

Individual and Environmental Explanations for Violent Extremist Intentions: A German Nationally Representative Survey Study

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ABSTRACT

This study examines individual differences in violent extremist intentions. It combines key criminological theories and concepts including situational action theory, social learning theory, self-control, general strain theory and legal cynicism. We employ a conceptually integrated approach to studying extremism, which acknowledges the profound effect of person-environment reciprocity and, thereby, we aim to identify key individual, developmental and social mechanisms involved in the development of extremist propensities. The analytical framework is tested using structural equation modeling. The analysis is based on a German nationally representative survey ($N = 1502$ collected via Computer Assisted Telephone Interviewing (CATI)). Representativity of the sample was achieved via a systematic and controlled approach of a multi-stratified probability sample (random-digit-dialing) in the dual-frame mode (landline telephone- households and mobile phone users). Results highlight that low law-relevant morality, low self-control, and exposure to extremism-promoting settings are associated with individuals' readiness to engage in violent extremism. The relationship between legal morality, self-control and violent extremism is further mediated by exposure to extremist peers. We thereby identify exposure to extremist settings as a key mechanism, which stresses the importance of including social environmental factors in the explanation of violent extremism. The proximate determinants are further related to a series of distal factors, such as perceived individual and collective strains and personal alienation.

KEYWORDS

exposure to extremist settings, legal cynicism, self-control, structural equation modeling, violent extremism

Introduction

Despite the stark rise of terrorism and extremism research within the social and behavioral sciences, the majority of these studies draw from concepts within political science, psychology and sociology (Schuurman, 2019). Major criminological theories have largely been overlooked until very recently (Freilich & LaFree, 2015). This is surprising considering that violent extremism, like other types of criminal behavior, is a breach of rules of conduct stated in law. Furthermore, ordinary criminals and violent extremists tend to share basic demographic characteristics, such as gender and age, and other commonalities indicative of shared underlying mechanisms across various types of criminal activity (Agnew 2010; Wikström & Bouhana, 2017; Freilich & LaFree, 2015).

This hypothesis echoes Simi, Sporer and Bubolz (2016), who claim that the distinction between common criminality and violent extremism is illusory, and advocate for the application of life-course criminological frameworks to understand the development of violent extremism (also see Freilich, Chermak, Belli, Gruenewald, & Parkin, 2014). Simi and colleagues (2016) conducted life-history interviews with former violent far-right extremists ($N = 44$) to examine whether non-ideological factors, such as childhood risk factors and adolescent conduct problems, preceded involvement in violent extremism. They concluded that violent extremists and other criminal offenders considerably overlap in terms of early life risk factors and conduct problems experienced during adolescence. Similarly, the United States Extremism Crime Database (ECDB; Freilich et al., 2014) data reveals that many extremists do not specialize, but rather engage in both terrorist offenses, such as ideologically motivated homicides, as well as more common crimes, such as non-ideologically motivated homicides or financial crimes. Additionally, a number of offenders who commit extremist crimes do not hold extremist beliefs and hence may not, *per se*, be defined as extremists. Thus, the ECDB study findings call into question the traditional distinction between extremist and common (non-ideological) offenders, suggesting a convergence thesis, in that methods and motives driving political extremists as well as opportunistic/routine criminals often overlap (Freilich et al., 2014).

Criminological frameworks, therefore, likely have much to offer to the explanation of extremism (LaFree & Freilich, 2018). Some of these frameworks, notably, propose that violent extremism emerges from the interplay of individual characteristics common to different categories of offenders and contextual factors specific to different categories of offences (Bouhana, 2019). As such, to explain why some susceptible individuals radicalize rather than others, it is insufficient to solely examine risk factors in isolation. Instead, it requires understanding the mechanisms through which some people rather than others are exposed to the extremist settings present in their environment, leading some of them to acquire an extremist propensity¹ by coming to see extremist actions as morally legitimate, leaving them more likely to engage in extremist behavior (Bouhana, 2019). Research derived from survey data on the general population (e.g. Pauwels, Ljujic, & De Buck, 2018; Rottweiler & Gill, 2020; Schils & Pauwels, 2016) increasingly support this standpoint.

This paper builds upon these foundations in a number of unique ways. It draws upon a nationally representative survey on violent extremist intentions ($N = 1502$). The data collection occurred in Germany, which has witnessed several jihadist and right-wing terrorist attacks rendering it a highly relevant research context (Bundesamt für Verfassungsschutz, 2019; Bundesministerium des Innern, 2019). Our analysis examines the relationship between the following concepts: individual and collective strains, personal alienation, law-relevant morality, self-control, as well as exposure to extremist settings. The outcome of structural equation modeling indicates that low law-relevant morality, low self-control, and exposure to extremist moral settings are associated with individuals' willingness to engage in violent extremism. The relationship between legal morality, self-control and violent extremism is further mediated by exposure to extremist peers. The results identify exposure to extremist settings as a key mechanism, which stresses the importance of including social environmental factors in the explanation of violent extremism. The proximate determinants are further related to a series of distal factors, such as perceived individual and collective strains and personal alienation.

Theoretical Framework

¹ Defined as an individual's disposition to engage in extremist behavior (Bouhana, 2019; Wikström & Bouhana, 2017).

The present paper is specifically concerned with examining individual and social ecological levels of analysis, in order to understand the causes of differential individual vulnerability to extremism (Bouhana, 2019). At the individual level, the key determinant for extremist propensity development is posited to be a susceptibility to moral change, which is premised to be rooted in a low commitment to law-relevant morality (low commitment to context-appropriate, action-relevant moral rules), and poor capacity for self-regulation, including several neuropsychological characteristics, such as low self-control, impulsivity and thrill-seeking (Ibid). The social ecological level of analysis accounts for the context an individual is situated in. Social environmental drivers are seen as fundamental in explaining extremist propensity development. In order to explain differential vulnerability to extremism, it is necessary not only to account for why individuals vary in their susceptibility to extremist moral change, but also to explain why they vary in their risk of exposure to extremism-enabling environments. As Bouhana (2019, 14) put it, “to be truly vulnerable to something, one needs to be at risk of coming into contact with it”; or, put differently, “one needs to be at risk of exposure.”

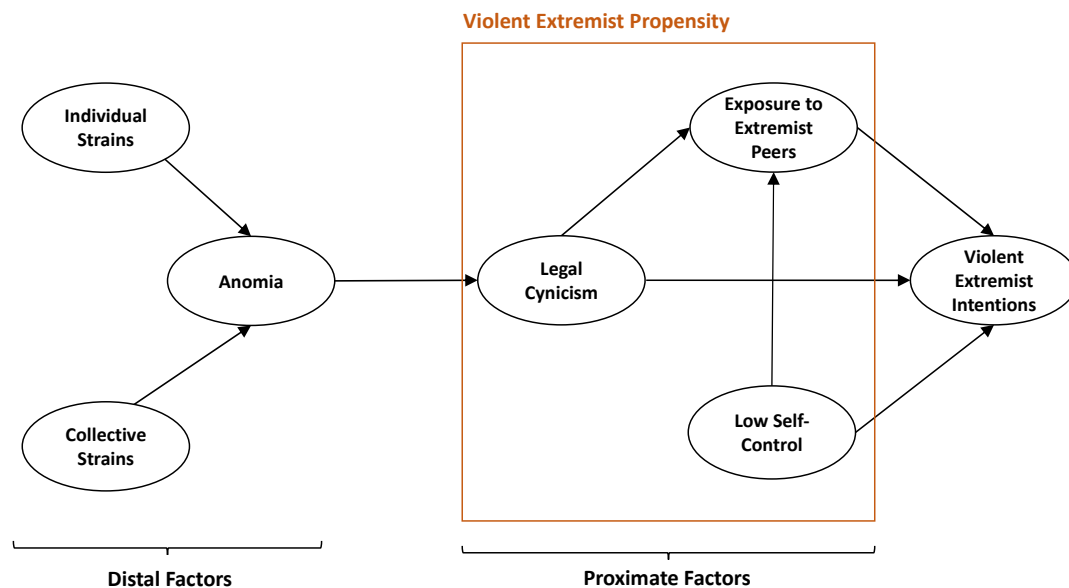
In order to explain vulnerability to extremism, one needs to take into account both individual susceptibility characteristics and selection susceptibility characteristics, selection being the process linking the individual to the extremism-supportive settings in their environment. These settings provide mechanisms that contribute to the normalization of extremist values, norms and behaviors, which lead people to perceive extremist behavior as morally legitimate. Extremist settings provide opportunities to form attachments to radicalizing agents and other vulnerable individuals (Bouhana, 2019), as well provide action-orientated extremist narratives and may allow for concrete opportunities to engage in corrective action (Bouhana & Wikström, 2011).

In the below sections, we outline how people’s attraction to criminogenic settings is chiefly influenced by morality and self-control, such that individuals are more likely to spend time in extremist settings if they hold low law-related moral beliefs and exhibit poor self-regulation (Perry et al., 2018). Given this, extremist propensity development can be understood as the product of more or less proximate and distal determinants (see fig 1²; Bouhana & Wikström, 2011). We further outline how individual and collective strains exert their effect on

² It is important to note that our data is cross-sectional and therefore we cannot draw causal inferences. The ordering of the individual constructs in our model is guided by the proposed theoretical framework. Neither the direction nor the exact ordering of these constructs can be established with our data, but instead they are theoretically informed, in order to build our analytical process model.

legal cynicism by increasing feelings of alienation. The following sections provide an overview of the theorized determinants, disaggregated across individual-level and environmental-level explanations.

Figure 1. Structural equation model.



Distal Factors explaining Susceptibility to Extremism

Perceived Individual and Collective Strains

General strain theory states that individuals who experience strains may develop several emotional, cognitive and behavioral outcomes, including negative feelings like frustration and anger, which subsequently may lead to violent and criminal behavior (Agnew, 2010). The theory depicts perceptions of injustice, discrimination and perceived deprivation as important antecedents to criminality. Empirical research demonstrates a crystallization of strains such as perceived injustices, feelings of discrimination, and anger about unfair treatment, which are directly related to outcomes such as holding negative emotions towards out-groups, support for political violence, adoption of radical beliefs, and individual violent extremist intentions and actions (Piazza, 2012; Boehnke et al., 1998; Pauwels & Heylen, 2017; Doosje et al., 2013). However, exposure to strain does not necessarily lead to direct engagement in extremist behavior. In fact, research has shown that only a very small percentage of those, who

experience strain, develop extremist beliefs and even fewer engage in extremist violence (Sageman, 2004). As such, it might be hypothesized that strains can contribute to experiences of alienation and, cumulatively, these grievances may decrease individuals' law-relevant morality, rendering the engagement in illegal and violent behavior more likely.

Anomia

The sociological concept of 'anomia' presents both a state of mind and a subjective experience in response to societal and individual dysfunctions. It constitutes the individual-level counterpart to the original macro-level condition of anomie, defined as a breakdown of social standards and a state of normlessness (Merton, 1938). Accordingly, anomia has been defined as 'a loss of normative orientation and of control over situations and goals of action' (Legge, Davidov, & Schmidt, 2008, p. 249). Anomia denotes a psychological state which is accompanied by feelings of meaninglessness (one's life has become too difficult to effectively cope with it), powerlessness (one's actions have no impact), alienation (a sense of disintegration and disconnection from society), and normlessness (norms and standards are no longer socially regulated). More specifically, it refers to a collapse of people's sense of attachment to society, which precipitates feelings of social isolation. Empirical studies demonstrate, anomic people (and those suffering injustice) hold more negative attitudes and feelings of distrust towards other groups in society and report more violent extremist intentions. (Goertzel, 1994; Nivette, Eisner, Malti, & Ribeaud, 2015; Boehnke et al., 1998; Adam-Trojan et al., 2019; Schils & Pauwels, 2016; Pauwels et al., 2018). Studies also show anomic people exhibit stronger levels of legal cynicism. This relationship may induce a sense of perceived normlessness, which could provide justification to use socially undesirable means (e.g. norm- or rule breaking behavior) to achieve these ends (Merton, 1938).

Proximate Factors explaining Susceptibility to Extremism

Whereas personal and collective strains as well as feelings of anomia present distal explanations of why some individuals are more susceptible to radicalization, legal cynicism, low self-control and exposure to extremist settings are perceived to constitute more proximate factors, which may lead to the acquisition of violent extremist propensities.

Legal Cynicism

Legal cynicism is a mechanism, which leads to the disengagement from internal obligations to comply with legal rules and social norms (Sampson & Bartusch, 1998). Individuals, who

engage in such processes deny the bindingness and legitimacy of the law. Legal cynicism results from perceptions of persistent injustice, relative deprivation and consequent feelings of anomia. Confronted with such strains, individuals may develop a cynicism towards the law, which can serve as a justification for criminal behavior and violent (Nivette et al., 2015; Ribeaud & Eisner, 2010; Fritsche, 2005; Reisig, Scott, Wolfe, & Holtfreter, 2011; Ribeaud & Eisner, 2015). Other studies demonstrate the relationship between legal cynicism and the support for violence to advance political and ideological aims (Hagan, Kaiser, & Hagan, 2016; Nivette, Eisner, Ribeau, 2017). These findings are not surprising as many extremist actions are criminal in nature (Bouhana, 2019). Indeed, a significant number of individuals who committed terrorist offences have previously been involved in criminal activities (Basra & Neumann, 2016). The same susceptibility seems to be causally implicated in both types of criminal behavior (Bouhana, 2019, p.13).

Self-control

Gottfredson and Hirschi (1990) argue capacity for self-control is a key factor in explaining delinquency and the development of criminal propensities. Correspondingly, social control theory (1990) attributes great significance to early developmental processes, such as internalized controls acquired through childhood. Importantly, a lack of self-control is seen as one of the main factors explaining criminality, whereby the underlying explanations of self-control are said to apply to various types of criminality, ranging from petty crimes to serious offending (Siegel & McCormick, 2010). Numerous empirical studies found a significant relationship between lower levels of self-control and an increased risk of delinquency (for meta-analysis see Pratt & Cullen, 2000).

Gottfredson and Hirschi (1990) originally conceptualized self-control as a trait constituted of six dimensions: immediate gratification, preference for simple tasks, risk-taking behavior, volatile temper, impulsiveness, and self-centeredness. Therefore, self-control constitutes an inhibitory factor which has been characterized as the ability to resist the drive for immediate gratification. However, they also argued that their conceptualization of self-control is poorly suited to explain violent extremism as terrorism “reflect[s] commitment to a political cause” (Hirschi & Gottfredson, 2001, p. 94). They stress that common (non-ideological) offenders hold a low capacity for self-control, whereas ideologically motivated offenders (terrorists) possess high levels of self-control pertaining to the assumption that engagement in terrorism requires planning and foresight.

Yet, numerous studies undermine this claim and argue that similar mechanisms, which apply to the explanation of general offending, including the concept of self-control, may be involved in individual-level processes of susceptibility to extremism (Freilich et al., 2014; Simi et al., 2016). For instance, qualitative research analyzing right-wing extremist groups, highlighted the importance of thrill-seeking and risk-taking as key determinants in explaining involvement in extremism and violence committed by far-right extremists (see for example Bouhana, Corner, Gill, & Schuurman, 2018; Lakhani & Hardie-Bick, 2020). Survey studies corroborate that poor ability to execute self-control is significantly correlated with exposure to extremist settings and self-reported violent extremist attitudes and behavior, irrespective of the ideology in place (Clemmow et al., 2020; Pauwels & De Waele, 2014; Perry et al., 2018; Pauwels & Hardyns, 2018; Pauwels & Svensson, 2017; Rottweiler & Gill, 2020; Schils & Pauwels, 2016). These findings suggest that the receptivity to extremist ideologies is associated with poor self-regulation (Bouhana, 2019).

Exposure to Extremist Settings

As mentioned previously, in order to explain individuals' vulnerability to extremism, it is insufficient to solely focus on individual-level susceptibility characteristics. Environmental-level factors must be included to understand why some people radicalize rather than others. We argue that alongside a weak law-relevant morality and low self-control, extremist propensity development is also affected by one's exposure to extremist settings.

Derived from Sutherland's differential association theory (1947), social learning theory suggests criminal behavior involves a socialization process, whereby criminality constitutes a learned behavior, acquired through the same processes as normative and prosocial behaviors (Akers, 2017). Criminological research shows that social influences, especially those of peers, strongly impact the transmission of attitudes, moral norms and behaviors. By offering beliefs that delegitimize rules and the law, delinquent friends can influence individuals' criminal involvement. Thus, exposure to delinquent peers is one of the most salient predictors of criminal behavior (Gottfredson & Hirschi, 2003; Wright, Caspi, Moffitt, & Silva, 2001). The same may be true for violent extremism where social learning facilitates the transmission of extremism-relevant norms and values, which justify extremist behavior (Akers & Silverman, 2004).

Yet, research shows that not every individual is equally susceptible to the influences of delinquent as well as extremist peers and networks. The capability to exercise self-control moderates the effects of exposure on criminal behavior, whereby lower levels of self-control

are linked to higher levels of offending (Perry et al., 2018). Notably, studies demonstrate a reciprocal relationship between exposure to criminal peers and delinquency, whereby delinquent peers on the one hand facilitate offending but previous criminality on the other hand leads to having more delinquent friends (Boers, Reinecke, Seddig, & Mariotti, 2010; Matsueda & Anderson, 1998). Pauwels and colleagues, corroborate that various forms of extremism-related exposure share a direct and positive association with involvement in self-reported political violence and aggression (Pauwels & De Waele, 2014; Pauwels & Heylen, 2017; Pauwels & Schils, 2016; Pauwels et al., 2018).

Hypotheses

We tested a structural equation model with several latent variables in order to identify individual and environmental predictors for violent extremism (see Figure 1). We investigate if and how these factors and their mechanisms are related to violent extremist intentions, as well as if and how they jointly contribute to understanding differential vulnerability to extremism. It is important to reiterate that we have collected cross-sectional data and therefore we cannot establish causal relationships. The ordering of the determinants in our proposed model is guided by the theoretical framework. Therefore, neither the direction of the individual hypotheses nor the exact ordering of the constructs can be determined with our data, instead they are theoretically informed in order to test our analytical process model.

Strains and grievances are hypothesized to contribute to a cognitive opening, rendering people more receptive to extremist narratives by increasing perceived alienation and further affecting law-related morality. Perceived alienation is hypothesized to add to perceived strains by increasing individuals' legal cynicism.

Hypothesis 1: We expect that personal strains will lead to stronger feelings of anomia, which in turn increases individuals' legal cynicism (indirect effect). In addition, we hypothesize that individual strains also have a positive direct effect and will lead to more legal cynicism.

Hypothesis 2: We hypothesize that collective strains will increase perceived alienation and thereby feelings of anomia will lead to higher levels of legal cynicism (indirect effect). Collective strains are also assumed to have a positive and direct effect on legal cynicism.

Legal cynicism is partly an outcome of experienced strains and personal alienation and explains how a weak law-related morality may directly lead to violent extremist tendencies. We posit

that weak perceptions about the law also render individuals more susceptible to exposure to radicalizing settings. In addition, individuals vary in their neuropsychological characteristics and subsequently differ in their ability to execute self-control. We expect that low self-control, as well as weak perceptions about the law, render individuals more susceptible to exposure to radicalizing settings. We test two separate mediations for low self-control and legal cynicism.

Hypothesis 3: We hypothesize that legal cynicism will have a positive and direct influence on violent extremism. Legal cynicism is expected to lead to increased exposure to extremist settings, which in turn positively predicts individuals' willingness to engage in violent extremism (indirect effect).

Hypothesis 4: We hypothesize that lower levels of self-control will have a positive and direct effect on violent extremism. Lower levels of self-control will lead to increased exposure to extremist settings and thereby increase individuals' willingness to engage in violent extremism (indirect effect).

Method

Data

We conducted a cross-sectional and nationally representative survey study of the German population comprising German-speaking persons aged 18 years and older. The total sample included 1502 respondents with a mean age of 55 ranging from 19 to 95 ($SD_{age} = 16.93$). Our sample is approximately representative of the German population based on the following sociodemographic variables: gender, age and ethnicity. Our sample consisted of 49.3% female participants, 17% of all respondents had a migration background compared to an estimated 25% in the German population (BPB, 2019), and 8.7% indicated that they were not born in Germany. Out of all respondents, 94.2% held German citizenship. Respondents had a fairly high level of education with 44.5% indicating that they completed the 'Abitur' or an equivalent, which is the highest level of school education in Germany and which is above the German average, which currently stands at 31.9% (Statistisches Bundesamt, 2019). Our sample indicates that out of all participants, 31.1% were Protestant, 24.9% Catholic, 2.8% Muslim, 0.9% Orthodox, 1.8% stated another religious affiliation and 38.5% indicated that they did not hold any affiliation. Our sample is also approximately representative for Protestant and Catholic Christians, whereas Muslims are slightly underrepresented in our sample with 2.8% compared to 5.4% in the general population (Bundesamt des Innern, 2020).

Ipsos Germany and Trend Test GmbH collected the survey data via Computer Assisted Telephone Interviewing (CATI). This method was considered the best method to realize a representative survey study. The main fieldwork took place from March 22nd to May 27th, 2019. The target population comprised all German-speaking persons aged 18 years and older, living in private households with at least one landline telephone or at least one mobile-phone line in Germany. A representative sample was drawn from the target population. This was achieved through a systematic and controlled approach of a multi-stratified probability sample (Random-Digit-Dialing) in the dual-frame mode (landline telephone- households and mobile phone users), based on the current ADM (Arbeitskreis Deutscher Markt- und Sozialforschungsinstitute) sample design for telephone surveys. Individuals participated on a voluntary basis and were not incentivized. Incentivizing participants might bias towards those respondents who mainly participate due to monetary rewards. Debriefing was provided at the end of the survey. The average duration of the interviews was 31 minutes.

For the fieldwork of this study, 108 interviewers were deployed. Interviewers completed between 1 and 133 interviews. All interviewers were trained interviewers with experience in social research studies. Additionally, all interviewers pass a professional training system before they begin with real interviews. They further receive ongoing training and development through seminars. A pre-test of 30 interviews was conducted before the main fieldwork in order to test the questionnaire design, the clarity of questions and answer options, the questionnaire length as well as the willingness to participate.

Measures

Unless otherwise mentioned, the measures reported below were assessed on 7-point Likert-scales (1 = *strongly disagree*, 7 = *strongly agree*).

Violent Extremism

The violent extremism scale is devoid of any specific set of values (e.g. particular religious, political or social beliefs) and is designed for all unlawful extremist behavior regardless of the driving ideology. We use the term *violent extremism* to refer to individuals' willingness to engage in illegal and violent actions on behalf of a group, with whom the individual privously identified most strongly with. The group could be a political, national, ethnic, religious or another group.

Therefore, rather than measuring actual violent extremist behavior, we measure participants' readiness to engage in violent extremism. It is worth noting that this has important implications when examining predictors for engagement in violent extremism. Notably, most

individuals who hold extremist views will never engage in violent extremist behavior. Equally, there are violent ‘extremists’ who are not primarily motivated by their beliefs but engage in extremist violence for other reasons. Yet, there is a tendency to see involvement in violent extremism as directly stemming from the adoption of extremist beliefs leading to an inflation of extremist attitudes with extremist behavior. While probably the vast majority of violent extremists hold extremist attitudes, having such beliefs is not a necessary or sufficient criterion for being involved in violent extremism (Schuurman & Taylor, 2018).

Yet, measuring violent extremist behavior is a very challenging task to undertake in general population samples, due to issues with ethics approvals and misreporting of survey answers, especially social desirability bias poses challenges to most surveys assessing sensitive items. To overcome this, we applied proxy measures and assessed individuals’ willingness to engage in violent extremist behavior. While we have not measured if people have committed extremist offenses, we have opted for assessing violent behavioral intentions, rather than mere extremist attitudes, as intentions constitute the immediate antecedents of behavior and therefore, reveal people’s readiness to perform a behavior. Having stronger intentions to engage in a certain behavior makes it much more likely that people will actually perform that behavior (Ajzen, 1991).

The construct of violent extremism was examined with four items from the Radicalism Intention Scale (Moskalenko & McCauley, 2009). Initially, participants were asked to think about the group or organization with whom they overall identified most strongly. Afterwards, they were asked to what extent they agree to the following statements: “*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*”, “*I would continue to support this organization even if the organization sometimes resorts to violence*” “*I would participate in a public protest against oppression of my group even if I thought the protest might turn violent*” and “*I would attack police forces if I saw them beating members of my group*” ($\alpha = .76$). We combined the items of the Radical Intentions Scale and created an average score for every individual whereby higher values indicate stronger intentions to engage in extremist violence.

Individual and Collective Strains

Our concepts of individual and collective strains tap into a variety of so-called strains, which participants may experience on an individual or group-level. Four items amended from Doosje et al. (2013) measured respondents’ individual strains. Participants were asked how much they

agreed with items such as: “*I have the feeling of being discriminated against*” and “*I think I am worse off than others in Germany*” ($\alpha = .83$).

Four items measured the construct of collective strains, which capture the constructs of collective deprivation, discrimination and perceived group injustice. Example items include: “*It makes me angry when I think of how my group is treated in comparison to other groups in Germany*” and “*If I compare the group to which I belong with other groups in Germany, I think we are treated unfairly*” ($\alpha = .93$). The items capture perceptions about the group the participant most strongly identifies with. This measure was also amended from a scale developed by Doosje et al. (2013).

Anomia

The concept of anomia refers to personal alienation and is assessed with four items relating to individuals’ perceptions of social powerlessness as well as normlessness and meaninglessness of institutionalized norms and values. Respondents were asked to indicate if they agreed with statements such as: “*Nowadays everything is changing so quickly that I do not know what is right or wrong anymore*” or “*Nowadays things have gotten so difficult, that I don't know how to cope with them*” ($\alpha = .87$). This scale is amended from the German Mitte Studie (Zick, Küpper, & Berghan, 2019).

Law-related Morality

Law-related morality was operationalized using four items adapted from Sampson and Bartusch’s (1998) legal cynicism scale. Participants were asked to indicate their agreement with statements such as: “*Sometimes it’s necessary to ignore rules and laws and to do what you want*” and “*Laws were made to be broken*” ($\alpha = .71$). An average score for all items was computed. Answer were coded so that high values represent high levels of legal cynicism or put differently, low law-related morality.

Self-control

Participants’ ability to exercise self-control was measured with seven statements such as: “*When I am really angry, other people better stay away from me*” or “*Sometimes I find it exciting to do things that may be dangerous*” ($\alpha = .71$). The scale is a modified version of the self-control scale developed by Grasmick et al. (1993), which taps into the concepts of thrill-seeking, impulsivity and risk-taking. Responses were coded so that high scores on the scale indicate a low capacity for self-control.

Exposure to Extremist Settings

We used association with extremist peers as a proxy measure of exposure to extremism-enabling settings. Exposure to extremist peers was assessed with the violent extremist attitudes scale developed by Nivette et al. (2017). The scale consists of four items. Participants were asked to indicate how much they think their friends would agree to the violent extremist attitudes items such as: “*It’s sometimes necessary to use violence to fight against things that are very unjust*” or “*It’s sometimes necessary to use violence, commit attacks, or kidnap people to fight for a better world*” ($\alpha = .70$). A mean score was computed with higher values reflecting more exposure to extremist friends.

Analytical Procedure

We estimated our model as a full structural equation model with latent variables in the software program R using the package ‘lavaan’ (Rosseel, 2012). We tested our model using structural equation modeling (SEM) which presents a more advantageous statistical analysis compared to standard regression analysis. We conducted a latent path analysis whereby we estimated all our hypotheses in a single statistical model, and we ordered our predictors on a continuum from distal to more proximate factors. Due to our integrated framework we chose an end-to-end integration approach, which entails the combination of several mechanisms that play a role in differing theories so that the dependent variables of some theories become the independent variables of the integrated theory (Pauwels, Ponsaers, & Svensson, 2010). This approach further allowed us to simultaneously estimate several indirect and direct effects in one model. We decided to include several mediation analyses within our structural equation model in order to identify underlying processes, whereby our mediators constitute intervening variables. This allowed us to establish not only if our predictor variables are associated with the outcome variables but to highlight key mechanisms explaining violent extremism (Hayes, 2018).

All constructs were entered as latent variables with items as manifest indicators as they correspond to hypothetical constructs or factors, which are not directly observable. Our variables are presumed to reflect a continuum, which brings a significant advantage over observed variables (Kline, 2015). Hence, we created scales in order to measure those constructs and to assess their relationship with other variables. However, such scales carry measurement errors, which represent variance unexplained by their predictors. Part of this unexplained variance is due to random measurement error or score unreliability. For this reason, SEM was chosen as it is able to estimate those error terms.

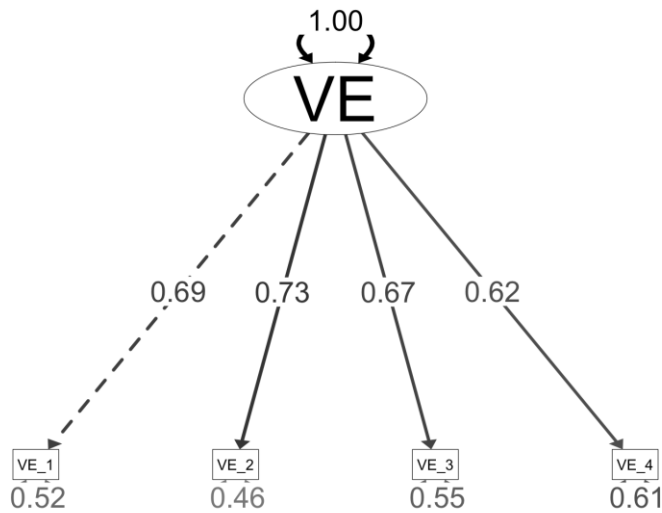
In addition, we applied maximum likelihood estimation (MLR) with robust (Huber-White) standard errors and a scaled test statistic that is equal to the Yuan-Bentler test statistic to handle any violation of the normality assumption in our variables. Despite having a low percentage of missing data on the individual items, ranging from 0.4% - 3.4%, we included 'full information' maximum likelihood estimation (FIML) in order to deal with the missing data. Our data proved to be MAR (missing at random) and therefore FIML can be estimated (Rosseel, 2019). Model fit was accepted if $\chi^2 / df < 3$, comparative fit index (CFI) $> .95$, Tucker-Lewis index (TLI) $> .95$, root mean square error approximation (RMSEA) $< .06$, and $< .08$ for standardized root mean square residual (SRMR), which indicates a good fit (Byrne, 2012; Little, 2013). We included gender and age as statistical control variables in all our paths.

Results

Structure of the Violent Extremist Intentions Scale

We conducted a confirmatory factor analysis (CFA) to check the construct validity of the violent extremist intention scale.

Figure 2. Confirmatory factor analysis of the violent extremist intentions scale.



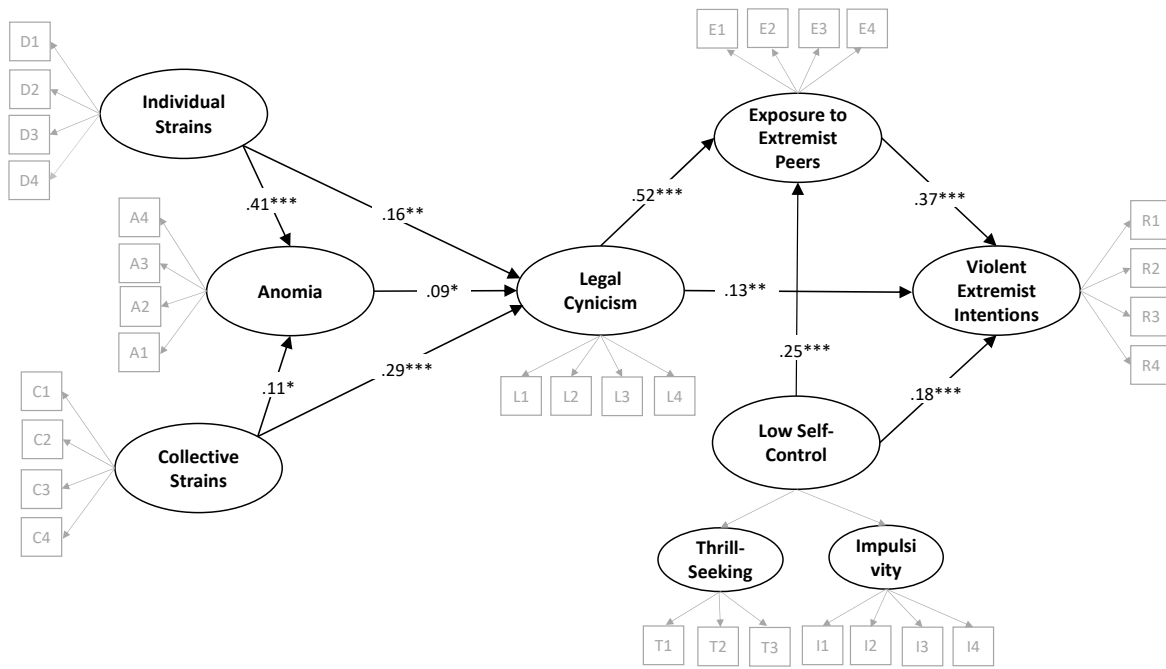
Confirmatory factor analysis of the violent extremist intentions scale yielded a very good model fit: $\chi^2 > .05$, $\chi^2(2) = 4.20$, $\chi^2 / df = 2.10$, CFI = .99, TLI = .99, RMSEA = .03, and SRMR = .01 and good factor loadings for all items, ranging from .62 - .73 (Figure 2). Further confirmatory factor analyses (CFA) were conducted for all our scales. Results revealed that there were satisfactory loadings for all observed items within the range of $\beta = 0.4 - 0.9$ (Hair, Black, Babin, & Anderson, 2010). Overall 12% of all respondents expressed violent extremist intentions (score of 5 or above on the radical intentions scale). Missing values for the individual items were low and ranged from 1.3 – 2.1%. As mentioned above we included FIML to estimate the missing data.

Structural Equation Model

We report all parameters as standardized estimates with a significance level $<.05$ and we estimate all direct and indirect effects.

The bivariate correlations between all constructs used in this study are all significantly related to one another in the expected direction (see on-line appendix).

Figure 3. Final structural equation model.



Note: Standardized regression coefficients are given. All paths are significant. R^2 = % variance explained
 * $p < .05$.
 ** $p < .01$.
 *** $p < .001$.

Our hypothesized model has a good fit: $\chi^2(413) = 971.22$, $\chi^2 / df = 2.35$, CFI = .96, TLI = .95, RMSEA = .04, and SRMR = .06. We tested several other models in order to examine different theoretical specifications, which involved testing alternative pathways and we compared their model fit to the model fit of our proposed model. For instance, we tested alternative models where (a) exposure to extremist settings directly leads to more legal cynicism (reverse relationship) (b) lower levels of self-control lead to more legal cynicism (new path added) (c) higher legal cynicism leads to lower self-control (new path added) and (d) exposure to extremist settings lowered individuals' ability to exercise self-control (reverse path). However, none of the alternative models fit the data better than our hypothesized model and therefore we did not adjust the model originally proposed.

Individual and Collective Strains, Feelings of Anomia and Legal Cynicism

As predicted with our first and second hypothesis, individual ($a_1 = .41$, $p < .001$) and collective strains ($a_2 = .11$, $p < .05$) are associated with higher levels of personal anomia. The results further show that feelings of anomia are related to higher levels of legal cynicism ($b_1 = .09$, $p < .05$). Individual ($c'_1 = .16$, $p < .01$) and collective strains ($c'_2 = .29$, $p < .001$) also directly predict legal cynicism after controlling for anomia. To test if anomia presents an underlying

mechanism, which links personal strains to legal cynicism, we need to establish if the effect of personal strains on legal cynicism is mediated by anomia. Statistically, this is established with an inferential test about the indirect effects, which is based on whether the product of ab is significant. The results show that the mediation is significant (index of the completely standardized indirect effect $a_1b_1 = .04, p < .05$), indicating that personal alienation is assumed to constitute a major part in translating individual strains into low law-related moral beliefs. However, we did not find a significant mediated effect for collective strains ($a_2b_1 = .01, p > .05$). The total effects of individual strains and anomia ($c_1 = .19, p < .001$) and collective strains and anomia ($c_2 = .14, p < .01$) on legal cynicism were both significant.

Legal Cynicism, Exposure to Extremist Settings and Violent Extremism

In line with our third hypothesis, exposure to extremist settings ($a_3b_2 = .19, p < .001$) mediates the effects of legal cynicism on violent extremism. The results confirm that exposure to extremist settings presents a key mechanism on how low-related moral beliefs affect individuals' extremist behavioral intentions. Higher levels of legal cynicism lead to increased exposure to extremist settings ($a_3 = .52, p < .001$), which in turn predicts stronger extremist intentions ($b_2 = .37, p < .001$). In addition, legal cynicism ($c'_3 = .13, p < .01$) has a significant direct effect on violent extremism. The total effect of legal cynicism and exposure to extremist settings on violent extremist intentions was also significant ($c_3 = .37, p < .001$).

Self-control, Exposure to Extremist Settings and Violent Extremism

As expected with our fourth hypothesis, lower self-control is related to higher levels of exposure to extremist settings ($a_4 = .25, p < .001$) and more exposure to those settings leads to stronger violent extremist intentions ($b_2 = .37, p < .001$). The direct effect of self-control ($c'_4 = .18, p < .001$) on violent extremism was statistically significant, after accounting for exposure. The total effect was also significant ($c_4 = .22, p < .001$). In line with our expectations, exposure to extremist settings ($a_4b_2 = .09, p < .001$) mediates the effects of self-control on violent extremism. Therefore, the findings reveal that self-control's effect on violent extremism is transmitted through the process of exposure to extremist settings.

Discussion

This study suggests that the structured integration of individual and environmental-level determinants of criminality provides a comprehensive model to account for violent extremism. In order to explain individual differences in vulnerability to extremism, we examined why

people vary in their susceptibility to extremism and we elaborated how this affects their risk of exposure to extremism-promoting environments. Our results demonstrate that individuals' differential susceptibility to extremism is primarily related to a low law-relevant morality as well as low self-control, but is further influenced by more distal factors, such as perceived individual and collective strains. This lends support to the idea that perceived alienation and legal cynicism both play a key role in translating those strains into increased susceptibility to extremism.

Notably, we showed that people vary in their risk of exposure to extremist settings, rendering some individuals more likely to be selected into extremism-conducive environments. Our findings demonstrate that selection susceptibility is determined mainly by levels of morality and self-control, suggesting that individuals are more likely to be exposed to extremist settings if they hold law-related moral beliefs and exhibit poor self-regulation. Importantly, exposure to extremist settings emerges as a key mechanism explaining individuals' willingness to engage in extremist violence and it provides an explanation for the selection processes of susceptible individuals to extremist socializing influences in their environment.

Taken together, we demonstrated vulnerability to extremism is directly related to low law-relevant morality, low self-control and exposure to extremist settings. Extremist propensity development emerges from the developmental interplay between an individual's differential susceptibility to extremism and his or her exposure to extremism-enabling settings. Whereby previous research has mainly focused on individual characteristics when explaining radicalization processes, our study highlights the necessity of incorporating contextual accounts in order to answer the questions why some individuals rather than others radicalize.

Our results emphasize the need to address risk factors for extremism as early as possible. Results show perceptions of injustice and unfair treatment can lead to personal alienation and legal cynicism, which may initiate a process of extremist propensity development. Yet, there is a tendency for policy to treat 'extremism' as the main problem. We argue, however, that for the individual, extremism is the solution to other problems on-going in their life. It is these problems our results suggest which require addressing. For example, minimizing negative social conditions related to injustices and strengthening protective factors, such as social integration and bonds to settings promoting prosocial norms, may prove promising avenues for diminishing violent extremist intentions.

As previously mentioned, our analysis further demonstrated the importance of extremist settings for explaining differential vulnerability to extremism. Therefore, prevention programs should explicitly incorporate this notion of socialization in their work. In terms of

practical implications, our findings can inform front line workers (police, teachers, prevention workers) about potential characteristics and grievances of people who might be susceptible to extremism and which may help inform primary and secondary prevention programs in developing effective preventing/countering violent extremism (P/CVE) strategies.

Yet, whilst individuals' deep sense of injustice requires intervention, some of these grievances are so deep-rooted they can be considered intractable. Equally, such interventions will not have universal success, and some may still slip through and mobilize from intention to action. We therefore do not take the position that such interventions will be a panacea for violent extremism. They still need to be supplemented by initiatives informed by situational crime prevention which attempt to stall the commission of a terrorist attack (Freilich, Gruenewald, & Mandala, 2019).

Similarly, we are not intending to suggest ideology plays no role. However, we do not buy into simplistic understandings of radicalization being the result of either 'vulnerability' or an agentic choice. It is often both but differs in degrees of intensity from case to case. We believe the scientific underpinning of the former is still being established. For the former, research conducted by Freilich, Chermak and Caspi (2009) shows ideologies do play a vital role for extremist organizations' growth and recruitment suggesting that not taking these views seriously or dismissing them as irrational or unreasoned is uncondusive and allows society to ignore underlying grievances. Therefore, effective P/CVE approaches could also challenge the underlying ideology of extremist groups by providing counter-narratives and by tackling those grievances which led to the engagement with the ideology in the first place. However, the evidence base for counter-narratives' efficacy is still in its infancy (Carthy, Doody, Cox, O'Hora, & Sarma, 2020). Violent radicalization is a process with a different set of strategies required for different stages along the way. Our focus here was on early prevention.

Limitations and Future Research

There are some limitations to this study which need to be taken into account. While our analysis is based on large-scale nationally representative study examining violent extremist intentions, our sample does not consist of individuals who have actually engaged, to the best of our knowledge, in violent extremism. We applied a proxy measure in order to assess individuals' willingness to engage in violent extremist behavior. While we have not measured if individuals have actually been involved in violent extremism, we have measured violent intentions instead. Compared to beliefs and attitudes, behavioral intentions have been shown to account for a substantial proportion of variance in actual behavior, and thus are assumed to capture the

motivational factors that influence a behavior (Ajzen, 2002). However, it is important to note that it is difficult to establish if and how behavioral intentions are translated into actual behavior. Nevertheless, research on attitude-behavior relations does suggest that under appropriate conditions intentions can be relatively good predictors of actual behavior (Banaji & Heiphetz, 2010). This is in line with previous social psychological research which has found that behavioral intentions can serve as a useful proxy for understanding and predicting corresponding behavior (Webb & Sheeran, 2006) and that collective action intentions are strongly related to actual participation (De Weerd & Klandermans, 1999).

Relatedly, we have utilized participants' perceptions of their peers' extremist attitudes as a measure to assess exposure to extremist settings. However, criminological research has shown that individuals' perceptions are systematically biased towards their own attitudes and behaviors, which subsequently overestimated the association between peers and one's own extremist attitudes (Rebellon & Modecki, 2014).

Our nationally representative sample also comes with some limitations. Our sample is only approximately representative based on the following variables: age, gender and ethnicity. The highest educational level is higher than what we find for the average German population and Muslim participants are slightly underrepresented. We have to take this into account when interpreting our findings. Similarly, we acknowledge that the survey with an average length of around 30 minutes was relatively long and therefore, certain participants with more spare time may be slightly overrepresented.

Another limitation of the current study is the cross-sectional data. Despite having tested a structural equation model with several mediation analyses, we are not able to draw causal inferences. We acknowledge that the ordering and the direction of our constructs are informed by our theoretical framework and cannot be established with our cross-sectional data. While this constitutes a limitation to the overall study, we believe that even a cross-sectional examination of our proposed model is a valuable contribution to improve our understanding of vulnerability to violent extremism, especially since there are few studies applying theoretically informed approaches to studying violent extremism and even fewer that test a theoretical process model. Nevertheless, future studies should consider experimental and longitudinal designs as such data is required to establish causation.

This study has only been conducted in Germany and therefore, we cannot be certain if our model would be applicable to other contexts. Nevertheless, we found consistent results with similar studies conducted in Switzerland (Nivette et al., 2017), Belgium (Pauwels et al., 2018), the UK (Perry et al., 2018) and the Netherlands (Doosje et al., 2013). This suggests that

our findings are not specific to the German context but we have to acknowledge that proper replication studies in other countries are required in order to generalize our results. Additionally, we argue that in order to test if the underlying processes explaining vulnerabilities to extremism are not specific to any ideology, but rather apply to all unlawful extremist behavior, our study would benefit from replicating our analysis with proxy measures for violent extremism which refer to a particular set of values, such as far-right or jihadist beliefs. If the same mechanisms apply when utilizing different extremism measures, this would serve as a robustness test for our analysis.

Importantly, we stress that more research into the protective factors of radicalization is needed, which may act as a barrier to extremism and as such, we strongly encourage future research to incorporate protective factors against extremism in their analyses. While research on protective factors has been conducted within the context of resilience research, very few studies have examined protective factors for violent extremism (Lösel et al., 2018). One such exception is a recent study conducted by Rottweiler and Gill (2020) which has found that a stronger conspiracy mentality leads to increased violent extremist intentions. However, they highlighted that this relationship is contingent on several individual differences and they stressed Rutter's (1987) position of emphasizing the interactional nature of risk and protective factors. It is in such adverse circumstances (e.g. the experience of risk factors) where the true value of protective factors becomes apparent and this has a multitude of insights for how we should design interventions focused on countering violent extremism. Such forms of protective factors should be emphasized in preventive measures focused upon 'at risk' populations (e.g. selective strategies).

Additionally, certain cognitive factors, such as critical and analytical thinking skills as well as cognitive flexibility, may also act as protective factors against developing extremist propensities. Yet overall, we argue that the focus of P/CVE interventions should be put on indirect, long-term and life-course oriented protective factors, which we know from developmental criminology, play a major role in determining who will be more likely to engage in unlawful behavior. We suggest that similar factors may be able to explain who will endorse extremist attitudes and might engage in violent extremism.

Of course, if the same key factors account for both common criminality and extremism, it begs the question of why some individuals acquire one kind of propensity over another (and some indeed acquire both). Bouhana (2019)'s S5 framework makes the case that the question cannot be answered unless we acknowledge that most of the key drivers of propensity development – and criminal behavior – are environmental. Individuals acquire one kind of

propensity over another *because* they are exposed to one kind of (extremism or crime-promoting) setting rather than another, *because* one kind of (extremism or crime-promoting) setting rather than another is more likely to emerge in an individual's environment as a result of certain social ecological and systemic processes, the elaboration of which is beyond the scope of this paper. Suffice it to say that to explain why terrorism results over common crime or vice versa is more a matter of explaining why certain environments promote the emergence of, and exposure to, particular settings at particular times, than a matter of explaining why certain individuals are susceptible to moral change. In this vein, we might hypothesize that in most Western societies relatively few individuals acquire a terrorist propensity, because relatively few extremism-promoting settings emerge in their environment, because by-and-large the vast majority of people living in these societies do not believe that terrorism is morally legitimate, and the stability of our systemic norms and processes of governance keep it so, durably suppressing the emergence of said settings of exposure.

Moving forward, we suggest that future research should increasingly test other validated scales from different disciplines, such as cognitive and personality psychology as well as social psychology, in order to address the inherent complexity in extremist propensity development. We have shown that by applying a logically integrated framework a more comprehensive explanation of violent extremism can be achieved, and we hope future studies will increasingly apply multifactorial and multidisciplinary approaches in order to study extremism, paying equal attention to individual and environmental levels of explanation.

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