

RESEARCH ARTICLE

Machiavellianism, Islamism, and Deprivations as Predictors of Support for Daesh Among Muslims

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Although many different models of radicalization integrate different intrapersonal, interpersonal, and intergroup processes, this interactive approach is scarcely present in the empirical studies. The goal of this study was to fill this gap by combining personality traits (Machiavellianism), ideology (Islamism), and outcomes of intergroup comparisons (perceived deprivations) as predictors of support for Daesh among Muslims in the MENA region, based on Arab Barometer IV data. Results were calculated on the overall sample and on synthetically balanced samples from Algeria and Palestine, respectively, to ensure the robustness of findings. While Islamists were generally supportive of Daesh, socio-politically deprived individuals were not. A negative relationship between Machiavellianism and support for Daesh was found only in Algeria. Multiple interactions, which differed in Algeria and Palestine, confirm the relevance of studying complex relationships among potential predictors of extremism, as well as the role of context that can strengthen or diminish these relationships.

Keywords: extremism; political violence; inequality; ideology; Machiavellianism

Introduction

Terrorism and political violence leave devastating and long-lasting socio-economic (Lutz & Lutz, 2017; Nussio et al., 2019; Sandler & Enders, 2008) and emotional (Eisenman & Flavahan, 2017; Housley & Beutler, 2007) consequences on the societies where it occurs. Of all the terrorist organisations, the Islamic State of Iraq and Levant (Daesh) achieved by far highest kill count, exceeding even Talibans and Al-Qaida (Alaimo & Tong, 2017). With a goal of forming an international caliphate that would serve as a basis in their battle against ‘infidels’, or countries that do not accept their ideology, as well as violent means they used to achieve that goal (Gomes & Mikhael, 2018) and innovative ways of recruiting new members and obtaining resources (see Oosterveld et al., 2017), Daesh had a destructive potential that attracted the attention of world leaders. Although the once-powerful organisation lost a vast majority of its territory and power by December 2017 (Taneja, 2018), the notion of Daesh will linger in the future of the societies conquered by its fighters (Oosterveld et al., 2017). In order to prevent another rise of Daesh, or the rise of other organisations that use similar violent methods to promote extreme ideologies, it is crucial to understand who would support such organisations and why they would support them.

Apter (1997) and della Porta (2006) noticed that political violence stems from the interaction of different (contextual) factors. The idea that behaviours are defined by the interactions between the constellations of relatively stable personal dispositions of individuals and various contexts they face in everyday life is not new in social sciences (Sheldon et al., 2011; Webster & Ward, 2010; Zayas et al., 2002). Some studies have shown that support for political violence can be predicted by (dark) personality traits and that the relationship between these traits and support of political violence is moderated by contextual factors like deprivation (Pavlović & Franc, 2020). However, the earlier discussions based on personality disorders instead of traits advocated against the inclusion of intrapersonal factors in explaining extremism (e.g. Crenshaw, 2000; Sageman, 2004; Taylor & Horgan, 2001), which resulted in the diminished interest of personality psychologists in exploring political violence. This, in turn, implies that there might be a group of factors contributing to extremism that are understudied, which was the main reason why an integrative approach to radicalisation was taken in this study. More specifically, this study focuses on three groups of factors that may contribute to radicalisation: intrapersonal (Machiavellianism), interpersonal (inequality and deprivations), and ideological (Islamism). The data is from within the MENA region, a context where Islamist terrorism posed an imminent threat at the time of data collection (2016).

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Machiavellianism

Machiavellianism, as a part of the Dark Triad (Paulhus & Williams, 2002) and the Dark Tetrad (Paulhus, 2014), rep-

resents a personality trait that describes the individual tendency towards interpersonal distrust, manipulation, cynicism, exploitativeness and using illegitimate means to achieve goals (Furnham et al., 2013). Individuals high on Machiavellianism tend to have dominantly materialistic motivation (e.g., money, power) and are great at self-controlling and suppressing impulsive reactions, which serves as a basis for false friendliness and emotional manipulations to take advantage of others using impression management, selective self-disclosure, lying, flattery, and sandbagging (see Jones & Paulhus, 2009 for a detailed discussion). Despite its moderate correlations with other components of the Dark Triad (i.e., narcissism and psychopathy; Jonason & Webster, 2010; Jones & Paulhus, 2013) and the Dark Tetrad (Book et al., 2016; Craker & March, 2016), it achieves highest negative correlations with the Honesty-Humility trait of the HEXACO model (Book et al., 2016; Pilch & Gornik-Durose, 2016), especially with the facets of sincerity and fairness (Jonason & McCain, 2012). Unlike that of other dark personality traits, the development of Machiavellianism is dominantly determined by the shared and non-shared environment (Vernon et al., 2008), which implies the possibility to develop Machiavellianism under exposure to situations that require a Machiavellian mindset. Political activities may pose such situations – after all, Machiavellianism was introduced into modern social science by Christie and Geis (1970) who adjusted the leadership advice provided by Niccollo Machiavelli in *The Prince* and *The Discourse*, along with the general notion that ends justify the means to develop their 20-items MACH IV scale (although there were multiple versions). As such, theoretically, of the entire Dark Triad/Tetrad, Machiavellianism seems to be the personality trait most suitable for determining the decision-making processes in the political arena. Since the perceived efficacy of political action has been highlighted as one of the predictors of collective actions in multiple models (Borum, 2014; Doosje et al., 2016; Jost et al., 2017; Moghaddam, 2005; Thomas et al., 2011; van Zomeren et al., 2008), the dark strategists may be highly aware of possible choices and support political violence only when no other less damaging means can be applied. However, the scarcity of studies focused on the Machiavellianism-extremism relationship undermines any firm conclusion. The only three available earlier studies that included the Machiavellianism-extremism relationship did not provide consistent evidence. Duspara and Greitemayer (2017) failed to establish any relationship between political extremism (defined as deviation from the political center) and Machiavellianism, while Morgades-Bamba et al. (2019) established a weak but positive relationship between Machiavellianism, dogmatism, and support for radicalised beliefs, although no relationship with participation in political violence was established. Re-analysis of the same data based on clustering participants with respect to personality traits failed to support these results (Chabrol et al., 2020). However, another study exhibited a consistent, but positive relationship between Machiavellianism and support for different kinds of violence against politicians perceived as corrupt (Pavlović & Franc, 2020). These differences in findings could partly be attributed to differences

in the applied methodological approaches in terms of participant selection, operationalisation of key concepts, and applied statistical procedures. The other part of the conflicting evidence could be attributed to the contextual differences that were not included into research design, although they could increase its explanatory potential.

Inequality and deprivation

A large number of radicalisation models begins with some notion of socio-economic inequality (e.g., Ahmad, 2016; Blee, 2002; Borum, 2003; Doosje et al., 2012; Ferguson & McAuley, 2019; Gill, 2008; McCauley & Moskalenko, 2008; Moghaddam, 2005; Obaidi et al., 2017; Rink & Sharma, 2016; Wiktorowicz, 2005). However, specifying inequality represents a very complicated task due to its multidimensional and normative nature (Franc & Pavlović, 2018). For instance, Deere et al. (2018) differentiated between the socio-economic inequality, based on social and economic aspects of everyday life, cultural inequality, based on the denial of language, customs, and other cultural aspects, and political inequality, based on political rights, police and military protection, and local administration. Moreover, Jasso and Kotz (2008) and Stewart (2005) highlight the role of comparisons of inequality, that can reflect horizontal (inter-group) or vertical (inter-individual) inequality, while Jetten et al. (2017) additionally pointed out that objective inequality does not affect behaviours for as long as it is not considered unjust. Therefore, inequality can be objective and subjective (or perceived), and occur in relation to economic circumstances, political or cultural rights and freedoms, or any other characteristic that is considered relevant. What is most relevant is that once it is perceived and considered unjust, it triggers cognitive mechanisms that try to explain the situation and may lead to a sense of underappreciation and significance loss (Kruglanski et al., 2019; Kruglanski et al., 2014), as well as emotional reactions like anger (van Zomeren et al., 2008; van Zomeren, 2013). Anger over injustice, which reflects a reparatory emotion aiming to reintroduce justice, can transform into contempt due to perceived moral superiority over those that caused injustice, and disgust, which represents an emotion related to elimination (van Stekelenburg, 2017). Alternatively, injustice may symbolise a violation of a sacred value (Atran, 2016), which evokes moral obligation to react at any cost. Therefore, multiple pathways between inequality and political violence theoretically exist.

This is in line with the findings of Franc and Pavlović (2018), who reviewed quantitative studies on the inequality-radicalisation relationship and, taking into account the limitations of the available literature, found arguments in favour of socio-political inequality and deprivation, but not economic inequality and deprivation, as predictors of radicalisation. The relationship was established both on the macro-level (with country-level indicators of human rights abuse) and individual level (in terms of perceived group-based injustice – without further specification and across countries and ideological bases of radicalisation). Similar results were found in a recent analysis of individual and macro-level inequality indicators as predictors of anti-Muslim, anti-democratic and proviolent attitudes (Storm

et al., 2020). Altogether, this indicates that any inequality can steer behaviours if considered relevant and unjust, implying the more important role of subjective compared to objective inequality in the prediction of extremism. Additionally, it indicates that inequality per se is insufficient for the development of extremism. Although it may serve as the fuel of collective action (van Zomeren et al., 2008), it seems like something else has to light the match that turns it extreme.

Islamism

Islamism, or political Islam is an ideology and political movement which seeks to organise life and society in accordance with the principles and traditions of Islam, often interpreted in a strict and definite way (Grinin, 2019: 24). Islamism is widespread in the Middle East, and is often seen as a political opposition movement. While it is not limited to a particular social class, the strength of the movement originates in the lower middle class and many of its supporters come from poorer sections of society (Bayat, 2005; Grinin, 2019: 23).

Islamism is a very heterogeneous movement also in terms of ideology (Achilov, 2016). Most of the supporters of Islamist ideology are what we might call 'moderate Islamists', meaning they want to achieve their objectives without intimidation and violence, and while respecting the law and political systems. In contrast, 'radical' or 'violent' Islamists aim to impose their strict principles of Islam and Islamic law on society and individuals using force and illegal actions, such as the overthrow of governments. Islamic State (*Daesh*) is an example of the latter movement.

This study

The hypotheses of this study are aligned with the earlier described interactive approach. An important advantage of this approach stems from its capability to define which individuals in which situations are most likely to embrace Islamist extremism in the form of support for Daesh. While, in line with the earlier literature (e.g., Achilov, 2016; van Zomeren, 2008; Franc & Pavlović, 2018), we expected to confirm the relationship between Islamism and support for Daesh, while the expected effects of deprivations were somewhat lower, with socio-political deprivation having a larger effect than economic deprivation, multiple hypotheses regarding the potential relationship between Machiavellianism and support for Daesh were developed. We hypothesised that Machiavellianism does not have to contribute to radicalisation per se, but may be moderated by deprivations or Islamism. More precisely, since Machiavellianism reflects tendencies towards interpersonal manipulation in order to achieve personal goals, and these goals may be context-dependent, individuals high on Machiavellianism may embrace different strategies to achieve their goals with respect to contextual factors like deprivation or personal attitudes towards Islamism.

At this point, two alternative hypotheses could be devised. First, Machiavellianism is positively related to hostility (Jones & Neria, 2015) and both proactive and reactive aggression (Dinić & Wertag, 2018), with reactive aggression being defined as a hostile defensive response

to provocation (Raine et al., 2006). Under perceived provocation, which may come in the form of deprivation or dissatisfaction with the role of religion in a political system, Machiavellians may be more likely than non-Machiavellians to support violent political options, including Daesh.

Alternatively, and in line with conclusions of Blair et al. (2012) and Fair et al. (2018), individuals living in deprived conditions may be more exposed to violence, which in turn can make them even less supportive of violence. Therefore, cunning Machiavellians forced to live in dangerous areas may be more likely to opt for non-violent options despite feeling provoked by experiences of deprivation.

Finally, all these relationships may be moderated by expected outcomes of support for violent options (van Zomeren et al., 2008; van Zomeren, 2013). For instance, in countries where political violence is not a viable option for political action, Machiavellians may be against it, while in countries where violence may be perceived as cost-effective, they may support its use in achieving political goals.

Despite the plausibility of these interactions, up to the time of writing this study, no findings related to them were published. Therefore, the goal of this study was to test if Machiavellianism, Islamism, and deprivations interactively predict support for Daesh among Muslims of the MENA region and describe the nature of their relationships.

Methods

Participants

The nationally representative data analysed in this study were collected in the Fourth Wave of the Arab Barometer (2017), which was conducted face to face from February to June 2016. The total sample consisted of 9,000 participants, 4,321 of which were Muslims and responded to all the relevant questions. However, after applying the criteria for cognitive radicalization detailed in the next section, a sufficient number of cognitive extremists for further analysis was found only in Algeria ($n = 27$) and Palestine ($n = 46$). In other countries less than 10 participants were categorized as cognitive extremists. Therefore, samples from Algeria ($n = 762$) and Palestine ($n = 761$) were used in further analyses. The combined sample from these two countries was relatively balanced with respect to gender (50.8% men), while the average participant was 37.8 years old ($SD = 14.3$).

Instruments

Support for Daesh was operationalised using three items (q828–q830) that assess the attitudes towards Daesh (compatibility of its tactics with Islam, personal agreement with its goals, and personal agreement with its use of political violence). All the items were measured on a 1–4 scale with lower values indicating more support for Daesh. Due to the heavily skewed distribution (Appendix B.), the variable was dichotomised: all participants who achieved score 12 (of max 12) when summarising the three items, were categorised as non-supporters, while participants with a score lower than 7 were categorised as supporters of Daesh under the presumption that they at least moderately agreed with each of the extremist statements. Participants who scored from 7 to 11 were excluded from the study as they were difficult to classify

as either supporters or non-supporters due to expressed mixed attitudes.

Support for (politically radical) Islamism was measured using a five-item (q5184, q5182, q605, q6061, q6063) measure of Islamism proposed by Achilov (2016). According to the author, items related to intolerance towards political pluralism, neglect for democratic elections and competition, and exclusive support for the rule of Sharia law and promotion of political roles of clerics represent the key concepts of politically radical Islamism. The CFA with robust maximum likelihood estimator (Brosseau-Liard & Savalei, 2014) confirmed that the single-factor model fits the data well (robust CFI = 0.992, robust RMSEA = 0.031, SRMR = 0.014), although the internal consistency of such a scale was not optimal ($\alpha = 0.55$). Partial strong invariance of this scale across countries was established (Appendix A.), indicating that latent means of participants from Algeria and Palestine could be compared. According to the original wording of the available items, higher score indicated less support for Islamism. To make the scale more intuitive, the final score was multiplied by -1 to reverse-code it.

Machiavellianism was operationalised by six items (q103a1, q103a2, q103a3, q103a4, q103a5, q103a6) formed based on the MACH IV scale (Christie & Geis, 1970), dominantly reflecting interpersonal distrust and manipulative tendencies. However, the PCA revealed that one of the items (q103a6, 'There is no excuse for lying to someone.') did not load on the same latent component with others, hence it was excluded from further analyses. CFA with robust maximum likelihood estimator confirmed the single-factor structure of this scale (robust CFI = 0.960, robust RMSEA = 0.083, SRMR = 0.033). As with the Islamism scale, the internal consistency was marginally acceptable ($\alpha = 0.66$). Partial strong invariance of scores across countries was achieved (Appendix A.), which allows comparisons of latent means between countries. According to the original wording, a higher score indicated a less Machiavellian personality. To make the scale more intuitive, the final score was multiplied by -1 to reverse-code it.

Socio-political deprivation was measured using an item that reflected perceived discrimination compared to other citizens (q106, 'To what extent do you feel you are being treated equally by the government in comparison with other citizens in your country?'). A higher score indicated more severe socio-political deprivation.

Economic deprivation was measured using an item that reflected economic difficulties the participants and their household members were facing (q1016, 'Which of these statements comes closest to describing your household income?', ranging from living comfortably to having significant difficulties). A higher score indicated more severe economic deprivation.

Additionally, a question of whether participants consider religion the most important source of their social identification was included to control for sacred values (q901, 'If you have been asked to identify yourself, with which of the following do you most closely identify yourself?'). Participants who chose religion were coded as '1', while others were coded as '0'. Information on participants' age

(q1001 grouped into five classes: under 30, 31–40, 41–50, 51–60, 61+), gender (q1002), country (country), location (q13), employment status (q1004), and religiousness (q609) were also used as control variables in regression analyses.

Procedure

After providing relevant information to the site, data were downloaded from the Arab barometer and preprocessed in order to test if the factors' scores for radical Islamism and Machiavellianism are comparable.¹ This was tested within invariance testing framework, which is characteristic for confirmatory factor analyses and structural equation modelling applied on multi-group samples (Putnick & Bornstein, 2016). In order to calculate factor scores comparable across groups, the model they are extracted from has to at least partially achieve three steps of invariance: configural (same items load on same factors in different groups), metric or weak (factor loadings are similar across groups), and strong invariance (item intercepts are similar across groups). Confirmation of (partial) strong invariance implies that factors have the same meaning across groups and that group means are comparable, which allows valid comparisons of regression slopes (Putnick & Bornstein, 2016). Since research questions also included testing the interactions between Machiavellianism, Islamism, and deprivations, which is not directly supported by the applied statistical software (lavaan; Rosseel, 2012), three-step procedure was adopted. First, the invariant scores were calculated and extracted from CFA framework. Second, these scores were multiplied by scaled versions of relevant deprivations to obtain scores reflecting their interactions. Finally, such scores, along with other relevant variables, were used in probit structural equation modelling as predictors of cognitive radicalization. However, imbalanced classes in binary regression analyses and classification problems may lead to biased results in terms of unbalanced sensitivity and specificity (Chawla et al., 2002; Salas-Eljatib et al., 2018). Next to the problem of having sufficient cases in smaller group to establish stable patterns that can be compared to the results of the larger group, unbalanced datasets favour prediction of the larger group. In the context of cognitive radicalization, it is at least as important to predict radicalized as it is to predict non-radicalized individuals. Furthermore, testing interactions require more participants to achieve the same power as tests of main effects (Brysbart, 2019), while unbalanced samples undermine statistical power of testing any effects (Abd Rahman & Yap, 2016; Salas-Eljatib et al., 2018). Therefore, our capability of finding significant effects on unbalanced data was inadequate. Synthetic minority oversampling technique (SMOTE) was applied to balance the two groups within each country (Chawla et al., 2002). The procedure takes the existing cases in the minority group and synthesises new cases as interpolation of scores of existing individuals. On the other hand, it also under-samples the majority group to match the number of cases in the synthesised minority group. Two potential drawbacks of this procedure exist: first, if the minority group is biased, oversampling will increase this bias. However, since the analysis was conducted on a nationally representative sample, the question of sampling bias should

be theoretically ruled out. The second potential drawback lies in the random nature of SMOTE as it randomly over-samples and under-samples groups, which can also lead to bias. To overcome this issue, 10,000 SMOTEd datasets were formed for Algeria and Palestine, respectively, and SEM was conducted on each of them (also respectively). In both algorithms, *k nearest neighbours* algorithm was applied when interpolating scores, with $k = 5$, indicating that responses of five randomly selected participants from the minority group were used to synthesize each new participant. In Algeria, the minority group was oversampled by 700%, yielding 216 supporters of Daesh, while 217 non-supporters were under-sampled from the majority group to create a balanced sample. A similar procedure was applied to the subsample from Palestine, although the minority subsample was oversampled by 400%, yielding 230 supporters of Daesh with 230 non-supporters randomly extracted from the majority group. Conducting SEM on such datasets yielded an empirical distribution of standardized estimates based on balanced samples for each of the predictors in each of calculated regression models, which served as a robustness test of findings based on unbalanced data.

All the analyses were conducted in R (v. 4.0.0), using the packages *haven* (Wickham & Miller, 2019), *ggplot2* (Wickham, 2016), *psych* (Revelle, 2018), *lavaan* (Rosseel, 2012), *semTools* (Jorgensen et al., 2019), *semPlot* (Epskamp, 2019), *DMwR* (Torgo, 2010), *xfun* (Xie, 2020a), *htmltools* (Cheng et al., 2020), and *mime* (Xie, 2020b).

Results

This section briefly presents the results of applied analyses. First, the² results obtained on overall models are pre-

sented, followed by the results calculated on samples of Muslims from Algeria and Palestine, respectively.

The table of correlations (**Table 1**) exhibits weak relationships between support for Daesh and its potential predictors, which individually explain less than 2% of its variance at best. However, linear relationships, even Pearson's correlations, cannot grasp non-linear and interactive relationships, reflecting the need to examine them using an approach adjusted for binary classification problems: the probit regression.

Regressions conducted on the combined sample (**Table 2**) points to Islamism as the most consistent predictor of support for Daesh, with participants agreeing with Islamist statements being more likely to indicate support for Daesh. Relationship between Machiavellianism and

Table 1: Correlations between support for Daesh, Islamism, Machiavellianism, and deprivations calculated on the combined sample (N = 1,523).

	(1)	(2)	(3)	(4)	(5)
(1) Support for Daesh – binary	–	0.13***	–0.06	0.01	–0.06
(2) Islamism		–	–0.04	–0.01	–0.06
(3) Socio-political deprivation			–	0.23***	0.04
(4) Economic deprivation				–	–0.01
(5) Machiavellianism					–

*** $p < 0.001$.

Table 2: Probit regression of support for Daesh calculated on the combined sample (N = 1,523).

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.03	0.03	0.03	0.03	0.03	0.03
Sex	–0.09	–0.09	–0.09	–0.08	–0.09	–0.08
Urban	–0.11	–0.11	–0.11	–0.11	–0.11	–0.11
Job	0.05	0.05	0.05	0.05	0.05	0.05
Religiousness	–0.03	–0.03	–0.03	–0.02	–0.03	–0.02
Sacred value	–0.08	–0.08	–0.08	–0.07	–0.08	–0.08
Islamism (Isl)	0.25***	0.24***	0.24***	0.27***	0.25***	0.23***
Socio-political deprivation (Sd)	–0.12	–0.12	–0.12	–0.10	–0.12	–0.09
Economic deprivation (Ed)	0.04	0.04	0.04	0.03	0.03	0.04
Machiavellianism (Mach)	–0.12*	–0.12*	–0.12*	–0.15**	–0.12*	–0.13*
Mach × Sd		–0.01				
Mach × Ed			0.03			
Mach × Isl				0.12		
Isl × Ed					0.01	
Isl × Sd						–0.07
R ²	0.114	0.115	0.116	0.143	0.115	0.111

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

support for Daesh was less intensive and negative, while other relationships were not near the threshold of significance. After forming separate models for each group (as in testing configural invariance), equality constraints were imposed on regression slopes of these models to test if they vary between countries. Conducted chi-squared tests consistently showed that regression slopes were similar in Algeria and Palestine ($\chi^2(10) = 10.10, p = 0.432$ for model 1, $\chi^2(11) = 9.43, p = 0.581$ for model 2, $\chi^2(11) = 16.00, p = 0.141$ for model 3, $\chi^2(11) = 9.16, p = 0.607$ for model 4, $\chi^2(11) = 10.63, p = 0.475$ for model 5, $\chi^2(11) = 11.37, p = 0.413$ for model 6). However, these estimates could be downward biased due to unbalanced samples.

In Algeria (**Table 3**), Muslims lower on Machiavellianism had a higher likelihood of being categorized as supporters of Daesh. However, simulations have indicated several additional potential predictors of support for Daesh in Algeria. Women, religious Muslims, Muslims who chose religion as their sacred value, and less socio-politically deprived individuals were less likely to be categorized as supporters of Daesh, while the opposite was found for Muslims who perceived economic deprivation. These findings were stable across SEMs. Two interactions were also established using the unbalanced data: Machiavellianism moderated the relationship between economic deprivation and support for Daesh and Islamism and support for Daesh, respectively. Simulations also additionally revealed an interaction between Islamism and economic deprivation.

Figure 1 exhibits several significant interactions. First, it seems like the most economically deprived individuals who support Islamism were most likely to be categorized as supporters of Daesh (**Figure 1A**). There was no relationship between economic deprivation and support for Daesh among participants that belong to the middle tercile with respect to Islamism, while individuals lowest on Islamism who were economically deprived were less likely to be categorized as supporters of Daesh than non-deprived non-Islamists.

Crossed lines in **Figure 1B** indicate that Machiavellianism moderated the relationship between economic deprivation and support for Daesh. Non-deprived individuals high on Machiavellianism had a very low predicted probability of being categorized as supporters of Daesh, while deprived individuals high on Machiavellianism had a high probability of such categorization. The inverse pattern was established for individuals low on Machiavellianism – economically non-deprived participants were more likely to support Daesh than deprived participants.

The third interaction (**Figure 1C**) suggests that the effects of Machiavellianism are predominantly present among individuals who score low on Islamism. Among non-Islamists, higher Machiavellianism was related to lower predicted probabilities of being categorized as supporter of Daesh.

In Palestine (**Table 4**), only Islamism predicted support for Daesh, with Islamists being more supportive of the terrorist organization. Simulations additionally revealed that women, Muslims residing in rural locations, and those less socio-politically deprived were more likely to express support for Daesh. Simulations also indicated a potential

negative interaction between Machiavellianism and economic deprivation, which failed to reach the threshold of significance in the unbalanced sample.

In Palestine, according to **Figure 2**, individuals lowest on Machiavellianism had the lowest predicted probabilities of being categorized as Islamists when they did not consider themselves economically deprived. However, among economically deprived Palestinians, individuals lowest on Machiavellianism had the highest predicted probabilities of being categorized as supporters of Daesh. This is the opposite interaction to that found in Algeria (see **Figure 1B**).

Discussion

The results of this study have partially supported the initial hypotheses. Islamism was found to be a consistent positive predictor of support for Daesh, both on the overall sample and in Algeria and Palestine, respectively. This is an expected result, as Daesh is an Islamist organisation. Although many, particularly moderate, Islamists are not in favour of Daesh, the way Islamism was measured in this study (as a preference for non-democratic systems of Islamist government), tends towards the more extreme forms of Islamism, which Daesh represents (Achilov, 2016; Grinin, 2019). It is worth noting that we cannot be certain of the causal direction of the relationship: whether it is interested in Islamism as an ideology, which inspires respondent's support for Daesh, or vice versa. Previous studies of the motivators of radicalisation indicate an interaction of interest in the particular movement and its concrete actions, and more stable sympathies for its political and religious ideas. These can feed on one another, aided by social networks and relationships (see, for example, Sageman 2004; Silke 2010).

The study has also shown that Machiavellians tend to be less supportive of Daesh, which was established in a general sample and in Algeria, but not in Palestine. Machiavellianism is characterised by cynicism, distrust, and opportunism (Inançsi et al., 2018; Szijarto et al., 2018), and such participants may have studied multiple political options and managed to find ones they perceive to be more cost-effective than Daesh' violent approach. Extreme Islamists seem to be only marginally politically present due to violent events (insurgencies and guerrilla war) in Algerian history at the end of the last century, which led mainstream Islamist parties to abandon fundamentalism (International Crisis Group, 2004; Sakthivel, 2017). Therefore, the consistent distinction in support for Daesh between Machiavellians and non-Machiavellians could be explained by the presence of moderate options that incorporate Islamism. Next to different socio-political history, a potential cause of the absence of any relationship between Machiavellianism and support for Daesh in Palestine may be the operationalisation of Machiavellianism, which was dominantly focused on interpersonal trust and manipulation with information. Other popular operationalisations also include coalition building, reputation keeping, and cynicism (Jones & Paulhus, 2014), desire for status and control (Dahling et al., 2009), or emotional detachedness and low conscience (Rauthmann & Will, 2011). Therefore, narrow operationalisation of Machiavellianism applied

Table 3: Standardized regression of support for Daesh based on unbalanced and SMOTED samples of Algerian Muslims.

Variable	β	SMOTEd bootstrapped β [99% CI]										
Age	0.02	0.11 [-0.05, 0.27]	0.02	0.09 [-0.07, 0.25]	0.00	0.02 [-0.13, 0.18]	0.02	0.10 [-0.04, 0.25]	0.01	0.09 [-0.06, 0.25]	0.02	0.10 [-0.06, 0.27]
Sex	-0.13	-0.17 [-0.31, -0.02]	-0.13	-0.18 [-0.33, -0.04]	-0.13	-0.19 [-0.32, -0.05]	-0.11	-0.11 [-0.25, 0.03]	-0.13	-0.13 [-0.27, 0.01]	-0.12	-0.17 [-0.31, -0.02]
Urban	-0.09	-0.01 [-0.15, 0.14]	-0.09	-0.02 [-0.16, 0.13]	-0.09	-0.08 [-0.21, 0.06]	-0.11	-0.08 [-0.22, 0.06]	-0.09	-0.07 [-0.20, 0.07]	-0.09	0.00 [-0.15, 0.14]
Job	0.04	-0.09 [-0.21, 0.04]	0.04	-0.09 [-0.22, 0.04]	0.03	-0.08 [-0.20, 0.05]	0.02	-0.12 [-0.25, 0.01]	0.04	-0.08 [-0.21, 0.04]	0.04	-0.08 [-0.20, 0.05]
Religiousness	-0.11	-0.20 [-0.36, -0.05]	-0.11	-0.19 [-0.34, -0.03]	-0.11	-0.16 [-0.30, -0.02]	-0.10	-0.16 [-0.31, -0.02]	-0.12	-0.16 [-0.32, -0.01]	-0.11	-0.21 [-0.36, -0.04]
Sacred value	-0.13	-0.23 [-0.37, -0.08]	-0.13	-0.22 [-0.36, -0.08]	-0.15	-0.25 [-0.38, -0.12]	-0.10	-0.15 [-0.29, -0.01]	-0.13	-0.19 [-0.33, -0.06]	-0.12	-0.21 [-0.35, -0.06]
Islamism (Isl)	0.11	0.24 [0.09, 0.39]	0.11	0.27 [0.11, 0.42]	0.10	0.20 [0.06, 0.34]	0.14	0.24 [0.10, 0.38]	0.12	0.26 [0.10, 0.40]	0.08	0.21 [0.06, 0.35]
Socio-political deprivation (Sd)	-0.12	-0.19 [-0.34, -0.04]	-0.12	-0.18 [-0.33, -0.04]	-0.13	-0.19 [-0.33, -0.05]	-0.09	-0.11 [-0.26, 0.04]	-0.12	-0.17 [-0.31, -0.03]	-0.10	-0.17 [-0.31, -0.03]
Economic deprivation (Ed)	0.13	0.19 [0.05, 0.33]	0.13	0.19 [0.05, 0.33]	0.15	0.19 [0.06, 0.32]	0.11	0.13 [-0.01, 0.27]	0.11	0.11 [-0.02, 0.25]	0.13	0.20 [0.05, 0.34]
Machiavellianism (Mach)	-0.16*	-0.34 [-0.47, -0.21]	-0.16*	-0.28 [-0.41, -0.14]	-0.14*	-0.24 [-0.36, -0.11]	-0.17*	-0.33 [-0.45, -0.20]	-0.16*	-0.33 [-0.45, -0.21]	-0.18*	-0.37 [-0.51, -0.24]
Mach × Sd			-0.01	0.15 [-0.01, 0.32]								
Mach × Ed					0.13*	0.42 [0.31, 0.52]						
Mach × Isl							0.15*	0.31 [0.17, 0.45]				
Isl × Ed							0.06	0.31 [0.17, 0.45]				
Isl × Sd									0.12			-0.15 [-0.31, 0.00]

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; confidence intervals that do not include zero are bolded.

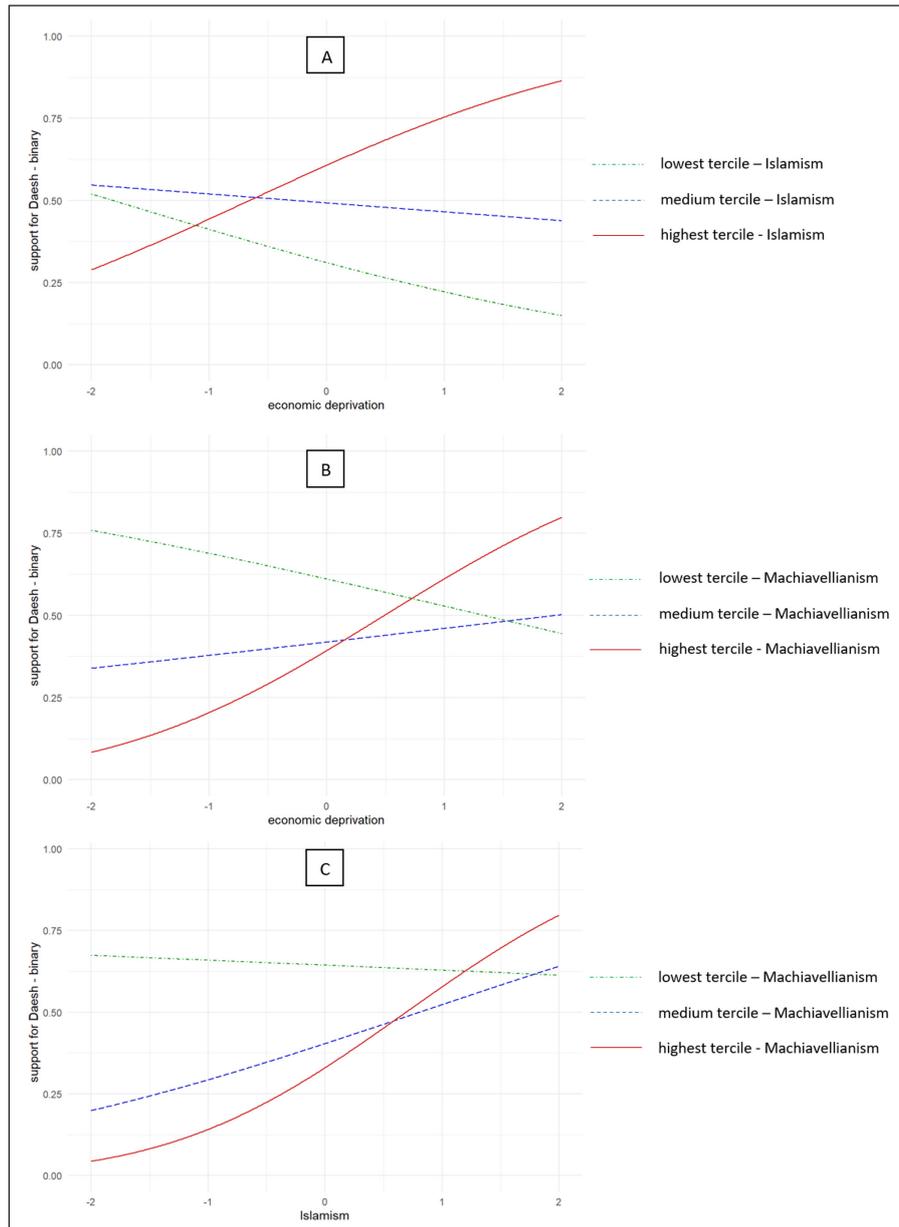


Figure 1: Predicted probabilities of support for Daesh with respect to different combinations of Machiavellianism, Islamism, and economic deprivation in Algeria based on SMOTEd samples.

in this study may have missed its proviolent components that are generally related to extremism (Pavlović & Wertag, 2021) and would form a relationship with support for Daesh.

Socio-political deprivation, on the other hand, emerged as a significant negative predictor of support for Daesh in balanced samples in Palestine and Algeria, which indicated that imbalanced data probably undermined the actual effect size. According to this finding, more socio-political inequality was related to lower likelihood of being categorized as a supporter of Daesh, which is not in line with the outcomes of an earlier review (Franc & Pavlović, 2018). There are multiple possible explanations for such findings, one of them lying in the methodological approach of this study that included the effects of many covariates that were not included in the equations in the previous literature. However, this finding is not new: Berrebi (2007) also found that individuals from Palestine with better living

standard were more likely to support terrorist organisations and join them, which was explained as a result of a tendency of terrorist organisations to recruit individuals of higher status, able to equip themselves. Our findings extend this conclusion to cognitive radicalisation, implying that the selection made by terrorist organisations is probably not the only reason why non-deprived individuals support extremism in Palestine. Piazza (2018) offered a potential explanation in terms of attitudes towards democracy – individuals of higher status may be less deprived and, at the same time, more familiar with the current political situation. If they are sceptical about democracy and changes occurring within a country, they may be more inclined to support Daesh. Additionally, in Palestine, Muslims who are socio-politically deprived, or experience discrimination, may generally be more opposed to the Israeli occupation, and more likely to support local political opposition or national liberation movements such as

Table 4: Standardized regression of support for Daesh based on unbalanced and SMOTED samples of Palestinian Muslims.

Variable	β	SMOTEd bootstrapped β [99% CI]								
Age	0.05	0.07 [-0.07, 0.20]	0.05	0.07 [-0.06, 0.21]	0.05	0.07 [-0.07, 0.20]	0.05	0.07 [-0.07, 0.20]	0.06	0.07 [-0.07, 0.21]
Sex	-0.08	-0.15 [-0.28, -0.01]	-0.08	-0.14 [-0.28, 0.00]	-0.08	-0.15 [-0.28, -0.01]	-0.07	-0.14 [-0.28, -0.01]	-0.08	-0.15 [-0.28, -0.01]
Urban	-0.12	-0.19 [-0.30, -0.07]	-0.12	-0.20 [-0.31, -0.08]	-0.11	-0.18 [-0.29, -0.07]	-0.11	-0.18 [-0.30, -0.07]	-0.12	-0.19 [-0.30, -0.07]
Job	0.07	0.06 [-0.07, 0.20]	0.07	0.06 [-0.07, 0.20]	0.08	0.06 [-0.07, 0.20]	0.07	0.06 [-0.07, 0.20]	0.07	0.06 [-0.07, 0.20]
Religiousness	0.06	0.11 [-0.01, 0.23]	0.06	0.11 [-0.01, 0.23]	0.06	0.11 [-0.01, 0.23]	0.06	0.11 [-0.01, 0.23]	0.06	0.11 [-0.01, 0.23]
Sacred value	-0.03	-0.01 [-0.14, 0.13]	-0.03	-0.02 [-0.16, 0.12]	-0.03	-0.02 [-0.15, 0.12]	-0.03	0 [-0.14, 0.13]	-0.03	-0.01 [-0.16, 0.13]
Islamism (Isl)	0.33***	0.43 [0.31, 0.55]	0.33***	0.42 [0.30, 0.55]	0.35***	0.45 [0.32, 0.57]	0.35***	0.45 [0.32, 0.57]	0.33***	0.43 [0.32, 0.54]
Socio-political deprivation (Sd)	-0.14	-0.39 [-0.50, -0.27]	-0.14	-0.40 [-0.52, -0.28]	-0.13	-0.37 [-0.50, -0.25]	-0.14	-0.39 [-0.51, -0.27]	-0.13	-0.38 [-0.50, -0.26]
Economic deprivation (Ed)	-0.07	-0.08 [-0.20, 0.03]	-0.07	-0.08 [-0.20, 0.04]	-0.06	-0.11 [-0.22, 0.01]	-0.08	-0.06 [-0.17, 0.05]	-0.06	-0.09 [-0.20, 0.04]
Machiavellianism (Mach)	-0.08	-0.03 [-0.15, 0.09]	-0.08	-0.05 [-0.16, 0.07]	-0.12	-0.06 [-0.17, 0.04]	-0.08	-0.03 [-0.15, 0.09]	-0.08	-0.04 [-0.16, 0.09]
Mach x Sd			-0.01	-0.06 [-0.18, 0.07]						
Mach x Ed			-0.11	-0.19 [-0.33, -0.06]						
Mach x Isl			0.07	0.07 [-0.09, 0.23]						
Isl x Ed					-0.09	-0.05 [-0.23, 0.14]				
Isl x Sd					-0.02	-0.03 [-0.23, 0.17]				

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

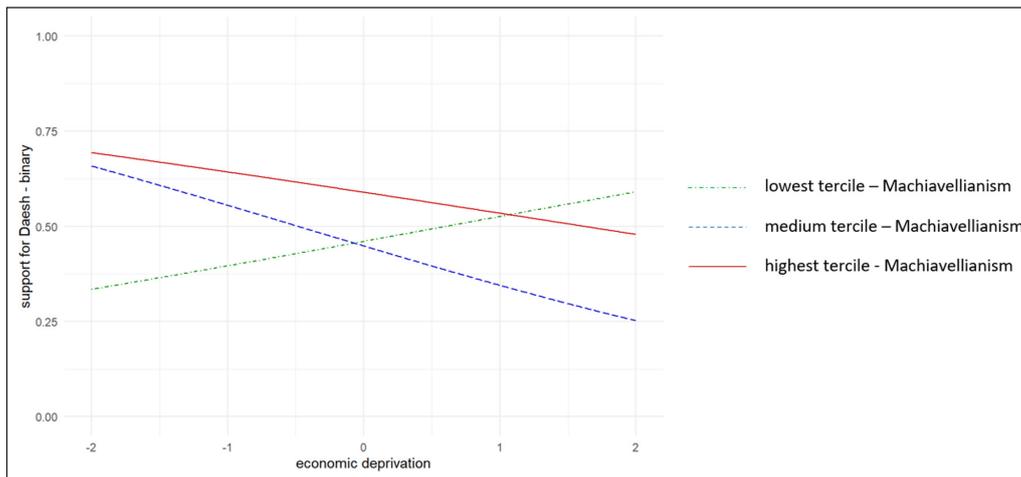


Figure 2: Predicted probabilities of support for Daesh with respect to different combinations of economic deprivation and Machiavellianism in Palestine based on SMOTEd samples.

Hamas, rather than Daesh, who are strongly opposed to Hamas, and have had frequent violent clashes with them (Abuheweila & Kershner, 2018). Economic deprivation, on the other hand, played a less important role in the context of explored models and yielded inconsistent results.

However, additional explanations of these findings may lie in the more complex relationships. After taking into account the imbalance problem, the results have pointed out to several interactions undetectable without balancing the data: three in Algeria and one in Palestine.

In Algeria, more economically deprived Islamists and Machiavellians were more likely to support Daesh, respectively. On the other hand, individuals lowest on Islamism and Machiavellianism, respectively, were less likely to support Daesh the more economically deprived they perceived themselves to be. Explanations of both of these interactions may lie in the perception of Daesh as a political alternative. Economically deprived individuals may have been unsatisfied with the system and considered other options to correct the situation: for Islamists, Daesh may represent the idea of a society in which their economic interests would be protected, while Machiavellians are generally more supportive of violent political options against political systems perceived as unfair (Pavlović & Wertag, 2021). An interaction between Machiavellianism and Islamism was also established: while among individuals low on Machiavellianism no relationship between Islamism and support for Daesh was established, even individuals high of Machiavellianism were low on support for Daesh when they opposed Islamism, as well as high when they supported it. This may also be attributed to cunningness of Machiavellians (Inançsi et al., 2018; Szijjarto et al., 2018) – individuals low on Machiavellianism may have avoided thorough consideration of Daesh (and Islamism), which makes Islamism as ideology an irrelevant factor. On the other hand, individuals higher on Machiavellianism may be more informed on their political options and, therefore, are able to support options in line with their ideology.

However, these findings were generally not replicated in Palestinian sample. The only significant interaction established in this sample was between economic deprivation

and Machiavellianism, and was inverse to the one found in Algeria. This may reflect the difference between countries in the political meaning of Daesh, and its role in the larger political landscape. Machiavellianism is generally related to strategising (Paulhus & Williams, 2002), which requires collecting and evaluating information. Although the finding that wealthier Muslims were more supportive of extremism was noticed in the previous literature, it remained inconclusive as it varied from country to country (Shafiq & Sinno, 2010), or was ascribed to exposure to violence (Blair et al., 2012). According to the latter authors, individuals living in harder economic conditions tend to experience more violence, which makes them reluctant to accept or promote it. Interpersonal distrust, as one of the key components of Machiavellianism (Paulhus & Williams, 2002), may be especially motivating for more careful consideration of available information before making a decision (Farzan, 2010). As the available personal experiences among wealthy and non-wealthy individuals may differ, these considerations may lead to different a priori attitudes towards Daesh before paying much attention to it, but strategically collected and interpreted information may remove this bias and balance the support rate across different levels of economic deprivation. Therefore, in line with Fishbein's theory of reasoned action (Ajzen & Fishbein, 1973), those living in harder economic condition may conclude that even Daesh would not make their life better and declined their support, while wealthier individuals may see Islamism and Daesh as beneficial to their group status and wellbeing. Deprived individuals in Palestine, could be more supportive of Hamas, which represents an enemy group of Daesh (Abuheweila & Kershner, 2018). On the other hand, in Algeria, Daesh may represent the most viable alternative for Muslims that consider themselves economically deprived, which makes economically deprived individuals and Machiavellians the source of its strength. However, as this was the first study that combined Machiavellianism and economic deprivation, this explanation may serve more as an invitation for future research than the final explanation of the relationship between the discussed phenomena.

Several limitations of this study should also be pointed out. First, the results remain limited to cognitive radicalisation (e.g., McCauley & Moskaleiko, 2017; Neumann, 2013), indicating that although our participants expressed support for Daesh, none of them may actually participate in acts of extremist violence. Although the inclusion of multiple operationalisations of radicalisation is advised (Franc & Pavlović, 2018), the nature of data collection limited our options as there was no way of introducing additional variables or items. In order to increase the robustness of the findings, future studies should also include different (and possibly multi-item) operationalisations of all the relevant phenomena. Furthermore, due to the correlational nature of data collection, no causal relationships could be firmly established. The reason for this is the temporal order of events, which was not assessed in the data collection – for instance, individuals may join extremist groups and then start supporting Islamism or start supporting Islamism and then join extremist groups. Similarly, embracing support for Daesh (and extremism in general) may be caused by economic deprivation (e.g., job loss) or the cause of economic deprivation (e.g., job loss due to extremist behaviours). The final results may have also been downward biased due to somewhat low reliabilities of the applied scales. However, these are expected consequences of multinational and multilingual studies, where minor changes in transliteration may have influenced the way individuals perceive and answer the question.

Altogether, after controlling for plethora of relevant characteristics, the study found some arguments in favour of the relationships between deprivations, Machiavellianism, Islamism, and support for Daesh and clearly demonstrated that although some of the variables tend to have a negligible contribution to the prediction of extremism individually, in line with the complex structures of contemporary models of radicalisation (e.g., De Coensel, 2018; Doosje et al., 2016; Kruglanski et al., 2018; McGregor et al., 2015), their true potential may be observed only in the context of other variables. Therefore, this article can serve as an invitation for more comprehensive testing of existing radicalisation models in future studies that would include complex relationships between variables in order to find their combination that is most relevant for extremism. This ‘highly effective combination’ could then serve as a basis for future deradicalisation programs that could prevent further acts of political violence and its harmful consequences.

Data Accessibility Statement

The data used in this study are publicly available and can be downloaded at: <https://www.arabbarometer.org/survey-data/data-downloads/>.

Notes

- ¹ All the codes and outputs are presented in Appendix B.
- ² The complete output with codes, fit indices, and descriptive data can be found in the Appendix B.

Additional Files

The additional files for this article can be found as follows:

- **Appendix A.** Invariance testing. DOI: <https://doi.org/10.5334/irsp.439.s1>
- **Appendix B.** Adjusted analysis. DOI: <https://doi.org/10.5334/irsp.439.s2>

Funding Information

Tomislav Pavlović's work on project DARE (grant no. 725349) has been supported by a Croatian Science Foundation within Young Researchers' Career Development Project – Training of Doctoral Students (DOK-01–2018) financed by the European Union from the European Social Fund (ESF). This publication reflects only the views of the authors; the European Commission and Research Executive Agency are not responsible for any information it contains.

Competing Interests

The authors have no competing interests to declare.

References

- Abd Rahman, H. A., & Yap, B. W.** (2016). Imbalance effects on classification using binary logistic regression. In M. W. Berry, A. H. Mohamed & B. W. Yap (Eds.), *Soft computing in data science* (pp. 136–147). DOI: https://doi.org/10.1007/978-981-10-2777-2_12
- Abuheweila, I., & Kershner, I.** (2018, January 10). ISIS declares war on Hamas, and Gaza families disown sons in Sinai. *New York Times*. Retrieved from <https://www.nytimes.com/2018/01/10/world/middleeast/isis-hamas-sinai.html>
- Achilov, D.** (2016). Revisiting political Islam: Explaining the nexus between political Islam and contentious politics in the Arab world. *Social Science Quarterly*, 97(2), 252–270. DOI: <https://doi.org/10.1111/ssqu.12232>
- Ahmad, H.** (2016). *Youth de-radicalisation: Best practices for Canada*. Retrieved from https://viurrspace.ca/bitstream/handle/10170/947/ahmad_hafal.pdf?sequence=1&isAllowed=y
- Ajzen, I., & Fishbein, M.** (1973). Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology*, 27(1), 41–57. DOI: <https://doi.org/10.1037/h0034440>
- Alaimo, M. M., & Tong, Y.** (2017). A comparison study of international terrorism using geographic information systems. *International journal of peace studies*, 22(1). Retrieved from https://www.gmu.edu/programs/icar/ijps/vol22_1/AlaimoTongFINAL.pdf
- Apter, D. E.** (1997). Political Violence in Analytical Perspective. In D. E. Apter (Ed.), *The legitimization of violence* (pp. 1–32). London: Palgrave Macmillan. DOI: https://doi.org/10.1007/978-1-349-25258-9_1
- Arab Barometer.** (2017). Arab barometer wave IV (2016–2017). Retrieved from <https://www.arabbarometer.org/waves/arab-barometer-wave-iv/>
- Atran, S.** (2016). The devoted actor: Unconditional commitment and intractable conflict across cultures. *Current Anthropology*, 57(S13), S192–S203. DOI: <https://doi.org/10.1086/685495>

- Bayat, A.** (2005). Islamism and social movement theory. *Third World Quarterly*, 26(6), 891–908. DOI: <https://doi.org/10.1080/01436590500089240>
- Berrebi, C.** (2007). Evidence about the link between education, poverty, and terrorism among Palestinians. *Peace Economics, Peace Science and Public Policy*, 13(1). DOI: <https://doi.org/10.2202/1554-8597.1101>
- Blair, G., Christine Fair, C., Malhotra, N., & Shapiro, J. N.** (2012). Poverty and support for militant politics: Evidence from Pakistan. *American Journal of Political Science*, 57(1), 30–48. DOI: <https://doi.org/10.1111/j.1540-5907.2012.00604.x>
- Blee, K.** (2002). Inside organised racism: Women in hate movement. California: University of California Press.
- Book, A., Visser, B. A., Blais, J., Hosker-Field, A., Methot-Jones, T., Gauthier, N. Y., ... D'Agata, M. T.** (2016). Unpacking more “evil”: What is at the core of the dark tetrad? *Personality and Individual Differences*, 90, 269–272. DOI: <https://doi.org/10.1016/j.paid.2015.11.009>
- Borum, R.** (2003). Understanding the terrorist mindset. *FBI Law Enforcement Bulletin*, 72(7), 7–10. Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/grants/201462.pdf>
- Borum, R.** (2014). Psychological vulnerabilities and propensities for involvement in violent extremism. *Behavioral Sciences & the Law*, 32(3), 286–305. DOI: <https://doi.org/10.1002/bsl.2110>
- Brosseau-Liard, P. E., & Savalei, V.** (2014). Adjusting incremental fit indices for nonnormality. *Multivariate Behavioral Research*, 49(5), 460–470. DOI: <https://doi.org/10.1080/00273171.2014.933697>
- Brybaert, M.** (2019). How many participants do we have to include in properly powered experiments? A tutorial of power analysis with reference tables. *Journal of Cognition*, 2(1). DOI: <https://doi.org/10.5334/joc.72>
- Cheng, J., Sievert, C., Chang, W., Xie, Y., & Allen, J.** (2020). *htmltools: Tools for HTML*. R package version 0.5.0. Retrieved from <https://CRAN.R-project.org/package=htmltools>
- Christie, R., & Geis, F. L.** (1970). Studies in Machiavellianism. London: Academic Press. DOI: <https://doi.org/10.1016/B978-0-12-174450-2.50006-3>
- Craker, N., & March, E.** (2016). The dark side of Facebook®: The Dark Tetrad, negative social potency, and trolling behaviours. *Personality and Individual Differences*, 102, 79–84. DOI: <https://doi.org/10.1016/j.paid.2016.06.043>
- Crenshaw, M.** (2000). The psychology of terrorism: An agenda for the 21st century. *Political Psychology*, 21(2), 405–420. DOI: <https://doi.org/10.1111/0162-895X.00195>
- Dahling, J. J., Whitaker, B. G., & Levy, P. E.** (2009). The development and validation of a new Machiavellianism scale. *Journal of Management*, 35(2), 219–257. DOI: <https://doi.org/10.1177/0149206308318618>
- De Coensel, S.** (2018). Processual models of radicalisation into terrorism: A best fit framework synthesis. *Journal for deradicalisation*, 17, 89–127. Retrieved from <https://biblio.ugent.be/publication/8587457/file/8587458>
- Deere, C. D., Kanbur, R., & Stewart, F.** (2018). Horizontal inequalities. In J. E. Stiglitz, J.-P. Fitoussi & M. Durand (Eds.), *For good measure* (pp. 85–100). OECD. DOI: <https://doi.org/10.1787/9789264307278-en>
- Della Porta, D.** (2006). Social movements, political violence, and the state: A comparative analysis of Italy and Germany. Cambridge: Cambridge University Press.
- Dinić, B. M., & Wertag, A.** (2018). Effects of Dark Triad and HEXACO traits on reactive/proactive aggression: Exploring the gender differences. *Personality and Individual Differences*, 123, 44–49. DOI: <https://doi.org/10.1016/j.paid.2017.11.003>
- Doosje, B., Moghaddam, F. M., Kruglanski, A. W., de Wolf, A., Mann, L., & Feddes, A. R.** (2016). Terrorism, radicalisation, and de-radicalisation. *Current Opinion in Psychology*, 11, 79–84. DOI: <https://doi.org/10.1016/j.copsyc.2016.06.008>
- Doosje, B., van den Bos, K., Loseman, A., Feddes, A. R., & Mann, L.** (2012). “My in-group is superior!”: Susceptibility for radical right-wing attitudes and behaviors in Dutch youth. *Negotiation and Conflict Management Research*, 5(3), 253–268. DOI: <https://doi.org/10.1111/j.1750-4716.2012.00099.x>
- Eisenman, D. P., & Flavahan, L.** (2017). Canaries in the coal mine: Interpersonal violence, gang violence, and violent extremism through a public health prevention lens. *International Review of Psychiatry*, 29(4), 341–349. DOI: <https://doi.org/10.1080/09540261.2017.1343527>
- Epskamp, S.** (2019). *semPlot: Path diagrams and visual analysis of various SEM packages' Output*. (Version 1.1.2) [R package]. Retrieved from <https://CRAN.R-project.org/package=semPlot>
- Farzan, R.** (2010). Effect of interpersonal trust on social information seeking. In *Second international workshop on Collaborative Information Seeking*. In conjunction with the ACM conference on Computer Supported Cooperative Work. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.572.9828&rep=rep1&type=pdf>
- Ferguson, N., & McAuley, J. W.** (2019). Radicalisation or reaction: Understanding engagement in violent extremism in Northern Ireland. *Political Psychology*. DOI: <https://doi.org/10.1111/pops.12618>
- Franc, R., & Pavlović, T.** (2018). *Systematic review of quantitative studies on inequality and radicalisation. Dialogue About Radicalisation and Equality*. Retrieved from <http://www.dare-h2020.org/research-reports.html>
- Furnham, A., Richards, S. C., & Paulhus, D. L.** (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Psychology Compass*, 7(3), 199–216. DOI: <https://doi.org/10.1111/spc3.12018>
- Gill, P.** (2008). A multidimensional approach to suicide bombing. *International Journal of Conflict and Violence*, 1(2), 142–159. Retrieved from <https://www.ijcv.org/index.php/ijcv/article/download/2750/2511/>

- Gomes, A. de T., & Mikhael, M. M.** (2018). Terror or terrorism? Al-Qaeda and the Islamic State in comparative perspective. *Brazilian Political Science Review*, 12(1). DOI: <https://doi.org/10.1590/1981-3821201800010002>
- Grinin, L. E.** (2019). Islamism and globalisation. *Journal of Globalization Studies*, 11(2). DOI: <https://doi.org/10.30884/jogs/2019.02.02>
- Housley, J., & Beutler, L. E.** (2007). Treating victims of mass disaster and terrorism. North America: Hogrefe & Huber Publishers.
- International Crisis Group.** (2004). *Islamism, violence and reform in Algeria: Turning the page*. Retrieved from <https://d2071andvip0wj.cloudfront.net/29-islamism-violence-and-reform-in-algeria-turning-the-page.pdf>
- Jasso, G., & Kotz, S.** (2008). Two types of inequality. *Sociological Methods & Research*, 37(1), 31–74. DOI: <https://doi.org/10.1177/0049124108318971>
- Jetten, J., Wang, Z., Steffens, N. K., Mols, F., Peters, K., & Verkuyten, M.** (2017). A social identity analysis of responses to economic inequality. *Current Opinion in Psychology*, 18, 1–5. DOI: <https://doi.org/10.1016/j.copsy.2017.05.011>
- Jonason, P. K., & McCain, J.** (2012). Using the HEXACO model to test the validity of the Dirty Dozen measure of the Dark Triad. *Personality and Individual Differences*, 53(7), 935–938. DOI: <https://doi.org/10.1016/j.paid.2012.07.010>
- Jonason, P. K., & Webster, G. D.** (2010). The dirty dozen: A concise measure of the dark triad. *Psychological Assessment*, 22(2), 420–432. DOI: <https://doi.org/10.1037/a0019265>
- Jones, D. N., & Neria, A. L.** (2015). The Dark Triad and dispositional aggression. *Personality and Individual Differences*, 86, 360–364. DOI: <https://doi.org/10.1016/j.paid.2015.06.021>
- Jones, D. N., & Paulhus, D. L.** (2009). Machiavellianism. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 93–108). New York City, New York: The Guilford Press.
- Jones, D. N., & Paulhus, D. L.** (2013). Introducing the Short Dark Triad (SD3). *Assessment*, 21(1), 28–41. DOI: <https://doi.org/10.1177/1073191113514105>
- Jorgensen, T. D., Pornprasertmanit, S., Schoemann, A. M., & Rosseel, Y.** (2018). *semTools: Useful tools for structural equation modeling*. (Version 0.5-2) [R package]. Retrieved from <https://CRAN.R-project.org/package=semTools>
- Jost, J. T., Becker, J., Osborne, D., & Badaan, V.** (2017). Missing in (collective) action: Ideology, system justification, and the motivational antecedents of two types of protest behavior. *Current Directions in Psychological Science*, 26(2), 99–108. DOI: <https://doi.org/10.1177/0963721417690633>
- Kruglanski, A. W., Bélanger, J. J., & Gunaratna, R.** (2019). The three pillars of radicalisation: Needs, narratives, and networks. USA: Oxford University Press. DOI: <https://doi.org/10.1093/oso/9780190851125.001.0001>
- Kruglanski, A. W., Gelfand, M. J., Bélanger, J. J., Sheveland, A., Hetiarachchi, M., & Gunaratna, R.** (2014). The psychology of radicalization and deradicalization: How significance quest impacts violent extremism. *Political Psychology*, 35, 69–93. DOI: <https://doi.org/10.1111/pops.12163>
- Kruglanski, A., Jasko, K., Webber, D., Chernikova, M., & Molinario, E.** (2018). The making of violent extremists. *Review of General Psychology*, 22(1), 107–120. DOI: <https://doi.org/10.1037/gpr0000144>
- Lutz, B. J., & Lutz, J. M.** (2017). *Globalisation and the Economic Consequences of Terrorism*. DOI: <https://doi.org/10.1057/978-1-137-50394-7>
- McCauley, C., & Moskalenko, S.** (2008). Mechanisms of political radicalisation: Pathways toward terrorism. *Terrorism & Political Violence*, 20, 415–433. DOI: <https://doi.org/10.1080/09546550802073367>
- McCauley, C., & Moskalenko, S.** (2017). Understanding political radicalisation: The two-pyramids model. *American Psychologist*, 72(3), 205–216. DOI: <https://doi.org/10.1037/amp0000062>
- McGregor, I., Hayes, J., & Prentice, M.** (2015). Motivation for aggressive religious radicalisation: Goal regulation theory and a personality × threat × affordance hypothesis. *Frontiers in Psychology*, 6. DOI: <https://doi.org/10.3389/fpsyg.2015.01325>
- Moghaddam, F.** (2005). The staircase to terrorism: A psychological exploration. *American Psychologist*, 60, 161–169. DOI: <https://doi.org/10.1037/0003-066X.60.2.161>
- Neumann, P. R.** (2013). The trouble with radicalisation. *International Affairs*, 89(4), 873–893. DOI: <https://doi.org/10.1111/1468-2346.12049>
- Nussio, E., Bove, V., & Steele, B.** (2019). The consequences of terrorism on migration attitudes across Europe. *Political Geography*, 75, 102047. DOI: <https://doi.org/10.1016/j.polgeo.2019.102047>
- Obaidi, M., Bergh, R., Sidanius, J., & Thomsen, L.** (2017). The mistreatment of my people: Victimisation by proxy and behavioral intentions to commit violence among Muslims in Denmark. *Political Psychology*, 39(3), 577–593. DOI: <https://doi.org/10.1111/pops.12435>
- Oosterveld, W. T., Bloem, W., Farnham, N., Kayaoğlu, B., & Sweijts, T.** (2017). *The rise and fall of ISIS: From inevitability to inevitability*. The Hague Centre for Strategic Studies. Retrieved from <https://hcss.nl/sites/default/files/files/reports/The%20Rise%20and%20Fall%20of%20ISIS.pdf>
- Paulhus, D. L.** (2014). Toward a taxonomy of dark personalities. *Current Directions in Psychological Science*, 23(6), 421–426. DOI: <https://doi.org/10.1177/0963721414547737>
- Paulhus, D. L., & Williams, K. M.** (2002). The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, 36(6), 556–563. DOI: [https://doi.org/10.1016/S0092-6566\(02\)00505-6](https://doi.org/10.1016/S0092-6566(02)00505-6)
- Pavlović, T., & Franc, R.** (2020, July 14–16). *Do dark personality, uncertainty, and group relative*

deprivation predict the same kind of political violence? [PowerPoint presentation]. 2020 ISPP Annual Conference, online. Retrieved from https://www.bib.irb.hr/1072029/download/1072029.3_Session_020_Pavlovi.pptx

- Pavlović, T., & Wertag, A.** (2021). Proviolence as a mediator in the relationship between the dark personality traits and support for extremism. *Personality and Individual Differences, 168*, 110374. DOI: <https://doi.org/10.1016/j.paid.2020.110374>
- Piazza, J. A.** (2018). Democratic skepticism and support for terrorism in the Palestinian Territories. *Public Choice, 178*(3–4), 417–443. DOI: <https://doi.org/10.1007/s11127-018-0596-3>
- Pilch, I., & Górnik-Durose, M. E.** (2016). Do we need “dark” traits to explain materialism? The incremental validity of the Dark Triad over the HEXACO domains in predicting materialistic orientation. *Personality and Individual Differences, 102*, 102–106. DOI: <https://doi.org/10.1016/j.paid.2016.06.047>
- Raine, A., Dodge, K., Loeber, R., Gatzke-Kopp, L., Lynam, D., Reynolds, C., ... Liu, J.** (2006). The reactive–proactive aggression questionnaire: Differential correlates of reactive and proactive aggression in adolescent boys. *Aggressive Behavior, 32*(2), 159–171. DOI: <https://doi.org/10.1002/ab.20115>
- Rauthmann, J. F., & Will, T.** (2011). Proposing a multidimensional machiavellianism conceptualization. *Social Behavior and Personality: An International Journal, 39*(3), 391–403. DOI: <https://doi.org/10.2224/sbp.2011.39.3.391>
- Revelle, W.** (2018). Psych: Procedures for personality and psychological research. Evanston, Illinois, USA: Northwestern University. Retrieved from <https://CRAN.R-project.org/package=psych>
- Rink, A., & Sharma, K.** (2016). The Determinants of Religious Radicalisation. *Journal of Conflict Resolution, 62*(6), 1229–1261. DOI: <https://doi.org/10.1177/0022002716678986>
- Rosseel, Y.** (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*(2), 1–36. Retrieved from: <http://www.jstatsoft.org/v48/i02/>. DOI: <https://doi.org/10.18637/jss.v048.i02>
- Sageman, M.** (2004). *Understanding terror networks*. DOI: <https://doi.org/10.9783/9780812206791>
- Sakthivel, V.** (2017). *Political Islamism in post-conflict Algeria*. Retrieved from <https://www.hudson.org/research/13934-political-islam-in-post-conflict-algeria>
- Salas-Eljatib, C., Fuentes-Ramirez, A., Gregoire, T. G., Altamirano, A., & Yaitul, V.** (2018). A study on the effects of unbalanced data when fitting logistic regression models in ecology. *Ecological Indicators, 85*, 502–508. DOI: <https://doi.org/10.1016/j.ecolind.2017.10.030>
- Sandler, T., & Enders, W.** (2008). Economic consequences of terrorism in developed and developing countries: An overview. In P. Keefer & N. Loayza (Eds.), *Terrorism, Economic Development, and Political Openness* (pp. 17–47). Cambridge. DOI: <https://doi.org/10.1017/CBO9780511754388.002>
- Shafiq, M., & Sinno, A. H.** (2010). Education, income, and support for suicide bombings: Evidence from six Muslim countries. *Journal of Conflict Resolution, 54*(1), 146–178. DOI: <https://doi.org/10.1177/0022002709351411>
- Sheldon, K. M., Cheng, C., & Hilpert, J.** (2011). Understanding well-being and optimal functioning: Applying the Multilevel Personality in Context (MPIC) Model. *Psychological Inquiry, 22*(1), 1–16. DOI: <https://doi.org/10.1080/1047840X.2011.532477>
- Silke, A.** (2010). *The psychology of counter-terrorism*. Oxfordshire: Routledge. DOI: <https://doi.org/10.4324/9780203840269>
- Stewart, F.** (2005). Horizontal inequalities: A neglected dimension of development. *Wider Perspectives on Global Development* (pp. 101–135). DOI: https://doi.org/10.1057/9780230501850_5
- Storm, I., Pavlović, T., & Franc, R.** (2020). *Report on the relationship between inequality and youth radicalisation from existing European survey datasets*. Retrieved from <http://www.dare-h2020.org/uploads/1/2/1/7/12176018/d4.3.pdf>
- Taneja, K.** (2018). *The fall of ISIS and its implications for South Asia*. Observer Research Foundation. Retrieved from: https://orfonline.org/wp-content/uploads/2018/01/ORF_Issue_Brief_220_ISI_all.pdf
- Taylor, M., & Horgan, J.** (2001). The psychological and behavioural bases of Islamic fundamentalism. *Terrorism and Political Violence, 13*(4), 37–71. DOI: <https://doi.org/10.1080/09546550109609699>
- Thomas, E. F., Mavor, K. I., & McGarty, C.** (2011). Social identities facilitate and encapsulate action-relevant constructs. *Group Processes & Intergroup Relations, 15*(1), 75–88. DOI: <https://doi.org/10.1177/1368430211413619>
- Torgo, L.** (2010). *Data Mining with R, learning with case studies Chapman and Hall/CRC*. Retrieved from <http://www.dcc.fc.up.pt/~ltorgo/DataMining-WithR>. DOI: <https://doi.org/10.1201/b10328>
- Van Stekelenburg, J.** (2017). Radicalisation and violent emotions. *PS: Political Science & Politics, 50*(04), 936–939. DOI: <https://doi.org/10.1017/S1049096517001020>
- Van Zomeren, M.** (2013). Four core social-psychological motivations to undertake collective action. *Social and Personality Psychology Compass, 7*(6), 378–388. DOI: <https://doi.org/10.1111/spc3.12031>
- Van Zomeren, M., Postmes, T., & Spears, R.** (2008). Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin, 134*(4), 504–535. DOI: <https://doi.org/10.1037/0033-2909.134.4.504>
- Vernon, P. A., Villani, V. C., Vickers, L. C., & Harris, J. A.** (2008). A behavioral genetic investigation

- of the Dark Triad and the Big 5. *Personality and Individual Differences*, 44(2), 445–452. DOI: <https://doi.org/10.1016/j.paid.2007.09.007>
- Webster, M. M., & Ward, A. J. W.** (2010). Personality and social context. *Biological Reviews*, 86(4), 759–773. DOI: <https://doi.org/10.1111/j.1469-185X.2010.00169.x>
- Wickham, H.** (2016). *ggplot2: Elegant Graphics for Data Analysis*. New York: Springer-Verlag. DOI: <https://doi.org/10.1007/978-3-319-24277-4>
- Wickham, H., & Miller, E.** (2019). *Haven: Import and export 'SPSS', 'Stata' and 'SAS' Files*. (Version 2.1.1) [R package]. Retrieved from <https://CRAN.R-project.org/package=haven>
- Wiktorowicz, Q.** (2005). *Radical Islam rising: Muslim extremism in the West*. Oxford: Rowman & Littlefield.
- Xie, Y.** (2020a). *xfun: Miscellaneous functions by 'Yihui Xie'*. (Version 0.17) [R package]. Retrieved from <https://CRAN.R-project.org/package=xfun>
- Xie, Y.** (2020b). *mime: Map filenames to MIME Types*. (Version 0.9) [R package]. Retrieved from <https://CRAN.R-project.org/package=mime>
- Zayas, V., Shoda, Y., & Ayduk, O. N.** (2002). Personality in context: An interpersonal systems perspective. *Journal of Personality*, 70(6), 851–900. DOI: <https://doi.org/10.1111/1467-6494.05026>

How to cite this article: Pavlović, T., & Storm, I. (2020). Machiavellianism, Islamism, and Deprivations as Predictors of Support for Daesh Among Muslims. *International Review of Social Psychology*, 33(1): 14, 1–15. DOI: <https://doi.org/10.5334/irsp.439>

Submitted: 28 April 2020

Accepted: 10 November 2020

Published: 02 December 2020

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