Psychology of Violence

Impact of psychological and structural factors on radicalization processes: A multilevel analysis from the 3N model

--Manuscript Draft--

Manuscript Number:	VIO-2022-1053R2
Full Title:	Impact of psychological and structural factors on radicalization processes: A multilevel analysis from the 3N model
Abstract:	Objective: Most theories attempting to explain radicalization processes focus on psychological and structural factors. However, the vast majority of empirical studies only consider psychological or structural factors separately. Therefore, this research aims to provide evidence of the relationship between psychological and structural factors in radicalization processes. Method: We used data from the Fénix Andalucía project, which collects student responses focused on the psychological factors proposed by the 3N model of radicalization (N = 4,161) and combines them with the economic, social, and cultural status index (ESCS) of each of the educational centers (N = 86). Results: After performing multilevel regression models using support for violent narratives as the criterion variable, we found that both psychological factors proposed by the 3N model and ESCS appeared to be significant predictors. In addition, we found that the relationship between having a deviant network and supporting violent narratives was stronger when participants studied in a center with lower ESCS. Conclusions: Psychological factors appear to have a greater impact on support for violent narratives, although structural factors are also of some importance and may interact with psychological factors. It follows from these conclusions that violent extremism prevention programs would improve if, in addition to considering psychological variables, they could intervene in the context to make it more favorable.
Article Type:	Article
Keywords:	radicalization; 3N model; psychological factors; structural factors; multilevel analysis
Corresponding Author:	JOSEP GARCÍA-COLL Euro-Arab Foundation for Higher Studies Granada, Andalucia SPAIN
Corresponding Author E-Mail:	jogarcoll@gmail.com
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	Euro-Arab Foundation for Higher Studies
Other Authors:	Roberto M. Lobato
	José María Martín-Criado
	Manuel Moyano
Corresponding Author's Secondary Institution:	
First Author:	JOSEP GARCÍA-COLL
Order of Authors Secondary Information:	
Order of Authors:	JOSEP GARCÍA-COLL
	Roberto M. Lobato
	José María Martín-Criado
	Manuel Moyano

Impact of psychological and structural factors on radicalization processes: A multilevel analysis from the 3N model

Roberto M. Lobato[1], Josep García-Coll[23], José María Martín-Criado[4], & Manuel Moyano[2]

[1]*Department Psychology, Marbella International University Centre, Marbella, Spain*

[2]*Department of Psychology, University of Cordoba, Cordoba, Spain*

[3]*Area of Prevention of Radicalisation and Violent Extremism, Euro-Arab Foundation for Higher Studies, Granada, Spain*

[4]*Health and Consumer Affairs Department, Junta de Andalucía, Spain*

Corresponding author: Josep García-Coll, Department of Psychology, University of Cordoba, Cordoba, Spain. Email: jogarcoll@gmail.com

Funding: This research was conducted as part of project PID2020-116646RB-I00 funded by MCIN/AEI/10.13039/501100011033 and as part of the project DigiPatch funded by the European Union's Horizon 2020 Research and Innovation Programme under CHANSE ERA-NET (101004509).

Impact of psychological and structural factors on radicalization processes: A multilevel analysis from the 3N model

Abstract

Objective: Most theories attempting to explain radicalization processes focus on psychological and structural factors. However, the vast majority of empirical studies only consider psychological or structural factors separately. Therefore, this research aims to provide evidence of the relationship between psychological and structural factors in radicalization processes. ***Method:*** We used data from the Fénix Andalucía project, which collects student responses focused on the psychological factors proposed by the 3N model of radicalization (N = 4,161) and combines them with the economic, social, and cultural status index (ESCS) of each of the educational centers (N = 86). ***Results:*** After performing multilevel regression models using support for violent narratives as the criterion variable, we found that both psychological factors proposed by the 3N model and ESCS appeared to be significant predictors. In addition, we found that the relationship between having a deviant network and supporting violent narratives was stronger when participants studied in a center with lower ESCS. ***Conclusions:*** Psychological factors appear to have a greater impact on support for violent narratives, although structural factors are also of some importance and may interact with psychological factors. It follows from these conclusions that violent extremism prevention programs would improve if, in addition to considering psychological variables, they could intervene in the context to make it more favorable.

Keywords: radicalization; 3N model; psychological factors; structural factors; multilevel analysis

In recent years, the study of radicalization has gained relevance (Schuurman & Taylor, 2018). Understanding the factors and mechanisms that lead people to radicalization is of vital importance, as the comprehension of these factors will help develop interventions for prevention. In this regard, several authors have highlighted some of the shortcomings of research on this phenomenon. Thus, it is necessary to conduct more quantitative studies using first-hand data (Neumann & Kleinmann, 2013; Schuurman, 2020b). It is understood that the object of study should be youth, since they are the most vulnerable population and, consequently, the target to carry out preventive actions (Atran et al., 2017), integrating psychological and structural factors at different levels (Bouhana, 2019; Treistman, 2021). In light of these limitations, this article presents an empirical study with young people in which the relationship between psychological and structural factors contributing to radicalization was analyzed using multilevel models to determine the impact of these factors and their possible interactions.

3N Model of Radicalization

The lack of agreement on radicalization remains a problem even after years of research (Schuurman & Taylor, 2018). However, there is sufficient agreement on some points, such as the notion that radicalization is a process leading to the adoption of more extremist views (Horgan, 2008). Thus, radicalization can be defined as the "social and psychological process of incrementally experienced commitment to extremist political or religious ideology" (Horgan, 2009, p. 152). In recent decades, different models have emerged that aim to explain why individuals become radicalized to the point of using political violence (for a review, see Dalgaard-Nielsen, 2010; King & Taylor, 2011; Schmid, 2013). Among all these explanations, in this article we focus on the 3N model of radicalization, due to its recent relevance and the large amount of empirical evidence supporting its statements.

The 3N model (Kruglanski et al., 2019; Webber & Kruglanski, 2017) proposes that radicalization arises from the intersection of three psychological forces: need, narrative, and network. According to this model, the path to radicalization begins with the activation of the significance quest. The significance quest is the need to have social worth; the need for people to make a difference, to matter, to be somebody (Kruglanski et al., 2022). When this need becomes the dominant force—a situation that occurs when significance is lost or an occasion to increase it appears (Kruglanski et al., 2013)—individuals begin a quest to restore it. Significance is restored by the network, or, in other words, by people who are important. They provide a positive sense of self and feeling of connectedness (Gómez et al., 2017). At the same time, it is the group that dictates legitimate means of achieving significance (Kruglanski et al., 2018). Therefore, the group fulfils the dual function of showing the way forward and providing significance if what it dictates is done. Finally, the narrative, which is provided by the group, identifies the means needed to find significance (Kruglanski et al., 2019). In the case of violent extremism, narratives legitimize violence as a just means to achieve significance (Webber et al., 2020). They provide their adherents with a justification that makes violent action not only permissible, but also necessary and laudable (McAlister et al., 2006), thus freeing the individual to act violently without feeling guilty about transgressing morality.

The 3N model postulates that these three factors contribute to radicalization in a dynamic and interactive manner (Kruglanski et al., 2019). Several studies have found evidence of this relationship. For instance, Bäck et al. (2018), Adam-Troian et al. (2020), and Milla et al. (2022) found that the significance quest directs attention to the group, which, in turn, provides the narrative with the means to be used to retrieve significance. However, some studies have revealed that, in addition to these three psychological forces, context is also important. In this regard, Jasko et al. (2020) found that radical social contexts strengthen the

link between collective quest for significance and support for political violence. Providing further evidence, Lobato and colleagues (2021) found that Muslims living in vulnerable environments (vs. non-vulnerable environments) show greater loss of significance and greater support for terrorist activities. Furthermore, Moyano, Bélanger, et al. (2022) found that individuals living in critical environments characterized by marginalization supported more radical role models and narratives.

This evidence shows that context is important. Radicalization does not occur within a vacuum divorced from contextual factors. However, although the context has been considered in some studies, to the best of our knowledge, the effect of possible structural risk factors and their interaction with psychological variables have not been analyzed using the 3N model as a frame of reference.

Structural factors

Khalil et al. (2022) recommended a three-point system to reflect the differential impact of risk factors. These include structural motivators, which were defined as "contextual factors that may be of relevance in specific locations" (p. 9). These factors affect sympathy for violent narratives. In this regard, several studies have analyzed the association of terrorism with variables such as public opinion (Krueger & Malečková, 2009); cultural characteristics (Gelfand et al., 2013); ideology, group size, state financial support, and territorial control (Boyd, 2016); economic conditions and education (Krueger & Malečková, 2003); unemployment, gross domestic product (GDP) per capita, and economic inequality (GINI coefficient) (Piazza, 2006); economic development, population growth, and poorly managed conflicts (Piazza, 2009); political rights, civil liberties, and trade openness (Hunter & Biglaiser, 2020); and social disorganization (Fahey & LaFree, 2014), among others. The results are inconsistent, although a recent systematic review of quantitative studies has

confirmed that some indicators of objective socio-political inequality are related to terrorism (Franc & Pavlović, 2021).

Taken together, these studies provide evidence to conclude that objective indicators of inequality may be related to different forms of radicalization (Franc & Pavlović, 2021). However, these studies have usually considered structural variables as criteria, such as the number of terrorist attacks, the number of terrorist groups, or the number of victims, and they have not compared the data with psychological criterion variables, such as attitudes towards radical ideas or terrorism.

Psychological and structural factors

As previously mentioned, both psychological and structural factors often have an impact on phenomena such as radicalization. However, studies on the integrated impact of the two types of variables have been limited. More specifically, we find studies that take into account psychological variables and context, studies that consider different levels despite the fact that the analyses are performed at the same level, and some exceptions that take into account variables at both levels. On the one hand, Doosje et al. (2009) found that a perceived Islamic terrorist threat and Islamic support for terrorism were predictors of out-group discrimination and support for anti-immigration policies across nine European countries. More interestingly, considering the context (country of residence), this link was stronger in countries where no attacks had occurred, with a low terrorist threat perception and a low percentage of Muslims. Similarly, Zhirkov et al. (2014) evaluated the effect of different psychosocial variables on support for terrorism in samples from Muslim countries and in Muslims from Western Europe, finding different associations in each region. On the other hand, including variables of different types, although at the same level, Pedahzur and Canetti-Nisim (2004) combined socio-economic and psychological factors to explain support for right-wing extremism, concluding that the contribution of each type of factor was different.

For their part, Mumford et al. (2008) compared the influence of variables operating at the leadership, group, organizational, and environmental level on support for ideological violence, concluding that all the analyzed variables were contributing factors.

Finally, among the exceptions that took into account the two levels, Bartusevičius et al. (2020) found that, while political violence was predicted by psychological variables (autocratic orientation and perceived discrimination), variables at the structural level (conflict history and being in a democratic country) exerted a negative effect. In addition, Treistman (2021), using multilevel analysis and relying on an individual-level dependent variable for the justification of terrorism, found that the most important structural predictor was social exclusion. In this case, social exclusion was conceptualized as the denial of services or the ability to participate in government institutions based on group identity. Nonetheless, only sociodemographic data were considered as individual-level variables.

These results lead us to conclude that the structural factors that generate exclusion have some impact on radicalization. One of these factors is economic, social, and cultural inequalities, which appear to be associated with greater support for violent narratives (Franc & Pavlović, 2021; Treistman, 2021). Research has found that these structural factors that generate marginalization and discrimination are related to the loss of significance and support of fundamentalist groups (Lyons-Padilla et al., 2015). Nevertheless, although these studies have found the proposed effects, they have commonly done so separately at different levels. In other words, neither the joint impact nor the interaction between psychological and structural factors have been tested.

The Current Research

Evidence seems to indicate that inequality at the structural level has an effect on radicalization. Likewise, psychological variables have also demonstrated their predictive power. However, the joint effect of both types of factors, as well as their possible interactions,

have not been empirically tested to date. In an attempt to shed some light on this aspect, we present a multilevel study in which we explored the following hypotheses: H1a) the psychological risk factors proposed by the 3N model, significance quest and deviant networks, will be associated with greater support for violent narratives; H1b) the psychological protective factors, significance presence and supportive network, will be associated with lower support for violent narratives; H1c) the economic, social, and cultural status will be associated with greater support for violent narratives; and H2) the interaction between psychological variables and economic, social, and cultural status will be related to greater support for these narratives.

Method

Participants

Data from the first wave of the Fénix Andalucía project were used in this study. The Fénix Andalucía project was designed by the Andalusian regional government with the aim of promoting social inclusion in educational centers located in deprived areas (Junta de Andalucía, n.d.). The activities were carried out using active methodologies, cooperative work, and mentoring, which sought to reinforce the three factors of the 3N model. As part of the evaluation, a survey was conducted to assess the different factors of the 3N model before (Wave 1) and after (Wave 2) implementing the program, using students and coordinators of the educational centers as participants. For this research, we focused only on the Wave 1 survey data from students, due to the large sample (in Wave 2, the number of participants is much smaller) and given that none of the centers had been intended as an intervention or control group when the participants completed the survey. This survey includes data from 5,669 students grouped into 121 educational centers in deprived areas of the Spanish region of Andalusia.

Given the limitations of having few participants in each cluster and following the recommendations of Bell et al. (2014) and Scherbaum and Ferreter (2009), we decided to keep only those educational centers in which at least 15 students participated in the survey. Similarly, students who did not complete all measures or centers for which the structural variable indicator was not available were excluded from the analyses. In sum, 1,508 cases were excluded: 61.84% were excluded because the participants did not indicate the center to which they belonged (making it impossible to combine psychological and structural variables); in 15.04% of the cases, the indicator for the structural variable was not available for the center to which they belonged; 8.70% belonged to centers with fewer than 15 participants; and 14.42% did not respond to most of the items in the questionnaire. Therefore, the final sample consisted of 4,161 participants (49% male and 51% female; M_{age} = 12.10, *SD* = 1.37) from 86 educational centers. The educational centers included 44 primary schools, 36 secondary schools, 4 private educational institutions, and 2 rural public schools. All institutions were located in areas that were greatly affected by social exclusion according to the technical criteria of the regional administration.

Procedure

The participants were selected by the Junta de Andalucía from among all the educational centers that applied to the program. A total of 80 educational centers were chosen to participate on the basis of a score in which centers located in areas of exclusion, with educational compensation plans, and with a high rate of absenteeism obtained higher scores. The control group consisted of educational centers with similar characteristics that did not participate in the program. They were invited to participate only in the evaluation, with approximately 41 centers agreeing to participate. Within each center, the students who participated were in the last two years of primary education or the first two years of secondary education, and could be a single group or several groups depending on the decision of each

center. The project and its evaluation were previously approved by the ethics committees of the regional government of Andalusia and the University of Cordoba (CEIH-21-30). Parental consent was obtained for participation in the project and in the evaluation of the project.

Measures

Outcome Variable. The dependent variable was support for violent narratives. This variable represents attitudes towards narratives that legitimize violence as a just means to achieve significance and was assessed using four items taken from the scales developed by Bélanger et al. (2019) and Huesmann and Guerra (1997) (i.e., "If you are angry, it is okay to say mean things to other people," "It is okay to push or abuse other people if you are angry," "It is okay to let off steam with others by using force," "Violence is necessary for social change"; $\alpha = .79$). Higher scores indicate greater support for violent narratives. A Likert-type scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*) was used ($M = 1.55$, $SD = 0.79$).

Individual-Level Variables. The age and gender (1 female, 2 male) of the students were collected as sociodemographic variables. The other two components of the 3N model, that is, needs (significance presence and significance quest) and networks (supportive and deviant networks), were selected as individual-level variables. A Likert-type scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*) was used for the four variables.

Significance Presence. It was evaluated with five items taken from Álvarez-Ramírez (2012) (i.e., "I like to work hard and well," "In the tasks I undertake I want to be successful," "I set new goals once I have completed a job," "I fight for things to the point of exhaustion," "I am interested in meeting hard-working and studious people;" $\alpha = .71$). Higher scores indicate a greater presence of significance ($M = 4.01$, $SD = 0.69$).

Significance Quest. It was assessed with four items taken from the scale adapted by Atienza et al. (2000) (i.e., "I feel that I am as valuable a person as the others (reversed item),"

"I am generally inclined to think of myself as a failure," "Sometimes I think that I am good for nothing," "I often feel lonely when I am with other people;" α = .79). Higher scores indicate a greater need to search for significance (*M* = 2.27, *SD* = 1.00).

Supportive Network. It was assessed with four items taken from the scale developed by Moyano (2011) (i.e., "There are several people I rely on to help me solve my problems," "When I am lonely there are several people I can talk to," "I have several friends who respect me and help me," "I have good friends among classmates;" α = .76). Higher scores indicate a greater presence of supportive peers (*M* = 4.36, *SD* = 0.77).

Deviant Network. It was assessed with three items from the scale used by Moyano, Lobato, et al. (2022) (i.e., "My friends talk about fights and violence all the time," "My friends get into too much trouble (stealing, drugs, fighting, etc.)," "Some people tell me that doing illegal activities is useful to make a living;" α = .71). Higher scores indicate a greater presence of deviant peers who have a negative influence (*M* = 1.90, *SD* = 0.95).

Structural-Level Variable. The variable used at the structural level was the economic, social, and cultural status index (ESCS) used by the regional administration to classify educational centers. This standardized index summarizes very diverse kinds of information collected in questionnaires on the social and family context of students (Ineval, 2017). It is constructed from components such as the highest level of education and occupation of the parents, household income, services and goods available at home, and availability of books at home, among others. The ESCS has demonstrated to be a good predictor of academic performance (Bilican-Demir & Yildirim, 2021; Tahull & Montero, 2020). The index ranges from 1 to 10, with higher values indicating a better socioeconomic situation (*M* = 3.39, *SD* = 2.23).

Data Analysis Plan

Before performing the analyses to test the hypotheses, we performed two analyses to verify the factorization of the items and to test the power achieved. Firstly, since the items came from different scales and some were rewritten to fit the target population, we performed a confirmatory factor analysis to verify that the factorization of the items corresponded to the established factors. Given that the multivariate normality using Mardia's normalized coefficients showed multivariate kurtosis (646.73), we decided to use the *maximum likelihood* estimator with robust estimation (Satorra-Bentler scaling corrections; Satorra & Bentler, 2001). The *lavaan* R package was used to estimate the model (Rosseel, 2012). The results showed a good fit ($\chi^2_{(175)} = 1216.19$, $p < .001$, CFI = 0.94, TLI = 0.92, RMSEA (95% CI) = 0.04 (0.03 - 0.04), SRMR = 0.04), indicating that the different items fitted the variables as expected. Secondly, we conducted a sensitivity power analysis for generalized linear mixed models using the *simr* package for R (Green & MacLeod, 2016) to test whether the sample was sufficient to detect small effects. We introduced the model with all variables and the interactions (Model 4) and established 1,000 simulations with alpha = .05. The results showed that the model achieved 100% power 95% CI (99.63, 100.00), indicating that the sample was sufficient to detect small effects. In order to explore the data, we computed descriptive statistics and Pearson bivariate correlations for all the variables. Next, due to the nested nature of the data, with individuals (Level 1) clustered into educational centers (Level 2), we estimated a series of multilevel regression models to test our hypotheses. Multilevel models consider that respondents within educational centers may be more strongly correlated with each other and provide better estimations than regular Ordinary Least Squares regression (How, 2010). The models were implemented using R and the package *lme4* (Bates et al., 2015). As recommended, individual level variables were group-mean centered before conducting the analyses (Preacher et al., 2016).

Results

The descriptive statistics and correlations are presented in Table 1.

[Insert Table 1]

We computed multilevel regression models. Model 1 includes the sociodemographic variables (age and gender) in order to control for them in further models. Model 2 includes Level 1 variables that correspond to the 3N model variables; this model presented a better fit than the previous model ($\chi^2_{(4)} = 990.16$, $p < .001$). Model 3 includes the structural-level variable (i.e., ESCS), and it also showed a slight improvement in the fit with respect to the previous model ($\chi^2_{(4)} = 4.77$, $p = .029$). Lastly, Model 4 includes cross-level interactions, and it also presented a slight improvement in the fit with respect to the previous model ($\chi^2_{(1)} = 13.79$, $p = .008$) (see Table 2). Additionally, the potential multicollinearity of the last model was evaluated by examining the variance inflation factor (VIF) of the predictors. The results showed that the VIF was below 4 in all cases, excluding the possibility of multicollinearity.

[Insert Table 2]

The intraclass correlation coefficients (ICC) were very small across all models. The proportion of variance explained by educational centers ranged between 4% and 8%, suggesting that the relationship between risk/protective factors and support for violent narratives is mostly explained by individual differences across institutions.

Across all models, age ($b = 0.05$, $SE = .01$, $p < .001$) and gender ($b = 0.07$, $SE = .02$, $p = .001$) were significant predictors. Being older and male were associated with more support for violent narratives. Likewise, significance quest ($b = 0.05$, $SE = .02$, $p = .013$), significance presence ($b = -0.17$, $SE = .03$, $p < .001$), and deviant network ($b = 0.35$, $SE = .02$, $p < .001$) appeared as significant predictors across all models. On the one hand, significance quest and deviant network were associated with more support for violent narratives. On the other hand, significance presence was associated with less support for violent narratives. Supportive network only had a marginal negative effect ($b = -0.05$, $SE = .03$, $p = .084$). These results

provide support for H1a and partially confirm H1b. The economic, social, and cultural status index (ESCS) also emerged as a significant predictor (b = -0.02, SE = .01, p = .024); in particular, the lower the index in the center, the greater the support for violent narratives, as proposed by H1c.

Cross-level interaction effects were significant in one out of the four cases, partially confirming H2. When deviated network was strong, the relationship between deviant network and support of violent narratives (b = -0.02, SE = .01, p = .001) was stronger for respondents who were in an institution with low economic, social, and cultural status (i.e., -1 *SD*; b = 0.34, SE = .02, p < .001) than for those in an institution with higher economic, social, and cultural status (i.e., +1 *SD*; b = 0.25, SE = .02, p < .001; see Figure 1). When deviated network was weak, the impact of ESCS was not significant.

[Insert Figure 1]

Discussion

The interaction between psychological and structural factors and their effects on radicalization has not been explored in depth. Consequently, in this study, we set out to explore: H1a) the impact of psychological risk factors and H1b) psychological protective factors, H1c) the impact of structural factors, and H2) the impact of the interaction between psychological and structural factors. The results partially confirmed our hypotheses, showing that psychological risk factors (significance quest and deviant network) and structural factors (social, economic, and cultural status) were associated with greater support for violent narratives, whereas psychological protective factors were associated with less support. Similarly, we found an interaction between the psychological and structural variables.

Firstly, psychological factors showed the expected impact on support for violent narratives. Specifically, significance quest and deviant network predicted greater support for violent narratives according to the literature (Adam-Troian et al., 2020; Bäck et al., 2018;

Milla et al., 2022). In turn, deviant network showed a greater effect than the other factors, indicating the strong effect that peers exert at these ages (Adam-Troian et al., 2021; Blakemore, 2018). Moreover, the significance presence appeared as a protective factor. This result is in line with the idea that maintaining significance can act as a protective factor against radicalization (Bélanger et al., 2015; Moyano, Lobato, et al., 2022). However, we did not find a significant effect on supportive network.

Secondly, the presence of structural inequalities appeared to be associated with greater vulnerability (Franc & Pavlović, 2021). Particularly, the social, economic, and cultural level of the youths' families was found to exert a negative effect on support for violent narratives. However, the impact of this factor was limited, especially in comparison with psychological factors, which appeared to have a greater impact. Coinciding with other studies that have found an effect of structural factors that generate exclusion (Franc & Pavlović, 2021; Treistman, 2021), the results seem to indicate that a preventive form of action would consist in interfering with these structural factors.

Thirdly, we found one interaction between deviant network and economic, social, and cultural status. When participants maintained networks that openly supported violence and were in environments with a low sociocultural index, they were more likely to support the violence themselves. These results show that psychological and structural factors converge and enhance their effects, at least in some cases (Bartusevičius et al., 2020; Pedahzur & Canetti-Nisim, 2004). In particular, we found that support for violent narratives was reinforced when peers shared the same narratives and when they were in a socially, economically, and culturally impoverished context.

On a theoretical level, this study provides evidence of the interaction between psychological and structural factors in radicalization. This points to the fact that we cannot separate both types of factors or focus on theories that consider only one of them. The 3N

model should be expanded by considering how some structural factors and specific contexts may facilitate the emergence of a loss of significance. At the same time, it should consider other structural factors that may facilitate the access to deviant networks.

Limitations

Notwithstanding the consistency of our results, we acknowledge some limitations of this study. Firstly, the participants were under 18 years of age, which may compromise the generalizability of the results to populations of different ages. This limitation also ties in with the difficulty in finding psychological data that can be grouped into clusters and contrasted with structural variables. Secondly, the institutions that participated in the project were located in disadvantaged areas, thus the economic, social, and cultural status was biased towards lower ratings. Consequently, the results should be interpreted with caution, and further studies are necessary to extend the sample to institutions with more advantageous situations. Thirdly, only one variable at the structural level was included in the study, as it was not possible to collect other reliable data from educational centers. Along the same lines, the individual-level variables only included factors proposed by the 3N model; therefore, future studies should include other factors relevant to radicalization that are not covered by the 3N model (see Wolfowicz et al., 2021). Lastly, the criterion variable was support for violent narratives, which is at the attitudinal level and can be understood as a proxy for behaviors; however, it has been proven that the relationship between attitudes and behaviors is not always consistent (Ajzen, 1991; Sniehotta, 2009). Thus, future studies should include behavioral variables such as disruptive behaviors in the classroom.

Future Research Directions

Given some of the aforementioned limitations, future studies should replicate our results by including other relevant structural variables such as employment status, political rights, or ethnic/religious affiliations to test whether these factors facilitate feelings of loss of

significance, adherence to a deviant network, and support for violent narratives (Franc & Pavlović, 2021; Hunter & Biglaiser, 2020; Moyano, Bélanger, et al., 2022). Along the same lines, it would be appropriate to test different types of interventions that could reduce these risk factors and determine whether they improved even under structural conditions of inequality. In addition, the study was conducted considering the processes of radicalization, which generally lead one to think of terrorism. However, support for violent narratives can be associated with different behaviors, with terrorism being the most uncommon (Schuurman, 2020a). Given the context and young age of the participants, it may also be relevant to think about disruptive behaviors that may occur within the educational context, such as bullying (Gaffney et al., 2021; Walters, 2021). These phenomena, which have been shown to be related to the economic, social, and cultural status index (Huang, 2022; Huang & Zhao, 2019), could also be interpreted using the 3N model, and the possible interaction between psychological and structural factors could be considered when designing intervention programs.

Prevention and Policy Implications

In the applied field, these results open the debate on whether it is better to intervene in individuals or to change structural factors (Evans & Reid, 2013; Stephens & Sieckelinck, 2021). These results seem to indicate that interventions that promote resilience are more important (Feddes et al., 2015). However, the context may act as a barrier to overcome because, although minor, it will continue to exert a negative effect (Moyano, Lobato, et al., 2022). Returning the participants to an intervention in the same context may also facilitate the re-emergence of psychological risk factors. Thus, our results have two implications.

Firstly, contexts characterized by low economic, social, and cultural status constitute a risk factor, which implies that the residents of these areas or neighborhoods should be one of the priority objectives when deciding where to implement a project. Providing these areas

with more economic resources and cultural training for residents should be a priority. For instance, the program Somali Youth Leaders Initiative provided access to secondary education and civic engagement opportunities. The evaluation of the program found that it reduced the likelihood of youth participating in political violence (Tesfaye, 2016). Therefore, similar programs that reinforce the economic and cultural aspects could be useful in these contexts.

Secondly, we showed that significance quest and deviant networks fostered radical attitudes, while significance presence was a protective factor. Therefore, interventions that provide significance to young people are required. For example, the Diamond program in The Netherlands used interventions on social and professional competencies while strengthening their identity by discussing their family history and how they experienced identity. The evaluation of the program found an increase in reported self-esteem, empathy, and perspective-taking, while attitudes towards ideology-based violence were reduced (Feddes et al., 2015). This type of intervention would be useful for fostering the presence of significance. At the same time, working on the social network is still important, so these interventions should be used with other validated interventions that enhance the social network. For example, the SPEY project used sports-related activities and found them effective in creating a more supportive network (Moyano, Lobato, et al., 2022).

In conclusion, psychological factors appear to have the greatest impact on radicalization. However, structural factors also play an important role (Khalil et al., 2022). Contexts with inequalities facilitate support for radical narratives and may interact with psychological factors, thereby increasing these extremist views. Theories that attempt to explain radicalization would increase their predictive power by including structural factors that may generate social exclusion, and prevention programs would increase their impact by combining interventions focused on increasing resilience with changes in the context.

References

Adam-Troian, J., Çelebi, E., & Mahfud, Y. (2020). "Return of the repressed": Exposure to police violence increases protest and self-sacrifice intentions for the Yellow Vests. *Group Processes & Intergroup Relations*, *23*(8), 1171–1186. https://doi.org/10.1177/1368430220920707

Adam-Troian, J., Tecmen, A., & Kaya, A. (2021). Youth extremism as a response to global threats?: A threat-regulation perspective on violent extremism among the youth. *European Psychologist*, *26*(1), 15–28. https://doi.org/10.1027/1016-9040/a000415

Álvarez-Ramírez, L. Y. (2012). Escala de motivación adolescente (EM1) basada en el Modelo Motivacional de McClelland. *Tesis Psicológica*, *7*, 128–143.

Atienza, F. L., Pons, D., Balaguer, I., & García-Merita, M. (2000). Propiedades psicométricas de la Escala de Satisfacción con la Vida en adolescentes. *Psicothema*, *12*(2), 314–319.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Atran, S., Axelrod, R., Davis, R., & Fischhoff, B. (2017). Challenges in researching terrorism from the field. *Science*, *355*(6323), 352–354. https://doi.org/10.1126/science.aaj2037

Bäck, E. A., Bäck, H., Altermark, N., & Knapton, H. (2018). The quest for significance: Attitude adaption to a radical group following social exclusion. *International Journal of Developmental Science*, *12*(1–2), 25–36. https://doi.org/10.3233/DEV-170230

Bartusevičius, H., van Leeuwen, F., & Petersen, M. B. (2020). Dominance-driven autocratic political orientations predict political violence in Western, Educated, Industrialized, Rich, and Democratic (WEIRD) and non-WEIRD samples. *Psychological Science*, *31*(12), 1511–1530. https://doi.org/10.1177/0956797620922476

Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*(1), 1–48.

https://doi.org/10.18637/jss.v067.i01

Bélanger, J. J., Moyano, M., Muhammad, H., Richardson, L., Lafrenière, M.-A. K., McCaffery, P., Framand, K., & Nociti, N. (2019). Radicalization leading to violence: A test of the 3N model. *Frontiers in Psychiatry*, *10*, 42. https://doi.org/10.3389/fpsyt.2019.00042

Bélanger, J. J., Nociti, N., Chamberland, P., Paquette, V., Gagnon, D., Mahmoud, A., Carla, L., Lopes, M., & Eising, C. (2015). *Building a resilient community within a multicultural Canada: Information toolkit on violent extremism*. Université du Québec à Montréal. https://data.unhcr.org/en/documents/details/44474

Bell, B. A., Morgan, G. B., Schoeneberger, J. A., Kromrey, J. D., & Ferron, J. M. (2014). How low can you go?: An investigation of the influence of sample size and model complexity on point and interval estimates in two-level linear models. *Methodology*, *10*(1), 1–11. https://doi.org/10.1027/1614-2241/a000062

Bilican-Demir, S., & Yildirim, O. (2021). Indirect effect of economic, social, and cultural status on immigrant students' science performance through science dispositions: A multilevel analysis. *Education and Urban Society*, *53*(3), 336–356. https://doi.org/10.1177/0013124520928602

Blakemore, S.-J. (2018). Avoiding social risk in adolescence. *Current Directions in Psychological Science*, *27*(2), 116–122. https://doi.org/10.1177/0963721417738144

Bouhana, N. (2019). *The moral ecology of extremism: A systemic perspective*. Department of Security and Crime Science. https://www.gov.uk/government/publications/the-moral-ecology-of-extremism-a-systemic-perspective

Boyd, K. A. (2016). Modeling terrorist attacks: Assessing statistical models to evaluate domestic and ideologically international attacks. *Studies in Conflict & Terrorism*, *39*(7–8), 712–748. https://doi.org/10.1080/1057610X.2016.1141003

Dalgaard-Nielsen, A. (2010). Violent radicalization in Europe: What we know and what we do not know. *Studies in Conflict & Terrorism*, *33*(9), 797–814. https://doi.org/10.1080/1057610X.2010.501423

Doosje, B., Zimmermann, A., Küpper, B., Zick, A., & Meertens, R. (2009). Terrorist threat and perceived Islamic support for terrorist attacks as predictors of personal and institutional out-group discrimination and support for anti-immigrantion policies—Evidence from 9 European countries. *Revue Internationale de Psychologie Sociale*, *22*(3/4), 203–233.

Evans, B., & Reid, J. (2013). Dangerously exposed: The life and death of the resilient subject. *Resilience*, *1*(2), 83–98. https://doi.org/10.1080/21693293.2013.770703

Fahey, S., & LaFree, G. (2014). Does country-level social disorganization increase terrorist attacks? *Terrorism and Political Violence*, *27*(1), 81–111. https://doi.org/10.1080/09546553.2014.972156

Feddes, A. R., Mann, L., & Doosje, B. (2015). Increasing self-esteem and empathy to prevent violent radicalization: A longitudinal quantitative evaluation of a resilience training focused on adolescents with a dual identity. *Journal of Applied Social Psychology*, *45*(7), 400–411. https://doi.org/10.1111/jasp.12307

Franc, R., & Pavlović, T. (2021). Inequality and radicalisation—Systematic review of quantitative studies. *Terrorism and Political Violence*. https://doi.org/10.1080/09546553.2021.1974845

Gaffney, H., Ttofi, M. M., & Farrington, D. P. (2021). Effectiveness of school- based programs to reduce bullying perpetration and victimization: An updated systematic review and meta- analysis. *Campbell Systematic Reviews*, *17*(2), e1143. https://doi.org/10.1002/cl2.1143

Gelfand, M. J., LaFree, G., Fahey, S., & Feinberg, E. (2013). Culture and extremism. *Journal*

of Social Issues, *69*(3), 495–517. https://doi.org/10.1111/josi.12026

Green, P., & MacLeod, C. J. (2016). SIMR: An R package for power analysis of generalized linear mixed models by simulation. *Methods in Ecology and Evolution*, *7*(4), 493–498. https://doi.org/10.1111/2041-210X.12504

Gómez, Á., López-Rodríguez, L., Sheikh, H., Ginges, J., Wilson, L., Waziri, H., Vázquez, A., Davis, R., & Atran, S. (2017). The devoted actor's will to fight and the spiritual dimension of human conflict. *Nature Human Behaviour*, *1*(9), 673–679. https://doi.org/10.1038/s41562-017-0193-3

Horgan, J. (2008). From profiles to pathways and roots to routes: Perspectives from psychology on radicalization into terrorism. *The ANNALS of the American Academy of Political and Social Science*, *618*(1), 80–94. https://doi.org/10.1177/0002716208317539

Horgan, J. (2009). *Walking away from terrorism: Accounts of disengagement from radical and extremist movements*. Routledge.

Hox, J. J. (2010). *Multilevel analysis: Techniques and applications*. Routledge.

Huang, L. (2022). Exploring the relationship between school bullying and academic performance: The mediating role of students' sense of belonging at school. *Educational Studies*, *48*(2), 216–232. https://doi.org/10.1080/03055698.2020.1749032

Huang, L., & Zhao, D. (2019). Empirical research on the relationship between family economic, social and cultural status and students' exposure to school bullying: Mediating effects of parental support and teacher support. *Best Evidence of Chinese Education*, *1*(1), 15–28. https://doi.org/10.15354/bece.19.ar1006

Huesmann, L. R., & Guerra, N. G. (1997). *Normative Beliefs About Aggression Scale (NOBAGS)* [Database record]. APA PsycTests. https://doi.org/10.1037/t01135-000

Hunter, L. Y., & Biglaiser, G. (2020). The effects of the international monetary fund on

domestic terrorism, *34*(3), 489–513. *Terrorism and Political Violence*. https://doi.org/10.1080/09546553.2019.1709448

Ineval (2017). *Índice socioeconómico: Ser estudiante y ser bachiller*. Instituto Nacional de Evaluación Educativa (Ineval). https://www.evaluacion.gob.ec/wp-content/uploads/downloads/2017/03/Ineval_NivelSocioeconomico_20170324.pdf

Jasko, K., Webber, D., Kruglanski, A. W., Gelfand, M., Taufiqurrohman, M., Hettiarachchi, M., & Gunaratna, R. (2020). Social context moderates the effects of quest for significance on violent extremism. *Journal of Personality and Social Psychology*, *118*(6), 1165–1187. https://doi.org/10.1037/pspi0000198

Junta de Andalucía. (n.d.). *Programa de mentoría social Fénix Andalucía*. https://www.juntadeandalucia.es/educacion/portals/web/convivencia-escolar/programa-de-mentoria-social-fenix-andalucia

Khalil, J., Horgan, J., & Zeuthen, M. (2022). The Attitudes-Behaviors Corrective (ABC) model of violent extremism. *Terrorism and Political Violence*, *34*(3), 425–450. https://doi.org/10.1080/09546553.2019.1699793

King, M., & Taylor, D. M. (2011). The radicalization of homegrown jihadists: A review of theoretical models and social psychological evidence. *Terrorism and Political Violence*, *23*(4), 602–622. https://doi.org/10.1080/09546553.2011.587064

Krueger, A. B., & Malečková, J. (2003). Education, poverty and terrorism: Is there a causal connection? *Journal of Economic Perspectives*, *17*(4), 119–144. https://doi.org/10.1257/089533003772034925

Krueger, A. B., & Malečková, J. (2009). Attitudes and action: Public opinion and the occurrence of international terrorism. *Science*, *325*(5947), 1534–1536. https://doi.org/10.1126/science.1170867

Kruglanski, A. W., Bélanger, J. J., Gelfand, M., Gunaratna, R., Hettiarachchi, M., Reinares,

F., Orehek, E., Sasota, J., & Sharvit, K. (2013). Terrorism-A (self) love story: Redirecting the significance quest can end violence. *The American Psychologist*, *68*(7), 559–575. https://doi.org/10.1037/a0032615

Kruglanski, A. W., Bélanger, J. J., & Gunaratna, R. (2019). *The three pillars of radicalization: Needs, narratives, and networks*. Oxford University Press.

Kruglanski, A. W., Jasko, K., Webber, D., Chernikova, M., & Molinario, E. (2018). The making of violent extremists. *Review of General Psychology*, *22*(1), 107–120. https://doi.org/10.1037/gpr0000144

Kruglanski, A. W., Molinario, E., Jasko, K., Webber, D., Leander, N. P., & Pierro, A. (2022). Significance-quest theory. *Perspectives on Psychological Science*, *17*(4), 1050–1071. https://doi.org/10.1177/17456916211034825

Lobato, R. M., Moyano, M., Bélanger, J. J., & Trujillo, H. M. (2021). The role of vulnerable environments in support for homegrown terrorism: Fieldwork using the 3N model. *Aggressive Behavior*, *47*(1), 50–57. https://doi.org/10.1002/ab.21933

Lyons-Padilla, S., Gelfand, M. J., Mirahmadi, H., Farooq, M., & van Egmond, M. (2015). Belonging nowhere: Marginalization & radicalization risk among Muslim immigrants. *Behavioral Science & Policy*, *1*(2), 1–12. https://doi.org/10.1353/bsp.2015.0019

McAlister, A. L., Bandura, A., & Owen, S. V. (2006). Mechanisms of moral disengagement in support of military force: The impact of Sept. 11. *Journal of Social and Clinical Psychology*, *25*(2), 141–165. https://doi.org/10.1521/jscp.2006.25.2.141

Milla, M. N., Yustisia, W., Shadiqi, M. A., & Arifin, H. H. (2022). Mechanisms of 3N model on radicalization: Testing the mediation by group identity and ideology of the relationship between need for significance and violent extremism. *Studies in Conflict & Terrorism*. https://doi.org/10.1080/1057610X.2022.2034231

Moyano, M. (2011). *Factores psicosociales contribuyentes a la radicalización islamista de*

jóvenes en España. Construcción de un instrumento de evaluación. Universidad de Granada.

Moyano, M., Bélanger, J. J., Lobato, R. M., & Trujillo, H. M. (2022). Urban environments favorable to radical narratives: The case of El Puche. *Pragmatics and Society*, *13*(3), 361–382. https://doi.org/10.1075/ps.21016.lob

Moyano, M., Lobato, R. M., Blaya-Burgo, M., Arnal, N., Cuadrado, E., Mateu, D., Ramírez-García, A., de Murga, M., & Trujillo, H. M. (2022). Preventing violent extremism in youth through sports: An intervention from the 3N model. *Psychology of Sport and Exercise*, *63*, 102283. https://doi.org/10.1016/j.psychsport.2022.102283

Mumford, M. D., Bedell Avers, K. E., Hunter, S. T., Espejo, J., Eubanks, D., & Connelly, M. S. (2008). Violence in ideological and non-ideological groups: A quantitative analysis of qualitative data. *Journal of Applied Social Psychology*, *38*(6), 1521–1561. https://doi.org/10.1111/j.1559-1816.2008.00358.x

Neumann, P. R., & Kleinmann, S. (2013). How rigorous is radicalization research? *Democracy and Security*, *9*(4), 360–382. https://doi.org/10.1080/17419166.2013.802984

Pedahzur, A., & Canetti-Nisim, D. (2004). Support for right-wing extremist ideology: Socio-economic indicators and socio-psychological mechanisms of social identification. *Comparative Sociology*, *3*(1), 1–36. https://doi.org/10.1163/1569133041513756

Piazza, J. A. (2006). Rooted in poverty?: Terrorism, poor economic development, and social cleavages. *Terrorism and Political Violence*, *18*(1), 159–177. https://doi.org/10.1080/095465590944578

Piazza, J. A. (2009). Economic development, poorly managed political conflict and terrorism in India. *Studies in Conflict & Terrorism*, *32*(5), 406–419. https://doi.org/10.1080/10576100902831552

Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2016). Multilevel structural equation models for assessing moderation within and across levels of analysis. *Psychological Methods*, *21*(2), 189–205. https://doi.org/10.1037/met0000052

Rosseel, Y. (2012). lavaan: An R package for structural equation modelling. *Journal of Statistical Software*, *48*(2), 1–36.

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, *66*(4), 507–514. https://doi.org/10.1007/BF02296192

Scherbaum, C. A., & Ferreter, J. M. (2009). Estimating statistical power and required sample sizes for organizational research using multilevel modeling. *Organizational Research Methods*, *12*(2), 347–367. https://doi.org/10.1177/1094428107308906

Schmid, A. P. (2013). *Radicalisation, de-radicalisation, counter-radicalisation: A conceptual discussion and literature review*. International Centre for Counter-Terrorism - The Hague (ICCT). https://www.icct.nl/publication/radicalisation-de-radicalisation-counter-radicalisation-a-conceptual-discussion-and-literature-review/

Schuurman, B. (2020a). Non-involvement in terrorist violence: Understanding the most common outcome of radicalization processes. *Perspectives on Terrorism*, *14*(6), 14–26.

Schuurman, B. (2020b). Research on terrorism, 2007–2016: A review of data, methods, and authorship. *Terrorism and Political Violence*, *32*(5), 1011–1026. https://doi.org/10.1080/09546553.2018.1439023

Schuurman, B., & Taylor, M. (2018). Reconsidering radicalization: Fanaticism and the link between ideas and violence. *Perspectives on Terrorism*, *12*(1), 3–22.

Sniehotta, F. (2009). An experimental test of the theory of planned behavior. *Applied Psychology: Health and Well-Being*, *1*(2), 257–270. https://doi.org/10.1111/j.1758-

0854.2009.01013.x

Stephens, W., & Sieckelinck, S. (2021). Resiliences to radicalization: Four key perspectives. *International Journal of Law, Crime and Justice*, *66*, 100486. https://doi.org/10.1016/j.ijlcj.2021.100486

Tahull, J., & Montero, Y. (2020). ¿Qué incidencia tiene el contexto social, económico y cultural de las familias en los resultados académicos de sus hijos? *Laplage Em Revista*, *7*(1), 9–19. https://doi.org/10.24115/S2446-6220202171132p.9-19

Tesfaye, B. (2016). *Critical choices: Assessing the effects of education and civic engagement on Somali youths' propensity towards violence*. Mercy Corps. Retrieved from https://europe.mercycorps.org/sites/default/files/2020-01/Critical_Choices_Brief_FINAL_DIGITAL.pdf

Treistman, J. (2021). Social exclusion and political violence: Multilevel analysis of the justification of terrorism. *Studies in Conflict & Terrorism*. https://doi.org/10.1080/1057610X.2021.2007244

Walters, G. D. (2021). School-age bullying victimization and perpetration: A meta-analysis of prospective studies and research. *Trauma, Violence, & Abuse*, *22*(5), 1129–1139. https://doi.org/10.1177/1524838020906513

Webber, D., & Kruglanski, A. W. (2017). Psychological factors in radicalization: A "3N" approach. In G. LaFree & J. Freilic (Eds.), *The Handbook of the Criminology of Terrorism* (pp. 33–46). Wiley Blackwell. https://doi.org/10.1002/9781118923986.ch2

Webber, D., Kruglanski, A. W., Molinario, E., & Jasko, K. (2020). Ideologies that justify political violence. *Current Opinion in Behavioral Sciences*, *34*, 107–111. https://doi.org/10.1016/j.cobeha.2020.01.004

Wolfowicz, M., Litmanovitz, Y., Weisburd, D., & Hasisi, B. (2021). Cognitive and behavioral radicalization: A systematic review of the putative risk and protective

factors. *Campbell Systematic Reviews*, *17*(3), e1174. https://doi.org/10.1002/cl2.1174

Zhirkov, K., Verkuyten, M., & Weesie, J. (2014). Perceptions of world politics and support for terrorism among Muslims: Evidence from Muslim countries and Western Europe. *Conflict Management and Peace Science*, *31*(5), 481–501. https://doi.org/10.1177/0738894213510121

Table 1

Descriptive statistics and Pearson bivariate correlations for variables included in the models

	N	*M* (*SD*)	Min-Max	1	2	3	4	5	6	7
1. Age	4161	12.10 (1.37)	9-18	—						
2. Gender	4161	1.51 (0.50)	1-2	.02	—					
3. Violent Narratives	4161	1.55 (0.79)	1-5	.14***	.08***	—				
4. Significance Presence	4161	4.01 (0.69)	1-5	-.24***	-.10***	-.29***	—			
5. Significance Quest	4161	2.27 (1.00)	1-5	.07***	-.16***	.21***	-.20***	—		
6. Supportive network	4161	4.36 (0.77)	1-5	-.13***	.03	-.18***	.28***	-.35***	—	
7. Deviant network	4161	1.90 (0.95)	1-5	.10***	.10***	.45***	-.21***	.23***	-.18***	—
8. ESCS	86	3.39 (2.33)	1-10	.10***	-.01	-.08***	.01	.03	.02	-.13***

Note: ***$p < .001$.

Table 2

Unstandardized estimates of multilevel regression analysis models

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-1.46*** (.15)	-0.70*** (.13)	-0.66*** (.13)	-0.68*** (.13)
Individual-Level Variables				
Age	0.11*** (.01)	0.05*** (.01)	0.05*** (.01)	0.05*** (.01)
Gender	0.13*** (.02)	0.07** (.02)	0.07** (.02)	0.07** (.02)
Significance Presence		-0.19*** (.02)	-0.19*** (.02)	-0.17*** (.03)
Significance Quest		0.07** (.01)	0.07** (.01)	0.05* (.02)
Supportive network		-0.02 (.02)	-0.02 (.02)	-0.05 (.03)
Deviant network		0.30*** (.01)	0.30*** (.01)	0.35*** (.02)
Structural-level variable				
ESCS			-0.02* (.01)	-0.02* (.01)
Cross-level interaction variables				
Significance Presence x ESCS				-0.004 (.01)
Significance Quest x ESCS				0.004 (.01)
Supportive network x ESCS				0.01 (.01)
Deviant network x ESCS				-0.02** (.01)
ICC institution	.08	.04	.04	.04
Marginal R^2	.04	.25	.25	.26
Conditional R^2	.12	.29	.29	.30
AIC	9544.50	8562.40	8559.60	8553.80
N individuals	86	86	86	86
N institutions	4161	4161	4161	4161

Note: $^{*}p < .050$; $^{**}p < .010$; $^{***}p < .001$; Standard errors in parentheses.

Figure 1

Cross-level interaction between deviant network at the individual level and ESCS at the structural level in their association with violent narratives