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RESEARCH ARTICLE

# Instrument Development of a Risk Barometer to Measure Extremism Behavior Among Early Youth in Malaysia

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**Abstract:** Undoubtedly, extremism is a current concern that has a negative impact on peace and sustainable society. Not much effort is made to identify the critical factors that contribute to individuals to become violent extremists. The aim of the study is to develop a valid and reliable instrument, the Risk Barometer to Measure Extremism Behaviour (RBMEB), to measure extremist behavior among early youth. The data collection process involved two phases comprising more than 800 early youth studying in schools and institutions of higher learning in Klang Valley, Malaysia. At the initial stage, the instrument had 19 domains with 151 items. Exploratory factor analysis was carried out, and this process reduced the RBMEB to 14 domains with 106 items. The Cronbach's alpha on all 14 factors was between .650 and .912, indicating the soundness of the instrument. The RBMEB is believed to be the only validated and reliable instrument that indicates the risk barometer to measure extremism among early youth. Future research could apply this instrument as the basis for the construct of extremism, and it could be used to make comparisons with socio-demographic factors as well as identifying predictive factors of extremist behavior.

**Keywords:** early youth, extremism, instrument development, risk barometer

Peace in the world is facing enormous challenges posed by violent extremism. Several incidents globally

have highlighted the potential threat of extremism towards cultivating a disharmonious world and breeding of inhumanity (Joseph, 2017). For instance, the Institute for Economics and Peace (2016) database encompassing data gathered by the University of Maryland researchers displayed a marked increase in attacks by extremist groups. Southeast Asia is a hotspot targeted by terrorist groups such as Islamic State, Al-Ghaydeh, and Abu Sayyaf militants. In Malaysia, the continuous arrests of individuals linked with terrorism

show the significance of the problem (Jani, 2017). In fact, since 2013, almost 400 people have been arrested in Malaysia for terrorist activities and the number is increasing yearly (Rodzi, 2018). Thus, much effort is needed by different stakeholders to devise appropriate strategies and mechanisms to understand better and develop apt strategies to overcome extremist behavior.

The concept of extremism, as stated in the literature, has been defined in a number of ways. Bötticher (2017)

found extremism from the political perspective, and it is characterized by anti-establishment movements that fight for supremacy. For Pressman (2009), extremism is defined as any political theory that holds to uncompromising and rigid policies or ideology. Schmid (2013), on the other hand, comprehended that extremism involves the willingness of individuals to kill massively those who disagree with a certain political program. Scarcella, Page, and Furtado (2016) defined extremism as vocal opposition to basic values and intolerance of different faiths and beliefs. Based on the literature, extremism is perceived as a political agenda whereby individuals or groups portray a commitment to extreme views and actions and, in the process, create intolerance and discard the prevailing social order.

Lately, a worrying trend is the perception of terrorism and extremism among the youth (Hamid & Fauzi, 2016). A survey done by Samuel (2018) found that around one-fifth of Malaysian, Indonesian, Filipino, Singaporean, and Thai university students felt that terrorism is an effective strategy to achieve an objective. This is an alarming finding, and it surely serves as a wake-up call for the various stakeholders to recognize that a certain percentage of youth perceive terrorism as a noble value and steps need to be taken to overcome this belief.

There are several theories about what makes people develop sympathies for violent radicalization and extremism (e.g., Bhui, Warfa, & Jones, 2014). However, existing literature shows that not much effort has been made to identify indicators that measure extremism among early youth (e.g., Simi, Sporer, & Bubolz, 2016; Sukarieh & Tannock, 2016). Considering extremism beliefs and ideas are slowly creeping into the minds of youth, it is prevalent to devise mechanisms that would quantify the level of extremism among this group. This will provide the necessary pathways to develop effective strategies and plan of actions for our youth to be inculcated with noble values and the sustainability of tranquillity and peace.

## Conceptual Model

The approaches towards the assessment of indicators of extremist behavior are almost a theoretical. However, there are a few models that depict the acts of terrorism, ranging from stage model to process models. Moghaddam (2005) introduced the “staircase” image

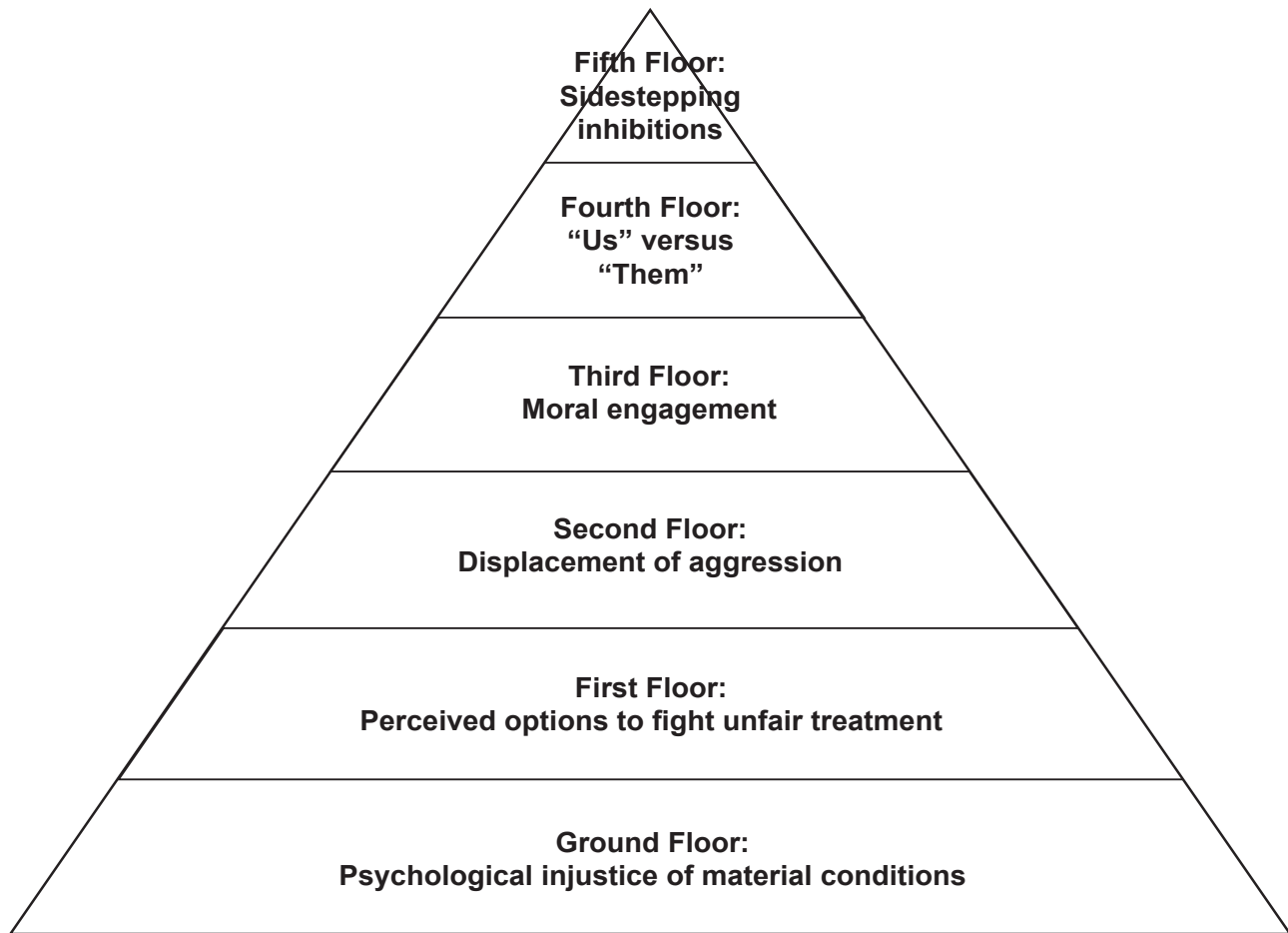
to depict acts of violent extremism, as in Figure 1. Firstly, it begins with individuals facing psychological injustice of material conditions looking for options to fight these unfair treatments and consequently develops aggressiveness focussing on targeted group/s. The individuals then get engaged with terrorist organization/s and embrace a scenario whereby it is “us” versus “them,” and this eventually leading them into the terrorist act.

Meanwhile, Silber and Bhatt (2007) state that the act of violent extremism occurs as a result of the four-stage radicalization process. These four stages are pre-radicalisation, self-identification, indoctrination, and, eventually, violent extremism. In the first stage, there is no evidence of any involvement in radical work. However, in the second stage, some crises in the areas of political, socio-economic, or personal will have much bearing on the individual’s mind to be radicalized.

Another stage model is the one proposed by Borum (2015) that is commonly known as the four-stage model of the terrorist mindset. In this model, an individual initially portrays grievances towards a particular event or condition as being an injustice. Then, the individual attributes this unjust situation to a particular organization, policy, or person, and eventually devalue the responsible party that leads to aggression and violent extremism.

On the other hand, Ramakrishna (2012) proposed a process model to explain extremism, known as the radical pathway (RP) framework. In this framework, it is proposed that a number of factors will contribute for an individual to become radicalized and extreme. Among these factors are the individual’s personality, immediate social context, historical and geopolitical events, culture, and group identity.

Besides the different models that explain an individual’s pathway that leads them towards extremism, the scholars have also examined the precise contributing factors towards extremism. Zinchenko, Pereyagina, and Zotova (2016) identified narcissistic personality, cognitive distortion, moral, and self-value as factors that play a major role in influencing extremism. On the other hand, Pressman (2009) and Pressman and Flockton (2012) mentioned that the indicators that influence extremism are aggressiveness, family, impulsive sensation seeking, media influence, peer influence, history and capability, ideology acceptance besides the factors of the narcissistic



*Figure 1.* Staircase to terrorism (Moghaddam, 2005).

personality, cognitive distortion, moral, and self-value. Meanwhile, Kebbell and Porter (2012) explained being aggressive, misinterpretation of religion, family, media, isolation, beliefs and attitudes, exposure to pro-violence ideology, and radical social network induce individuals to become extremist. Schmid (2013) identified aggressiveness, single-mindedness, being intolerant, fanaticism, preference for monoculture society, and rejection of universal human rights as the indicators that led to extremism.

Based on the above arguments, it can be assumed that an individual possesses extremist behavior as a result of internal and external factors (Borum, 2014). If based on Bronfenbrenner's (1979) ecological model, the contributing external factors that might have an effect on individuals to change are the immediate family members, community, economic status, and political drivers. In addition, internal factors that

might contribute towards individuals possessing extremist behavior are pertaining to oneself such as unstable emotion, narcissistic disorder, aggressiveness, moral, identity crisis, isolation, intolerance, self-value, empathy, religiosity, as well as violence peers, cognitive distortion, impulsive sensation seeking, fanaticism, and access to radical network (Marsden, 2016).

The development of a valid and reliable instrument that depicts the risk barometer to measure extremism among early youth is critical to monitor the tendency of youth to involve in violent extremism. Eliseev, Vicentiy, and Gluchich (2017) stated that the spread of youth extremism is one of the most acute problems, and steps need to be taken to identify early warning about extremism by identifying individuals prone towards it. The purpose of this study was to develop a novel instrument, the Risk Barometer to Measure Extremism

Behavior (RBMEB), to be completed by early youth. The specific aims were: (1) to generate items for the RBMEB; and (2) to conduct content and face validity as well as reliability tests of the RBMEB to determine the final items.

## Methods

The study used the methodological framework for developing measurement scale as proposed by Boateng, Martin, Collins, Natamba, and Young (2018) and it comprises of three phases—item development, scale development, and scale evaluation. The first phase (item development) has two steps, namely, (a) identification of domain and item generation, and (b) content (assessing if the items adequately measure the domain of interest; Rahi, 2017). Among the sources used for the identification of domain and items are the Violent Extremism

Risk Assessment (VERA) instrument by Pressman (2009), the Risk Assessment for Violent Extremists (RAVE) by Dean (2014), Terrorist Radicalisation Assessment Protocol (TRAP) by Meloy and Gill (2016), structured assessment of violent extremism (SAVE) by Dean and Pettet (2017), as well as the Modified Erikson Psychosocial Stage Inventory (MEPSI).

For the second phase (scale development), it comprises of three steps, namely, (a) pilot testing, (b) first round of survey administration, and (c) item reduction using inter-item and item-total correlation (Carpenter, 2018). The final phase (scale evaluation) has three steps, namely, (a) second round of survey administration, (b) extraction of factors, and (c) test of reliability.

The population of this study consists of early youth comprising of students studying in schools and institutions of higher learning. A total of 400 respondents took part in the first round of survey administration, followed by another 408 respondents in the second round of the survey. The data collection procedures involved obtaining permission from the Ministry of Education, State and District Education Department, and University Administrators. Data were collected via face-to-face involving the research team members as well as a number of enumerators. Data were analyzed using the SPSS software.

## Results

### *Item Development*

Previous research was used in the development of domains and the initial pool of items. A total of 19 domains were identified from past research, and a total of 151 items were developed by the researchers (see Table 1). The 19 domains were identity crisis, empathy, impulsive sensation seeking, self-value, isolation, cognitive distortion, narcissistic personality, aggressive behavior, emotional imbalance, moral, intolerant attitude, ideological fanaticism, religious fanaticism, political pressure, access to the radical network, family interaction, economic pressure, community, and delinquent peer.

Subsequently, content validity was carried out by two experts that recommended changes in the flow of words for some items. The items were then sent to the Ministry of Education for approval. Consequently, it was recommended that two items need to be removed.

### *Scale Development*

A pilot test was administered to 35 respondents. In this process, a total of 13 domains obtained a minimum of .7 score in terms of Cronbach's alpha value. The domains that did not meet the minimum threshold were impulsive sensation seeking, isolation, narcissistic personality, intolerant attitude, ideological fanaticism, and political pressure. After much deliberation, a total of five items were deleted from the initial list, leaving the new total as 146 items. Also, the domains ideological fanaticism and religious fanaticism were combined and renamed as fanaticism. Thus, the number of domains has been reduced to 18 domains.

Next, the first round of the survey was carried out for three months involving a total of 400 respondents in six schools and six institutions of higher learning. There was an equal percentage of both male and female respondents at this stage. On the other hand, in terms of location, 67% of the respondents were from urban areas, and the balance of 33% was from rural areas. The mean age of the respondents was 18 years. Further reduction of items took place at this stage using the findings based on the inter-item correlation matrix, as well as the corrected item-total correlation. Using this approach, a total of 10 items were deleted, meaning, at this stage, the number of items is 136 items.

### *Scale Evaluation*

The second round of the survey was administered to a total of 408 respondents (Table 2) for two months

**Table 1**  
*Initial Domains and Items*

No.	Domain	Items
1	Identity crisis	10
2	Empathy	8
3	Impulsive sensat+ion seeking	10
4	Self-value	9
5	Isolation	6
6	Cognitive distortion	13
7	Narcissistic personality	10
8	Aggressive behavior	7
9	Emotional imbalance	7
10	Moral	5
11	Intolerant attitude	10
12	Ideological fanaticism	9
13	Religious fanaticism	8
14	Political pressure	5
15	Access to the radical network	9
16	Family interaction	6
17	Economic pressure	5
18	Community	7
19	Delinquent peer	7
TOTAL		151

involving seven schools and five institutions of higher learning. Forty-three percent of the respondents were male, and the balance of 57% were females.

Besides, a total of 70% of the respondents were from the urban areas, and the balance of 30% was from rural areas. The mean age of the respondents was 18 years.

## Exploratory Data Analysis

### *Assessment of the Suitability of the Data for Factor Analysis*

The sample size for this study was 408, and it shows that it is comforting for factor analysis. Bartlett's test of sphericity showed that the  $p$ -value is less than .05, and the KMO index was .813, indicating that the data is appropriate for factor analysis. Besides, the commonalities showed that the scores were greater than .3.

### *Factor Extraction*

Factor extraction involves determining the smallest number of factors that can be used to best represent the interrelations among the set of variables. The method used in the factor extraction is the principal component (Keith, Caemmerer, & Reynolds, 2016). Meanwhile, three techniques were used in assisting in the decision concerning the number of factors to retain, namely, the Kaiser's criterion, scree test, and parallel analysis (Çokluk & Koçak, 2016; DeVellis, 2016). Based on the Kaiser's criterion (Braeken & Van Assen, 2017) and scree plot, there are 30 factors. However, using the parallel analysis, it yielded only 14 factors, and the total variance explained was more than 50%.

### *Factor Rotation and Interpretation*

Once the number of factors has been determined, the next step is to interpret them. To assist in this process,



**Table 2***Respondents' Sociodemographic Characteristics (n=408)*

Variable	Frequency (%)	Mean
<b>Gender</b>		
Male	177 (43.4)	
Female	231 (56.6)	
<b>Age (in years)</b>		18.03
16-18	286 (70.1)	
19-21	72 (17.6)	
22-24	50 (12.3)	
<b>Ethnicity</b>		
Malay	342 (83.8)	
Chinese	18 (4.4)	
Indian	48 (11.8)	
<b>Location</b>		
Urban	285 (69.9)	
Rural	123 (30.1)	
<b>Type of institution</b>		
School	227 (55.6)	
Institution of higher learning	181 (44.4)	
<b>Level of Education</b>		
PT3	224 (54.9)	
SPM/SPMV/Skill Certificate	68 (16.7)	
Diploma/STPM/STAM	116 (28.4)	
<b>Parent marital status</b>		
Living together	346 (84.8)	
Commute/Separated	62 (15.2)	
<b>Current type of residence</b>		
Family house	188 (46.1)	
Rented house or room	72 (17.6)	
Residential hostel	148 (36.3)	

**Table 3***KMO and Bartlett's Test*

<i>Kaiser-Meyer-Okin Measure of sampling Adequacy</i>		.813
<i>Bartlett's Test of Sphericity</i>	<i>Approx. Chi-Square</i>	23288.234
	<i>df</i>	7021
	<i>Sig.</i>	.000



the factors are rotated. A number of approaches were carried out to determine the rotation that is the clearest and easiest to interpret. The best approach chosen was the oblique approach using the Promax method (Weaver & Maxwell, 2014). The results are shown in Table 4. The pattern matrix showed that 20 items need to be deleted, and the final instrument contained 14 factors with 106 items. Cronbach's alpha on all the 15 factors was between .650 and .912, indicating the soundness of the instrument.

## Discussion

Empirical measurement on the extremist behavior among youth is pertinent to identify the potential of youth to engage in acts of radicalism and violent extremism. Many Western studies have been carried out to look into the impact of terrorist attacks and their possible motives. However, Southeast countries such as Malaysia have become the victims of terrorist attacks and militant activities. Therefore, the aim was to develop and test a valid and reliable self-report measure to identify factors related to extremist behavior in this specific sociocultural context. This study has

developed a novel instrument, the RBMEB, through a detailed process beginning from construct generation to psychometric testing. The RBMEB was designed specifically to cater to early youth, considering the fact that studies imply an unhealthy trend whereby a negligible percentage of youth are having positive feelings towards violent extremism. The results of the exploratory factor analysis (EFA) reported here showed that this RBMEB could be conceptualized as embracing a wide overall construct and 14 domain-specific constructs with 106 items solution. Comparatively, Borum (2015) proposed eight clusters to explain terrorism-related risk behavior, whereas Dean and Pettet (2017) suggested an inventory of 30 cognitive risk indicators. This demonstrates that the construct of extremist behavior is complex and multi-dimensional in nature (United Nations Development Programme, 2016). The domains identified in the study indicate that extremist behavior among early youth is contributed by internal factors as well as the external factors comprising of family, community, politic, and peers. This is in tandem with the Bronfenbrenner's ecological system theory that states that individuals' interaction with the different levels of environments

**Table 4**

*Factor Loading and Cronbach's Alpha of Final Factors*

No.	Factor	Items	Factor Loading	Cronbach alpha
1	Identity crisis	4	.611 - .405	.681
2	Empathy	7	.662 - .408	.753
3	Impulsive sensation seeking	8	.672 - .449	.769
4	Self-value	10	.694 - .418	.821
5	Attitude distortion	13	.718 - .410	.863
6	Aggressive behaviour	8	.683 - .350	.736
7	Emotional imbalance	11	.750 - .320	.808
8	Moral	5	.651 - .408	.773
9	Intolerant	5	.703 - .306	.733
10	Politic	4	.678 - .303	.718
11	Access to radical network	9	.843 - .480	.912
12	Community cohesiveness	6	.773 - .308	.850
13	Family cohesiveness	8	.828 - .608	.898
14	Delinquent peer	5	.768 - .468	.650

or systems has an impact on them besides Erikson's stages of psychosocial development that states during the period of early youth, individuals search for a sense of self and personal identity and are involved in identity crisis that might push them to be rebellious (Taylor & Soni, 2017). Thus, this instrument will cover a very particular and crucial domain of extremist behavior.

Mean scores for the 14 domains ranged from 4.55 to 1.44, and early youth rated empathy, impulsive sensation, and identity crisis as the top three contributors towards extremist behavior. According to Yusoufzai and Emmerling (2017), extremist behavior among the youth seems to imply an absence of empathy. Bal and Velkamp (2013) defined empathy as the ability to recognize the emotions of others and to emotionally respond to them. This is due to the reason that humans cannot distribute their empathy evenly, and it is very easy for them to turn their empathy on or off for different groups (Nilsson, 2015). Bruneau, Cikara, and Saxe (2015) discovered that many extremists have actually been found to have very high levels of empathy, but only for their own group.

The second factor extracted from the analysis was the impulsive sensation. Thus, the result of the present study is line with previous studies' findings that impulsive sensation as a trait is robustly correlated with delinquency in adolescence (e.g., Kruglanski et al., 2013; Mann, Kretsch, Tackett, Harden, & Tucker-Drob, 2015). Nussio (2017) also found that impulsive sensation mediated the relation between meaning in life and willingness to self-sacrifice and support for extremism. It means that Malaysian youth with a high level of impulsive sensation can act spontaneously without thinking about the costs (IYRES, 2017).

Moreover, the early stage of life is a period of uncertainty when a young individual is susceptible to extreme ideas and groups (Goldman & Hogg, 2016). This is defined as an identity crisis among youth. The present study is consistent with Al Raffie's (2013) and Agbiboa's (2015) findings that identity crisis is a common issue among the young generation because they have to simultaneously manage different cultural aspects of their lives. Malaysian adolescents and youths are living in a Muslim and a multi-ethnic country at the same time. This can lead to immediate frustration among the young generation from different races to find that their religious identity is incompatible

with societal and national values supported by the government. This frustration is compounded and leads to an identity crisis when coupled with real or perceived discrimination (David & Govindasamy, 2017; Gill, Talib, & Kunasekaran, 2015). Thus, it is in accordance with an empirical study conducted by Webber et al. (2018), showing that individuals react to uncertainty by hardening their attitudes and increasing their convictions. As adolescents encounter persistent injustices, their uncertainty increases and perceptions of the legitimacy of the law diminish, subsequently increasing susceptibility to violent extremist attitudes (Nivette, Eisner, & Ribeaud, 2017). As beliefs are strengthened (Tausch et al., 2011), and the young individual immerses in religious exploration, he or she will inevitably be exposed to violent and radical interpretations of religion through the media and sometimes their social environment (Gambetta & Hertog, 2017). Hence, radicalism among the young generation is an answer to uncertainty and is branded by making more categorical, one-sided, partial, or biased decisions, favoring one side or group; making decisions based on a limited amount of aspects of the considered issue (Sikkens, van San, Sieckelinck, & de Winter, 2017). These psychological and internal contributors to extremist behavior should be addressed with the help of appropriate intervention plans, especially for Malaysian youth, which could help in raising their morale, compassion, and reduce uncertainty. In addition to internal factors, the present study is consistent with prior research on radicalization processes, and extremism has documented the importance of external experiences such as family, peers, and social networks in affecting individuals and motivating extremist activities (e.g., Bhui, et al., 2014).

The present findings show that Malaysian young people's pattern toward radicalism and extremist behavior is very similar to youth in other parts of the world who are vulnerable to extremism due to inner and outer factors and needs more attention from governments and policy-makers (Ramakrishna, 2017). The results imply that early youth might be pushed toward extremist behavior due to the inner psychological conflicts along with their uncertainty-identity that they are experiencing in their life. This finding further strengthens the report by O'Neil and van Broeckhoven (2018) that states that coercion and identity will encourage youth to become involved with armed groups in conflicts.

## Conclusion

The RBMEB is believed to be the only validated and reliable instrument that indicates the risk barometer to measure extremist behavior among early youth. This instrument has gone through a rigorous process of development and psychometric testing involving more than 800 early youth. Future research could use this instrument to measure the risk status of extremist behavior among early youth as well as to make comparisons between extremist behavior of early youth and socio-demographic factors. More studies could also be carried out to seek for predictor variables that have an impact on extremist behavior among early youth.

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## Declaration of ownership

This report is our original work.

## Conflict of interest

None.

## Ethical clearance

This study was approved by the institution.

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