

Dynamics of Asymmetric Conflict

Pathways toward terrorism and genocide

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/rdac20>

On the brink: identifying psychological indicators of societal destabilization in Donetsk, Luhansk and Crimea

Aiden Hoyle, Helma van den Berg, Bertjan Doosje & Martijn Kitzen

To cite this article: Aiden Hoyle, Helma van den Berg, Bertjan Doosje & Martijn Kitzen (2021): On the brink: identifying psychological indicators of societal destabilization in Donetsk, Luhansk and Crimea, Dynamics of Asymmetric Conflict, DOI: [10.1080/17467586.2021.1895262](https://doi.org/10.1080/17467586.2021.1895262)

To link to this article: <https://doi.org/10.1080/17467586.2021.1895262>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



[View supplementary material](#)



Published online: 16 Mar 2021.



[Submit your article to this journal](#)



Article views: 336



[View related articles](#)



[View Crossmark data](#)

On the brink: identifying psychological indicators of societal destabilization in Donetsk, Luhansk and Crimea

Aiden Hoyle^{a,b,c}, Helma van den Berg^b, Bertjan Doosje^a and Martijn Kitzen^c

^aDepartment of Psychology, University of Amsterdam, Amsterdam, The Netherlands; ^bDefense, Safety & Security, TNO (Netherlands Organization for Applied Scientific Research), Soesterberg, The Netherlands;

^cFaculty of Military Sciences, Netherlands Defense Academy, Breda, The Netherlands

ABSTRACT

Contemporary hostile actors are increasingly attempting to destabilize targeted states' civilian domains via malign influence activities. With this civilian focus, societal destabilization is at least partly psychological. However, empirical evidence of a psychological dimension to societal destabilization is lacking. We assess the potential of five pertinent psychological factors to indicate societal destabilization using data captured about citizens living in the Ukrainian regions of Donetsk, Luhansk, and Crimea, prior to the outbreak of conflict in 2014. Analysts state that Russian influence activities contributed to societal destabilization in these regions. Using preregistered analyses, we contrast the self-reported levels of our selected psychological factors in these citizens against the self-reported levels of citizens from contextually and culturally similar societies. We confirmed that levels of political and social trust were significantly lower, and the perception of economic instability was significantly higher in citizens of Donetsk, Luhansk, and Crimea. Although observational, the results point to the relevance of these psychological factors for understanding societal destabilization provoked by influence activities.

ARTICLE HISTORY

Received 17 September 2020


Accepted 7 February 2021

KEYWORDS

Societal destabilization; psychology; influence activities; hybrid warfare; grey zone; Ukraine

A mark of the rising complexity in the contemporary security environment, state and non-state actors are frequently engaging in the coordinated use of a range of multi-dimensional activities in an effort to harm targeted states (Mattsson, 2017). The adoption of such an approach is advantageous for actors as it allows them to impair societal functioning while remaining inconspicuous, below thresholds of formalized geopolitical response, and able to plausibly deny their actions (Renz, 2016). Amidst the discord these activities can elicit, a targeted society's ability to coordinate defense is crippled and its resistance to an adversary's pursuit of political or strategic goals is weakened (Fabian, 2015). The opting for such subversive activities creates an amorphous security landscape – commonly termed the “grey zone” – where the boundaries of war and peace are blurred and battlefields are not cleanly delineated (Almäng, 2019). The rising tactical predilection for grey zone influence activities has become a pillar of modern conceptualizations of

CONTACT Aiden Hoyle  a.hoyle@uva.nl

 Supplemental data for this article can be accessed [here](#).

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

warfare, such as the burgeoning concept of “hybrid warfare” (Reichborn-Kjennerud & Cullen, 2016, p. 2).

Societal destabilization, despite lacking a formal definition, is a term often used to capture the deterioration in societal functioning as a result of such activities. With a myriad of possible actions, spanning political, military, socio-economic, and informational instruments of power, the symptoms of destabilization can be far-reaching, multifaceted, and felt in many areas of society. Political and institutional tension exerted by coercive diplomacy, belligerent military exercises, or coordinated economic pressure can undermine and frustrate state-level decision-making (Reichborn-Kjennerud & Cullen, 2016; Wither, 2016). Cyber-attacks can be used to destabilize and obstruct a society’s critical infrastructure or execute digital espionage operations (Fiott & Parkes, 2019). Rising polarization, intergroup tensions, and sentiments of frustration have also been assimilated under the heading of societal destabilization (Pindják, 2014). Malign information influence operations and the co-option of civic or religious organizations can be considered examples of activities that can be wielded to access and cause this disruption to the state at the civilian level (Bērziņš, 2014; Chivvis, 2017).

With several of these destabilization activities directly or indirectly affecting the civilian domain, the societal destabilization process is, at least to some extent, psychological (Reichborn-Kjennerud & Cullen, 2016). Ostensibly involving the gradual shaping of attitudes, negative emotions, and feelings of trust in citizens (Wither, 2016), the use of information operations, for example, can contribute to “priming” a volatile psychological landscape where conflict either begins naturally or is prompted by kinetic escalation (Johnson, 2021). However, presumptions regarding the psychological dimension to societal destabilization lack academic attention or grounding in data, and the specific psychological mechanisms underlying these processes are not clear (Bērziņa, 2018; Wallenius & Nilsson, 2019). Consequently, discussions of a psychological dimension to societal destabilization lack empirical foundations, despite being commonly assumed. Empirical examinations of the psychological factors underlying societal destabilization could confer important insights such as contributions to early warning systems or interventions for vulnerable societies (Rietjens, 2020). For example, evidence that a lack of trust in informational sources is instrumental to societal destabilization would provide the impetus to build interventions that monitor and strengthen this in susceptible societies.

Psychology has defined an array of psychological factors that could underly societal destabilization. Drawing inspiration from psychological factors associated with societal discord that has not been attributed to malign interference, we examine five distinct psychological factors. The first is *political trust*, defined as feelings of trust in governmental structures (Newton, Stolle, & Zmerli, 2017). With influence activities typically amplifying narratives of governmental incompetence and illegitimacy (Bechev, 2019; Bērziņa, 2018), low political trust should be a fundamental indicator of societal destabilization (Levi & Stoker, 2000). Low political trust is thought to be directly related to how likely someone is to support political protest and violence to achieve political and social changes (Doosje et al., 2016). Secondly, the stoking of tensions between communities, a frequent theme in destabilization activities, suggests a reduction in *social trust* – the belief that others can be trusted – would contribute to societal destabilization. Social trust is a well-established concept in intergroup conflict, and a lack of trust between social groups is considered fundamental to the deepening of intergroup cleavages and declining societal cohesion

(Jasinski, 2011). The widespread use of information operations that seek to ‘muddy’ the information environment of a targeted society would suggest low *informational trust* – the trust citizens have in (national) informational sources – as a third indicator (Pomerantsev & Weiss, 2014). Information operations that remotely disturb foreign audiences are linked to a reduced trust of public information sources and higher feelings of informational disempowerment (Dahlgren, 2018), sentiments which have independently been linked to previous examples of societal discord (Calero Valdez, Kluge, & Ziefle, 2018).

Additionally, narratives that heighten the saliency of latent grievances or mistreatment by political institutions are common in destabilization campaigns (Pakhomenko, Tryma, & J'moul, 2018). With the perception of discrimination by an authority or power firmly connected to collective action (Verkuyten, 2017), we suggest that greater *perceptions of discrimination* may signal societal destabilization, making it the fourth factor in our study. Similarly, the relationship between feelings of (socio-) economic threat and protest has been well established and perceptions of relative economic deprivation are seen as a fundamental component of societal unrest (Kurer, Häusermann, Wüest, & Enggist, 2019). We, therefore, propose greater *perceptions of economic instability* as a final indicator of societal destabilization, a symptom of the precariousness that broad economic tactics can induce (Peksen, 2011).

The Ukrainian regions of Donetsk, Luhansk, and Crimea are three regions that are frequently associated with societal destabilization. The territorial annexation of Crimea and the ongoing Russian-backed separatist conflict in Donetsk and Luhansk are instances of societal discord that many suggest were preceded by destabilization campaigns orchestrated by the Russian government to “prime” the regions for later escalation (Jaitner, 2015; Kofman et al., 2017). Analysis revealed signs of influence activities in Crimea and eastern Ukraine well before the crisis began (Grigas, 2016). For example, Russian-affiliated television, social media platforms, and civic institutions in Ukraine were flagged for their suspected influencing of the regions’ large Russian diasporas as far back as 2008 (Bogomolov & Lytvynenko, 2012; Maigre, 2008; Roslycky, 2011). These mediums pushed narratives that flamed issues with Ukrainian governmental policy, discredited pro-Government Ukrainian media narratives, highlighted the historical Russian identity of the regions, and deepened ethnic cleavages (Biersack & O’Lear, 2014; Khaldarova & Pantti, 2016; Lange-Ionatamishvili, 2015; O’Loughlin, Toal, & Kolosov, 2017; Pakhomenko et al., 2018). Long-term effects of Russian economic coercion has also been highlighted – with particular emphasis on the effects in eastern Ukraine, considered Ukraine’s industrial heartland (Furgacz, 2015). Collectively, these influence activities sought to exploit elements of nostalgia and identity and stimulate feelings of distrust, insecurity, and frustration in the regions’ Russian communities. Therefore, Donetsk, Luhansk, and Crimea can be considered prime examples of societies that were destabilized (Biersack & O’Lear, 2014; Jaitner, 2015), and their citizens are fitting cases to observe the psychological dimension of societal destabilization.

In this study, we use self-report data of citizens from Donetsk, Luhansk, and Crimea, collected six months prior to the “official” outbreak of conflict in the regions, to empirically assess the potential for the aforementioned psychological factors to indicate societal destabilization. In striving for this empirical evidence, we aim to provide a crucial beginning to understanding the link between destabilizing influence activities and their psychological effects; this analysis could highlight factors whose relationship with such

influence activities warrants closer examination. We use data from the European Social Survey (ESS), which captures the experiences of citizens living in European countries (European Social Survey, 2012). In using this cross-national, comparative social survey data, we echo the methodologies of the small amount of quantitative research into the effects of Russian influence activities (Bērziņa, 2018).

Because longitudinal data were unavailable, we adopt an innovative, quasi-experimental, group-comparison approach. To do so, we form two “comparison groups” of citizens. The first group was comprised of citizens from the Ukrainian regions of Kharkiv, Odessa, Dnipropetrovsk, and Zaporizhia, and the second, of citizens from the Ida-Viru county in northeast Estonia (see Figures 1 and 2 for the geographic locations of groups). These regions were selected for their high contextual similarity to Donetsk, Luhansk, and Crimea. The regions are all, similarly Donetsk, Luhansk, and Crimea, geographically close to Russia and share similar proportions of Russian diaspora¹ and historical and cultural legacies (Gunn, 2014). They also, like Donetsk, Luhansk, and Crimea, have been marked by relative economic hardship and heightened societal tensions, and their Russian communities are noted to have similar longstanding grievances with the Ukrainian and Estonian governments, respectively (Buckholz, 2017; Yapici, 2017). Analysts had previously highlighted these regions for their potential for mobilization by Russia (Calha, 2015; Smith & Wilson, 1997).

Yet aside from some smaller, initial protests in the Odessa and Dnipropetrovsk at the beginning of the 2014 crisis, these comparison regions have remained conflict-free and have yet to see the substantial societal destabilization that Donetsk, Luhansk, and Crimea



Figure 1. Map showing the relevant oblasts from south-east Ukraine (DMaps, 2020b).

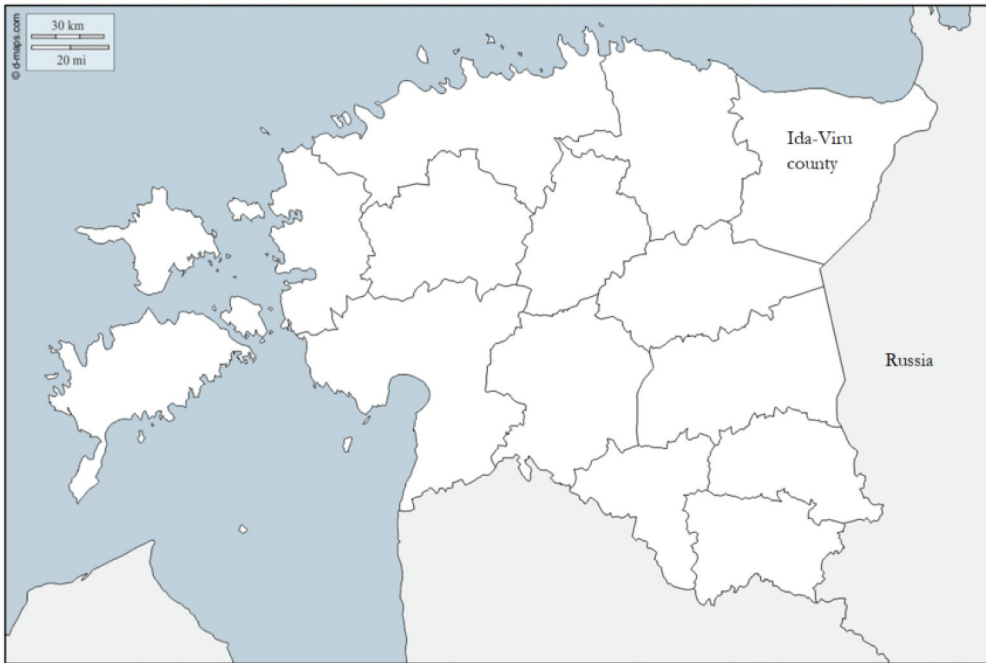


Figure 2. Map showing the Ida-Viru county in Estonia (DMaps, 2020a).

have witnessed (Buckholz, 2017; Calha, 2015; Stebelsky, 2018). These comparison groups, therefore, confer citizens with broadly comparable backgrounds and experiences but an ostensible absence of clear societal destabilization.² In contrasting citizens in these two comparison groups to citizens from Donetsk, Luhansk, and Crimea, psychological factors that might indicate societal destabilization should be quantitatively distinguishable.

In performing these pre-registered comparisons, we aim to test two hypotheses. Firstly, we predict that average self-reported levels of political trust, social trust, and informational trust were significantly lower, and levels of perceived discrimination and economic instability were significantly higher in the Donetsk, Luhansk, and Crimea citizens than in Kharkiv, Odessa, Dnipropetrovsk, and Zaporizhia citizens (H1). Similarly, we predict that the average self-reported levels of political trust, social trust, and informational trust were significantly lower, and levels of perceived discrimination and economic instability were significantly higher in the Donetsk, Luhansk, and Crimea citizens than in the Ida-Viru county citizens (H2).

Methods

Sample

To test these hypotheses, we used a quantitative design based on data from the sixth wave of the European Social Survey (ESS, www.europeansocialsurvey.org). This wave of research was carried out in the summer of 2013, approximately six months before the

initial outbursts of conflict.³ The ESS provides cross-national data on attitudes, beliefs, and behavior of European citizens over the age of 15 by conducting biannual interviews.

Citizens from the selected regions were drawn from the Ukrainian and Estonian subsets of data. For our first group, we selected citizens from the Ukrainian regions of “Donetska”, “Luganska”, and “Crimea, Autonomy Republic” and for the second group, from “Kharkivska”, “Odessa”, “Dnipropetrovszka”, and “Zaporizhiszka”. Lastly, we selected citizens from the “Kirde-Eesti” region of the Estonian data for our Ida-Viru group. This formed a sample of 1,254 citizens, with 465 citizens in the Donetsk, Luhansk, and Crimea group, 479 in the Kharkiv, Odessa, Dnipropetrovsk, and Zaporizhia group, and 319 citizens in the Ida-Viru group. Because large differences in sample sizes can be problematic in equivalence testing (Rusticus & Lovato, 2014), we randomly sampled 300 citizens from each group, giving us a final sample of 900 citizens in total.⁴ 63.1% were females and 36.9% were males, and the mean age was 49 years. More demographic details can be found in Table S1 in the supplemental materials.

Measures

Political, social and informational trust

The scales for political trust and social trust were created based on item selection from previous research into the two factors using the same dataset (Doosje, Van Der Veen, & Klaver, 2018). The scale for informational trust was created by selecting items that were conceptually relevant to citizens’ attitudes towards public information sources available to them. Full details of the items can be found in Table S2 in the supplementary materials.

For political trust scale, 0 indicated “No trust at all” and 10 indicated “Completely trust” across the five items. This scale had a Cronbach’s alpha across groups of .90, indicating high internal consistency. For social trust, 0 indicated either “You can’t be too careful”, “Most people try to take advantage of me” or “People mostly look out for themselves”. 10 indicated “Most people can be trusted”, “Most people try to be fair”, or “People mostly try to be helpful” across the three social trust items. This scale had a Cronbach’s alpha of .82, indicating high internal consistency. For informational trust, 0 indicated ‘Does not apply at

all in [country] and 10 indicated “Applies completely in [country]” across all three informational trust items. This scale had a Cronbach’s alpha of .67 indicating an acceptable level of internal consistency.

Options “Don’t know”, “Refusal” or “No answer” were also available for all items, and these responses were omitted from the data. 14 responses were omitted for political trust, 3 responses for social trust, and 16 for informational trust.

Perceived discrimination

A perception of discrimination was measured using one question: “Would you describe yourself as being a member of a group that is discriminated against in this country?” This was a dichotomous, yes or no question. A “Don’t know” option was also available, and those responses were omitted. 23 responses were omitted.

Perceived economic instability

A perception of economic instability was measured using one question: “Which of the descriptions on this card comes closest to how you feel about your household’s income nowadays?” This was an ordinal variable, with the options being 1 (“Living comfortably on present income”), 2 (“Coping with present income”), 3 (“Difficult on present income”), or 4 (“Very difficult on present income”). Options “Don’t know”, “Refusal” or “No answer” were also available and responses were again omitted from the data; 10 responses were omitted.

Analysis and results

Using pre-registered analyses,⁵ the three groups of citizens (1: the Donetsk, Luhansk, and Crimea citizens; 2: the Kharkiv, Odessa, Dnipropetrovsk, and Zaporizhia citizens; and 3: the Ida-Viru county citizens) were compared with respect to omnibus differences using a one-way MANOVA for political trust, social trust, informational trust, and perceived economic instability. A chi-square test of independence was used to ascertain omnibus differences between the groups on perceived discrimination. The one-way MANOVA indicated significant differences across the three groups on levels of political trust, social trust, informational trust, and perceived economic instability, Pillai’s trace = 0.19, $F(8, 1710) = 22.41$, $p < .001$, Cohen’s $d = 0.10$. The omnibus chi-square test of independence also indicated a significant difference in perceived discrimination across the three groups, $\chi^2(2, N = 877) = 91.12$, $p = <.001$, Cramer’s $V = 0.32$.

To follow-up, we ran planned contrasts and cell comparisons to establish specific differences between the groups according to our pre-registered hypotheses. As these follow-up tests involved multiple testing, we used a Bonferroni-corrected p-value of .005 (correcting for the 10 comparisons used for all posthoc tests).⁶

The planned contrasts to test our first hypothesis (H1) indicated, as predicted, significantly lower levels of political trust ($t(571) = 3.33$, $p = .001$) and social trust ($t(571) = 3.59$, $p = <.001$) in the Donetsk, Luhansk, and Crimea group than the Kharkiv, Odessa, Dnipropetrovsk, and Zaporizhia group. In contrast to our hypotheses, informational trust ($t(571) = 2.38$, $p = .02$), and perceived economic instability ($t(571) = 3.33$, $p = .02$) did not significantly differ between groups. The full details of these means and contrasts are displayed in [Figure 3](#) and [Table 1](#). A cell comparison indicated that perception of discrimination did not significantly differ between the Donetsk, Luhansk, and Crimea group and the Kharkiv, Odessa, Dnipropetrovsk, and Zaporizhia groups ($z = -0.30$, $p = .38$, one-tailed). Cell counts are displayed in [Table 2](#). With these results, our first hypothesis has mixed support.

In line with our second hypothesis (H2), planned contrasts indicated significantly lower levels of political trust ($t(574) = 11.09$, $p = <.001$) and social trust ($t(574) = 4.42$, $p = <.001$), and significantly higher levels of perceived economic instability ($t(574) = -5.00$, $p = <.001$) in the Donetsk, Luhansk, and Crimea group than the Ida-Viru county group. However, in contrast to hypothesis 2, the tests also showed that informational trust did not significantly differ between the Donetsk, Luhansk, and Crimea group and the Ida-Viru group ($t(574) = 1.87$, $p = .06$). The full overview of these contrasts is also displayed in [Figure 3](#) and [Table 1](#). A cell comparison indicated that perception of discrimination was significantly higher in the Ida-Viru county group than the Donetsk, Luhansk, and Crimea group ($z = -7.42$, $p < .001$, one-tailed), a pattern that does not support hypothesis 2. Cell counts are displayed in [Table 1](#). With these results, our second hypothesis has mixed support.

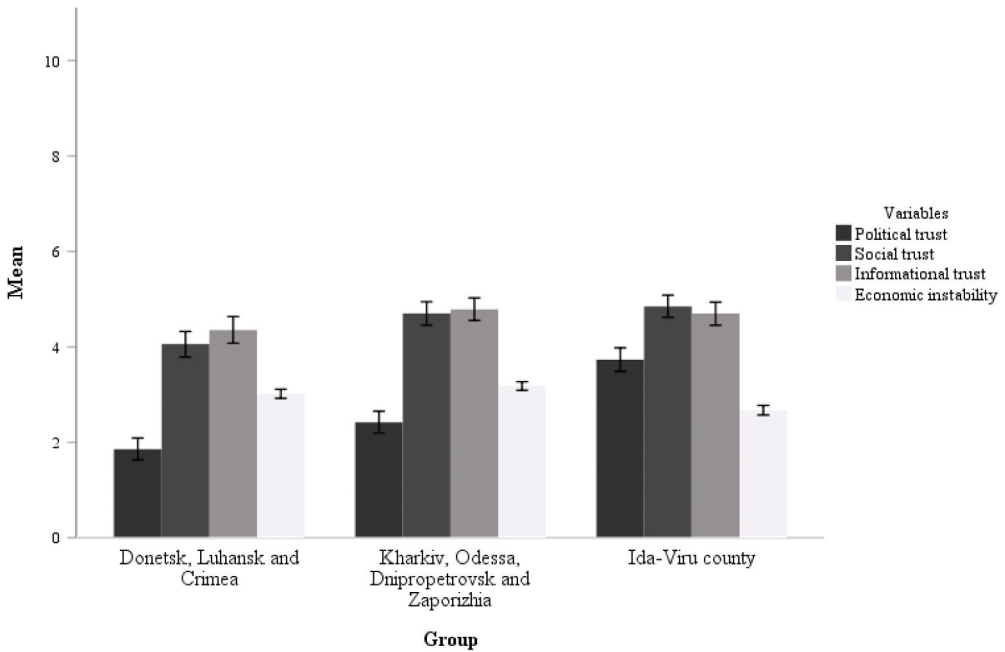


Figure 3. Means and standard deviations of political trust, social trust, informational trust and perceived economic instability across the three groups.

Table 1. Planned comparisons of the three groups on political trust, social trust, informational trust, and perceived economic instability.

| Dependent variable | Donetsk, Luhansk and Crimea vs. Kharkiv, Odessa, Dnipropetrovsk and Zaporizhia | | | | Donetsk, Luhansk and Crimea vs. Ida-Viru county | | | |
|--------------------------------|--|----------|-------------|-------------|---|----------|-------------|-------------|
| | <i>p</i> | <i>d</i> | 95% conf. | | <i>p</i> | <i>d</i> | 95% conf. | |
| | | | Lower bound | Upper bound | | | Lower bound | Upper bound |
| Political trust | .001* | 0.29 | 0.23 | 0.90 | < .001* | 0.91 | 1.15 | 2.21 |
| Social trust | < .001* | 0.29 | 0.29 | 0.99 | < .001* | 0.38 | 0.44 | 1.14 |
| Informational trust | .02 | 0.20 | 0.07 | 0.79 | .06 | 0.15 | -0.02 | 0.70 |
| Perceived economic instability | .02 | 0.20 | 0.03 | 0.30 | < .001* | 0.41 | -0.48 | -0.21 |

*significant using Bonferroni correction $p < .005$

Table 2. Cell counts and comparisons of the three groups on perceived discrimination.

| | Donetsk, Luhansk and Crimea | Kharkiv, Odessa, Dnipropetrovsk and Zaporizhia | Ida-Viru county | Total |
|-------|-----------------------------|--|-----------------|-------|
| Count | 12 ^a | 13 ^a | 76 ^b | 101 |
| Total | 292 | 291 | 294 | 877 |

Subscript denotes groups did not significantly differ at the Bonferroni correction $p < .005$.

Discussion and conclusions

This study aimed to provide empirical evidence of psychological factors that might indicate societal destabilization. Drawing from previous research, we selected five psychological factors we thought would be relevant to discord provoked by malign interference: political trust, social trust, informational trust, and perceptions of discrimination and economic instability. We analyzed data captured regarding citizens from the Ukrainian regions of Donetsk, Luhansk, and Crimea six months before the significant conflict began. We contrasted the self-reported levels of the selected psychological factors in these citizens against citizens from two comparison groups: Kharkiv, Odessa, Dnipropetrovsk, and Zaporizhia regions in Ukraine, and citizens from the Ida-Viru county in Estonia. These regions were chosen for their ostensible lack of societal destabilization, yet highly comparable backgrounds and mobilization potential. As predicted, citizens in Donetsk, Luhansk, and Crimea were significantly lower in political and social trust than citizens from the two comparison groups. We also found that perceptions of economic instability were significantly higher in the Donetsk, Luhansk, and Crimea citizens than in Ida-Viru county citizens. Informational trust, however, was not significantly lower in the Donetsk, Luhansk, and Crimean citizens when compared to the comparison groups. Similarly, perceived discrimination was not significantly higher in the Donetsk, Luhansk, and Crimea citizens than in citizens from the comparison groups.

In confirming these hypotheses, these results would suggest that these three psychological factors – political trust, social trust, and perceived economic instability – might act as important indicators of societal destabilization. These findings portray citizens in Donetsk, Luhansk, and Crimea as considerably lower in their trust of the national government and fellow Ukrainian citizens than citizens from contextually comparable regions, during the lead up to the unrest of 2014. They also reveal citizens in Donetsk, Luhansk, and Crimea perceived themselves in a relatively more economically precarious position, although only compared to citizens from Ida-Viru county. We argue that these factors played a contributory role, in varying degrees, in increasing the propensity for conflict in the Donetsk, Luhansk, and Crimea regions, the presented values representing civilian domains that were on the brink of the disarray that was later provoked by Russian escalatory activity. Broadly speaking, then, these values might constitute measurements of the susceptibility for hybrid escalation, whereby the negative trust values and economic outlooks bolster (but, crucially, do not cause) the prospect of conflict in the civilian domain. We can situate this notion within the context of prominent models of Russian hybrid strategy, whereby a “priming phase”, in which target societies are almost “readied” for later escalation, precedes more conventional (military) means which act as “final toppling actions” in a hybrid adversary’s pursuit of their strategic goal (Bērziņš, 2014, p. 6; Chekinov & Bogdanov, 2013, pp. 16–23; Johnson, 2021, p. 4).

It is important to restate that in obtaining these significant results, we have only observed statistically significant differences in these factors in societies that analysts suggest were destabilized by influence activities and we cannot make firm statements about their causality. These results do, however, provide crucial pointers for factors that warrant closer examination in future research. Specifically, there are clear angles for researchers to engage in experimental or even laboratory research to investigate and buttress this link between influence activities, such as malign information influence

operations, and their effects on our identified psychological factors. Further research would also benefit from longitudinal data on these psychological factors. When examining societal destabilization, which denotes the gradual polarization of societies by long-term destabilization campaigns, a temporal perspective would offer great insight. Furthermore, these psychological factors likely interact: citizens' trust in the government, for example, has been shown to be strongly impacted by their trust in other citizens in their society (Tao, Yang, Li, & Lu, 2014). With psychology increasingly turning to complex, network perspectives to capture interactions and their contributions to psychological phenomena (Schmittmann et al., 2013), this perspective could offer valuable insight into the mechanisms underlying societal destabilization.

Perceptions of discrimination appeared less relevant to indicating societal destabilization. Few citizens in both Ukrainian groups identified as belonging to a group that was discriminated against. However, the perception of discrimination in Ida-Viru county citizens was comparatively higher. This result is not in line with our hypotheses and appears peculiar given the analysis of Russia's portrayal of the Ukrainian government as disadvantaging Donetsk, Luhansk, and Crimea citizens in information operations (Pakhomenko et al., 2018). A potential intricacy can be identified with the item used to ascertain perceived discrimination, in that citizens might have had differing interpretations of the groups discriminated against in their country. Indeed, citizens may have not included institutional types of discrimination and instead focused on salient types, such as race or gender-based discrimination, or visible discriminatory displays, such as hate crimes which are relatively common in the country (The Equal Rights Trust, 2015). This is supported by closely inspecting the Ida-Viru county citizens' results. Of the citizens that indicated they were stateless – which is a direct effect of Estonian policymaking – only a third indicated that they perceived themselves to be discriminated against.⁷ This is counterintuitive and suggests poor construct validity of this measure. Further critiques stem from the dichotomous nature of the measure. Due to its binary configuration, we cannot observe any variance that may have allowed for nuance in the analysis. Responses on an interval scale would have opened up avenues for dissecting where this peculiar effect comes from.

Informational trust did not differ in citizens of Donetsk, Luhansk, and Crimea compared to citizens from our comparison societies. Again, this seems a peculiar result as research has demonstrated a general skepticism in citizens from these regions regarding Ukrainian news sources at that time (Stebelsky, 2018). Similarly, Russia's push to introduce alternative narratives in these regions, that competed with pro-Government media narratives, is widely recognized (Lange-Ionatamišvili, 2015). An explanation may lie in the suitability of items in the scale. Informational trust was captured as a function of how far people believe the media provides reliable information to judge the government, is free to criticize the government, and how far the government explains its decisions to voters. While these questions conceptually capture the extent that citizens trust different informational sources, when compared to items used to capture, for example, political trust, they are less well-aligned and there is room for improvement in internal consistency and construct validity. Future studies would benefit from items that directly question citizens' trust in information and media sources.

It was difficult to establish who was ethnically Russian in our sample. Confirmation of the ethnic background of our sample would have buttressed conclusions regarding these

psychological constructs as indicators of societal destabilization in the targeted Russian communities. While proxies such as native language or direct ancestry can be used to estimate this,⁸ we cannot rule out the possibility that our sample was composed of a different demographic to those who drove the separatist movements – although this is less relevant in Crimea where there is an ethnic Russian majority. Some analysts, however, do not see this as a limitation, broaching a wider debate regarding the plurality of separatist identities in these conflicts. Indeed, some have suggested that the prevailing idea of an ethnically monolithic group who motivated these conflicts portrays a severely simplified version of who was included in this societal destabilization (Bebler, 2015; Giuliano, 2018), and are shifting from an ethnicity-based explanation in favor of linguistic, class or demographic based explanations (Gentile, 2015). It has been noted that the influence activities targeted broad geopolitical attitudes that transcended ethnicity; Russian speakers were widely viewed as targeted by Russian influence activities, too (Kozachuk, 2016). With this information, critiques regarding ambiguity in the sample are rendered irrelevant as at least two-thirds of each group were native Russian speakers.

This study should be viewed as a crucial beginning step in demarcating the psychological dimension of societal destabilization provoked by influence activities. The study has provided empirical evidence of three psychological factors that can indicate rising societal destabilization: political trust, social trust, and the perception of economic instability. In discussing these results, we have provided clear directions for future research to build from this beginning step and more robustly demonstrate the links of these psychological factors have with malign influence activities. These avenues include experimental research designs, using datasets with a temporal perspective to societal destabilization and capturing the complexity between these psychological factors. In building on this research, it is hoped that we can more deeply understand this psychological perspective. It has great potential to offer fresh and effective countermeasures against malign influence activities that dominate modern perspectives of contemporary warfare.

Notes

1. The 2001 national census showed that 25% of Kharkiv, 20% of Odessa, 17% of Dnipropetrovsk, and 25% of Zaporizhia were ethnically Russian.
2. One would be remiss to not remark that there are also key differences on both state level (such as Estonia's recent membership in the Euro Zone (European Commission, 2011)) and intrastate level (such as variations in the political preferences of local elites in southeast Ukraine (Buckholz, 2017)) that may affect the chosen psychological factors or the emergence of destabilization. We hold, however, that for the purposes of this study, these regions are largely comparable.
3. ESS6 is referred to by the year 2012, but dates in the data indicate data was captured between September and October 2013 in the Estonian data and July and August 2013 for the Ukrainian data.
4. ESS provides design and post-stratification weights that allow for corrections in sampling bias. These weights are constructed so that proportions in the net sample can be adjusted so that it better represents the characteristics of the population being sampled (European Social Survey, 2014). However, because the provided weights are directly contingent on the net sample size, and we used a randomly sampled sample with consequent different demographic ratios, the weights could no longer provide the appropriate corrections and so

weighting was not implemented with the sampled data. To eliminate possible concerns regarding generalizability, the same analyses were run with the full samples and weights applied which resulted in identical results. An overview of the results with the full sample and weights applied can be found in the supplemental materials (Tables S2 and S3).

5. The pre-registration can be found at: bit.ly/preregdestab.
6. There is a lack of clarity about what constitutes multiple testing and when you can class a set of tests as a family of tests. We apply the strictest correction here, in order to be as conservative in our conclusions as possible, as per (Cabin & Mitchell, 2000).
7. Of the 58 Ida-Viru citizens who indicated that they were stateless, only 18 indicated that they would describe themselves as being a member of a group that is discriminated against in Estonia.
8. These insights can be found in the supplemental materials (Table S1).

Acknowledgments

The authors sincerely thank colleagues at TNO: Defense, Safety and Security and the University of Amsterdam for their feedback on the study design and case selection. We thank the reviewers for their insightful comments.

Disclosure statement

No potential conflict of interest was reported by any of the authors.

Funding

This work is supported by TNO and the MoD/FMW.

Notes on contributors

Aiden Hoyle is a PhD candidate at the University of Amsterdam, TNO Defense, Safety and Security, and the Netherlands Defence Academy. His research focuses on the psychological dimension of hybrid warfare, and specifically, malign information activities.

Dr. Helma van den Berg is a senior human behaviour specialist at TNO Defense, Safety and Security. Helma works on analyzing and changing behavior in the safety and security domain.

Dr. Bertjan Doosje is an associate professor of Psychology at the University of Amsterdam. He is interested in intergroup relations from a social and cultural psychological perspective.

Dr. Martijn Kitzen is an associate professor of War Studies at the Netherlands Defence Academy. Martijn focuses on irregular warfare and special operations and holds a particular interest in embedding population-centric approaches in military operations.

References

- Almäng, J. (2019). War, vagueness and hybrid war. *Defence Studies*, 19(2), 189–204.
- Bebler, A. (2015). Crimea and the Russian-Ukrainian conflict. *Romanian Journal of European Affairs*, 15 (1), 35–54. Retrieved from <https://heinonline.org/HOL/P?h=hein.journals/rojaeuf15&i=35>
- Bechev, D. (2019). *Russia's strategic interests and tools of influence in the Western Balkans*. Riga: NATO Strategic Communications Centre of Excellence. Retrieved from <https://stratcomcoe.org/russias-strategic-interests-and-tools-influence-western-balkans>

- Bērziņš, J. (2014). *Russia's new generation warfare in Ukraine: Implications for Latvian defense policy (Policy paper No. 2)*. Riga: National Defence Academy of Latvia Center for Security and Strategic Research.
- Bērziņa, I. (2018). Political trust and Russian media in Latvia. *Journal on Baltic Security*, 4(2), 1–8.
- Biersack, J., & O'Lear, S. (2014). The geopolitics of Russia's annexation of Crimea: Narratives, identity, silences, and energy. *Eurasian Geography and Economics*, 55(3), 247–269.
- Bogomolov, A., & Lytvynenko, A. B. O. (2012). *A ghost in the mirror: Russian soft power in Ukraine*. London: Chatham House. Retrieved from <https://www.chathamhouse.org/publications/papers/view/181667>
- Buckholz, Q. (2017). The dogs that didn't bark: Elite preferences and the failure of separatism in Kharkiv and Dnipropetrovsk. *Problems of Post-Communism*, 66(3), 151–160.
- Cabin, R. J., & Mitchell, R. J. (2000). To Bonferroni or not to Bonferroni: When and how are the questions. *Bulletin of the Ecological Society of America*, 81(3), 246–248.
- Calero Valdez, A., Kluge, J., & Ziefle, M. (2018). Elitism, trust, opinion leadership and politics in social protests in Germany. *Energy Research and Social Science*, 43, 132–143.
- Calha, J. M. (2015). Hybrid warfare? NATO's new strategic challenge. Report to NATO Parliamentary Assembly Defence and Security Committee, 7.
- Chekinov, S. G., & Bogdanov, S. A. (2013). The nature and content of a new-generation war. *Military Thought*, 4, 12–23.
- Chivvis, C. (2017). *Understanding Russian "hybrid warfare": And what can be done about it*. Santa Monica, CA: RAND Corporation. doi:10.7249/CT468
- Dahlgren, P. (2018). Media, knowledge and trust: The deepening epistemic crisis of democracy. *Javnost*, 25(1–2), 20–27.
- DMaps. (2020a). *Map Estonia, Eesti Vabariik - boundaries, regions*. Retrieved from https://d-maps.com/carte.php?num_car=5370&lang=en
- DMaps. (2020b). *Map Ukraine, Україна - boundaries, regions, main cities*. Retrieved from https://d-maps.com/carte.php?num_car=25308&lang=en
- Doosje, B., Moghaddam, F. M., Kruglanski, A. W., De Wolf, A., Mann, L., & Feddes, A. R. (2016). Terrorism, radicalization and de-radicalization. *Current Opinion in Psychology*, 11, 79–84.
- Doosje, B., Van Der Veen, J., & Klaver, L. (2018). Can societies experience post-traumatic growth after a terror attack? The influence of terror attacks on political, institutional, and social trust in European countries. *International Journal of Conflict and Violence*, 12, 1–19.
- European Commission. (2011). *A successful euro changeover in Estonia*. Brussels: Author. Retrieved from https://ec.europa.eu/commission/presscorner/detail/en/IP_11_41
- European Social Survey. (2012). *ESS Round 6 Source Questionnaire*. London: Center for Comparative Social Surveys.
- European Social Survey(2014). Weighting European Social Survey Data. *European Social Survey*. Retrieved from: https://www.europeansocialsurvey.org/docs/methodology/ESS_weighting_data_1.pdf
- Fabian, S. (2015). Hybrid warfare revisited. *Combating Terrorism Exchange Journal*, 5(3), 38–43. Retrieved from <https://globalecco.org/hybrid-warfare-revisited>
- Fiott, D., & Parkes, R. (2019). *Protecting Europe: The EU's response to hybrid threats*. Paris: European Union Institute for Security Studies (EUISS). doi: 10.2815/679971
- Furgacz, P. (2015). The Russian-Ukrainian economic war. *Ante Portas—Studia Nad Bezpieczenstwem*, 2, 115–130.
- Gentile, M. (2015). West oriented in the East-oriented Donbas: A political stratigraphy of geopolitical identity in Luhansk, Ukraine. *Post-Soviet Affairs*, 31(3), 201–233.
- Giuliano, E. (2018). Who supported separatism in Donbas? Ethnicity and popular opinion at the start of the Ukraine crisis. *Post-Soviet Affairs*, 34(2–3), 158–178.
- Grigas, A. (2016). *How soft power works: Russian passportization and compatriot policies paved way for Crimean annexation and war in Donbas*. Atlantic Council. Retrieved from <https://www.atlanticcouncil.org/blogs/ukrainealert/how-soft-power-works-russian-passportization-and-compatriot-policies-paved-way-for-crimean-annexation-and-war-in-donbas/>

- Gunn, J. (2014). Ethnicity and language in Ukraine. *RUSI*. 1. Retrieved from <https://rusi.org/commentary/ethnicity-and-language-ukraine>
- Jaitner, M. L. (2015). Russian information warfare: Lessons from Ukraine. In K. Geers (Ed.), *Cyber war in perspective: Russian aggression against Ukraine* (pp. 87–94). Tallinn: NATO CCD COE.
- Jasinski, M. P. (2011). Social trust and its origins. In M. P. Jasinski (Ed.), *Social trust, anarchy, and international conflict* (pp. 47–62). New York: Palgrave Macmillan. doi:10.1057/9780230118683
- Johnson, R. (2021). Hybrid warfare and counter-coercion. In R. Johnson, M. Kitzen, & T. Sweijts (Eds.), *The conduct of war in the 21st century, kinetic, connected and synthetic* (pp. 45–57). Abingdon: Routledge.
- Khaldarova, I., & Pantti, M. (2016). Fake news: The narrative battle over the Ukrainian conflict. *Journalism Practice*, 10(7), 891–901.
- Kofman, M., Migacheva, K., Nichiporuk, B., Radin, A., Tkacheva, O., & Oberholtzer, J. (2017). *Lessons from Russia's operations in Crimea and Eastern Ukraine*. Santa Monica, CA: RAND Corporation. doi:10.7249/rr1498
- Kozachuk, O. (2016). Political mobilization of Russian Speakers as a challenge for Ukraine's ethnic policy? *Ante Portas—Studia Nad Bezpieczenstwem*, 2(7), 361–380.
- Kurer, T., Häusermann, S., Wüest, B., & Enggist, M. (2019). Economic grievances and political protest. *European Journal of Political Research*, 58(5), 866–892.
- Lange-Ionatamishvili, E. (2015). *Analysis of Russia's information campaign against Ukraine*. Riga: NATO Strategic Communications Centre of Excellence. Retrieved from <http://www.stratcomcoe.org/analysis-russias-information-campaign-against-ukraine-1>
- Levi, M., & Stoker, L. (2000). Political trust and trustworthiness. *Annual Review of Political Science*, 3(1), 475–507.
- Maigre, M. (2008). *Crimea – The Achilles heel of Ukraine*. Tallinn: International Centre for Defence and Security. Retrieved from <https://icds.ee/en/crimea-the-achilles-heel-of-ukraine/>
- Mattsson, P. A. (2017). Russian military thinking – A new generation of warfare. *Journal on Baltic Security*, 1(1), 61–70.
- Newton, K., Stolle, D., & Zmerli, S. (2017). Social and political trust. In E. M. Ulsaner (Ed.) *The Oxford Handbook of Social and Political Trust* (pp. 37–56). Oxford: Oxford University Press. doi:10.1093/oxfordhb/9780190274801.013.20
- O'Loughlin, J., Toal, G., & Kolosov, V. (2017). The rise and fall of “Novorossiya”: Examining support for a separatist geopolitical imaginary in southeast Ukraine. *Post-Soviet Affairs*, 33(2), 124–144.
- Pakhomenko, S., Tryma, K., & J'moul, F. (2018). The Russian–Ukrainian war in Donbas: Historical memory as an instrument of information warfare. In S. Sayapin & E. Tsybulenko (Eds.), *The use of force against Ukraine and international law* (pp. 297–312). The Hague: TMC Asser Press.
- Peksen, D. (2011). Economic sanctions and human security: The Public Health effect of economic sanctions. *Foreign Policy Analysis*, 7, 237–251.
- Pindják, P. (2014). Detering hybrid warfare: A chance for NATO and the EU to work together. *NATO Review*. Retrieved from <https://www.nato.int/docu/review/articles/2014/11/18/detering-hybrid-warfare-a-chance-for-nato-and-the-eu-to-work-together/index.html>
- Pomerantsev, P., & Weiss, M. (2014). *The menace of unreality: How the Kremlin weaponizes information, culture and money*. New York: Institute of Modern Russia.
- Reichborn-Kjennerud, E., & Cullen, P. (2016). *What is hybrid warfare? (Policy Brief 1)*. Oslo: Norwegian Institute of International Affairs. Retrieved from www.jstor.org/stable/resrep07978
- Renz, B. (2016). Russia and 'hybrid warfare.' *Contemporary Politics*, 22(3), 283–300. 1080. <https://doi.org/10.13569775.2016>
- Rietjens, S. (2020). *Strategic analysis 22: A warning system for hybrid threats – Is it possible?* Helsinki: European Centre of Excellence for Countering Hybrid Threats. Retrieved from https://www.hybridcoe.fi/wp-content/uploads/2020/06/Strategic-Analysis_22_WarningSystem.pdf
- Roslycky, L. L. (2011). Russia's smart power in Crimea: Sowing the seeds of trust. *Journal of Southeast European and Black Sea*, 11(3), 299–316.
- Rusticus, S. A., & Lovato, C. Y. (2014). Impact of sample size and variability on the power and type I error rates of equivalence tests: A simulation study. *Practical Assessment, Research, and Evaluation*, 19(1), 11.

- Schmittmann, V. D., Cramer, A. O. J., Waldorp, L. J., Epskamp, S., Kievit, R. A., & Borsboom, D. (2013). Deconstructing the construct: A network perspective on psychological phenomena. *New Ideas in Psychology, 31*, 43–53.
- Smith, G., & Wilson, A. (1997). Rethinking Russia's post-soviet diaspora: The potential for political mobilisation in Eastern Ukraine and North-east Estonia. *Europe - Asia Studies, 49*(5), 845–864.
- Stebelsky, I. (2018). A tale of two regions: Geopolitics, identities, narratives, and conflict in Kharkiv and the Donbas. *Eurasian Geography and Economics, 59*(1), 28–50.
- Tao, R., Yang, D. L., Li, M., & Lu, X. (2014). How does political trust affect social trust? An analysis of survey data from rural China using an instrumental variables approach. *International Political Science Review, 35*(2), 237–253.
- The Equal Rights Trust. (2015). *In the crosscurrents: Addressing discrimination and inequality in Ukraine*. London: Author.
- Verkuyten, M. (2017). Dual identity and immigrants' protest against discrimination: The moderating role of diversity ideologies. *Group Processes and Intergroup Relations, 20*(6), 924–934.
- Wallenius, C., & Nilsson, S. (2019). A lack of effect studies and of effects: The use of strategic communication in the Military domain. *International Journal of Strategic Communication, 13*(5), 404–417.
- Wither, J. K. (2016). Making sense of hybrid warfare. *Connections: The Quarterly Journal, 15*(2), 73–87.
- Yapici, U. (2017). Is Narva next? The intra-regional limits of Russian diffusion in Estonia. *Journal of International Social Research, 10*(54), 381–392.