How the pandemic shaped teenagers' views on violence: exploring the complexities of post-confinement attitudes

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Introduction: Violent extremism is a complex and urgent issue that affects all sectors of society and necessitates research aimed at preventing and transforming violent behavior.

Methods: This study presents the findings of a questionnaire comprising 34 items administered to 1,169 teenagers from two secondary schools in Almería and Madrid, Spain, immediately following the conclusion of COVID-19 confinement measures. The primary objective of the study is to analyze teenagers' perspectives on violent extremism and pro-violent attitudes, along with their association with various factors such as digital consumption, interpersonal relationships, and the socio-demographic circumstances of their families. Data collection involved direct interventions with the students at the participating educational institutions.

Results: The findings demonstrate that variables such as gender, number of siblings, and religious practice influence violent extremism, whereas nationality does not emerge as a significant factor. Additionally, the study identifies several contributing factors to the prevalence of extremist and pro-violent attitudes, and employs a moderation analysis utilizing the mother's level of education as a moderator variable.

Discussion: Based on these results, the study recommends further research to enhance our understanding of the development of violent attitudes and behaviors. Additionally, it suggests implementing family and personal support programs aimed at fostering healthy adolescent development.

KEYWORDS

violent extremism, radicalization, teenagers, questionnaire, COVID-19, gender, family support programs, healthy adolescent development

1. Introduction

Violent extremist views, attitudes and behaviors refer to politics, religion, cultural diversity, sexual orientation and gender relations. This violence is a direct causal factor in the alienation between different sectors of the population, constituting one of the main catalysts of violent radicalization (Horgan, 2008; Fadil et al., 2019).

Almeria's economic development is the consequence of an intensive use of technology for agricultural production and an increase in the foreign population employed in that industry, a symbiosis that has often been described as a 'miracle' because of its breadth, depth and speed of

social change (Aznar et al., 2011). However, there is a growing perception—and situation—of insecurity in the area, which is one of the problems impeding the progress of an increasingly intelligent, sustainable and inclusive society. As pointed out in the newspaper Ideal (2016), in Almería there are 1,157 extremist hotspots (of the 4,542 that exist in the whole of Andalusia) recorded by the Information and Intelligence services, meaning that "Almería holds 25.41% of the radicalization hotspots that exist in Andalusia as a whole and just over 3% of the almost 34,000 that Interior recorded in the whole country up to the end of 2015." At the same time as there has been an impressive process of economic growth, the Almeria "miracle" has developed in a context of uncertainty and inequality, which has exacerbated attitudes of violent radicalization, in the same way as in other countries such as Canada (Fils-Aimé, 2018). The origin of immigrants has recently changed from a provincial or interprovincial migration that came to integrate the small agricultural entrepreneurship, to a central or North African immigration with marked features of marginality and very difficult to quantify. In El Ejido, Vícar and La Mojonera, the immigrant population represents more than 40% of the total, with the Moroccan group being the most representative as they constitute more than 90% of the immigrants in these agricultural areas (Aznar et al., 2011). Among young people with Muslim parents, violent radicalization advocates the justification of the use of violence against the Western enemy. This ideology can be referred to as radical Islam, Islamic fundamentalism, Islamic fundamentalism, Islamic terrorism, jihadism, etc. (Wiktorowicz, 2005; Fils-Aimé, 2018).

The Transforming Violent Extremism perspective emphasizes the need to change the actors, and their means of violence, rather than only reinforcing security or resilience. Thus, it is considered that the reasons and motivations that lead an adolescent to be attracted to violent extremist movements can be transformed into a different kind of agency or engagement. Violent radicalization involves a process of accumulation of cultural violence (Galtung, 1990). According to this author, cultural violence refers to "those aspects of culture, — the symbolic sphere of our existence exemplified by religion, and ideology, language and art, empirical science and formal science (logic, matheCorregí esto.matics) that can be used to justify or legitimize direct or structural violence" (Galtung, 1990, p. 291).

Although an evident minority of Muslim students are attracted by these currents, we should not underestimate a trend that is on the rise where there is an increase in the legitimization of the processes of radicalization of a part of the Muslim population (Bueno de Mesquita, 2005; Bueno de Mesquita and Dickson, 2006).

The transition from a sociological current within a socio-cultural context common to a generation and the leap to extreme radicalization is well defined by various authors (Trujillo et al., 2008), where it is presented as a dynamic and individual process that leads the person to an extreme and dichotomous vision of reality, and where the use of violence is accepted and promoted as a means to instrumentally achieve the objectives of the group or movement.

Accelerated by the concept of "remote indoctrination" through social networks and strengthened by close networks, Dole (2006) carried out research in which he concluded that there was a certain relationship between radicalization and the application of different techniques of psychological manipulation, and that in the case of Al Qaeda there were high levels of "group psychological abuse," similar to or higher than those shown by some highly destructive "sectarian" groups. According to Sanmartin Esplugues (2005), in order to reach a state of violent radicalization, one must go through two phases: pre-washing and brainwashing.

We all know that through emotional competences children are able to regulate their emotions in order to achieve their goals, and through social competences they are able to interact appropriately with others. Therefore, social–emotional development is made up of the acquisition of different skills that have a favorable impact on the different areas of a child's life (Raver and Zigler, 1997; Mena et al., 2008; Roth and Gewirtz, 2011). A child's comprehensive socio-emotional development is manifested to the extent that he/she learns to relate to other children and to him/herself, learning to recognize and express his/her emotions, and generating complex positive emotional and social patterns (Bayley, 2005). Through this process, interaction dynamics are established that contribute to the formation of their identity process (Underwood and Rosen, 2011).

The family is the first setting and social context where the socio-emotional development of the child begins, which is why it is the context where child development takes place in all spheres. There is a direct influence of the family in the education of children. The family is the socializing element and the main family context, where the mother is a fundamental reference figure in the teaching-learning process and socioemotional skills of children (Paykel, 1994; Molina-Jiménez et al., 2008). The parents' level of education and cultural background are also influential factors for children (Vite et al., 2008; Pascual, 2015; Parra, 2017).

Likewise, family structure influences the intellectual and emotional capacities of children, as there are differences in school achievement depending on the type of family (two-parent or single-parent, among others) (Cervini et al., 2016). Therefore, the development of both intellectual and emotional skills depends on family roots (Bahamón and Reyes, 2014).

Similarly, there is a direct relationship with the value that parents place on their children's academic and literacy skills (Moreno, 2001; Jiménez-Pérez, 2010; De-Vicente-Yagüe, 2014; Jiménez-Pérez et al., 2017; Rodríguez et al., 2020, 2021). More specifically, we can consider that there is a clear influence of maternal education on the development of children's cognitive abilities, and higher levels in the case of children of mothers with higher levels of education than the father (Aram and Aviram, 2009; Martínez and Córdoba, 2012; Rodríguez-Góngora et al., 2020, 2021).

Therefore, we can consider that individual and family variables are influential factors in socioemotional skills, with a relationship between maternal perception and the socioemotional development of children (Farkas and Rodríguez, 2017; Jiménez et al., 2020).

Likewise, there is empirical evidence about the impact of the child's relationship-interaction with his or her mother and her influence on the child's attachment, ways of coping with stressful situations, and the child's emotional development, among others (Gómez et al., 2008). We speak of the sensitivity of the mother figure when there are appropriate reactions to the child's behavior, with the mother's capacity to modify her behavior according to the child's needs, thus providing the child with adequate protection and care. This maternal sensitivity can be considered a predictor variable of

attachment relationships (Brazelton and Cramer, 1990; Bowlby, 1993). It is, therefore, a primary construct for understanding the child's interactive processes, which would be formed by the perception of the child's non-verbal signals, the interpretation of these signals, the appropriate response, and the ability to allow the child to relate his or her demand to the response obtained (Ainsworth et al., 2015). There are variables that are related to the sensitization of the mother figure such as: temperament, gender and socioemotional development, where irritable behavior increases sensitivity (as opposed to fearful) and where there is less acceptance of shyness in boys than in girls, establishing more positive interactions with them (Eggum et al., 2009; Therriault et al., 2011). In addition, there is evidence of the existence of other factors with a direct impact on the emotional development of children, such as socioeconomic status, with greater problems in low socioeconomic contexts (López et al., 2008).

Therefore, the family is the first setting where children begin their development process and where they acquire the main socio-emotional competencies. The relationship and interaction between mother and child are fundamental, being a predictive variable of the child's emotional development. The sensitivity of the maternal figure has a direct and proportional influence on the child's socioemotional development, and where the mother shows the ability to attend to and respond to her child's signals correctly, respecting his or her initiatives and decisions (Gómez et al., 2008; Vite et al., 2008; Jiménez et al., 2020).

The COVID-19 pandemic has had a profound impact on global societies, leading to significant changes in individuals' behaviors and attitudes. One potential consequence of this crisis is the possibility of an increase in radicalization among certain populations (Bartusevičius et al., 2021). However, despite the potential importance of this issue, there is currently a dearth of empirical research exploring the relationship between the pandemic and radicalization. The limited existing literature focuses primarily on the impact of the pandemic on existing extremist groups rather than on the potential for new radicalization. Therefore, there is an urgent need for further research to investigate this important phenomenon in order to inform policy and interventions aimed at preventing and addressing radicalization in the post-COVID era.

Taking all of the above into account, the main objective of this study is to analyze adolescents' ideas about violent extremism and pro-violent attitudes, as well as their relationship with other factors such as digital consumption, interpersonal relationships, and the sociodemographic situation of their families. Thus, a diagnosis will be carried out on the attitudes toward violent extremism of adolescents in three schools in the west of Almeria (and two centers that will act as control groups in Almeria city and Madrid) in order to, at a later stage, put into practice the TRANSCEND method of analysis and creative conflict resolution. Actions aimed at the primary prevention of violent radicalization in adolescents were planned. Thus, the specific objectives set were:

- To analytically explore scientific logical reasoning in the development of theories related to local racial conflicts, while at the same time highlighting the relationships between conflict and violence, where the process of social adaptation to the system will play an important role.
- To detect the concrete discourses that can be used to justify or legitimize direct violence or structural violence.

- To demonstrate what a process of radicalization from cultural violence consists of in the west of Almeria, and to what extent the phases of indoctrination described above are corroborated.
- Establish a protocol to reduce social conflict based on origin and deactivate the possibility of radicalization based on origin or religious affinity.
- Use the Transcend method (Galtung, 2000; this method seeks to channel the conflict toward a solution that does not originate through a "conflict worker" and "peace worker").

2. Methods

The study of the phases of indoctrination is based on the experiences of young people from secondary schools, which they reveal by filling in a questionnaire specifically designed for the occasion. In addition, information is gathered from key informants in the area: politicians, social services personnel, educators, etc., who provide their views from a different perspective. In order to get closer to the attitudes of young people, a questionnaire on violent extremism has been designed, which captures both extremist ideas and attitudes toward the use of violence. This questionnaire, composed of 34 questions, leads to the creation of an index of violent extremism. Therefore, the questionnaire was administered to a sample of 1,169 adolescents, who completed it either online or on paper, depending on their preference and availability.

The agents involved, to a greater or lesser extent, in the processes of education and coexistence in these areas are diverse, so it is important to favor communication between them, coordination in decision-making, in the development of actions and in the monitoring and evaluation of results. It is considered that those processes and techniques that favor listening, communication, the resolution of difficulties or conflicts, decision-making, the construction of a common language, teamwork or the participatory construction of models, will be very significant for the success of the intervention model in question.

Thus, the following were considered as good practices:

- Defining and planning the planned actions with the technical teaching team of the Secondary Schools, respecting their idiosyncrasies. The project was presented in the secondary schools, in a meeting held with the management team, resolving any doubts raised. The work plan was analyzed, and the necessary aspects were corrected in each higher education institution (HEI) as deemed fit. An attempt was made to reach consensus on the content, structure and implementation among all parties involved. Some changes had to be made in the way information was collected, not for all HEIs, but the content was respected in its entirety.
- Define the basic possible "TYPE" profiles that can be found among the population to be monitored. The profiles were defined, and it was determined which are the basic personal characteristics necessary to undertake a Transcend guidance process, as well as to foresee the needs to be addressed during the process (family situation, motivation, transversal competences, professional competences, attitudes, …). Although the intervention is part of the second phase of the research, it was necessary to define the

general characteristics of the subjects susceptible to intervention, those who are essential and those who accompany them.

- To plan in a general way the possible integrated itineraries that initially orientate the general needs. On the basis of these, the project technicians specified the intervention plan with the pupils and their integrated itinerary. After this first phase of evaluation and diagnosis of the situation, the possible itineraries to be taken into account in the intervention were studied. Namely, this intervention is also evaluative, going deeper into those aspects that have been poorly defined in the previous phase.

- To evaluate the initial level of radicalization of both the target population and the youth population in general. To know their system of priorities and their life pattern, related to the positive professional and personal competences for socio-labor insertion. For the purpose of the project and the population in general, it is considered important to assess the majority of the youth population in the studied areas. The main reason is to reach as many vulnerable or non-vulnerable young people as possible with the intervention, and to correct possible failures in the initial detection by including them in the general intervention. The use of complementary tools for the diagnosis of employability allows to articulate a system of quantitative and qualitative assessment of employability that will always require the appropriate reading of the information by the employment counselor.

Bearing in mind the above-mentioned criteria of good practice, we designed a questionnaire on violent extremism in order to get closer to the attitudes of young people, where we aimed to capture both extremist ideas and attitudes toward the use of violence. This questionnaire, composed of 34 questions, two of which contain items on which we constructed an index of violent extremism using a Likert scale. It has a reliability of Cronbach's $\alpha = 0.87$. The questionnaire was completed anonymously at controlled times in the classrooms of the secondary schools, always supervised by the researchers. Both printed and digital (online) formats were used. Topics covered include: integration at school, use of social networks, assessment of teachers and peers, relationships between students, groups that suffer discrimination at school, violent extremism, legitimacy of the use of violence, use of violence at school, and socio-demographic characteristics (gender, age, nationality of origin, number of siblings, country of birth, parents' level of education, profession, family income, political ideology, religion and religious practice).

Therefore, a total of 1,169 students (554 men vs. 615 womens; 12–19 years old; $M = 15.74$) in 5 schools, were interviewed. All the students were given a detailed explanation of what the study consisted of and the need to answer the questionnaire seriously and honestly. This is an anonymous questionnaire, from which no personal information about the participants can be extracted, and from which conclusions will be drawn that may be relevant for subsequent interventions and derivative studies. All participants agreed to the rules before completing the questionnaire. They were informed of the voluntary nature of the act. The parents of the minors had been informed beforehand by the educational entity and had given their express consent to carry out the exploration, taking into account the current legislative regulations.

The data collected for this study were analyzed using the Statistical Package for the Social Sciences (SPSS) version 28.0. The internal consistency of the questionnaire items was assessed using Cronbach's

alpha coefficient. The validity of the instrument was examined through exploratory factor analysis (EFA), with varimax rotation. A Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.89 and Bartlett's test of sphericity ($\chi^2 = 1030.23$, $p < 0.001$) were calculated to assess the suitability of the data for factor analysis. Additionally, confirmatory factor analysis (CFA) was conducted to assess the factorial validity of the questionnaire, using maximum likelihood estimation with robust standard errors. The goodness of fit indices yielded satisfactory results, with a Comparative Fit Index (CFI) of 0.94, Tucker-Lewis Index (TLI) of 0.91, Root Mean Square Error of Approximation (RMSEA) of 0.06 (90% CI [0.05, 0.07]), and Standardized Root Mean Square Residual (SRMR) of 0.05. The results of the EFA and CFA were compared and interpreted in combination with other relevant statistical analyses, such as descriptive statistics and correlation coefficients, to provide a comprehensive assessment of the instrument's validity. Overall, the statistical analyses provided strong evidence for the reliability and validity of the questionnaire and support for the research hypotheses.

3. Results

Before starting with the results, it is necessary to point out that in the study sample we found 26 different countries of origin of the students. 88.8% have Spanish citizenship compared to 11.2% from the rest of the countries. Within the latter, the most representative nationalities were: Morocco (72), Colombia (14), Romania (10), Russia (6), Peru (7), Argentina (6), and Guinea-Bissau (6), among the most representative.

In terms of religious orientation, 8 alternatives were considered, considering that these would include all the participants. We found that the largest group was represented by non-practicing Catholics, followed by Atheists/non-believers and practicing Muslims.

In the statistical tests carried out, no differences were found between the secondary schools located in the provincial capitals, Almeria and Madrid. Nor were any differences found between the IES in Madrid and the IES in the Poniente region. However, significant differences were found between the IES of Almería and the IES of the Poniente Almeriense [$F(4, 1,164) = 13.87$; $p < 0.001$; see Tables 1, 2].

Furthermore, no differences were found between the secondary schools located in the provincial capitals, Almería and Madrid, but significant differences were found between the secondary school in Almería and two of the three secondary schools in Poniente Almeriense [$F(4, 1,164) = 5.68$; $p < 0.001$; see Table 3].

With regard to the age of the participants, no differences were observed in the results. However, with regard to the number of siblings, significant differences were observed with respect to the two

TABLE 1 Analysis of the extremism index among HEIs.

HEIs	F	Sig.	N	M	DT
Madrid			104	31.26	19.40
Almería			387	25.64	15.13
Poniente 1	13.87	0.001**	170	34.44	19.03
Poniente 2			288	28.65	17.72
Poniente 3			220	34.70	16.85

**$p < 0.001$.

TABLE 2 Analysis of the index of proviolence and violent acts among HEIs.

HEIs	F	Sig.	N	M	DT
Madrid			104	19.47	23.18
Almería			387	16.93	17.03
Poniente 1	5.68	0.001**	170	23.70	22.59
Poniente 2			288	19.77	20.07
Poniente 3			220	23.83	21.63

**$p < 0.001$.

TABLE 3 Comparison of extremism and pro-violence attitude indicators by sex.

Index	Sex	t	Sig.	N	M	DT
Extremism	Men	4.18	0.001**	54	31.74	18.41
	Women			80	27.44	16.09
Pro-violence attitude	Men	6.18	0.001**	54	23.42	21.55
	Women			80	16.18	17.76

**$p < 0.001$.

TABLE 4 Comparison by number of siblings of EXT and AP indicators.

Index	No. of siblings	F	Sig.	N	M	DT
EXT	None			134	28.73	16.52
	1			535	7.61	5.82
	2	0.23	0.001**	253	0.69	8.25
	3			120	4.13	9.90
	4 or more			123	5.12	9.44
AP	None			134	7.22	8.15
	1			535	8.51	8.91
	2	0.44	0.001**	253	0.37	0.92
	3			120	5.87	3.19
	4 or more			123	4.44	2.49

**$p < 0.001$.

indicators. In extremism, we found significant differences in a one-factor ANOVA [$F(4, 1,164) = 7.23$; $p < 0.001$] between the groups More than 3 and 1 sibling, between More than 3 and None, and between 3 and 1 sibling. In the Proviolence index we found significant differences [$F(4, 1,164) = 5.44$; $p < 0.001$] between the groups 3 siblings and none, and between 3 siblings and 1 (see Table 4).

In terms of relationships and, more specifically, the group of peers with whom the young people surveyed most frequently relate to, we found a profile of teenagers who mostly relate to the boys in their class group, in addition to girls and boys from other classes, preferably of a similar age to their own. Only 7.7% take into account grades as a conditioning factor in their relationships, 13.4% take into account that they are of the same sex, 13.1% that they are of the same nationality, 6.9% that they are of the same sexual orientation, 9.6% take into account belonging to the same social class, and only 1.5% say they do not relate to anyone. This last group of students who report not relating to anyone has been analyzed specifically to see the possible influence of loneliness on the ideation of extremism. When

TABLE 5 Comparison by sex of the group of girls/boys who report not relating to anyone.

Index	Sex	Relation	t	Sig.	N	M	DT
EXT	Men	Yes	2.30	0.021	1	44.37	20.06
		No			543	31.48	18.30
	Women	Yes	1.72	0.086	5	39.76	17.26
		No			575	27.34	16.05
AP	Men	Yes	1.10	0.268	1	30.55	22.57
		No			543	23.28	21.53
	Women	Yes	1.36	0.174	5	26.94	21.39
		No			575	16.08	17.72

*$p < 0.05$.

analyzing the sample, no significant differences are observed between the girls/boys who say that they do not relate to anyone and the rest of the groups in reference to the EXT and AP indicators, although they do have higher scores than the rest of the groups in both indicators. Boys score higher ($M = 44.37$; $SD = 20.06$) than girls ($M = 39.76$; $SD = 17.26$) in extremism, and in pro-violence boys ($M = 30.55$; $SD = 22.57$) score slightly higher than girls ($M = 26.94$; $SD = 21.39$; see Table 5).

When analyzing the Extremism and Proviolent Acts indicators, we found that there are significant differences between subjects according to the country of origin indicated. The countries that scored above 40 in extremism and/or pro-violence were China, USA, Dominican Republic, Romania and Senegal: China, USA, Dominican Republic, Romania and Senegal.

When analyzing the two indicators in reference to the variable Religion practiced, we found significant differences in both indicators between the groups. We see that the highest scores appear in extremism, both in Evangelicals ($M = 38.29$; $SD = 15.96$) and in non-practicing Muslims ($M = 35.71$; $SD = 19.85$). In pro-violence behavior we also observed a very different score from the rest in Evangelicals ($M = 32.02$; $SD = 29.13$).

In a one-factor ANOVA for the Extremism Index [$F(7, 1,161) = 9.09$; $p < 0.001$] we found highly significant differences. We applied multiple comparisons using the Scheffé test and found significant differences ($p < 0.05$) between the groups Non-practicing Catholic and practicing Muslim, and between Non-practicing Muslim and Atheist/non-believer. Significant differences ($p < 0.001$) also appear between the groups Practicing Muslim and Indifferent, Practicing Muslim and Atheist/non-believer, Non-practicing Muslim and Indifferent, and between Non-practicing Muslim and Atheist/non-believer.

For the Proviolence Index [$F(7, 1,161) = 6.42$; $p < 0.001$] we found highly significant differences. We applied multiple comparisons using the Scheffé test and found significant differences ($p < 0.05$) between the groups non-practicing Catholic and practicing Muslim, and between non-practicing Muslim and Atheist/non-believer. Significant differences ($p < 0.001$) also appear between the groups Practicing Muslim and Indifferent, Practicing Muslim and Atheist/non-believer.

With the different variables studied, a correlation analysis is carried out, with the intention of seeing which variables are most strongly influencing the generation of extremist attitudes and support for violence. Thus, we find that the variables that correlate significantly with the index of extremism are: number of siblings, political

orientation, age, length of residence in Spain, level of studies attained by the mother, level of studies attained by the father and regular attendance at places of worship. Regarding the pro-violence attitude variable, we found a significant correlation with the following variables: number of siblings, political orientation, level of studies attained by the father, level of studies attained by the mother, living with the father and regular attendance at worship centers.

In view of this, and as a result of the analysis, we can conclude that there are some variables that act as protective factors against extremism and pro-violence attitudes, and other variables that act as favorable factors against extremism and pro-violence attitudes. Specifically:

- Extremism—Protective factor: *Age* (The older the age, the lower the probability of extremism), *time in Spain* (The more years in Spain, the lower the probability of extremism), *father's education* (The higher the academic level, the lower the likelihood of extremism), *mother's education* (The higher the academic level, the lower the extremism) and *attendance at the place of worship* (The higher the frequency of attendance, the lower the extremism).—Enabling factor: *Number of siblings* (The greater the number of siblings, the higher the score for extremism) and *Political orientation* (The more toward right-wing conservative politics the more extremism)
- Pro-violence attitude—Protective factor: *Cohabitation with father* (Subjects who live with their fathers have lower pro-violence scores), *mother's education* (The higher the academic level, the lower the pro-violence score), *father's education* (The higher the academic level, the lower the pro-violence score), and *attendance at places of worship* (The higher the frequency of attendance at worship centers, the lower the score on pro-violence).—Enabling factor: *Number of siblings* (The greater the number of siblings, the higher the score for pro-violence) and *Political orientation* (The more toward right-wing conservative politics the more pro-violence)

Based on these results and considering the contributions of Moyano et al. (2021), we analyze the possible moderating influence of other variables that refer to the interpersonal relationships of the subjects. Thus, we pose the following question: can the level of education attained by the mother moderate the attitude of not relating to anyone and the generation of pro-violent attitudes in teenagers?

To answer this question, we conducted a moderation study to see if the mother's level of studies really moderates the relationship between not relating to anyone and the generation of pro-violent attitudes in a sample of adolescents from the Poniente Almeriense. The proposed model obtained an adequate fit [$F(3, 1,164) = 10.20$, $p < 0.001$] where 2.56% of the variance of the pro-violence attitude is explained. The results of the moderation analysis reveal that pro-violence attitudes are significantly and positively related to the attitude of not relating to anyone ($b = 12.03$, $p < 0.001$) and to the level of education attained by the mother ($b = -2.27$, $p < 0.001$). In addition, a significant interaction effect was found between the attitude of not relating to anyone and the mother's level of education ($b = 8.11$, $p < 0.001$). It is concluded that the interaction effect increases the relationship between not relating to anyone and the degree of pro-violence attitude.

When the level of education attained by the mother is low, there is no significant relationship between not relating to anyone and the development of pro-violent attitudes, $b = 2.67$, 95% CI [−9.35, 14.69].

When the level of education attained by the mother is medium, there is a significant and positive relationship between not relating to anyone and the development of pro-violence attitudes, $b = 12.03$, 95% CI [2.67, 21.38]. In the sample analyzed, 64% of the women had secondary or university education (see Figure 1).

4. Discussion

According to the data analyzed, we have been able to observe how the average scores obtained in the extremism and pro-violence indicators differ significantly between the HEIs. Interestingly, we have seen differences between the IES of Almeria capital and the Institutes of the province (Poniente Almeriense area) where higher values appear, both in extremism and in pro-violence. These values were similar to those obtained in the Madrid secondary school used for the pilot study after the confinement by COVID-19.

Another relevant variable in the study is gender. We observed higher scores in males than in females, with significant differences for both scales. It is a well-established fact that the presence of men in violent radicalization actions is much higher than that of women, influenced by the role of both sexes in a culture of inequality between men and women.
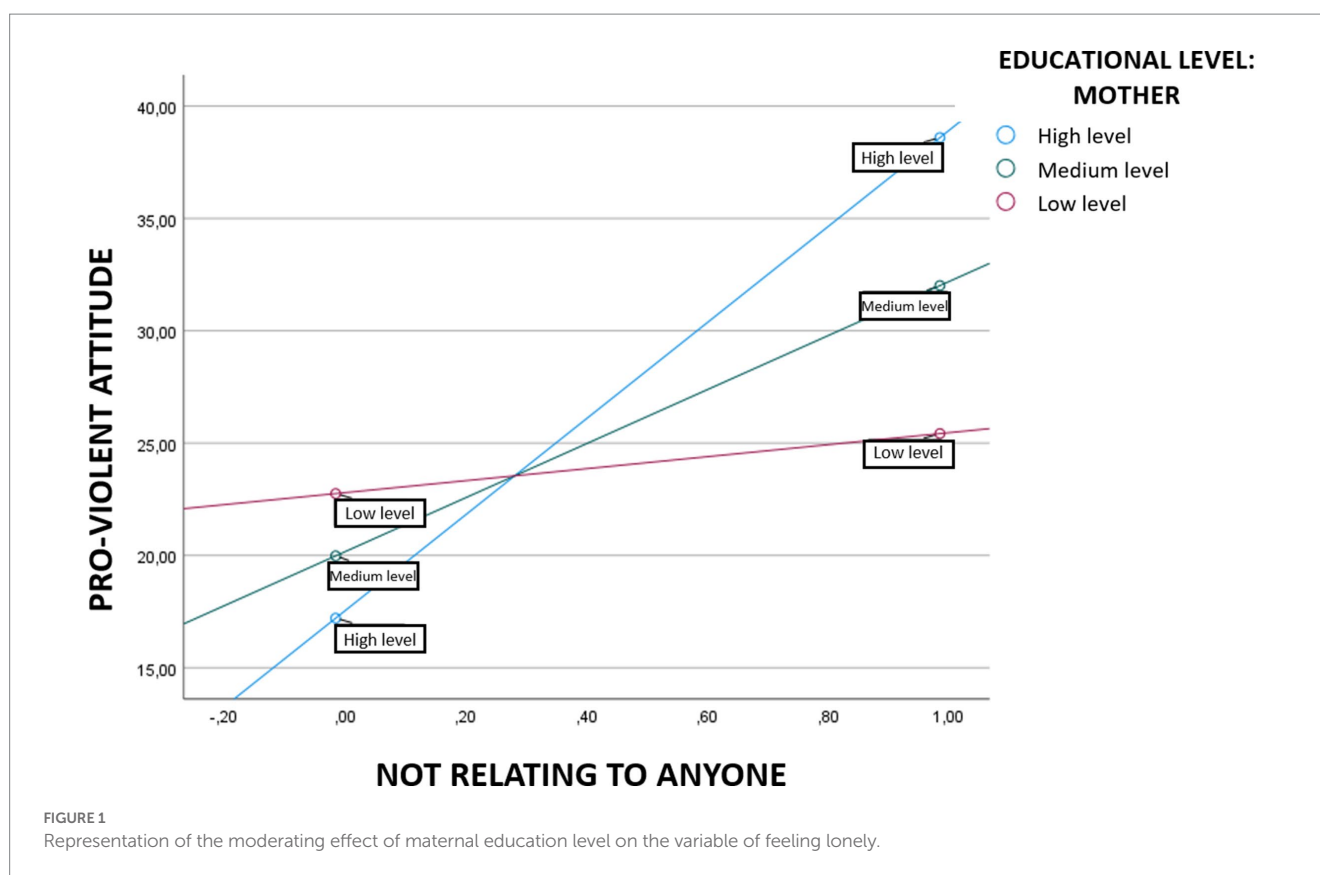
The variable number of siblings deserves special attention, as higher and significantly different values are found in subjects whose family is made up of three or more than three siblings. The family role that the subject represents, depending on the number of siblings, may provide some clue as to the processes of violent radicalization. As Molina-Jiménez et al. (2008) reflect, the family is the first socializing scenario for minors, and the reference elements are usually represented in the figures of older siblings and parents.

When analyzing the type of social relationship or rather the people with whom the subjects relate, we have found values that show that the peer group is very important and an essential reference for young people. Analyzing the opposite situation, i.e., the lack of interpersonal social relations, either self-determined or due to obligation after various relational processes, in the processes of radicalization, we found that the percentage of subjects who report not relating to anyone is not very high (1.7%). Despite not representing a large group of adolescents, the situation is sufficiently important to require special attention, as there should not be any cases. There are 21 adolescents between 12 and 17 years old who report not relating to anyone, who present high rates of extremism and pro-violence, who are in need of urgent attention: 7 females and 14 males.

In the values obtained in the extremism and pro-violence indexes, depending on the country of origin, we found higher scores in countries with few representatives in HEIs, except for Romania.

With regard to the religion of the participants, we observed that the majority of the sample stated that they did not actively practice any religion. However, they do not completely dissociate themselves from their religion, claiming to be non-practicing Catholics or Muslims, indifferent and/or atheists. Only the practicing Muslim group seems to be the most representative among young people who practice a religion in one way or another. Differences were observed in the index scores, but especially with the Indifferent and the Atheists/non-believers.

Of all the analysis carried out, the most striking aspect is the observation that the mother's level of education has a negative influence on the relationship between the attitude of not relating to anyone and the development of pro-violent behavior in adolescents. Although the

FIGURE 1
Representation of the moderating effect of maternal education level on the variable of feeling lonely.

moderation analysis shows an inconclusive result, without being able to explain a high percentage of the variance, we wanted to present the result because of its potential relevance. Molina-Jiménez et al. (2008) and Martínez and Córdoba (2012) and others, cited above, consider the presence and influence of the mother to be very important in the development of the adolescent, both in terms of cognitive abilities and positive attitudes, a fact that contrasts with our results, at least in terms of the orientation of this cognitive-behavioral development. The fact that women work double shifts and the lack of support from their partners (clearly materialized in families with social and economic difficulties) considerably hinders the care that can be given to the upbringing of children, a fact which, far from being intentional, can have a negative effect on emotional and behavioral development. The feeling of loss or estrangement from the main attachment figure, most of the time for reasons beyond their control, leads children to seek refuge in third parties who may offer them false protection. As Gómez et al. (2008) describe the quality of the interaction between mother and child has a considerable influence on the formation of attachment and, consequently, on the emotional development of the child. It is possible to admit an episode of situational rejection, contrary to the acquired one, after a situation of separation from the primary attachment figure. This is a path of radical opportunism, which can lead to the development of the child's emotional development.

5. Conclusion

Drawing final conclusions from this initial analysis of results in the context of COVID-19 is both challenging and audacious. Nevertheless, we have observed that:

1. Gender, number of siblings and religious practice modulate violent extremism.

We have been able to observe significant differences with these three variables in the two indicators studied. One could try to extract a profile of a subject with a tendency toward extremism using these three variables, but this would not be entirely correct. They are only indicators to deepen the study of radicalization, to carry out a quick screening (taking into account the diagnostic error) that will guide us toward a more in-depth evaluation.

2. Nationality is not a relevant variable.

In our study, the relevance of nationality as a variable in shaping teenagers' attitudes toward violent extremism and pro-violent behaviors remains inconclusive. It is important to note that the limited representation of subjects from various countries in our sample restricts our ability to draw definitive conclusions regarding the impact of nationality on these attitudes.

The sample size of participants from most countries was relatively small, which poses challenges in generalizing the findings to a broader population. Additionally, the lack of representativeness in terms of nationality further hinders our ability to assess the true significance of this variable in the context of violent extremism among teenagers.

While our study does not provide strong evidence to support the relevance of nationality, it is crucial to recognize that these results are specific to our sample and cannot be generalized to all populations. The complexities surrounding violent extremism and its relation to nationality necessitate more extensive and diverse

research to elucidate the potential influences and interactions between these factors.

To gain a comprehensive understanding of the role of nationality in shaping attitudes toward violence among teenagers, future studies should aim to incorporate larger and more diverse samples that adequately represent different nationalities and cultural backgrounds. This would allow for a more robust examination of the potential variations in attitudes and behaviors across different national contexts and facilitate a better understanding of the nuanced factors contributing to the development of violent attitudes.

3. Extremism and pro-violence views are more frequent in the Poniente than in Almería city.

Without the nationality of origin being shown to be a variable, at least in this study, worth taking into account, it is curious that the Poniente schools in Almeria show higher values in the two indicators than the students of the IES in the capital. It is a fact that the rate of foreigners in the IES of Almeria capital is much lower than that of the IES of the Poniente.

4. There are variables that favor extremism and pro-violent behavior.

As we have seen in the analysis, there are factors that favor the development of extremist behavior and the development of pro-violent behavior. Some factors have been identified, but they are not the only ones, which favor the development of these undesirable behaviors, and which need to be studied and dealt with in greater depth. Similarly, certain factors have been detected and corroborated that enhance good behavior and protect adolescents from the development of maladaptive behavior. We have also observed the moderating effect of some variables, such as the parents' level of education. These, far from being oriented toward restricting academic studies, should guide us toward favoring support networks for the upbringing of children, toward policies that favor the reconciliation of family and work, that help parents, especially mothers, who are responsible for most of these tasks, in the difficult task of upbringing.

5. The mother's educational level has a negative impact on the pro-violent attitude of teenagers with fewer interpersonal relationships.

As statistical data show, there appears to be a noteworthy relationship between the mother's level of education and the likelihood of violent behavior among teenagers who experience feelings of loneliness or report a lack of interpersonal relationships. Specifically, the evidence suggests that a higher level of maternal education is associated with a higher probability of such violent behavior in this subgroup.

One potential explanation for this finding could be related to the influence of parental socioeconomic status and educational attainment on parenting practices. Previous research has indicated that higher levels of parental education are often associated with greater access to resources, such as economic stability, better healthcare, and improved social support systems.

Consequently, parents with higher education may have higher expectations for their children's achievements and success, which can manifest as increased pressure or stress within the family environment.

In the case of teenagers with fewer interpersonal relationships, the combined effects of perceived social isolation and high parental expectations may contribute to heightened levels of stress and frustration. These individuals may struggle to meet the expectations set by their parents, leading to a sense of inadequacy or failure. This emotional distress, in turn, may increase the likelihood of resorting to pro-violent attitudes as a maladaptive coping mechanism or a means of gaining a sense of control or power.

It is important to note that this explanation is speculative, and further research is necessary to explore the underlying mechanisms and potential mediating factors involved in this relationship. Factors such as parental communication patterns, emotional support, and parenting styles should be considered in future investigations to gain a more comprehensive understanding of the complex interplay between parental education, interpersonal relationships, and pro-violent attitudes in teenagers.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation. Requests should be made by contacting the corresponding author: jucar61@ual.es for further inquiries and access.

Ethics statement

The studies involving human participants were reviewed and approved by the University of Almería. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

Author contributions

All authors took part in the field study, the statistical analysis, and the writing of this article.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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