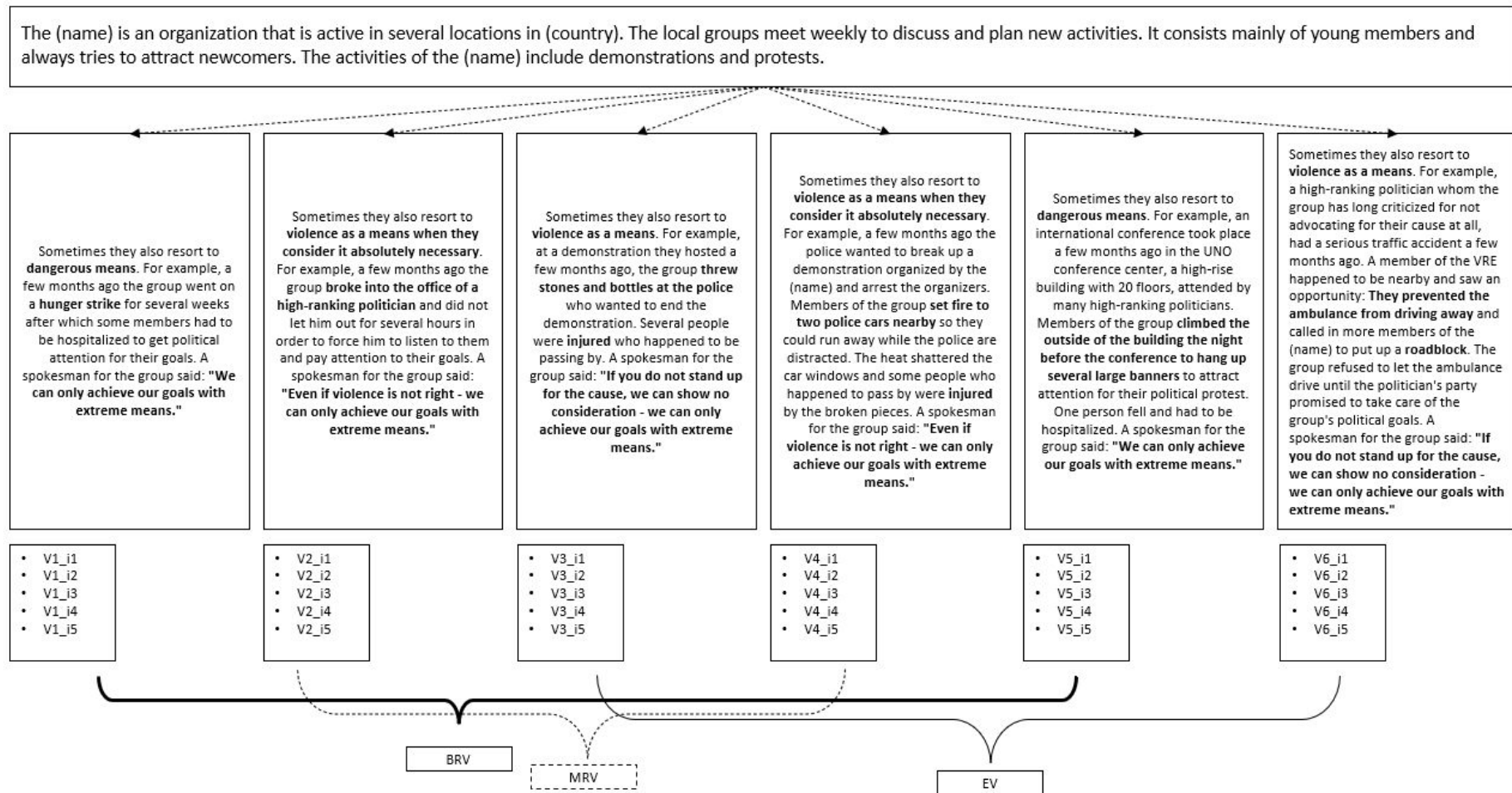
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fictitious political group that engages in different activities to promote a political goal that is personally important to the survey participant, approximately 120 words long. Each vignette comes with two questions measuring approval and three questions measuring support (see Table 5 for the 30 items, Figure 2 for vignette texts). In order to increase personal relevance, participants are prompted to choose from a list of twelve political topics (e.g., environmental protection, migration) the area in which they observe the greatest social injustices which disturb them the most. The vignettes thereafter reference their chosen topic by framing the group described in the text as one that is fighting for said topic.

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Figure 2

Structure and Content of the Vignette Measure of Political Violence Legitimization

Note. Items listed below each vignette text correspond to labels in Table 5. Emphases in bold added for the article.

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Step 2: Splitting the Data

A total of $n = 622$ participants were included in the study (51 exclusions for completion times under 10 minutes). The majority of participants were German (91 %) and female (60 %; see Supplement 4). To ensure that Germans and Austrians could be treated as one sample prior to the random split, t-tests were conducted on age and mean scales, using $p \leq .001$ as the significance threshold, and no large significant differences were identified (Supplement 4). The sample was split into two halves randomly, resulting in comparable age and gender structures: Sample 1 ($n = 317$, $M_{age} = 15.7$ years, $SD_{age} = 1.15$, $Min = 14$, $Max = 18$, 61.8 % female, 33.1 % male, 5.1 % other) and Sample 2 ($n = 305$, $M_{age} = 15.8$ years, $SD_{age} = 1.13$, $Min = 14$, $Max = 18$, 58.7 % female, 35.1 % male, 6.3 % other).

Step 3: Establishing the Factor Structure

Following the procedure described in Botes et al. (2021), principal components analyses (PCA) were conducted for each of the five scales of the questionnaire separately due to this procedure's particular suitability for short scale development. To confirm the data's suitability for factor analysis, Bartlett's tests of sphericity were calculated for each scale in the questionnaire. The oblique oblimin rotation was used for each PCA due to the theoretical assumption that factors within each scale would correlate. The number of components was determined by the common Kaiser-criterion (eigenvalue > 1) and the visual representation of the scree plot, as well as keeping the theoretical structure of the variables in mind as proposed in previous literature. Note that all figures in this and the following sections report standardised results.

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Step 4: Confirming the Factor Structure

Subsequently, for each scale, a CFA of the resulting component structure as described in Step 3 was tested on Sample 2. Since the variables were ordinal, diagonally weighted least squares (DLWS) estimation was used (Li, 2016), with listwise deletion to handle missing data. Model fit was analysed through the criteria proposed by Kenny (2020), with CFI and TLI indicating adequate fit if $\geq .90$ and close fit if $\geq .95$, while RMSEA and SRMR indicated adequate fit if $\leq .08$ and close fit if $\leq .05$.

Step 5: Validating the Scales

To validate the scales, we first calculated McDonald's ω as a measure of unifactorial reliability. ω functions as a general version of α that does not depend on an assumption of tau-equivalence, i.e. it does not assume that all items are equally close to the latent construct being measured; consequently, we considered .7 as a threshold for satisfactory reliability (Hayes & Coutts, 2020). Subsequently, we used Moskaleiko and McCauley's (2009) Activism and Radicalism Intentions Scale (ARIS) and Ho et al.'s (2015) measure of Social Dominance Orientation (SDO) as criteria for concurrent and discriminant validity. To gain a more nuanced understanding of the strength of evidence for each validation test, we combined frequentist and Bayesian correlation analyses, following Kass and Raftery's (1995) guide to Bayes Factor interpretation. Table 6 below specifies the validation criteria tested and summarises the results.

Results

Step 3: Establishing the Factor Structure

Bartlett’s test of sphericity was significant for all scales (political system preference: $\chi^2(36) = 592.63, p < .001$, political tolerance: $\chi^2(10) = 489.04, p < .001$, religious tolerance: $\chi^2(10) = 624.32, p < .001$, ingroup superiority: $\chi^2(91) = 5456.78, p < .001$, violence: $\chi^2(435) = 10458.76, p < .001$), indicating that all items are related highly enough for factor analysis to be a useful method to pursue (Field et al., 2012).

Following the Kaiser criterion (eigenvalue > 1), principal component analyses using the oblique rotation method oblimin produced the following results for each scale:

Political System Preference Subscales

The nine-item political system preference scale resulted in a clear three-factor solution, with three items indicating each of the factors. The factors themselves corresponded to the theoretical constructs of autocracy, democracy, and anarchy (Table 1). Loadings were considered insufficient below .4 (and are hence not displayed in tables), acceptable up to .6, and high above .6). As such, we conclude that political system preference is measured as a multidimensional subscale in the AROQ.

Table 1

Component Loadings for Political System Preference

Item Nr.	RC1 autocracy	RC2 democracy	RC3 anarchy	Uniqueness
1: Having a strong leader who doesn't have to accept anyone's meddling.	.870			.260
2: Having a strong government that can also use tougher means to defend itself against interference from other political groups (for example other parties).	.817			.341
3: Applying fewer external controls to the government's work (such as the parliament, commissions of inquiry, media), because that hinders their work too much.	.649			.515

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4: Completely abolishing states and governments so that people can be free.	.830	.305
5: No longer having any laws.	.826	.320
6: No power to no people.	.763	.395
7: Having elections in which every person's vote is worth the same amount.	.820	.371
8: Having a system in which the state guarantees certain fundamental rights for everyone, including very small groups.	.769	.370
9: Allowing the existence of several political groups that each have the possibility of being elected to government.	.572	.485

Note. Question anchor: "Some people keep their views on the world (for example, about politics, religion, etc.) to themselves. Others try to convince everyone of their views. What is your opinion on this?"

Political Tolerance Scale

The five-item political tolerance subscale yielded a unidimensional structure with all five items loading onto a single factor. All items had sufficient factor loadings.

Table 2*Component Loadings for Political Tolerance*

Item Nr.	RC1	Uniqueness
1: ...organise a public rally?	.784	.386
2: ...give a speech at a public school or university?	.719	.483
3: ...publish a book with political content in a public library?	.788	.379
4: ...publish political advertisements near schools?	.713	.492
5: ...participate in a debate on public television?	.742	.450

Note. Question anchor: “Here is a list of partisan groups. Think about which group you like the least. If members of this partisan group wish to propagate their political ideas and values, should they be allowed to...?”

Religious Tolerance Scale

Similarly to political tolerance, the five items of the religious tolerance subscale loaded onto a single unidimensional structure. Again, all items had sufficient loadings.

Table 3
Component Loadings for Religious Tolerance

Item Nr.	RC1	Uniqueness
1:...organise a public rally?	.796	.366
2: ...give a speech at a public school or university?	.747	.443
3: ...publish a book with political content in a public library?	.781	.390
4: ...publish political advertisements near schools?	.747	.441
5: ...participate in a debate on public television?	.790	.375

Note. Question anchor: “Here is a list of religious groups. Think about which group you like the least. If members of this religious group wish to propagate their societal ideas and values, should they be allowed to...?”

Ingroup Superiority Scale

A unidimensional structure resulted from the PCA of the 14-items of the ingroup superiority scale. The majority of items had satisfactory loadings ($> .7$; Field et al., 2012), with the exception of items 13 and 14 (“...did not share your political opinion?” in both the work and the school context). The items were excluded on grounds of these low loadings and

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their proximity to the construct political tolerance, which was measured by another scale in the questionnaire already (see Supplement 5 for PCA); the PCA was then rerun (Table 4).

Table 4*Component Loadings for Ingroup Superiority*

Item Nr.	RC1	Uniqueness
1: ...did not share your nationality? [school]	.857	.265
2: ...did not dress like you (for example religious clothing)? [school]	.877	.230
3: ...did not share your cultural background? [school]	.887	.213
4: ...did not eat like you (for example whether they eat meat or not)? [school]	.801	.358
5: ...did not share your religion? [school]	.916	.161
6: ...did not share your sexual orientation? [school]	.869	.244
7: ...did not share your nationality? [work]	.913	.166
8: ...did not dress like you (for example religious clothing)? [work]	.917	.160
9: ...did not share your cultural background? [work]	.922	.149
10: ...did not eat like you (for example whether they eat meat or not)? [work]	.856	.267
11: ...did not share your religion? [work]	.915	.162
12: ...did not share your sexual orientation? [work]	.896	.197

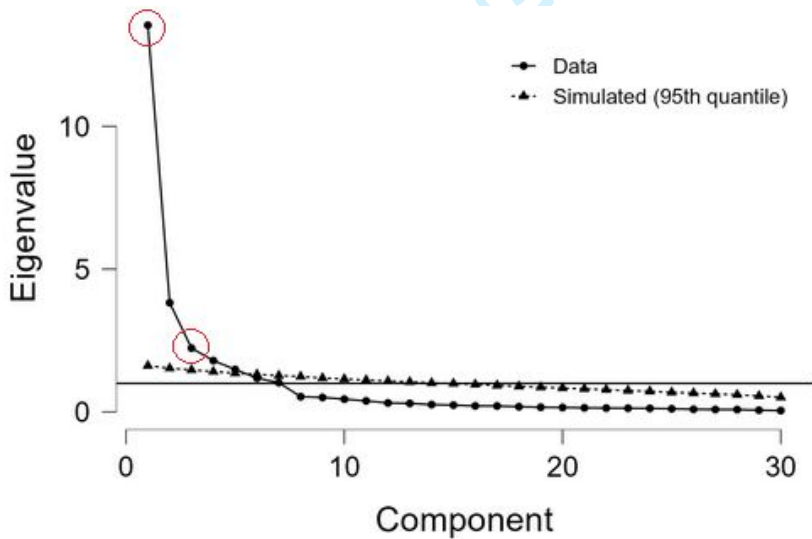
Note. Question anchor “school”: “Imagine you are switching to a boarding school. That means you will also be sleeping at school and only going home to your family during school holidays. You will be sharing your room with another student. What would you think if this was someone who...” Question anchor “work”: “After school you will have a job, or maybe you're already working. What would you think if your boss was someone who...”

Political Violence Subscales

In comparison to the previous subscales, the political violence subscale yielded less straightforward PCA results. The scale is made up of six vignettes with sub-items. Theoretically, the scale was designed with two vignettes each forming one factor as they pertain to the same construct (BRV, MRV, EV). However, an initial PCA based on the Kaiser criterion yielded five components, with cross-loading items (Supplement 6). The factors themselves did not clearly correspond to the theoretical structure, with factor 1 and factor 4 containing a mix of MRV items and the items from two EV vignettes, though loadings for the EV items were higher (Supplement 6). As such, we examined the scree plot for a further indication of factor structure (see Figure 3).

Figure 3

Scree Plot for PCA on the Violence Items



Based on the scree plot, either a unidimensional or a three-component-solution could be justified. Because of the theoretically expected structure of differentiating three concepts, we ran a second PCA with a constrained three-factor structure (see Table 5). This resulted in one component formed by all ten BRV items, with no cross-loadings and overall high

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loadings, one component formed by all items from one MRV vignette with very high loadings, and one component formed by all EV items and the MRV items from the second vignette for this construct. The item loadings therefore perfectly replicated the theoretical structure proposed in Figure 2. The majority of factor loadings were sufficient ($> .50$). As such we propose a three factor structure for the political violence subscale.

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Table 5

Component Loadings for Violence, Restricted to Three Components

Item Nr.	RC1 (EV)	RC2 (BRV)	RC3 (MRV)	Uniqueness
1: [V1-i1] What do you think of this group?		.643		.421
2: [V5-i1] What do you think of this group?		.806		.302
3: [V1-i2] Is the group’s behaviour okay considering their very important goals?		.595		.510
4: [V5-i2] Is the group’s behaviour okay considering their very important goals?		.817		.367
5: [V1-i3] How likely would you be to help the group collect donations?		.686		.427
6: [V5-i3] How likely would you be to help the group collect donations?		.873		.266
7: [V1-i4] How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?		.665		.425
8: [V5-i4] How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?		.892		.244
9: [V1-i5] How likely would you be to participate in the group’s activities?		.580		.449
10: [V5-i5] How likely would you be to participate in the group’s activities?		.755		.344
11: [V2-i1] What do you think of this group?			.811	.232
12: [V4-i1] What do you think of this group?	.661			.355
13: [V2-i2] Is the group’s behaviour okay considering their very important goals?			.901	.196

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14: [V4-i2] Is the group's behaviour okay considering their very important goals?	.632		.463
15: [V2-i3] How likely would you be to help the group collect donations?		.871	.226
16: [V4-i3] How likely would you be to help the group collect donations?	.800		.233
17: [V2-i4] How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?		.710	.311
18: [V4-i4] How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.754		.239
19: [V2-i5] How likely would you be to participate in the group's activities?		.737	.376
20: [V4-i5] How likely would you be to participate in the group's activities?	.703		.391
21: [V3-i1] What do you think of this group?	.501	.477	.391
22: [V6-i1] What do you think of this group?	.844		.313
23: [V3-i2] Is the group's behaviour okay considering their very important goals?	.578		.456
24: [V6-i2] Is the group's behaviour okay considering their very important goals?	.779		.446
25: [V3-i3] How likely would you be to help the group collect donations?	.644		.381
26: [V6-i3] How likely would you be to help the group collect donations?	.908		.253
27: [V3-i4] How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.609		.379
28: [V6-i4] How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.892		.259
29: [V3-i5] How likely would you be to participate in the group's activities?	.686		.435

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30: [V6-i5] How likely would you be to participate in the group’s activities?	.882	.316
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Note. V = vignette, i = item; V1 and V5 = BRV, V2 and V4 = MRV, V3 and V6 = EV.

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The factor structures determined for each scale will be tested using confirmatory factor analyses in the subsequent step.

Step 4: Confirming the Factor Structure

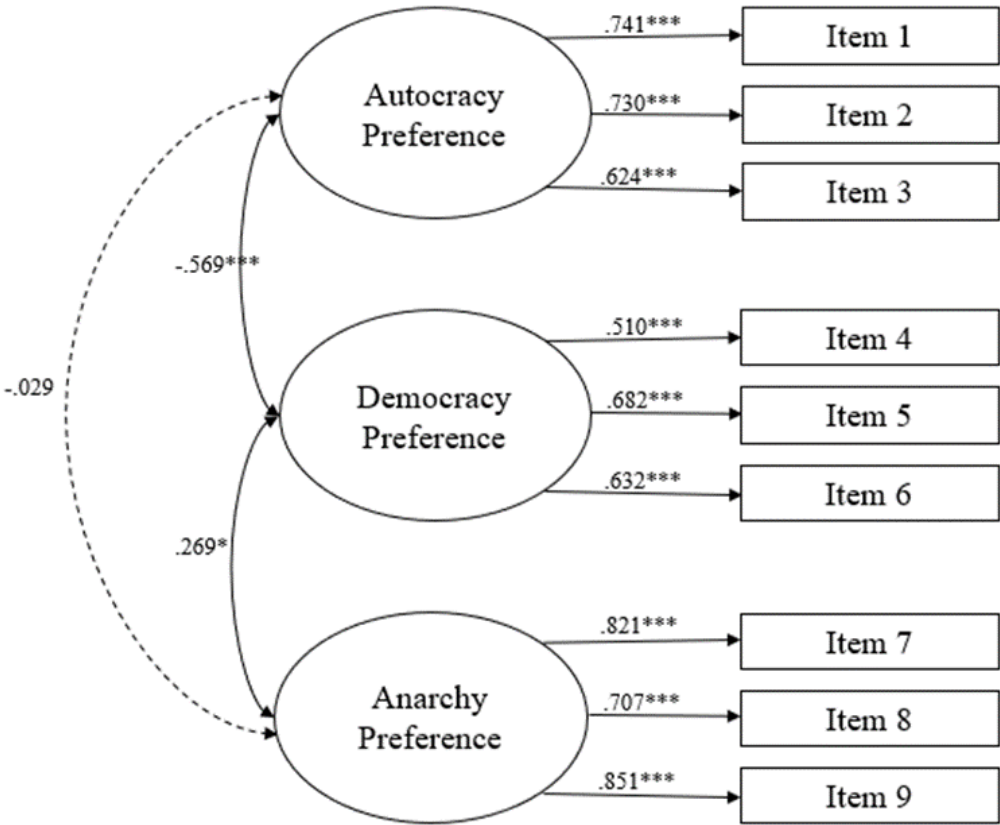
Similarly to the PCAs, measurement models for each of the scales were tested separately:

Political Preference Scale

The three subscales of the political preference scale (autocracy preference, democracy preference, anarchy preference), with each having three indicator variables, were modelled to correlate (see Figure 4). In addition, the indicator variables were specified as ordered in the lavaan syntax (Rosseel, 2012). The model achieved close fit ($\chi^2(24) = 42.348$; $p = .012$), with all fit indices meeting the necessary cut-offs ($CFI = .984$, $TLI = .976$, $RMSEA = .051$, $SRMR = .069$; Kenny, 2020). All item loadings were sufficient and autocracy preference had a significantly negative correlation with democracy preference ($r = -.569$; $p < .001$), in addition to a significant positive correlation between democracy preference and anarchy preference ($r = .269$; $p < .05$).

Figure 4

Measurement Model for the Political Preference Scale



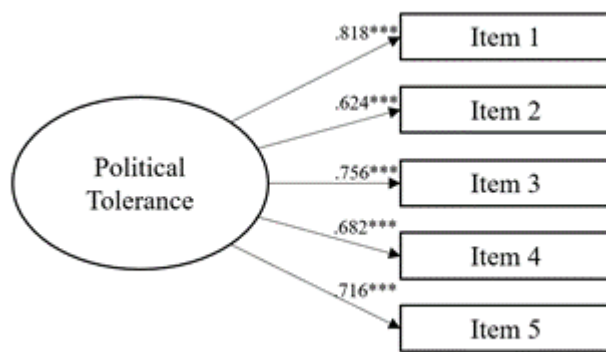
Note. *** $p < .001$; ** $p < .01$; * $p < .05$

Political Tolerance Scale

The political tolerance scale achieved close fit according to the majority of fit indices ($CFI = .984$, $TLI = .969$, $SRMR = .064$), however the RMSEA missed the proposed fit cut-off of $< .08$ ($RMSEA = .085$; Kenny, 2020). However, given that the RMSEA can be particularly sensitive in models with lower degrees of freedom ($\chi^2(5) = 15.890$; $p < .001$), the indice will be interpreted less stringently. All items had satisfactory factor loadings (see Figure 5).

Figure 5
Measurement Model for the Political Tolerance Scale

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Note. *** $p < .001$

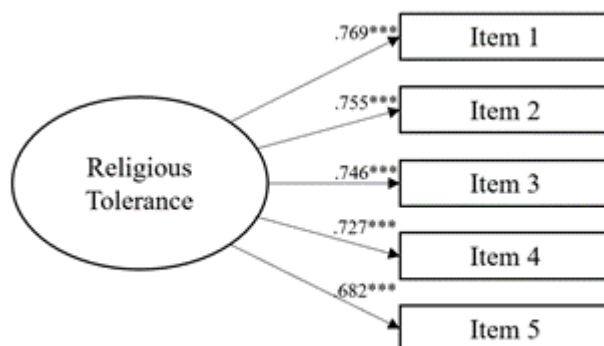
Religious Tolerance Scale

The religious tolerance scale achieved close fit ($\chi^2 (5) = 11.642$; $p < .001$), with all fit indices meeting the cut-off requirements ($CFI = .993$, $TLI = .985$, $RMSEA = .066$, and $SRMR = .052$).

All factor loadings were sufficiently large (see Figure 6).

Figure 6

Measurement Model for the Religious Tolerance Scale



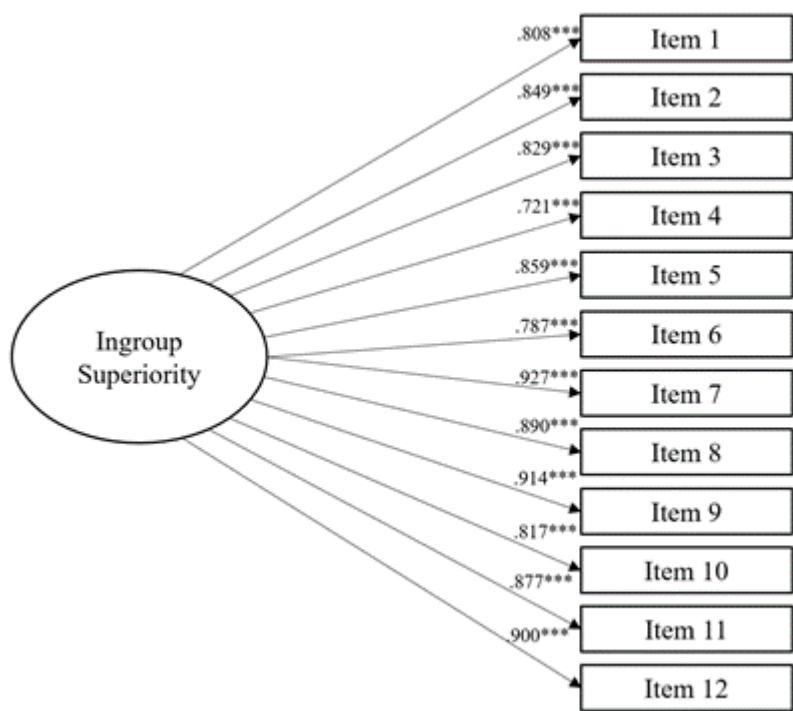
Note. *** $p < .001$

Ingroup Superiority Scale

The measurement model for the ingroup superiority scale fit the data well (χ^2 (54) = 48.320; $p = .692$), with all fit indices indicating close fit ($CFI = 1.00$, $TLI = 1.00$, $RMSEA < .001$, $SRMR = .044$). All factor loadings can be considered high ($> .700$; see Figure 7).

Figure 7

Measurement Model for the Ingroup Superiority Scale



Note. *** $p < .001$

Political Violence Scale

Finally, for the political violence scales, the theoretically grounded model with three subscales (BRV, MRV, and EV, each spanning two vignettes) fit the data well (χ^2 (402) = 783.439; $p < .001$). The majority of fit indices confirmed a close fitting model ($CFI = .973$, $TLI = .970$, $RMSEA = .056$), with the exception of the SRMR which did not indicate fit

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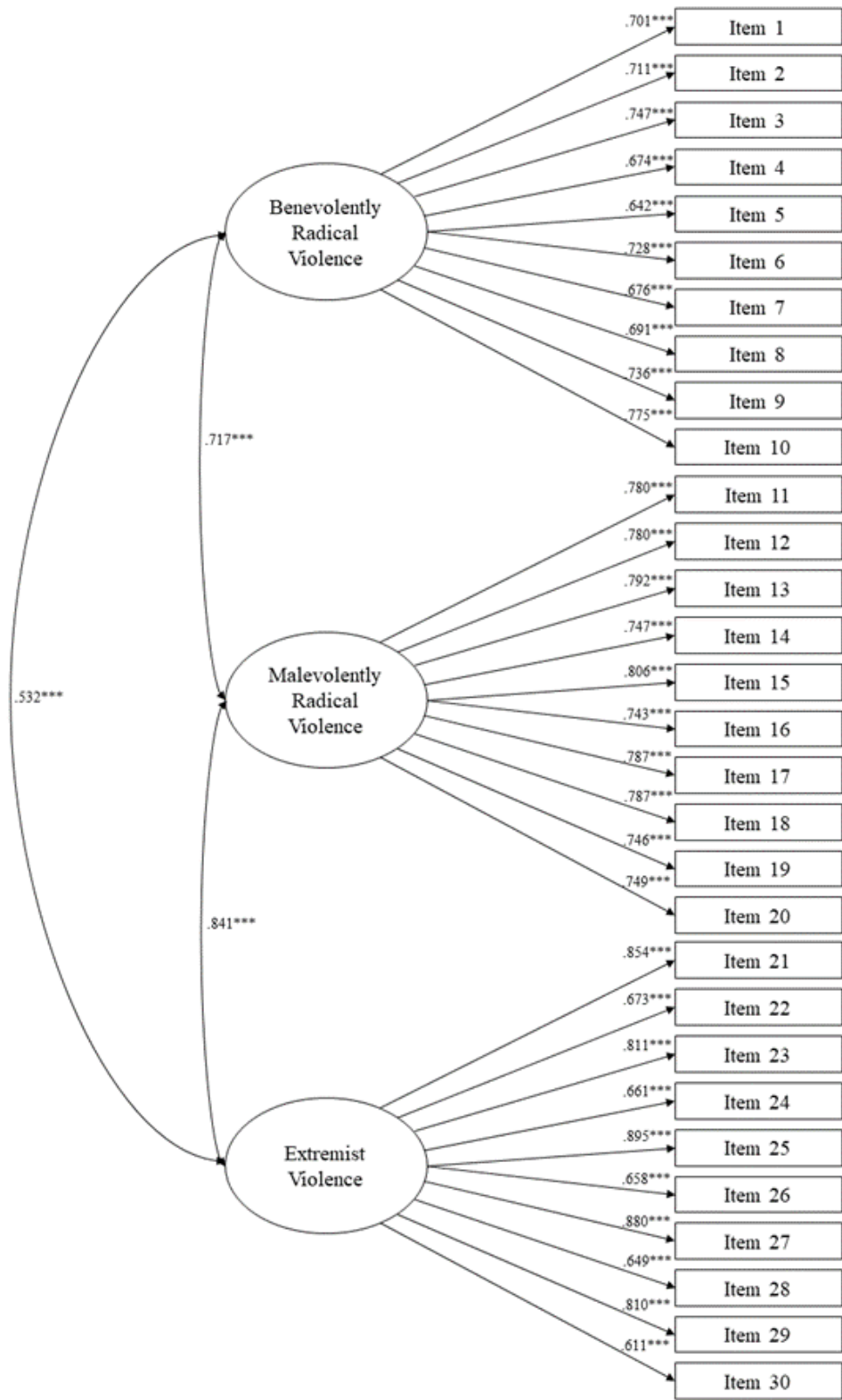
($SRMR = .114$). However, given that the SRMR is an absolute fit index that is sensitive to large degrees of freedom models, we conclude that the model had adequate fit. Furthermore, all factor loadings were sufficiently high ($> .600$; see Figure 8).

Figure 8

Measurement Model for the Political Violence Scale

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Note. *** $p < .001$

Step 5: Reliability and Validity

The internal consistencies of all scales were examined with McDonald's omega. The political system preference subscales had satisfactory reliability (autocracy: $\omega = .72$, anarchy: $\omega = .75$), except for democracy ($\omega = .53$). Likewise, the scales for political tolerance ($\omega = .84$), religious tolerance ($\omega = .86$), and ingroup superiority ($\omega = .97$) were highly reliable, as were the political violence subscales: BRV ($\omega = .90$), MRV ($\omega = .93$), and EV ($\omega = .93$).

To establish convergent and discriminant validity, the scales were correlated to four pre-existing instruments: the AIS (activism intention scale; $\omega = .86$), RIS (radicalism intention scale; $\omega = .85$), and the SDO₇ scale of Social Dominance Orientation ($\omega = .79$). Table 6 displays the results, including a rating of the strength of evidence presented.

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Table 6

Validation Criteria per Scale and Results

Scale	Subscale	Validation instrument	Validated if...	r	p	BF	Strength of evidence for hypothesis
Political system preference	autocracy	SDO	C+	.326	<.001	> 1000	++
	democracy	SDO	not C+	-.344	1.000	0.009	++
	anarchy	SDO	not C+	-.178	.999	0.017	++
Political tolerance		SDO	C-	-.062	.139	0.221	-
Religious tolerance		SDO	C-	-.156	.003	5.771	+
Ingroup superiority		SDO	C+	.323	<.001	> 1000	++
Political violence	BRV	AIS	C+	.331	<.001	> 1000	++
		RIS	not C+	.433	<.001	> 1000	--
	MRV	AIS	not C+	.174	.001	14.756	--
		RIS	C+	.475	<.001	> 1000	++

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EV	AIS	not C+	.073	.103	0.284	+
	RIS	C+	.419	<.001	> 1000	++

Note. C+ = positive correlation, C- = negative correlation (all tests one-sided). BF = Bayes Factor. Ratings of evidence strength: - = BF < 1/10, substantial evidence against correlation; - = BF 1/10 to 1/3, weak evidence against correlation; ~ = BF 1/3 to 3, inconclusive evidence; + = BF 3 to 10, weak evidence for correlation; ++ = BF > 10, substantial evidence for correlation. SDO = Social Dominance Orientation; AIS = Activism Intentions Scale; RIS = Radicalism Intentions Scale.

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The political system preference subscales were validated on the SDO₇ scale; as expected, high SDO correlated with approval of autocracy, but not of democracy or anarchy (strong evidence for each). Both the political and religious tolerance scales were expected to correlate negatively with SDO - that is, the stronger a person's social dominance orientation, the more intolerant they should be of others' political and religious ideas. There was weak evidence against any correlation with political tolerance, while there was weak evidence for the hypothesised negative correlation with religious tolerance, providing a mixed validation of the two scales. By contrast, there was strong evidence for a positive correlation between SDO and ingroup superiority, as hypothesised, thus clearly validating this scale. The two subscales for activism intentions and radicalism intentions were used to validate the vignette measures of benevolently radical violence, malevolently radical violence, and extremist violence, with mixed results: There was strong evidence for correlations between EV and MRV and the RIS, and between BRV and the AIS, all of which was expected. At the same time, BRV was not expected to correlate with the RIS and MRV was not expected to correlate with the AIS, yet there was strong evidence that both did, although the correlation for MRV was small. EV was uncorrelated with the AIS, with weak evidence for this hypothesis.

Discussion

We conducted multiple, varied data collections with the aim of developing a questionnaire consisting of multiple reliable scales that could be used to operationalize different radicalisation outcomes, namely benevolent radicalism, malevolent radicalism, and extremism. We aimed to make this questionnaire applicable to an adolescent population, ages 14 and up. Cognitive interviewing and expert evaluations were combined with quantitative studies to tailor the instrument to adolescents and ensure that the language and contents were suitable.

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This process resulted in a questionnaire consisting of five constructs, measured by scales and subscales: political system preference (with the subscales of preference for autocracy, democracy, and anarchy), political tolerance, religious tolerance, ingroup superiority, and approval and support of political violence (with the subscales of benevolently radical, malevolently radical, and extremist violence). Overall, this matched the theoretical foundations the questionnaire was built on. Two items were deleted from the ingroup superiority scale because, contrary to expectations, they did not match the unifactorial structure of the scale. The content of those items was ingroup superiority on the basis of opinion-based ingroups, specifically political opinion. This indicates that political opinion was not perceived as a feature of social group identity in the way that other opinions and lifestyle choices, such as carnivorousness vs. vegetarianism or choosing to wear religious attire, were, nor was it perceived similarly to more permanent features like nationality and cultural background. It is unclear why this was the case, but since another scale in the questionnaire covers political tolerance, which is as a construct close to the content of this item, the exclusion was a clean solution without loss of content. The political violence scale achieved good model fit and reliability when it was modelled as intended during construction, with two vignettes per construct. However, in the previous PCA undertaken to establish the factor structure, one vignette intended for the malevolent radicalism subscale was assigned to the extremism subscale instead. The vignette (V4) was perhaps too similar to one of the extremism vignettes (V3): While the attitude the group's spokesperson takes towards violence and the directness of correlation between the group's actions and the injury of bystanders each differ between the two vignettes, both are set in the context of a conflict with the police who are trying to interfere with a demonstration. Nevertheless, as the model which assigns V4 to the malevolent radicalism subscale achieved good fit, the scale can be used as

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intended, with three subscales for benevolently radical violence, malevolently radical violence, and extremist violence.

All scales in the final questionnaire had satisfactory ($\omega > .70$) to excellent reliability. Face validity of the scales was established through a series of expert ratings and cognitive interviews during which the participants' interpretations of and associations with the items were probed. The convergent and discriminant validation using the ARIS and the SDO₇ scales came up with mixed results. This is partly an expression of the dilemma inherent in validation using other measures of the same construct: If the correlations were high and constant, why would a new instrument be needed at all? On the flipside, if there were no correlations with existing measures of a construct, can the new instrument be said to measure that construct? These issues of external validation are counteracted in the present study by pairing the method with cognitive interviewing and expert review. The cognitive interviews were a key step in questionnaire development as they clearly demonstrated the importance of making sure the target group understands the measures in the intended way.

However, some limitations ought also to be noted: Firstly, that participants were recruited through paid advertising on social media and people who self-select to take part in a study are likely to differ from those who don't in terms of motivation, interest, free time, etc. (although this effect may be mitigated by monetary incentives); and secondly, that the sample of $n = 622$ was somewhat small when split in half. Thus, while the sample size was sufficient for PCA, CFA, and reliability analyses, it did not suffice for calculation of measurement invariance across the Austrian and German subsamples. While the t-tests we initially conducted on scale means indicated no substantial difference between the two groups, future studies should establish measurement invariance prior to using the scale to compare groups from different populations. Furthermore, invariance across gender, countries of different political systems, age groups, and language groups have not been established for this

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measure. Finally, a key limitation to be taken into account is the cross-sectional design of the study, preventing the examination of test-retest-reliability and predictive validity.

These limitations inform when and where the questionnaire can be used; the questionnaire was developed and validated for German-speaking adolescents, aged 14 and older. Hence, any translations of the questionnaire should be validated before use, and measurement invariance between the original version and any translation should be established. In addition, any use of the instrument outside of the target adolescent group would need to be validated. Finally, while we do not assume cultural specificity of the scale, it was developed and validated in the context of two WEIRD (Western, Educated, Industrialised, Rich, Democratic; Henrich et al., 2010) countries and should not be expected to be similarly applicable outside this group of countries. The defining aspects of radicalism and extremism are often heavily dependent on one's cultural and political surroundings - as the phrase goes, 'one man's terrorist is another man's freedom fighter'. Within these confines in terms of cultural context and target sample, the AROQ meets the pressing need for a comprehensive measurement instrument to operationalize different outcomes of the radicalization process in a way that is suitable for research with adolescents.

Conclusion

In the present article, we present a measurement instrument that consists of reliable, well-fitting scales which are face valid and partly convergently and discriminantly valid and have undergone cognitive testing to ensure their suitability for a thus far understudied key group for radicalization research - adolescents. Researchers aiming to investigate antecedents, correlates and consequences of radicalism and extremism during early or late adolescence in WEIRD countries will find a solid and useful instrument in the AROQ.

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Data Accessibility Statement

All data sets, pretesting documentation, preregistrations and the syntaxes used for data cleaning are available in the accompanying OSF folder:

https://osf.io/6d4nh/?view_only=40113dc81c63431b8b444887109e6e66

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Supplement 1: Details on the cognitive interview sample

Table S1

Cognitive Interview Partners

Interview Nr	Gender	Age	School type	Native language
1	m	15	AHS	German
2	m	13	AHS	German
3	m	13	NMS	German
4	m	13	AHS	German
5	f	14	NMS	Russian
6	m	14	NMS	German
7	f	14	AHS	German
8	m	14	AHS	Polish

Note. AHS = academic high school, NMS = middle school. In the OSF project (https://osf.io/6d4nh/?view_only=40113dc81c63431b8b444887109e6e66), go into the folder Pretesting Documentation > Cognitive Interviews for full transcripts (German) and notes from the interviews (English).

Supplement 2: Details on initial item development

Political System Preference. Political system preference was operationalized through an adapted version of the democracy-authoritarianism-preference subscale from the World Values Survey's scale of democracy support (Ariely & Davidov, 2011). The scale consists of three items describing authoritarian systems, three items describing democratic systems (freely self-formulated because the original single item is worded vaguely and directly uses the term "democracy", making it very prone to social desirability), and three items describing anarchist systems (selected and adapted from Maes et al., 1996). Participants rated these statements on a 9-point-scale ranging from "very bad" to "very good".

Items for anarchist systems were included because, while anarchism and authoritarianism both reject democratic methods, they differ in that anarchism seeks to maximise plurality while authoritarianism seeks to minimise it. A scale only containing authoritarianism and democracy would fail to represent those with anarchist preferences. Originally, the scale was only intended to measure democracy and autocracy. When reviewing this and consulting different experts prior to study 1, it was pointed out to us that some people would prefer anarchist models and would therefore not find proper representation of their opinions in a scale that only lets them evaluate how much they like autocratic and democratic models of government. Following this recommendation, we included anarchism in the scale. Anarchy is not inherently an anti-emancipatory or anti-democratic system, if anti-democratic is understood as a system enforcing principles with force and lacking controls of power and protection of minorities; hence anarchy and democracy are both potentially suitable preferences for radicals, while autocracy is clearly aligned with extremist preferences (following Bötticher, 2017). The scale we developed shows that the three systems are structurally different (in that the scale has three separate

factors) and the anarchism scale is very reliable. The subscale consisted of three items which were adapted from Maes et al. (1996).

Maes, J., Schmitt, M., & Schmal, A. (1996). *Gerechtigkeit als innerdeutsches Problem: Politische Grundhaltungen (Konservatismus, Liberalismus, Sozialismus, Anarchismus, Ökologismus, Faschismus) als Kovariate [Justice as a German domestic problem: Basic political attitudes (conservatism, liberalism, socialism, anarchism, ecologism, fascism) as covariates]*.

<http://hdl.handle.net/20.500.11780/361>

Proselytism and Exclusivity. People's willingness to spread their socio-political views was assessed through five self-constructed items, among which one modelled the moderate position (low propagandism and low exclusivity), two radicalism (high propagandism and low exclusivity) and two extremism (high exclusivity and medium to high propagandism) (universal vs. particularistic morality). This scale was omitted during scale development and validation in the main study, due to lack of a unique contribution to the overall questionnaire and psychometric issues with the items.

Tolerance (Political and Religious). Political and religious tolerance was assessed using the five-item scale used by Dono et al. (2018). The scale consists of a list of partisan groups, from which the participant is asked to choose their most disliked one(s), and five items describing different political rights (for example, holding public rallies, participating in TV debates). The participant is asked to rate whether their most disliked group(s) should be given those rights. We presented this scale twice, once including partisan groups (the supporters of six major Austrian parties) and once including religious groups. In both measures, the option "none" was also offered. Scale means of religious and political intolerance were calculated separately.

Ingroup Superiority. An item from Doosje, Loseman and van den Bos (2013)'s ingroup superiority measure was adapted to five group labels falling under unchangeable attributes (native language, nationality, social class, cultural origin, skin colour) and five falling under attitudes and actions (political opinion, clothing choices, dietary habits, religion, volunteering for causes). The items followed the same structure as this example: "I think that people who have the same political opinions as me are better people than those with different political opinions." The idea of the measure was that participants would differentiate between changeable and unchangeable features, with extremists attributing superiority to both dimensions while radicals attribute it only to changeable features. Hence, the expectation was that these would form 2 subscales. However, this was not the case and the scale was extremely skewed. We hypothesised this might be due to strong social desirability attached to referring to oneself as a better person than someone else. Cognitive interviewing suggested that the question and the concept of a "better person" were overall too abstract for the target audience, as were some of the features (e.g., social class). Over the course of the interviews, the list of features was reduced to those understood most concretely (by asking each interviewee to explain each group feature and give an example).

The scale was considered final after several interviewees had been able to answer and interpret it without problems, at which point the scale went on to expert ratings to ensure it still was still considered a match for the target construct by other researchers. One more feature (sexual orientation) was added at the suggestion of an expert.

Approval and Support of Political Violence. Approval of violence was operationalized by self-constructed subscales assessing self-directed violence (self-abuse and suicide; SaS), general interpersonal violence (GV), and structural violence (SV) following the WHO's (2021) definition. Participants had to rate a number of statements based on whether it

could be right to do these things in order to propagate one's political, religious or other views; on the structural violence subscale, they had to rate whether it could be right to do these things in order to propagate one's views when one is in a position of power, for example because one has a lot of money or political power. All items were rated on a 9-point scale ranging from "never" to "always". The general interpersonal violence scale contained physical injury, killing, sexual violence, restrictions of freedom, verbal attacks, public shaming, sharing private information, threats and property damage. The structural violence scale contained the areas of housing, employment, education, healthcare, police, the justice system, media and public protest. An example item is: "As a landlord or property manager, refuse to rent an apartment to certain groups of people."

The scale structure of this long and abstract measure was not as expected, so we took it to cognitive interviewing only to quickly discover that the questions were too abstract for the target audience. Some items were not understood altogether, while others - the question format being "can it ever be right to..." - were initially answered with a "no, never", but upon probing with "can you imagine a situation where it might be right?", the participants came up with multiple responses and changed their answer. Concluding from this that some context was needed, we changed the scale to a vignette format, trying out multiple vignette styles throughout the interviews.

Study 1a - Survey

These five measures were then combined in one survey and quantitatively pretested. The survey was distributed online using paid Facebook/Instagram advertisements. 140 people were excluded after data cleaning (details on data cleaning: Supplement 2), leaving $n = 1290$. Table S1 displays the sample characteristics (age, gender, political orientation, religiousness). The complete initial questionnaire and detailed information about the translation process can

be found in the OSF folder. Some instruments already had validated German translations, others were translated following the TRAPD method (European Values Study, n.d.).

Table S1

Sample Characteristics for Both Studies

Country	Gender	n	% (total)	age	political orientation	religiousness
M(SD)						
Study 1						
Austria	Male	604	50.78	18.40(1.29)	4.42(2.07)	3.29(2.35)
	Female	655	46.82	18.38(1.23)	3.31(1.68)	3.19(2.17)
	Diverse	16	1.24	17.75(1.34)	1.60(0.83)	1.86(1.10)
	RR	15	1.16	17.40(1.45)	2.36(1.12)	2.00(1.47)
	Total	1290	100	18.37(1.27)	3.81(1.97)	3.21(2.24)

Note. Political orientation and religiousness were each scaled from 1 to 9, where 1 meant left / entirely non-religious and 9 meant right / very religious. RR = refused response.

CFAs were conducted using ML estimation. EFAs were conducted as parallel analyses. The political system preference scale was supposed to be bifactorial, with autocracy and democracy forming one factor ($\omega = .59$, $CI(.55|.62)$) and anarchy the other ($\omega = .78$, $CI(.76|.80)$). The first factor's poor reliability was caused by the autocracy item describing an expert government (ω if removed = .71; EFA revealed the item to form a factor of its own). The scale hence needed improvement in the main study.

The propagandism and exclusivity scale was expected to consist of one single item and two factors with two items each. CFA could not be computed due to the low number of variables, but EFA confirmed the expected factor structure. Reliabilities were acceptable

given the low item number (for extremism: $\omega = .46$, CI(.38|.51), $\lambda^2 = .46$, CI(.38|.51), for radicalism: $\omega = .52$, CI(.47|.58), $\lambda^2 = .52$, CI(.46|.58)).

The political and religious tolerance subscale were both expected to be unidimensional. The one-factor model's fit was bad for both the political (CFI = .79, TLI = .57, RMSEA = .27, CI(.25|.29)) and the religious tolerance scale (CFI = .82, TLI = .64, RMSEA = .28, CI(.26|.30)). However, both scales had good reliability (political tolerance: $\omega = .76$, CI(.74|.78), religious tolerance: $\omega = .84$, CI(.82|.85)). In both cases, the fit was adequate to good for a two-factor model in which the two items referencing an education context (school/university) formed a separate factor (political: CFI = .96, TLI = .90, RMSEA = .13, CI(.11|.15), religious: CFI = .99, TLI = .97, RMSEA = .08, CI(.06|.11)).

The ingroup superiority scale was supposed to have two factors. The fit for this model was adequate (CFI = .92, TLI = .89, RMSEA = .11, CI(.10|.12)) and reliabilities for both factors were too ($\omega = .705$, CI(.68|.73), and $\omega = .89$, CI(.88|.90), respectively). However, the covariance between factors was relatively high (.85, CI(.82|.88), SE = .02, $p < .001$). An EFA run specifying an oblique factor rotation (promax) suggested a more complex factor structure, with three factors consisting of five, three, and one items, respectively, no double-loadings between them, and one item not associated with any factor. The scale needed to be investigated further in the subsequent cognitive interviews.

Finally, the violence measure was expected to form three subscales: self-directed, interpersonal, and structural violence. The model fit for the self-directed violence scale (four items, one factor) was not quite acceptable (CFI = .90, TLI = .69, RMSEA = .29, CI(.26|.32)) although the reliability was good ($\omega = .79$, CI(.77|.81)). A single-factor model did not fit the interpersonal violence scale (CFI = .74, TLI = .69, RMSEA = .16, CI(.15|.16)) although its reliability was good ($\omega = .88$, CI(.87|.89)). The same was the case for the structural violence

scale (CFI = .81, TLI = .76, RMSEA = .16, CI(.15|.16), ω = .90, CI(.88|.92)). The reliabilities were likely inflated by the large number of items (thirteen and eleven items, respectively).

The scale needed to undergo further development during cognitive pretesting.

Table S2 gives an overview of the number of items per scale in the first and final version of the questionnaire.

Table S2

Total Number of Items in Original and Final Questionnaire

Scale	Original no. items	Final no. items
Political system preference	9	9
Proselytism and exclusivity*	5	0
Political tolerance	5	5
Religious tolerance	5	5
Ingroup superiority**	10	12
Political violence legitimization	28	30
Total	62	61

Note. * Scale completely removed from questionnaire. ** 2 items removed following PCA in step 3.

Supplement 3: Details on data cleaning

Prestudy

The advertising campaign started on June 13, 2021. The target audience was defined by location (Austria) and age (16 – 20). To incentivize participation in the study, participants had the opportunity to win ten 50 € gift cards (they were informed in advance that they would be able to choose between a donation to an NGO in their name, a gift card for various online shops, or a direct transfer). We aimed for $n = 1200$ complete questionnaires, approximate gender balance and approximate balance on the scales ‘self-proclaimed political orientation’ and ‘religiousness’, and continuously adjusted the advertising campaign accordingly.

The final sample size was 1290; $n = 1430$ prior to exclusions. 1290 people remained after excluding everyone who took under 13 minutes to complete the questionnaire; this lower bound was determined by calculating the mean and standard deviation of the time it took to complete the questionnaire (excluding those whose time was not logged because they closed the survey and continued at a later point and those who took > 120 minutes and hence were outliers who most likely paused the survey at some point) and then deducting one SD from the mean.

Main study

This time, the target audience was defined as living in Germany and aged 14 – 18. The idea was to have a fresh sampling pool and avoid extensive overlap with the sample from Study 1. The focus was on ages 14 – 16. As Facebook targeting is limited for this age group, some participants from Austria also completed the questionnaire. We decided to keep them in the sample, but set their responses to all items that mention “German” or “Germany” as missing, as these were intended to ask about participants’ home country. Further, because targeting is limited, we could only actively aim for gender balance.

Following the same procedure as in Study 1, a cut-off value for completion time was determined (12.6 minutes). The original n was 673, the final n after exclusions was 633.

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Supplement 4: Sample description prior to splitting

While the German sample was significantly younger (see Table S3, $t(620) = -11.91$, $p < .001$) and more positive towards autocracy as a political system ($M = 2.37$ vs. $M = 1.81$ on a 1 - 7 scale; $t(73.86) = 4.45$, $p < .001$), the samples did not differ in terms of preference for democracy ($t(620) = -1.60$, $p = .110$), preference for anarchy ($t(59.91) = -1.77$, $p = .082$), political tolerance ($t(620) = -0.53$, $p = .595$), religious tolerance ($t(620) = -1.15$, $p = .253$), ingroup superiority ($t(620) = -1.70$, $p = .089$), support for BRV ($t(620) = -2.43$, $p = .015$), MRV ($t(620) = -0.29$, $p = .771$), or EV ($t(620) = -0.30$, $p = .764$). Hence, Germans and Austrians were treated as a singular sample.

Table S3

Sample Characteristics Prior to Random Half Split

Country	Gender	n	% (total)	age	political orientation	religiousness
					M(SD)	
Germany	Male	206	33.12	15.62(0.95)	4.30(1.57)	3.14(2.24)
	Female	329	52.89	15.62(1.06)	3.78(1.45)	3.52(2.18)
	Diverse	18	2.89	15.44(0.92)	1.78(0.88)	2.50(1.89)
	RR	14	2.25	15.71(0.99)	2.86(1.10)	2.36(1.91)
	Subtotal	567	91.16	15.62(1.01)	3.88(1.55)	3.32(2.20)
Austria	Male	6	0.96	17.00(1.55)	3.50(0.84)	3.83(3.13)
	Female	46	7.40	17.39(1.14)	3.04(1.41)	3.28(2.33)
	Diverse	3	0.48	17.33(1.15)	2.00(1.00)	3.67(3.06)
	RR	0	0.00	-	-	-

Subtotal	55	8.84	17.35(1.17)	3.04(1.36)	3.36(2.41)
Total	622	100	15.77(1.14)	3.81(1.55)	3.32(2.22)

Note. Political orientation and religiousness were each scaled from 1 to 9, where 1 meant left / entirely non-religious and 9 meant right / very religious. RR = refused response.

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Supplement 5: PCA for ingroup superiority**Table S4***PCA of Ingroup Superiority Items Prior to Exclusion of Items 13 and 14*

	RC1	Uniqueness
1. ...did not share your cultural background? [work]	.921	.152
2. ...did not dress like you (for example religious clothing)? [work]	.916	.162
3. ...did not share your religion? [school]	.913	.166
4. ...did not share your religion? [work]	.912	.168
5. ...did not share your nationality? [work]	.912	.168
6. ...did not share your sexual orientation? [work]	.892	.205
7. ...did not share your cultural background? [school]	.884	.218
8. ...did not dress like you (for example religious clothing)? [school]	.877	.232
9. ...did not share your sexual orientation? [school]	.866	.250
10. ...did not eat like you (for example whether they eat meat or not)? [work]	.856	.267
11. ...did not share your nationality? [school]	.854	.270
12. ...did not eat like you (for example whether they eat meat or not)? [school]	.803	.356
13. ...did not share your political opinion? [work]	.427	.817
14. ...did not share your political opinion? [school]		.875

Note. Applied rotation method is oblimin. Question anchor “school”: “Imagine you are switching to a boarding school. That means you will also be sleeping at school and only going home to your family during school holidays. You will be sharing your room with

another student. What would you think if this was someone who..." Question anchor "work": "After school you will have a job, or maybe you're already working. What would you think if your boss was someone who..."

Supplement 6: PCA for political violence legitimization

Table S5

Initial PCA for Violence Items with Number of Components Determined by Eigenvalue, Component Loadings for Violence

	RC 1	RC 2	RC 3	RC 4	RC 5	U
V6 How likely would you be to help the group collect donations?	.928					.119
V6 How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.920					.121
V6 How likely would you be to participate in the group's activities?	.902					.189
V6 What do you think of this group?	.743					.251
V6 Is the group's behaviour okay considering their very important goals?	.717					.369
V4 How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.475	.441				.187
V4 How likely would you be to help the group collect donations?	.437			.461		.201

V5 How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.856	.158
V5 How likely would you be to help the group collect donations?	.832	.193
V5 How likely would you be to participate in the group's activities?	.811	.220
V5 Is the group's behaviour okay considering their very important goals?	.783	.266
V5 What do you think of this group?	.739	.229
V4 How likely would you be to participate in the group's activities?	.462	.294
V2 How likely would you be to help the group collect donations?	.912	.172
V2 How likely would you be to participate in the group's activities?	.885	.221
V2 How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.868	.148
V2 Is the group's behaviour okay considering their very important goals?	.828	.184
V2 What do you think of this group?	.747	.232
V3 What do you think of this group?	.715	.230
V3 Is the group's behaviour okay considering their very important goals?	.703	.301
V3 How likely would you be to help the group collect donations?	.600	.312
V4 What do you think of this group?	.595	.260

V4 Is the group's behaviour okay considering their very important goals?	.592	.343
V3 How likely would you be to participate in the group's activities?	.475	.404
V1 What do you think of this group?	.836	.166
V1 Is the group's behaviour okay considering their very important goals?	.805	.229
V1 How likely would you be to help the group collect donations?	.762	.230
V1 How likely would you be to participate in the group's activities?	.664	.276
V1 How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?	.657	.255
V3 How likely would you be to help the group by distributing information about it (e.g. flyers, posts on social media)?		.364

Note. Applied rotation method is oblimin. V = vignette, V1 = vignette 1 out of 6. U = uniqueness. V1 and V5 = benevolent radicalism, V2 and V4 = malevolent radicalism, V3 and V6 = extremism.

Third Paper: Same same but different? How much of a difference does it make how we operationalize attitudes towards political violence in radicalisation studies?

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Author contributions:

Conceptualization	JR, MP
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Project administration	JR
Funding acquisition	JR

Note. CRediT taxonomy of author contributions.

Group Processes & Intergroup Relations

Same same but different? - How much of a difference does it make how we operationalize attitudes towards political violence in radicalization studies?

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Manuscript Type:	Original Manuscript
Keywords:	radicalization, political violence, measurement of political violence, measurement of political attitudes, Bayes Factors
Abstract:	Quantitative measures of support for political violence and related concepts are often treated as roughly interchangeable although, to date, it is unclear whether they are indeed comparable. We aimed to investigate whether and to which extent measures of political violence can be used interchangeably. We conducted an online survey using two direct measures of attitudes towards political violence, two indirect measures, and one behavioural measure. Direct measures in the form of vignette approaches were able to differentiate between different kinds of political violence, whereas broader direct measures were fuzzier in their outcomes. We further found that indirect and behavioural measures for political violence were difficult to operationalise. The endorsement experiment as an indirect measure appeared most promising in this regard, although it did not correspond perfectly to the results of the direct measures. Disassembling measurements of political violence, we may contribute to improve quantitative research on radicalism, radicalization, and extremism.

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Same same but different? - How much of a difference does it make how we operationalize attitudes towards political violence in radicalization studies?

Political radicalization and political violence are facets of intergroup conflict in its extreme form. Radicalization literature is broadly spread across academic disciplines and theoretical background; with this breadth comes some terminological and conceptual fuzziness. With terms like radicalism, extremism, violent intentions, political violence and the like, authors may frequently find themselves using different terms to describe the same concept or vice versa. It is therefore not surprising that this also applies to the measures used in this literature.

Political violence is a threat to security with far-reaching effects on public health, economic prosperity, and well-being (e.g., Sousa, 2013; Vorsina et al., 2017). The role it plays in radicalization is subject to ongoing debate, ranging from a neither necessary nor sufficient aspect of radicalization to its central outcome (Jahnke et al., 2022). Political violence describes the deliberate use of violence against people or objects in pursuit of political aims, i.e., with the intent to undermine another group or community defined by self-categorization, such as a political party, nation, or religious group (Sageman, 2017). In this work, we use political violence as an umbrella term for any violent acts committed in relation to different political mindsets that can be the outcomes of radicalization. More specifically, we follow a differentiation between extremism and radicalism (Bötticher, 2017), and within radicalism we further differentiate between benevolent and malevolent radicalism (Reidy, 2018, 2019). In brief, the central differentiating criterion between those three concepts when it comes to violence is that benevolent radicalism endorses violence only insofar as it is directed against oneself (this includes passive and active self-harm for the sake of political protest, e.g., hunger strikes or taking extreme risks of physical harm), while malevolent

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radicalism is not normatively in favour of interpersonal violence, but allows it under certain circumstances, and extremism is normatively fully in favour of violence perpetrated against members of an outgroup to reach a political goal. There are further ideological distinctions between these mindsets (Bötticher, 2017, for details), but as our focus is on political violence, we limit our definitions to these aspects. Political violence can be considered the ultimate level of escalation in terms of individual behaviour within an intergroup conflict.

Efforts to develop quantitative measures of support for political violence and related concepts and to collect more first-hand, quantitative data have been increasing (Schuurman, 2020). Some measures are more narrow, operationalizing things like “willingness to engage in political violence”, while others are much broader, claiming to operationalize “extremism” or, famously, “radicalism and activism intentions” (Moskalenko & McCauley, 2009). These measures are often treated as roughly interchangeable. In this work, we decided to investigate whether and to what extent different measures of support for political violence and adjacent concepts truly relate to each other - are they all “same same but different,” or should we take a more fine-grained approach to which measures we use interchangeably in the future?

Direct versus indirect measurement of political violence

Among measures of political violence, extremism, and radicalization, direct measures of attitudes are largely dominant compared to indirect measures of attitudes and behavioural measures. In line with Gawronski and De Houwer (2014), we use the terms direct and indirect to describe measurement procedures and the terms explicit and implicit to describe measurement outcomes. A measurement procedure may be classified as direct if the measurement outcome is a result of participants’ self-assessment of the attribute in question. Direct measurement procedures are often related to explicit measurement outcomes which are characteristically intentional, conscious, resource-dependent, or controllable. A measurement

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procedure may be called indirect if the measurement outcome is not a result of self-assessment or if it is based on a self-assessment of attributes different from the attribute being measured. Measurement outcomes may be described as implicit if the impact of the psychological attribute of interest on participants' responses is unintentional, unconscious, resource-independent, or uncontrollable (Moors & De Houwer, 2006). For example, if a measure reflects participants' attitudes toward political violence even though they do not intend to express those attitudes (i.e., unintentional) or even though they intend to conceal those attitudes (i.e., uncontrollable), this outcome is implicit.

Direct measurement of political violence

Due to the simplicity of administration and evaluation, direct measures are common. In the relevant literature, two types of direct measures of attitudes towards political violence are dominant: One way of operationalizing these attitudes is by asking individual, direct questions making up a scale, with constructs ranging from sympathy with (e.g., Bhui et al., 2020), support of (e.g., Kalmoe, 2014; Nivette et al., 2017), and intentions to engage in political violence and related behaviours (e.g., Moskalenko & McCauley, 2009) to other aspects considered central to radicalization (e.g., Ozer & Bertelsen, 2018). Opposed to these direct questions is the approach of framing multiple questions in the context of a vignette (e.g., Reiter et al., 2023; Renström et al., 2020; Pfundmair & Mahr, 2022). Vignettes are short descriptions, for example of fictitious political groups that engage in different activities to promote a political goal, or of fictitious situations which are described in some detail. The participant is then typically asked their opinions on the description, e.g., what they think of the behaviour described in the situation, what they think of the group described, whether they would support the group described, and so on. Vignettes are longer than simple scale items and provide more context to a question, thus allowing participants to interpret the questions more precisely and ensuring that less of the variance in their response is based on their

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interpretation of certain, vague terms, and more on their actual attitudes towards political violence. On the flipside, the more context an item provides, the less general it may be. Moreover, a single question is more parsimonious than several questions framed in a vignette, meaning that vignette measures require participants to focus on reading for a longer time than simple questions do, while simple questions in this context often rely on vague terms and therefore require the participant to think more about the meaning of words and to interpret more before responding.

Because these measurement approaches currently dominate the field as far as direct measures go and have the aforementioned different advantages and disadvantages, it is useful to compare them and see how strongly and in which ways they relate to each other. What both kinds of measures share is that direct measures are prone to social desirability and other biases, especially with socially sensitive topics. The value of self-report measures is also limited for psychological traits that lie outside of conscious awareness or are introspectively inaccessible (Gawronski & De Houwer, 2014).

Indirect measurement of political violence

To reduce potential bias due to social desirability, many research areas use indirect techniques for sensitive questions. These range from the widely used *Implicit Association Test* (IAT), which utilises reaction times, to measures which rely on priming to connect the rating of seemingly unrelated stimuli with the participant's evaluation of the underlying concept of interest. For example, to measure affect implicitly, in the *Implicit Positive and Negative Affect Test* (IPANAT), participants rate the extent to which they feel random artificial words express certain moods (Quirin et al., 2009).

A particularly parsimonious example of an indirect measure which is more relevant to political psychology is the endorsement experiment (e.g., Blair et al., 2013; Lyall et al.,

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2013). This indirect questioning technique is becoming increasingly popular among social scientists as it protects respondents' privacy by preventing the researcher from identifying individual respondents' truthful position, thus reducing social desirability bias (Blair et al., 2014). Respondents are randomly assigned to different conditions and asked to rate their level of support for a particular statement. In the control condition, they are shown a neutral statement (e.g., about their support for a certain unproblematic policy); in the treatment conditions, a sensitive issue of interest is added to this neutral statement (e.g., the information that a particular group endorses this policy). Comparison between these groups by way of Bayesian analysis enables the researcher to determine the level of support for the sensitive issue within the investigated population.

Behavioural measurement of political violence

Another methodological approach that may both be direct and indirect is the collection of behavioural data. For example, to measure aggression, a well-validated paradigm is asking participants to choose the amount of extremely spicy hot sauce to be allocated to a fellow participant (Liebermann et al., 1999). Since the goal of attitudinal measures is often to ultimately predict behaviours, behavioural measures cut out the middle man; however, often attitudinal measures are used precisely because the behaviour of interest is not easily measured.

Comparability of different measurements

It should be noted that the different measurements we have set out so far assess somewhat different concepts. Whereas indirect (implicit) evaluations reflect a person's gut response and are the starting ground for more reflective processes, direct (explicit) attitudes represent completed reflective processes. Behaviours, on the other hand, rely on the latter, but are also determined by factors such as attitude accessibility or stability (Glasman & Albarracín, 2006). Thus, it is unsurprising that correlations between different measurements

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covering the same underlying construct have been wide-ranging in past research, varying extensively between different domains (e.g., Farjam et al., 2019; Süssenbach et al., 2017). Nevertheless, these different measurements can assess the same variable of interest, though in different processing phases. For this reason, it is worth to investigate each of them.

The Present Study

We aim to address the question whether and to which extent we can use common measures of political violence and adjacent concepts within and between these three kinds of measurements (direct, indirect, and behavioural) interchangeably. Hypotheses are outlined in Figure 1.

Methods

A cross-sectional online study was conducted using the participant recruitment service Prolific. The study materials, data and analysis code as well as the preregistration of investigated research questions and hypotheses are available at

https://osf.io/ajx3f/?view_only=98246e83c52e4e2e8f02a39ea73a1d67 (blinded link).

Approval was granted by the [BLINDED] ethics review board on 28 November 2022.

Participants received financial compensation through Prolific.

Sample

Two versions of the same questionnaire were distributed separately via Prolific, with one version framed in terms of policies to combat climate change ($n=121$) and the other in terms of combatting Covid-19 safety measures ($n=73$). The resulting sample consisted of 44.0% women (53.4% men, 2.6% other; climate: 47.1% w, 50.4% m, 2.5% o; Covid: 38.4% w, 57.5% m, 4.1% o). Participants were young adults aged between 18 and 30 ($M_{total}=25.10$, $SD_{total}=3.15$, $M_{climate}=25.07$, $SD_{climate}=3.20$, $M_{covid}=25.16$, $SD_{covid}=3.07$). Overall, participants were left-leaning in their political self-identification on a scale from 1 to 10 (1 “left” to 10

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“right”): $M_{total}=3.81$, $SD_{total}=1.68$, $M_{climate}=3.38$, $SD_{climate}=1.53$, $M_{covid}=4.54$, $SD_{covid}=1.68$.

Participants screened for the climate condition were significantly more left-leaning than those screened for the Covid condition [$t(191)=-4.91$, $p < .001$, Cohen’s $d=-0.73$, Cohen’s $d_{stand}=1.59$]. The majority of participants were residing in Germany at the time of the study (90.7%; 9.3% Austria); similarly, most participants were born in Germany (75.3%, 7.7% Austria, 1.5% UK, 1.5% USA, 1.5% India, 12.5% individual other countries). 56.7% of the sample held a student status (33.0% no student status, 10.3% no information). All participants were fluent in German as per Prolific pre-selection criteria.

Measures

All measures were rated on response scales ranging from 1 to 7 where every odd number was verbally anchored (i.e., 1, 3, 5, and 7 had verbal descriptors, 2, 4, and 6 did not).

Direct Measures. We included two direct measures, resulting in seven variables.

Firstly, we included Moskaleiko and McCauley’s (2009) Activism and Radicalism Intentions Scale (ARIS), which consists of two sub-scales calculated by averaging four items each. We used a German translation validated in a previous study (Reiter et al., preprint). The scale is ideologically generalistic and is hence prefaced in our questionnaire by an anchor: “Thinking of your views on climate (Covid) politics, how much do you agree with the following statements?” An example item from the *radicalism subscale (RIS)* is: “I would continue to support an organisation that fights for my group’s political and legal rights even if the organisation sometimes resorts to violence.” For the *activism subscale (AIS)*, an example item is: “I would donate money to an organisation that fights for my group’s political and legal rights.”

For the other direct measure, we included six vignettes developed in Reiter et al. (preprint), each consisting of about 120 words in two paragraphs. The first paragraph

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introduces a fictitious group which is active in Germany and Austria for the same topic the participant has previously indicated strong interest in (i.e., climate politics or Covid-19 measures), is known to organise protests, and is currently looking for young members. This paragraph is identical for all vignettes except for the group's name. The second paragraph describes a particular political action the group has undertaken for its goals, paired with a statement by one of the group's speakers. The actions vary between the actors causing self-harm and the speaker justifying it (benevolent radicalism condition; 2 vignettes), the actors physically harming others out of wilful negligence rather than intention and the speaker stating that violence is wrong, but this particular action was necessary (malevolent radicalism condition; 2 vignettes), and the actors intentionally physically harming others and the speaker reaffirming that the group approves of harming those who do not support it (extremism condition; 2 vignettes). Examples of the actions described include a hunger strike during which some group members had to be hospitalised, lighting a car on fire which results in the injury of passers-by, and throwing bottles at the police during a protest and hitting passers-by with them.

The vignettes were followed by questions assessing the participant's attitude towards the group; hence, each item exists twice per condition. The questions assessed *normative approval of the group* (mean of four items, an example being "What do you think of this group?" from 1 (very bad) to 7 (very good)), *willingness to support the group* (mean of eight items, an example being "How likely would you be to donate money to the group?"), *willingness to engage in property damage* (calculated both per condition by averaging two items each and calculated across all vignettes as a general willingness to engage in property damage by averaging all six items; "How likely would you be to damage or destroy things if it were important for one of the group's actions?"), and general willingness to cause physical

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harm to other people (calculated by averaging six items, one per vignette; “How likely would you be to hurt other people if it were important for one of the group’s actions?”).

Indirect Measures. We included two indirect measures.

Firstly, we used an adaptation of Quirin and Bode’s (2014) *Implicit Positive and Negative Affect Test (IPANAT)*. We created three pseudowords (e.g., “colftet”) which structurally fit into the German language but have no meaning or implied meaning in it using the Wuggy App (Keuleers & Brysbaert, 2010). In this task, participants were presented with six adjectives (right, necessary, useful, wrong, useless, meaningless) individually for each of the artificial words and asked to decide based on their gut feeling how well each of the adjectives fit the artificial word. Prior to this task, a randomly assigned half of the participants were shown the same three artificial words and simple descriptions of the concepts of benevolent radicalism, malevolent radicalism, and extremism. After a pseudo-explanation obscuring the goal of the task in which participants were made to believe the task was about onomatopoeic words, this group was asked to assign the artificial words to these three concepts and then use each in a sentence. This task was followed by a 20 second waiting screen, after which the rating task described above was presented. This resulted in three variables, each a sum score of the six ratings given for the artificial word associated with benevolent radicalism, malevolent radicalism, and extremism, respectively. Ratings of negative adjectives were treated as negative numbers, so that a positive sum score indicates approval of a concept, while a negative sum score implies rejection of the concept.

Secondly, we used an endorsement experiment as described by Blair & Imai (2014). This measure is designed to reduce social desirability bias around sensitive issues by, rather than overtly asking participants’ opinions, tying the sensitive element to a second, neutral element. These elements can, for example, be political groups or specific policies. There are one control group which is only shown the neutral element and several - in our case, three -

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experimental groups which are each shown one item consisting of the neutral element and a different sensitive element. Because conditions are randomly assigned, the information on the neutral element from the control group can then be used to determine the opinions specifically tied to the sensitive elements in the experimental conditions. We chose the concept of political protests as the neutral element, and examples of benevolent radicalism, malevolent radicalism, and extremism as the sensitive elements. An experimental group would then, for example, be asked: “What do you think about demonstrations in which participants purposely hurt other people in order to advance their goals?” (extremism condition, responses ranging from “very bad” to “very good”). This measure resulted in three variables which contained data for one fourth of the sample each.

Behavioural Measure. Finally, at the end of the questionnaire participants were told that they could donate part of their compensation to an organisation related to their political topic (i.e., climate or Covid-19), to be chosen from a list. We had selected various radical groups mostly local to the German-speaking countries (Supplement 1). For each organisation, their official logo was included as well as a link to their official websites. Upon seeing the list, participants were given the option to not donate after all, in which case they were asked why (multiple choice with a free-text field). If they did decide to donate, they were asked how strongly they believed that the donation was real. These items served as a manipulation check. Participants who donated were then asked to rate for all groups on the list whether they believed that the group would damage property or physically harm people. If they believed their chosen group to be violent, their behaviour was counted as a donation to a radical group. In a subsequent analysis, donations to groups which were believed to engage in property damage but not in interpersonal violence were investigated separately. The final variable used in analyses was the percentage of compensation donated.

Procedure

Figure 1 illustrates the order in which these measures were administered. After receiving standard information on the study (duration, financial compensation, data protection), participants gave informed consent. Subsequently, they responded to a bipolar filtering question which assessed whether they held sufficiently strong beliefs on climate change or Covid-19, respectively, to be suitable for the study. Two measures required randomly sorting people into conditions (the adapted IPANAT measure had a control and an experimental condition, 50% each; the endorsement experiment had a control and three experimental conditions, 25% each). This process was automated in Qualtrics. Other than that, all participants were shown all questions. The questionnaire ended with a thorough debriefing which explained the purposes of the indirect measures as well as that the donations they were just asked about were not real but part of an experiment. Subsequently, participants had the option to withdraw their consent.

Hypotheses

Table 1 provides a complete list of hypotheses (and an overview of their results); all hypotheses can be classified as either expecting a positive correlation or no correlation between two measures. That is, some constructs are explicitly expected to be disjunct. In Figure 1 and Table 1, these types of hypotheses are denoted with “C+” and “NC”, respectively. Due to the large number of hypotheses, Figure 1 presents a quick overview.

FIGURE 1 HERE

Analyses

Analyses were conducted using JASP 0.16.4 (JASP Team, 2022), MPlus V.8, and R 4.2.2.

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Data Set Cleaning and Preliminary Analyses. In the climate condition, of the 123 people invited by Prolific, 121 participated. In the Covid condition, 104 people were invited, of which 73 participated. All participants fully completed the questionnaire. On average, after excluding two extreme outliers from response time calculations (> 50 minutes), participants took 13:46 ($SD=05:48$) (climate: $M=14:03$, $SD=5:25$, Covid: $M=13:16$, $SD=6:23$). After manually checking data quality and completeness, scales and latent support parameters (endorsement experiment, for benevolent radicalism, malevolent radicalism, and extremism) were calculated using the preregistered syntax (see OSF folder). The support parameters were estimated using the R package endorse (Shiraito & Imai, 2022). Samples from the posterior distribution of individual support parameters were drawn via Monte Carlo Markov Chain sampling (Number of samples=21000; Burn-in=1000; Thinning interval=10, resulting in a total of 2000 samples). Final estimates of support parameters were obtained by averaging over samples from the posterior distribution.

For the climate condition, participants were prescreened using an item in the Prolific catalogue: “Overall, how concerned are you about environmental issues?” Participants were eligible for invitation if they had selected 4 or 5 (scale 1 - 5). In the survey, participants’ investment in the topic of climate policies was measured with a 7-point bipolar item, ranging from the position that climate change and its consequences are the most pressing political issue of our time (1) to the position that there is a completely exaggerated climate panic being pushed in the public discourse and the media (7); as preregistered, we selected participants with extreme values (1, 2) on this variable for further analyses, resulting in a final $n=103$ for the climate condition (18 participants excluded, of which 15 had picked 3, two had picked 4, and one had picked 6).

For the Covid condition, for lack of a suitable Prolific screening question, we ran a prescreening study ($n=254$) with a parallel 7-point bipolar item to that used in the climate

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condition, as well as six individual questions covering various positions around Covid-19 measures (Supplement 2). The original plan, as preregistered, was to use the bipolar item to select participants, including all who had selected 6 or 7 (1: it was an extremely important political task to protect the population from the consequences of the pandemic, and 7: people did not need any protection from the pandemic, but rather, panic about Covid-19 was purposely spread in order to reduce freedoms and weaken democracy). However, only 7 people fit this criterion; instead, the distribution was heavily skewed to the left ($M=2.14$, $SD=1.32$), meaning that overall, the sample that could be drawn on Prolific based on geographic, language and age restrictions, was pro-, rather than anti-measures. We thus adjusted our screening criteria: Invitations were sent to anyone who at least “rather agreed” (i.e., had selected 5 or upwards) to one of the statements that requiring vaccination, requiring an FFP2 mask, or requiring a negative Covid-19 test should be forbidden, or that protests against the measures were a good thing (Supplement 2). This resulted in a potential $n=104$, out of which $n=73$ ended up participating.

Main Analyses. Frequentist and Bayesian correlations were computed, applying one-sided testing ($H1$ = positive correlation) where two variables were hypothesised to correlate positively and two-sided testing ($H1$ = any correlation) where two variables were hypothesised to be uncorrelated.

Results

Preliminary Analyses

All scales were reliable ($.798 < \omega < .970$, Supplement 3). However, measurement invariance between the climate and the Covid condition was not tenable for all measures (Supplement 3). Configural invariance means identical factor structures across both groups, metric invariance means identical factor structures and factor loadings, and scalar invariance

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means identical intercepts in addition to structures and loadings. Therefore, configural invariance is required to combine samples. Two criteria are used to test invariance: The change in CFI and RMSEA, whereby $\Delta CFI \leq -.005$ and $\Delta RMSEA \geq .010$ are considered a substantial change in model fit (Cheng, 2007), and the change in BIC, whereby smaller values indicate better model fit (van den Schoot et al., 2012). We designated ΔCFI as the main fit index as the RMSEA is overly sensitive to sample size and model complexity in comparison. In addition to relative fit, the absolute fit as indicated by CFI and RMSEA must be at least adequate; CFI is considered adequate if $\geq .90$, while RMSEA is considered adequate if $\leq .08$ (van de Schoot et al., 2012).

While AIS, RIS, and the adapted IPANAT scales each were at least configurally invariant, none of the vignette scales were. Consequently, we conducted analyses separately by condition.

We set the significance level at 0.005 to reduce the number of false positives, and to achieve closely aligned results of frequentist and Bayesian tests (Benjamin et al., 2018).

How Does the Adapted IPANAT as an Indirect Measure Relate to Approval of and Support for Different Radical or Extremist Groups Measured Directly in a Vignette Format (H1)?

The evidence is inconclusive. The manipulation only succeeded for one of the three artificial words, as demonstrated by the significantly different scores of that word between the control and experimental condition ($t(157.56) = -3.20, p = .002; F = 8.55, p = .004; d = -0.48$ $M_{CG} = -7.79, SD = 5.70, M_{EG} = -4.44, SD = 7.97$), while failing for the other two words ($t(168.51) = -0.86, p = .391$, and $t(173) = -0.59, p = .557$). Hence, we ran all analyses once including all three word conditions, and once with only the one word for which the manipulation was successful (Supplement 4); the pattern of results did not differ.

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Climate Condition. None of the hypotheses H1a - H1i that we tested resulted in conclusive evidence; that is, participants' indirect evaluations of benevolent radicalism, malevolent radicalism, and extremism did not correlate at all with their directly stated approval of and hypothetical support for groups embodying these concepts as measured by the vignettes, but there was no strong evidence against the expected correlation, either.

Covid Condition. Similarly, there was inconclusive evidence for all hypotheses.

How Does the ARIS as a Direct Measure Relate to Approval of and Support for Different Radical or Extremist Groups Measured Directly in a Vignette Format (H2)?

The RIS subscale behaves how one would theoretically expect it to, relating positively to radicalism, extremism, willingness to damage objects and even harm other people, all operationalized through the vignettes. Conversely, the AIS does not behave how one would expect. It positively relates to many of the same items as the RIS and thus does not provide a clear delimitation between radicalism and non-radical activism. Evidence for these relations is overall strong.

Climate Condition. Like hypothesised, the AIS subscale correlates positively with approval of and support for benevolent radicalism (H2a, H2b), and does not correlate with approval of extremism (H2e, although evidence is inconclusive here). However, contrary to the hypotheses, it also correlates positively with approval of and support for malevolent radicalism (H2c, H2d), support for extremism and general willingness to engage in property damage (H2f, H2g), and general willingness to cause physical harm to others (H2p).

By comparison, all but one hypothesis were confirmed for the RIS subscale: Like hypothesised, it correlates positively with general willingness to engage in property damage (H2h), approval of and support for malevolent radicalism and extremism (H2k, H2l, H2m, H2n), and general willingness to cause physical harm to others (H2o). Also like expected, it

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does not correlate with approval of benevolent radicalism (H2i), although contrary to expectations, it correlates positively with support for benevolent radicalism (H2j). Evidence is consistently strong for these findings.

Covid Condition. Like expected, the AIS positively correlated with approval of and support for benevolent radicalism (H2a, H2b), and was unrelated to approval of malevolent radicalism (H2c). Evidence was inconclusive for the correlation between the RIS and approval of malevolent radicalism and extremism (H2c, H2e). There was strong evidence for a correlation between the AIS and support for malevolent radicalism, contrary to H2d. At the same time, there was weak evidence that the AIS did not correlate with support for extremism (H2f), general willingness to engage in property damage (H2g) and to physically harm others (H2p). Contrary to evidence, there was strong evidence that the AIS positively correlated with support for malevolent radicalism (H2d).

Similarly, all hypotheses relating to the RIS subscale but two were supported by strong evidence: Like expected, the RIS positively correlated with the general willingness to engage in property damage (H2h) and to physically harm others (H2o), as well as with approval of and support for malevolent radicalism and extremism (H2k - H2n). Evidence on whether the RIS was unrelated to approval of benevolent radicalism (H2i) was inconclusive, though contrary to expectations, it positively correlated with support of benevolent radicalism (H2j) and evidence of this correlation was strong.

How Does the ARIS as a Direct Measure Relate to a Behavioural Measure of Support for Radical Groups in the Form of a Donation Experiment (H3)?

Unclear based on our data. No one chose to donate to a group they believed to be violent, and even the number of people willing to donate to non-violent groups whom they believed to be engaging in property damage was so small that frequentist correlation analyses

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were underpowered. The climate and Covid conditions did not differ in terms of the percentage of their compensation they were initially willing to donate ($U=3602.50$, $p_{asymptotic}=.639$, determined using a Mann-Whitney-U test for independent samples; $M_{climate}=0.07$, $SD=0.17$, $M_{covid}=0.06$, $SD=0.16$), nor in terms of the percentage of their compensation they chose to donate to a group they believed would commit property damage, but not cause other people physical harm ($U=7.00$, $p_{exact}=.440$).

Evidence on whether participants were successfully made to believe that they were deciding on a real donation is mixed: Among the 14 participants who did select an organisation to donate to, 57% were “rather” to “fully” convinced that the donation was real, leaving 43% “rather not” convinced. When participants chose not to make a donation, they were asked to explain why and were given a multiple choice item with several reasons. Due to a technical error, this question was only displayed in the climate condition ($n=91$ who chose not to donate). 11% stated, amongst other reasons, that they did not believe the donation was real.

Climate Condition. Initially, 21 participants chose to make a donation; upon seeing the list of available groups, nine changed their mind, leaving twelve participants, none of whom chose to donate to a group they believed to be violent. Willingness to donate to groups who they thought would damage property but not hurt anyone was neither related to the AIS ($r=.09$, $p=.389$, $BF_{10}=0.44$) nor the RIS ($r=-.11$, $p=.635$, $BF_{10}=0.28$).

Covid Condition. Only twelve participants chose to donate at all, and upon seeing the available groups, ten changed their mind. Hence, this question cannot be investigated.

How Does Behaviour in a Donation Experiment Relate to Support for Different Radical or Extremist Groups Measured Directly in a Vignette Format (H4)?

Unclear based on our data.

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Climate Condition. Willingness to donate to groups whom participants thought willing to cause property damage, but not harm to other people was neither related to support for malevolent radicalism ($r=.19$, $p=.273$, $BF_{10}=0.60$) nor to support for extremism ($r=.34$, $p=.138$, $BF_{10}=1.02$).

Covid Condition. This question could not be investigated, as stated above.

How Does Approval of Radical or Extremist Behaviours Measured Indirectly in an Endorsement Experiment Relate to Direct Attitudinal and Behavioural Measures of Support for Radical or Extremist Groups and to the Adapted IPANAT as an Indirect Measure of Approval of Radicalism or Extremism (H5)?

The results draw a complex picture of relationships between support as measured by the endorsement experiment and the other measures. Moreover, the results differ strongly depending on the political context (climate vs. Covid condition).

Climate Condition.

We observed substantial evidence for positive correlations between support parameters and directly measured approval of and support for benevolent and malevolent radicalism as assessed in the vignettes (H5a - H5d). However, evidence for a correlation between support parameters and approval of extremism (H5e) and willingness to physically harm people (H5g) was inconclusive. We even observed weak evidence against a correlation with support for extremism (H5f). We observed only weak evidence for a correlation between the support parameters and our indirect IPANAT measure of support for benevolent radicalism (H5j), with evidence for the other correlations with the IPANAT measure (H5k, H5l) being inconclusive. With regards to the ARIS scale, we found weak evidence for a correlation between the AIS subscale and benevolent radicalism support parameters (H5m), strong evidence for a correlation between the RIS and support for malevolent radicalism (H5o), and weak evidence for a correlation between the RIS and support for extremism

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(H5p). Lastly, we found weak evidence for the expected null correlations between the RIS and benevolent radicalism (H5n), AIS and malevolent radicalism (H5x, exploratory), and AIS and extremism (H5q).

Covid Condition.

Similar to the climate condition, we observed evidence for positive correlations between the support parameters and approval and support for benevolent and malevolent radicalism as assessed in the vignettes (weak evidence: H5c, H5d; substantial evidence: H5a, H5b). In contrast to the climate condition, we observed weak evidence for a correlation between support parameters and of support for extremism (H5f), and substantial evidence for a correlation with the willingness to physically harm people (H5g). While evidence for all hypotheses regarding the IPANAT measure were inconclusive (H5j-H5l), we observed substantial evidence for a correlation between support for benevolent radicalism and the AIS subscale of the ARIS (H5m), as well as weak evidence for a correlation between malevolent radicalism support and the RIS (H5o), and for a null correlation between malevolent radicalism support and the AIS (H5x, exploratory). Contrary to our expectations, however, we also found a substantial correlation between the RIS and support for benevolent radicalism (H5n). With regards to extremism, we found weak evidence that support for extremism is indeed not correlated with the AIS subscale (H5q), while evidence for a correlation between support for extremism and the RIS subscale was inconclusive (H5p).

TABLE 1 HERE

Discussion

We surveyed 182 German-speaking young adults (18–30), using different direct, indirect, and behavioural measures of attitudes towards political violence, with the aim of assessing relations between them and, by extension, the extent to which findings using these different measures can be treated as cumulative. While the measures themselves were all designed to be ideology-neutral, we embedded them in two current political conflict contexts: climate change and the Covid-19 pandemic.

The Current Findings in Short

In terms of indirect measures, we found that the adapted IPANAT produced either weak or inconclusive results throughout. Notably, only one of the three artificial words was successfully associated with a concept of political violence. However, in the Bayesian analytical universe, because the test itself is agnostic to the quality of the data, inconclusive or weak evidence is a rough equivalent to insufficient test power in frequentist statistics - in other words, more data would be needed to answer any questions about this measure. The endorsement experiment produced overall stronger, more clearly interpretable evidence. Evidence was of equally strong quality for hypotheses involving the two explicit measures, the vignettes and the ARIS. Hypotheses about the relations of our behavioural measure, the donation experiment, with other measures simply could not be tested as none of the participants chose to donate to a (in their view) violent group. This is both a limitation and a finding, namely that behavioural measures of political violence are difficult to operationalize. We are thus left with three measures, two direct and one indirect, to investigate the strength of relations among them.

Notably, the vignettes differentiated violence within the concepts of benevolent radicalism, malevolent radicalism, and extremism, while the ARIS made a distinction

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between activism and radicalism; conceptually, radicalism in the ARIS is broadly equivalent to malevolent radicalism and extremism. Correspondingly, our results showed that the RIS correlated highly ($.53 < r < .74$) with approval and support of malevolent radicalism and extremism as well as with willingness to engage in property damage and physical violence. However, there was also a medium correlation with support for, but not approval of benevolent radicalism. It seems that the RIS does reflect the attitude that malevolent radicalism and extremism take towards violence, but it also reflects a willingness to “just do something”, to take action irrespective of the specifics of justification. Following the distinction between activism and radicalism that Moskaleiko & McCauley (2009) sought to draw, the AIS should have been largely uncorrelated with the vignette measures, as activism is conceptualised as non-violent participation. However, the AIS correlated moderately to highly with support for benevolent and malevolent radicalism, extremism, and even willingness to engage in property damage and physical violence against others ($.30 < r < .67$). While uncorrelated with normative approval of extremism, as expected, it was also moderately correlated with approval of malevolent and benevolent radicalism alike ($r=.33$ and $r=.42$). This pattern calls into question the distinction between radicalism and activism as understood in the original instrument, suggesting instead that the ARIS overall measures general willingness to take action for a political cause, including violent action, without differentiating between the underlying normative attitudes towards that violence and its justifications.

The quality of evidence produced by the endorsement experiment varied by condition. In the climate condition, evidence was strong for its relations to the benevolent and malevolent radicalism vignettes. These correlations were high ($.57 < r < .78$), suggesting that the endorsement experiment could be a suitable parsimonious replacement measure for these vignettes. However, there was no correlation between the support parameter for extremism

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gained from the endorsement experiment and the extremism vignettes, nor with overall willingness to physically harm others, meaning that in the case of extremism, both measures would produce entirely different results. In the Covid condition, evidence was only strong for benevolent radicalism and for overall willingness to physically harm people, all of which correlated highly with the corresponding endorsement experiment conditions (benevolent radicalism and extremism, respectively) ($.62 < r < .64$).

In relation to the other explicit measure, the ARIS, the quality of evidence gained from the endorsement experiment was mixed. In the climate condition, there was only strong evidence for the correlation between the RIS and the support parameters for malevolent radicalism, which were highly correlated ($r=.68$). In the Covid condition, there was strong evidence for the relations between the benevolent radicalism support parameters and both the AIS and the RIS; paralleling the results of the correlation analyses between ARIS and the vignettes, the benevolent radicalism support parameters were highly correlated with both subscales ($r=.62$ for RIS and $r=.85$ for AIS) whereas the theoretical conception of the ARIS suggests it should only be correlated with one.

Implications of the Current Findings

Our findings imply two important conclusions: First, the direct measures most frequently used in current research are better than their reputation. Particularly the vignette approach seems to be able to differentiate between different kinds of political violence. This might be because both the provided scenarios promote the participants' understanding of the group in question (especially, how far the group is willing to go for its political goals) and the items are more distinct and concrete than those of the ARIS, which appears somewhat fuzzier. Activism in particular is less differentiable from radicalism than theoretically assumed, both subsuming a rather broad readiness to "do something", ranging from non-violent to violent behaviours but ignoring the system of justifications and boundaries behind

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these actions. In contrast, the vignettes provide a concrete example of a (violent) action, but also inform on the group's ideology around this sort of behaviour and offer a variety of ways to be involved with the group. Thus, when it is a researcher's goal to be as explicit as possible about the measured outcome, we recommend the vignette approach; when the goal is to measure a political violent attitude in general ("whatever it takes"), we recommend the ARIS, although the activism subscale should be interpreted with some caution.

Second, indirect and behavioural measures for political violence are difficult to operationalise (as seen in the rather unsuccessful adapted IPANAT measure and the donation experiment), and, if successfully implemented (as in the case of the endorsement experiment), they do not necessarily parallel the results of the direct measures. It is still unclear how implicitly and explicitly measured constructs relate to each other. Correlations between direct and indirect measurements have been wide ranging in past research, which may partly account for why we did not find 100% comparable results between our direct and indirect measures. Considering the usefulness of indirect measures regarding participants' tendency to respond socially desirably, we leave a refining and investigation of this approach to future research.

Lastly, we found similar patterns for both conditions (climate and Covid-19), particularly in the direct measures, which makes us confident that the results can be generalised in different contexts.

Future Directions

For pragmatic reasons, we decided to examine only a subset of the previously created measures of political violence, namely those that we found most common. It is up to future research to validate additional variables. In particular, the role of behavioural measures and

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their relationship to direct and indirect measures remains to be explored. An important associated goal would be to create better behavioural measures, such as economic games.

As our data suggest that the ARIS measures general willingness to take action for a political cause, including violent action, without differentiating between the underlying normative attitudes, future research may investigate its correlation with radicalization independent of ideology, in the sense of a primary radicalization.

Our study also revealed interesting by-products. For example, in our climate sample, people self-identified as strongly left-wing, which aligned with the underlying ideological positions of the movement; meanwhile, in the Covid sample, people self-identified as more centrist, despite the anti-Covid-measures-movement's positions being more right-wing. This matches the German tendency that left-wing positions are far more acceptable than right-wing positions (e.g., Roessing & Siebert, 2006), which could be investigated in greater detail in future research.

Conclusion

The current study attempted to find a way through the forest of measurements of political violence. Investigating different operationalisations of this important construct, we found direct measures to be able to record attitudes of political violence, depending on their approach, either broad or narrow. Indirect measures, on the other hand, may have potential but need to be investigated further in future research.

Open Science Statement

All conducted analyses are reported fully in this article. All hypotheses that were preregistered are reported. Where analyses were not preregistered, they are clearly labelled as “exploratory” in the paper. The complete data set was analysed and is available in the

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corresponding OSF folder,
https://osf.io/ajx3f/?view_only=98246e83c52e4e2e8f02a39ea73a1d67.

Author Contributions

Following the CRediT taxonomy (<https://credit.niso.org/>), the authors each fulfilled the following contributor roles:

[blinded]	Conceptualization, Funding acquisition, Methodology, Investigation, Formal Analysis, Project Administration, Data Curation, Writing - original draft
[blinded]	Conceptualization, Methodology, Writing - original draft
[blinded]	Methodology, Investigation, Data Curation, Writing - original draft
[blinded]	Methodology, Formal Analysis, Writing - original draft

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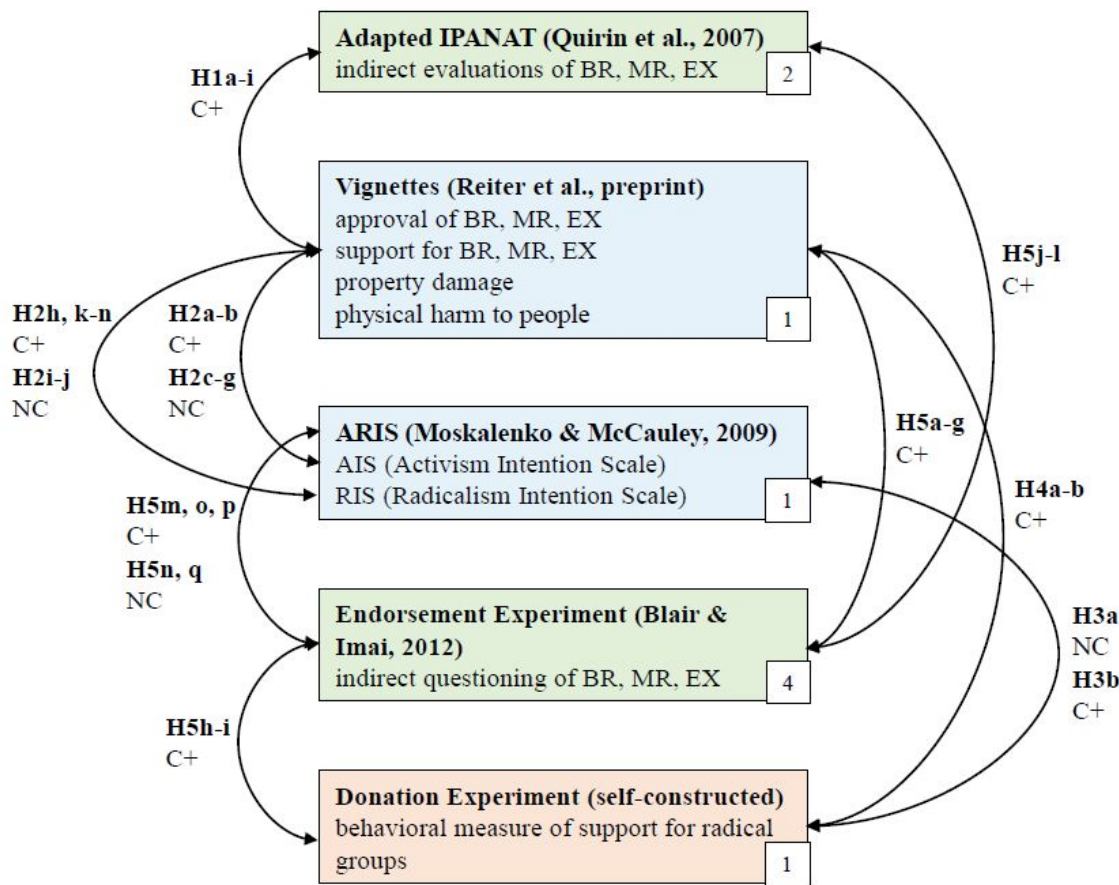
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For Peer Review

Figure 1

Flowchart of the Questionnaire, its Measures and the Hypotheses Related to Them



Note. Hypotheses are explained in Table 1. BR = benevolent radicalism, MR = malevolent radicalism, EX = extremism, C+ = positive correlation, NC = no correlation. White boxes in the right corner = number of conditions per measure, green = indirect measures, blue = direct measures, orange = behavioural measure.

Table 1*Overview of Hypotheses with Full Explanations and Shortcuts Used in Figure 1*

Hypothesis	Type of hypothesis	Full text	Climate			Covid		
			<i>r</i> (<i>p</i>)	BF	Strength of evidence	<i>r</i> (<i>p</i>)	BF	Strength of evidence
H1: Relations between indirect measures (adapted IPANAT; Quirin et al., 2007) and vignettes measuring approval, intended support, and willingness to commit property damage for different groups								
H1a	C+	Approval of benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.	.13 (.171)	0.435	~	.13 (.237)	0.418	~
H1b	C+	Approval of malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.26 (.028)	1.969	~	.24 (.087)	0.956	~
H1c	C+	Approval of extremism (across two vignettes) will correlate positively with evaluations of extremism in the indirect measure.	.23 (.047)	1.267	~	.30 (.045)	1.620	~
H1d	C+	Support for benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.	.09 (.271)	0.295	-	.15 (.196)	0.490	~
H1e	C+	Support for malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.30 (.014)	3.606	+	.20 (.128)	0.695	~

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5			Support for extremism (across two vignettes) will correlate positively	.14 (.160)	0.459	~	.29 (.049)	0.526	~
6	H1f	C+	with evaluations of extremism in the indirect measure.						
7									
8									
9									
10			Willingness to engage in property damage for groups that fulfil the	-.03 (.581)	0.146	-	.21 (.123)	0.717	~
11			definition of benevolent radicalism (across two vignettes) will correlate						
12			positively with evaluations of benevolent radicalism in the indirect						
13	H1g	C+	measure.						
14			Willingness to engage in property damage for groups that fulfil the						
15			definition of malevolent radicalism (across two vignettes) will correlate						
16			positively with evaluations of malevolent radicalism in the indirect	.22 (.059)	1.049	~	.24 (.088)	0.942	~
17			measure.						
18	H1h	C+							
19			Willingness to engage in property damage for groups that fulfil the						
20			definition of extremism (across two vignettes) will correlate positively	.18 (.091)	0.729	~	-.01 (.524)	0.207	-
21			with evaluations of extremism in the indirect measure.						
22	H1i	C+							
23									
24			H2: Relations between ARIS (Moskalenko & McCauley, 2009) and vignettes						
25									
26			The AIS subscale will correlate positively with approval of benevolent	.42 (<.001)	> 1000	++	.38 (<.001)	58.031	++
27	H2a	C+	radicalism (across two vignettes).						
28									
29			The AIS subscale will correlate positively with support for benevolent	.67 (<.001)	> 1000	++	.62 (<.001)	> 1000	++
30			radicalism (across two vignettes).						
31	H2b	C+							
32									
33			The AIS subscale will not correlate with approval of malevolent	.33 (<.001)	0.031	- -	.22 (.070)	1.361	~
34	H2c	NC	radicalism (across two vignettes).						
35									
36			The AIS subscale will not correlate with support for malevolent	.43 (<.001)	< 0.001	- -	.41 (<.001)	0.011	- -
37			radicalism (across two vignettes).						
38	H2d	NC							
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H2e	NC	The AIS subscale will not correlate with approval of extremism (across two vignettes).	.20 (.038)	0.902	~	.16 (.190)	2.933	~
H2f	NC	The AIS subscale will not correlate with support for extremism (across two vignettes).	.37 (<.001)	0.006	--	.30 (.011)	0.293	-
H2g	NC	The AIS subscale will not correlate with willingness to engage in property damage across all vignettes.	.33 (<.001)	0.024	--	.28 (.018)	0.223	-
H2h	C+	The RIS subscale will correlate positively with willingness to engage in property damage across all vignettes.	.68 (<.001)	> 1000	++	.76 (<.001)	> 1000	++
H2i	NC	The RIS subscale will not correlate with approval of benevolent radicalism (across two vignettes).	.27 (.006)	0.202	-	.25 (.035)	0.777	~
H2j	NC	The RIS subscale will not correlate with support for benevolent radicalism (across two vignettes).	.39 (<.001)	0.003	--	.60 (<.001)	528573.070	--
H2k	C+	The RIS subscale will correlate positively with approval of malevolent radicalism (across two vignettes).	.74 (<.001)	> 1000	++	.59 (<.001)	> 1000	++
H2l	C+	The RIS subscale will correlate positively with support for malevolent radicalism (across two vignettes).	.67 (<.001)	> 1000	++	.77 (<.001)	> 1000	++
H2m	C+	The RIS subscale will correlate positively with approval of extremism (across two vignettes).	.74 (<.001)	> 1000	++	.56 (<.001)	> 1000	++
H2n	C+	The RIS subscale will correlate positively with support for extremism (across two vignettes).	.60 (<.001)	> 1000	++	.76 (<.001)	> 1000	++

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H2o	C+	The RIS subscale will correlate positively with the overall willingness to physically harm other people (across all vignettes).	.53 (<.001)	> 1000	++	.79 (<.001)	> 1000	++
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H2p	NC	The AIS subscale will not correlate with the overall willingness to physically harm other people (across all vignettes).	.30 (.002)	0.087	++	.31 (.008)	0.225	+
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H3: Relations between ARIS (Moskalenko & McCauley, 2009) and donation-experiment

H3a	NC	The AIS subscale will not correlate with readiness to donate to radical organisations (measured in amount of money donated to groups the participants thought would physically harm other people, irrespective of their propensity to engage in property damage).	/	/	Not testable	/	/	Not testable
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H3b	C+	The RIS subscale will correlate positively with readiness to donate to radical organisations (measured in amount of money donated to groups the participants thought would physically harm other people, irrespective of their propensity to engage in property damage).	/	/	Not testable	/	/	Not testable
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H4: Relations between vignettes and donation-experiment

H4a	C+	Readiness to donate to radical organisations (measured in amount of money donated to groups the participants thought would engage in property damage, but not physical harm to other people) will correlate positively with support of malevolent radicalism (across two vignettes).	/	/	Not testable	/	/	Not testable
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H4b	C+	Readiness to donate to radical organisations (measured in amount of money donated to groups the participants thought would physically harm other people, irrespective of their propensity to engage in property damage) will correlate positively with support of extremism (across two vignettes).	/	/	Not testable	/	/	Not testable
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H5: Endorsement experiment

H5a	C+	Support parameters in the benevolent radicalism condition will correlate positively with approval of benevolent radicalism across two vignettes.	.78 (< .001)	654.910	++	.638 (.002)	31.273	++
H5b	C+	Support parameters in the benevolent radicalism condition will correlate positively with support for benevolent radicalism across two vignettes.	.57 (.005)	11.915	++	.62 (.002)	24.762	++
H5c	C+	Support parameters in the malevolent radicalism condition will correlate positively with approval of malevolent radicalism across two vignettes.	.69 (< .001)	> 1000	++	.54 (.008)	7.962	+
H5d	C+	Support parameters in the malevolent radicalism condition will correlate positively with support for malevolent radicalism across two vignettes.	.67 (< .001)	> 1000	++	.53 (.010)	7.114	+
H5e	C+	Support parameters in the extremism condition will correlate positively with approval of extremism across two vignettes.	.13 (.251)	0.432	~	.36 (.060)	1.607	~
H5f	C+	Support parameters in the extremism condition will correlate positively with support for extremism across two vignettes.	.03 (.438)	0.266	-	.47 (.018)	4.197	+
H5g	C+	Support parameters in the extremism condition will correlate positively with willingness to physically harm people across all vignettes.	.18 (.176)	0.578	~	.64 (.001)	38.889	++
H5h	C+	Support parameters in the malevolent radicalism condition will correlate positively with readiness to donate money to radical groups in the donation experiment.	Not testable					
H5i	C+	Support parameters in the extremism condition will correlate positively with readiness to donate money to radical groups in the donation experiment.	Not testable					
H5j	C+	Support parameters in the benevolent radicalism condition will correlate positively with evaluations of benevolent radicalism in the indirect measure (IPANAT).	.73 (.013)	6.766	+	.25 (.226)	0.722	~

H5k	C+	Support parameters in the malevolent radicalism condition will correlate positively with evaluations of malevolent radicalism in the indirect measure (IPANAT).	.15 (.294)	0.491	~	.44 (.141)	1.190	~
H5l	C+	Support parameters in the extremism condition will correlate positively with evaluations of extremism in the indirect measure (IPANAT).	.47 (.052)	2.126	~	-.13 (.623)	0.349	~
H5m	C+	Support parameters in the benevolent radicalism condition will correlate positively with the AIS subscale.	.51 (.012)	5.803	+	.85 (<.001)	> 1000	++
H5n	NC	Support parameters in the benevolent radicalism condition will not correlate with the RIS subscale.	.13 (.587)	3.067	+	.62 (.005)	0.083	--
H5o	C+	Support parameters in the malevolent radicalism condition will correlate positively with the RIS subscale.	.68 (<.001)	> 1000	++	.56 (.007)	9.883	+
H5x †	NC	Support parameters in the malevolent radicalism condition will not correlate with the AIS subscale	.10 (.605)	3.876	+	.12 (.627)	3.155	+
H5p	C+	Support parameters in the extremism condition will correlate positively with the RIS subscale.	.42 (.013)	5.035	+	.29 (.108)	1.000	~
H5q	NC	Support parameters in the extremism condition will not correlate with the AIS subscale.	.10 (.600)	3.731	+	.01 (.977)	3.610	+

Note. C+ = positive correlation (one-sided tests), NC = no correlation (two-sided tests). Significance level: $p \leq 0.005$ * BF > 10, ** BF > 30, *** BF > 100. Ratings of evidence strength: -- = BF < 1/10, substantial evidence against hypothesis; - = BF 1/10 to 1/3, weak evidence against hypothesis; ~ = BF 1/3 to 3, inconclusive evidence; + = BF 3 to 10, weak evidence for hypothesis; ++ = BF > 10, substantial evidence for hypothesis. † Exploratory hypothesis, not preregistered

Supplement 1

Groups Included in the Donation Experiment

Except for the Earth Liberation Front, which is international but considered a terrorist organisation in the USA (FBI, 2023; U.S. Department of Homeland Security, 2023). The other groups in the climate condition were “Extinction Rebellion” and the “Last Generation.” In the Covid-19 condition, the available groups were “Fairdenken”, “Querdenken”, and “Studenten Stehen Auf” as extra-parliamentary anti-Covid-19-measure- -movements in Austria and Germany, all of which had been among the organisers and participants of the largest anti-Covid-protests. Moreover, an Austrian and a German party were included as parliamentary groups, the “MFG”, a newly formed Austrian party which had grown from the anti-Covid-measure- -movement and ran on a platform of being against any safety measures, against vaccines, and supporting various conspiracy narratives, and the “AFD”, a German far-right party which had also engaged in Covid-related conspiracy narratives and is being surveilled by German state security (Bundesamt für Verfassungsschutz, 2022).

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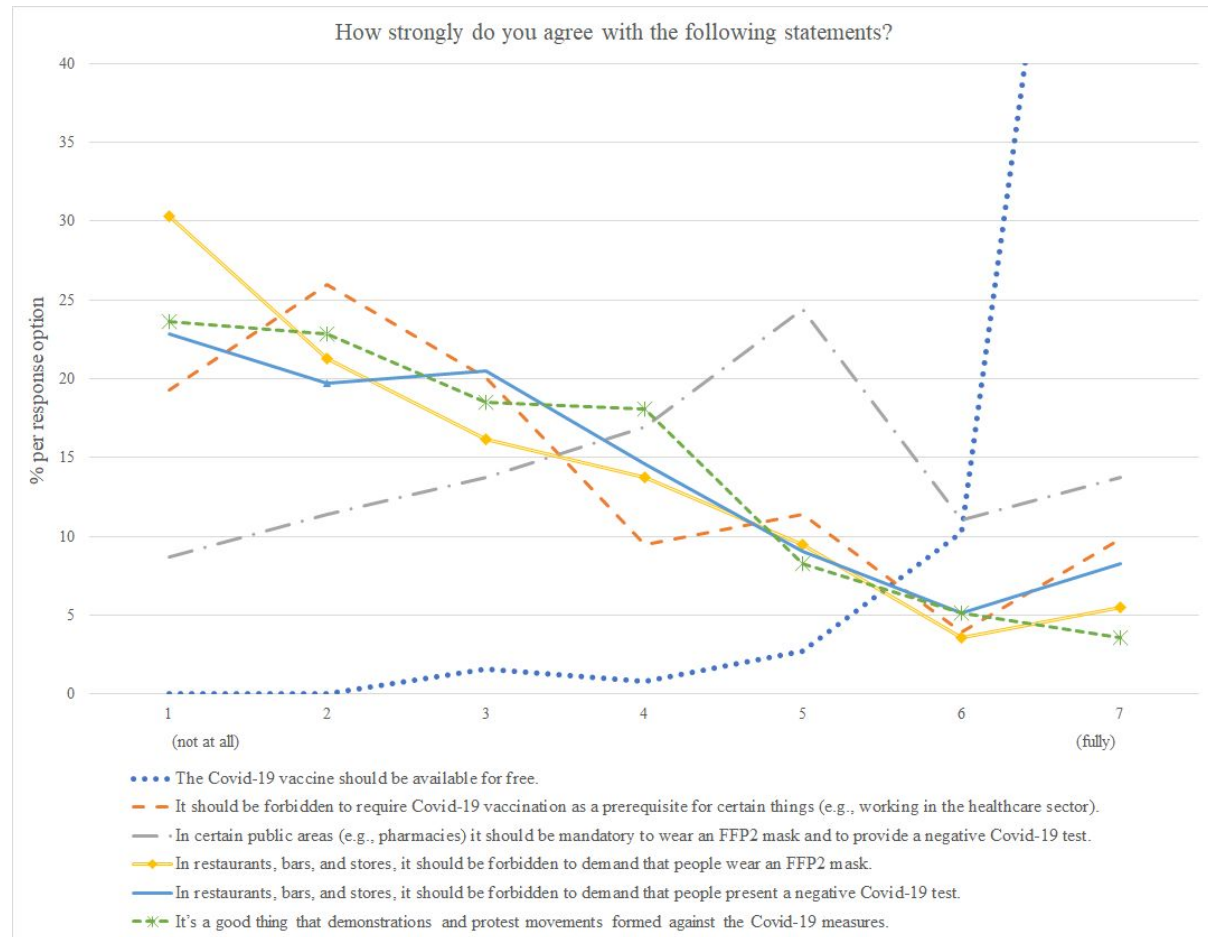
For Peer Review

Supplement 2

Prescreening Participants for the Covid Condition

Figure 2

Items and Distributions in the Covid Condition Prescreening



Note. 85 % fully agreed with the Covid-19 vaccine being free; the y-axis is cut at 40 % to improve visibility.

The 73 participants who ended up taking the Covid condition questionnaire were asked the same bipolar question again, as well as a question “In general, how concerned are you about Covid-19 policies?” approximately paralleling the Prolific item on environmental issues used in the initial screening for the climate condition. The bipolar item was still skewed towards the left in the final sample ($M = 2.75$, $SD = 1.54$), meaning participants tended to think the pandemic was a serious threat rather than a political conspiracy.

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Responses to the item about general concern about Covid-19 policies were normally distributed ($M = 2.85$, $SD = 1.00$, on a scale from 1 = “not at all” to 5 = “very”). Thus, the samples for the two conditions differ in terms of clarity and strength of their political positions; while the preregistered procedure could be followed for the climate condition, the opinions on Covid-19 measures among potential participants on Prolific were too widely distributed to follow a strictly parallel procedure. To reconcile these circumstances with analytical plans, all main analyses were conducted separately for the two conditions.

For Peer Review

Supplement 3

Table S1

Overview of the Quality of Scales Used - Reliability and Measurement Invariance Across Climate and Covid Conditions

Reliability						Measurement Invariance						
Scale (No. of items)	<i>M (SD)</i>	McDonald's ω	Cronbach's α	Classification	Model	$\chi^2(df)$	BIC	CFI	ΔCFI	RMSEA	$\Delta RMSEA$	At least configural invariance?
AIS (4)	3.92 (1.57)	.889	.888	Good	Configural	9.40 (3)	2,468.883	1.000		.000		yes
					Metric	9.73 (7)	2,461.862	0.991	-.009	.067	.067	
					Scalar	16.72 (10)	2,453.974	0.978	-.013	.088	.021	
RIS (4)	2.25 (1.43)	.888	.887	Good	Configural	2.11 (3)	2,348.071	1.000		.000		yes
					Metric	4.80 (7)	2,334.749	1.000	.000	.000	.000	
					Scalar	10.15 (10)	2,326.001	0.999	-.001	.013	.013	
IPANAT positive (3)	/	.798	.797	Acceptable	Configural	0.18 (2)	2,008.019	1.000		.000		yes
					Metric	0.18 (2)	1,997.875	1.000	.000	.000	.000	
IPANAT negative		.824	.822	Good	Scalar	0.23 (4)	1,987.602	1.000	.000	.000	.000	
					Configural	3.01	1,909.772	1.000		.000		yes

<http://mc.manuscriptcentral.com/gpir>

radicalism (4)	(1.28)					Metric	141.16 (7)	2,201.819	0.654	-.002	.468	-.149	
						Scalar	161.27 (10)	2,195.181	0.609	-.045	.416	-.052	
						Configural	4.79 (8)	3,862.461	0.760		.192		no
Support malevolent radicalism (10*)						Metric	250.65 (76)	3,845.091	0.809	0.049	.162	-.030	
	1.73 (1.19)	.956	.959	Excellent		Scalar	273.64 (84)	3,832.883	0.792	-0.017	.161	-.001	
						Configural	3.55 (3)	1,856.407	0.686		.425		no
Approval extremism (4)						Metric	62.91 (7)	1,847.892	0.722	0.036	.302	-.123	
	1.69 (1.02)	.877	.885	Good		Scalar	54.57 (10)	1,842.612	0.779	0.057	.226	-.076	
						Configural	14.06 (8)	2,964.781	0.764		.194		no
Support extremism (10*)						Metric	297.68 (76)	2,975.776	0.767	0.003	.183	-.011	
	1.46 (1.04)	.970	.972	Excellent		Scalar	323.43 (84)	2,947.355	0.748	-0.019	.180	-.003	
						Configural	3.42 (5)	2,459.021	0.707		.218		no
Property damage (6)						Metric	71.44 (23)	2,458.214	0.810	0.103	.155	-.063	
	1.48 (1.05)	.941	.938	Excellent		Scalar	85.16 (28)	2,445.755	0.776	-0.034	.153	-.002	

Personal harm (6)						Configural	7.56 (5)	1,954.722	0.671		.215		no
						Metric	96.22 (23)	1,976.926	0.669	-0.002	.191	-.024	
	1.28 (0.91)	.957	.957	Excellent	Scalar		114.13 (28)	1,954.125	0.611	-0.058	.187	-.004	

Note. 10* in two sub-scales with a second-order factor; classification for ω and α : $< .70$ = unacceptable, $\geq .70$ = acceptable, $\geq .80$ = good, $\geq .90$ = excellent.

Supplement 4

Table S2

Re-Analyses of Hypothesis 1 for the Only Artificial Word Which Was Successfully Experimentally Manipulated (“huhbak”)

Climate				Original (whole sample)		Exploratory (only "huhbak")	
				r (p)	B ₁₀	r (p)	B ₁₀
H1a	C+	Approval of benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.		.13 (.171)	0.435	.16 (.288)	N/A

H1b	C+	Approval of malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.26 (.028)	1.969	.06 (.403)	N/A
H1c	C+	Approval of extremism (across two vignettes) will correlate positively with evaluations of extremism in the indirect measure.	.23 (.047)	1.267	.19 (.199)	N/A
H1d	C+	Support for benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.	.09 (.271)	0.295	.30 (.135)	N/A
H1e	C+	Support for malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.30 (.014)	3.606	.21 (.205)	N/A
H1f	C+	Support for extremism (across two vignettes) will correlate positively with evaluations of extremism in the indirect measure.	.14 (.160)	0.459	.17 (.227)	N/A
H1g	C+	Willingness to engage in property damage for groups that fulfil the definition of benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.	-.03 (.581)	0.146	-.03 (.546)	N/A

H1h	C+	Willingness to engage in property damage for groups that fulfil the definition of malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.22 (.059)	1.049	.06 (.402)	N/A
H1i	C+	Willingness to engage in property damage for groups that fulfil the definition of extremism (across two vignettes) will correlate positively with evaluations of extremism in the indirect measure.	.18 (.091)	0.729	.17 (.226)	N/A
Covid			Original (whole sample)		Exploratory (only "huhbak")	
			r (p)	B ₁₀	r (p)	B ₁₀
H1a	C+	Approval of benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.	.13 (.237)	0.418	.03 (.455)	N/A
H1b	C+	Approval of malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.24 (.087)	0.956	.20 (.287)	N/A
H1c	C+	Approval of extremism (across two vignettes) will correlate positively with evaluations of extremism in the indirect measure.	.30 (.045)	1.620	-.22 (.717)	N/A

H1d	C+	Support for benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.	.15 (.196)	0.490	.27 (.180)	N/A
H1e	C+	Support for malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.20 (.128)	0.695	.30 (.197)	N/A
H1f	C+	Support for extremism (across two vignettes) will correlate positively with evaluations of extremism in the indirect measure.	.29 (.049)	0.526	not testable	not testable
H1g	C+	Willingness to engage in property damage for groups that fulfil the definition of benevolent radicalism (across two vignettes) will correlate positively with evaluations of benevolent radicalism in the indirect measure.	.21 (.123)	0.717	.51 (.031)	N/A
H1h	C+	Willingness to engage in property damage for groups that fulfil the definition of malevolent radicalism (across two vignettes) will correlate positively with evaluations of malevolent radicalism in the indirect measure.	.24 (.088)	0.942	.32 (.183)	N/A
H1i	C+	Willingness to engage in property damage for groups that fulfil the definition of extremism (across two vignettes) will correlate positively with evaluations of extremism in the indirect measure.	-.01 (.524)	0.207	not testable	not testable

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Note. In the climate condition, using only the word “huhbak”, n for benevolent radicalism = 15, n for malevolent radicalism = 18, n for extremism = 21. In the Covid condition, n for benevolent radicalism = 14, n for malevolent radicalism = 10, n for extremism = 9. Bayes Factors for the subsample could not be computed.

For Peer Review

Abstract

Political radicalisation entails manifold, sometimes dangerous consequences, from stunted political discourse and socio-political distrust to political violence and terrorism. The majority of radicalisation research across disciplines has been conducted on adults, despite evidence pointing to the key role of adolescence. This, in combination with varying outcome definitions throughout the literature, results in difficulties with measuring radicalisation outcomes in the critical population of adolescents. Therefore, this dissertation aims to (1) identify a working definition of which different outcomes can be attributed to the process of radicalisation, and to (2) develop a measurement instrument for three types of radicalisation outcomes, suitable for adolescents. These measures shall then be used in a large-scale longitudinal follow-up study.

Study 1 used a qualitative approach, combining interviews with young adults who had explored radicalizing contents with expert interviews with employees of deradicalisation programmes to gain an understanding of parallels and differences between radicalisation and deradicalisation, between ideological types of radicalisation, and between first-person and third-person perspectives on its key components. In Study 2, combining quantitative and qualitative approaches, two large surveys and cognitive interviews were conducted to develop and validate a questionnaire measuring three outcomes of radicalisation (benevolent radicalism, malevolent radicalism, and extremism) with adolescents (ages 14 – 18). Finally, using current political contexts (climate and anti-COVID-activism), Study 3 compared the “support for political violence” measure from this questionnaire to other direct, indirect, and behavioural measures of support for political violence using young adults (ages 18 – 30).

In sum, this multi-method dissertation lays important groundwork for follow-up studies with adolescents as the core demographic of interest for radicalisation studies. By making different outcomes of the radicalisation process measurable in a reliable, valid way, and investigating

relations between this measure and pre-existing other measures, it allows the accurate and differentiated study of the antecedents and consequences of radicalisation.

Zusammenfassung

Politische Radikalisierung hat vielfältige, mitunter gefährliche Folgen, die von beeinträchtigtem politischem Diskurs und gesellschaftspolitischem Misstrauen bis hin zu politischer Gewalt und Terrorismus reichen. Der Großteil der Radikalisierungsforschung in verschiedenen Disziplinen wurde bisher mit Erwachsenen durchgeführt, obwohl Evidenz für die zentrale Rolle der Adoleszenz spricht. Dies führt, zusammen mit den unterschiedlichen Outcome-Definitionen in der interdisziplinären Literatur, zu Schwierigkeiten bei der Messung von Radikalisierungs-Outcomes in der zentralen Gruppe der Jugendlichen. Ziel dieser Dissertation ist es daher, (1) eine Arbeitsdefinition dafür zu finden, welche unterschiedlichen Outcomes dem Prozess der Radikalisierung zugeschrieben werden können, und (2) ein Messinstrument für drei Arten von Outcomes zu entwickeln, das für Jugendliche geeignet ist. Dieses Messinstrument soll später in einer Längsschnitt-Follow-Up-Studie verwendet werden.

In Studie 1 wurde ein qualitativer Ansatz verwendet, bei dem Interviews mit jungen Erwachsenen, die sich mit radikalisierten Inhalten auseinandergesetzt hatten, mit Expert*inneninterviews mit Mitarbeiter*innen von Deradikalisierungsprogrammen kombiniert wurden, um ein Verständnis der Parallelen und Unterschiede zwischen Radikalisierung und Deradikalisierung, zwischen ideologischen Radikalisierungstypen und zwischen der Ich- und der Außenperspektive auf ihre Schlüsselkomponenten zu gewinnen. In Studie 2, die quantitative und qualitative Ansätze kombiniert, wurden zwei große Umfragen und kognitive Interviews durchgeführt, um einen Fragebogen zu entwickeln und zu validieren, mit dem drei Ergebnisse der Radikalisierung (wohlwollender Radikalismus, böswilliger Radikalismus und Extremismus) bei Jugendlichen (von 14 bis 18 Jahren) gemessen werden. Schließlich wurde in Studie 3 das Messinstrument für die "Unterstützung politischer Gewalt" aus diesem Fragebogen mit anderen direkten, indirekten und verhaltensbezogenen Maßen für die Unterstützung politischer Gewalt mit jungen Erwachsenen (von 18 bis 30 Jahren) verglichen, eingebettet in aktuelle politische Kontexte (Klima und Anti-COVID-Aktivismus).

In Summe legt diese multimethodische Dissertation einen wichtigen Grundstein für Folgestudien mit Jugendlichen als Kernzielgruppe von Radikalisierungsstudien. Indem sie verschiedene Outcomes des Radikalisierungsprozesses auf reliable und valide Weise messbar macht und die Beziehungen zwischen diesem Instrument und bereits vorhandenen anderen Messinstrumenten untersucht, ermöglicht sie eine genaue und differenzierte Untersuchung der Bedingungen und Folgen der Radikalisierung.