

vol. 80(4)/2023, pp. 117-137 DOI:10.15804/athena.2023.80.07 www.athenaeum.umk.pl ISSN 1505-2192

PERSONALITY TRAITS AND CIVIC ACTIVITY OF YOUNG VOTERS: PRELIMINARY EVIDENCE FROM POLAND

CECHY OSOBOWOŚCI A AKTYWNOŚĆ OBYWATELSKA MŁODYCH WYBORCÓW: WSTĘPNE USTALENIA W ODNIESIENIU DO POLSKI

Maciej Marmola* , Agata Olszanecka-Marmola** , Klaudia Jagoda***

ABSTRACT — ABSTRAKT —

The article analyzes how personality determines the civic activity of young voters in Poland. To check this, empirical research combining Big Five traits (extraversion, agreeableness, conscientiousness, emotional stability, intellect) and, unlike other studies, four types of civic activity (social commitment, political participation, electoral participation, individual political activity) was conducted. The OLS regression analysis revealed a significant effect of extraversion on most manifestations of civic activity. Those who score higher on this trait were more likely to involve in individual political activity, social commitment, and political participation. Moreover, intellect was associated with individual political activity, while emotional stability had no significant impact on civic activity. The study also discovered some dependencies with

W artykule zanalizowano, w jaki sposób osobowość determinuje aktywność obywatelską młodych wyborców w Polsce. Aby to sprawdzić, przeprowadzono badania empiryczne łączące cechy z modelu Wielkiej Piątki (ekstrawersja, ugodowość, sumienność, stabilność emocjonalna, intelekt) oraz, w przeciwieństwie do innych badań, cztery rodzaje aktywności obywatelskiej (zaangażowanie społeczne, partycypacja polityczna, partycypacja wyborcza, indywidualna aktywność polityczna). Analiza z wykorzystaniem modelu regresji liniowej metodą najmniejszych kwadratów (OLS) wykazała istotny wpływ ekstrawersji na większość przejawów aktywności obywatelskiej. Badani, którzy uzyskali wyższe wyniki w wymiarze ekstrawersji, częściej angażowali się w działania zaklasyfikowane jako indywidualna działalność polityczna, zaangażowanie społeczne

^{*} University of Silesia in Katowice, Institute of Political Science.

^{**} University of Silesia in Katowice, Institute of Political Science.

^{***} University of Silesia in Katowice, Faculty of Social Sciences.

Polish Political Science Studies

the other Big Five traits. Agreeableness positively influenced social commitment and electoral participation, while conscientiousness increased political participation.

i partycypacja polityczna. Ponadto intelekt wiązał się z indywidualną aktywnością polityczną, podczas gdy stabilność emocjonalna nie miała istotnego wpływu na aktywność obywatelską. Badanie wykazało również pewne zależności między aktywnością obywatelską a modelem Wielkiej Piątki. Ugodowość pozytywnie wpływała na zaangażowanie społeczne i partycypację wyborczą, podczas gdy sumienność zwiększyła partycypację polityczną.

Keywords: civic activity; personality; Big Five traits; political participation; social commitment

Słowa kluczowe: aktywność obywatelska; osobowość; Wielka Piątka; partycypacja polityczna; zaangażowanie społeczne

INTRODUCTION

The creation of civil society has become the main goal after the democratic transformation in Poland started in 1989. This process is extremely challenging because most adult citizens were brought up during the communist era, which was based not on civic activity, but on subordinating to the political will of the ruling elite. Even the generation of the 1990s, to a large extent, took over from their parents a relatively passive attitude towards political reality. As a result, there is still deficient social trust and very low trust in political institutions in Poland (Omyła-Rudzka, 2022). Polish citizens also feel very little sense of efficacy and lack of influence on political processes (Gendźwiłł & Żerkowska-Balas, 2018).

The youngest Polish voters (as the first generation brought up in democratic conditions but still by parents raised in the times of the communist system) have a slightly different approach to political processes than other age groups. According to public opinion polls, they value democracy a little less (ESS Round 10: European Social Survey, 2020; Lubiński, 2021) and show a high level of dissatisfaction with the functioning of democratic institutions (ESS..., 2020; Feliksiak, 2021). Moreover, Generation Z voters have by far the lowest level of social trust (Omyła-Rudzka, 2022) and relatively low interest in politics (Scovil, 2021a). This is not a unique phenomenon in Poland, as Gen Zers are considered the most distrustful generation (Cox, 2022; Gramlich, 2019).

Several factors generate their lack of trust. Firstly, Gen Z relies more on the Internet and social media for building relationships and gaining information

about politics, public affairs, and the economy than other citizens. Time spent online negatively affects their participation in social life and makes it difficult to build lasting, trust-based face-to-face relationships (Twenge, Spitzberg, & Campbell, 2019), as well as psychological well-being (Twenge & Campbell, 2019). In addition, the Internet has provided unprecedented opportunities to access information, making confirming claims and verifying facts easier than ever. However, this can lead to information overload, which "arises when the information individuals assess exceeds their ability to accommodate and handle it" (Fu et al., 2020) and "becomes a hindrance rather than a help" (Bawden & Robinson, 2020). Every time young people log on to social media, they have to cope with misleading claims, fake news, and conspiracy theories. Thus, they are, in a way, doomed to distrust, which becomes a vital survival skill in an insecure online world (Cox, 2022). Secondly, it is difficult for young people to trust political and economic institutions, which are controlled mainly by much older elites. In Poland, the average age of a deputy is 53, and that of a senator is 58. While it still creates a smaller age gap than in the United States (where the average age of senators is 64, making it the oldest senate in American history), it is difficult for young Poles to recognize them as their representatives. It is not surprising that the young show a scant degree of involvement in political activity and a low sense of agency (ESS..., 2020). Moreover, young Poles relatively rarely engage in the activities of social organizations such as political movements, church organizations, scouts, local associations, or charities (Feliksiak, 2022; Kadziela, 2023).

Despite the findings mentioned above, young people are able to become politically active under the influence of particular situational factors. They can mobilize when they feel that the values important to them are in danger. A perfect example of such a situation was the events at the turn of 2020 and 2021 when a judgment of the Constitutional Tribunal restricting access to abortion made young people take to the streets *en masse*, protesting against such a reinterpretation of the Polish constitution (Raciborski, 2021). Public opinion polls show that the political activity of young Poles increased significantly during this period, including participation in strikes and demonstrations. The share of young people participating in protests has risen from 5% to 25% (Chys, 2021). Although also in the last two elections (2019 parliamentary and 2020 presidential elections), a turnout among the 18–29 age group was historically high (46.4% and 64.5%, respectively), it is still lower voter participation than other age cohorts (Marzęcki, 2020). Significantly, greater political involvement by young people can reverse the election result. Young voters much more often vote for new parties

and express the reluctance to "old party labels" (Cybulska & Pankowski, 2021),

not only in Poland but throughout Central and Eastern Europe (Marmola, 2020, pp. 318–319).

PERSONALITY AND CIVIC ACTIVITY

The five-factor model of personality, commonly known as the Big Five, dominates research examining the relationship between personality and political behavior. This model treats personality as a set of traits in a given individual deeply rooted from an early age which tends to be exceedingly stable over time (McCrae & Costa, 2003). Research conducted in this approach identifies five main factors of personality: Openness to Experience (in some studies named Intellect/Imagination), Conscientiousness, Extraversion, Agreeableness, and Neuroticism (sometimes referred to by its inverse – Emotional Stability). These factors represent a continuum in that a person may have a low, moderate, or high degree of each dimension. Importantly, the Big Five traits are recognized as relatively stable through the life cycle (Costa, McCrae, & Löckenhoff, 2019; Caspi, Roberts, & Shiner, 2005) and heritable (Sanchez-Roige et al., 2018; Van Gestel & Van Broeckhoven, 2003). Research using the five-factor model of personality is conducted in different types of cultures, samples (most often on students), and methodological variations (John, 2021). Their results prove the validity of this structure across cultures, including more than 50 countries in Europe, Asia, Africa, and the Americas (McCrae & Terracciano, 2005; Schmitt et al., 2007).

Political science research on the Big Five has focused on the relationships between personality traits and political ideology (Joly, Hofmans, & Loewen, 2018; Krieger et al., 2019; Mondak et al., 2010), corrupt behavior (Fagbenro, Kenku, & Olasupo, 2019), electoral behavior (Vecchione et al., 2011; Turska-Kawa, 2011; Caprara et al., 2006), vote intention (Barbaranelli et al., 2007; Sindermann et al., 2021), political participation (Gerber et al., 2011b; Mondak & Halperin, 2008), political ambition (Blais & Pruysers, 2017), or political protest (Ackermann, 2017; Brandstätter & Opp, 2014; Chang et al., 2021).

Previous studies emphasize that only extraversion is a consistent determinant of civic participation, while the effect of other personality traits of personality largely depends on contextual factors (e.g., political culture, institutional differences, and level of political conflict) (Weinschenk, 2017; Ha, Kim, & Jo, 2013). Extraverted citizens interact more easily with other individuals, so they

Factor	Conceptual definition	Low Scores	High Scores
Extraversion	Implies an energetic approach toward the social and material world	reserved, loner, quiet, passive, sober, unfeeling, shy	affectionate, joiner, talkative, active, fun-loving, passionate, sociable
Agreeableness	Contrasts a prosocial and communal orientation toward others with antagonism and hostility	ruthless, suspicious, stingy, antagonistic, critical, irrita- ble, hard-headed, skeptical	softhearted, trusting, generous, acquiescent, lenient, good-natured, altruistic
Conscientio- usness	Describes socially prescribed impulse control that facilitates task- and goal-directed behavior	negligent, lazy, disorganized, late, aimless, quitting, easygoing, careless	conscientious, hardworking, well-organized, punctual, ambitious, persevering, dutiful
Emotional Stability	Refers to an emotional stability, contentment, and frustration tolerance	worrying, temperamental, self-pitying, self-conscious, emotional, vulnerable, anxious, nervous	calm, even-tempered, self-satisfied, comfortable, unemotional, hardy
Intellect	Describes the breadth, depth, originality, and complexity of the person's mental and experiential life	down-to-earth, uncreative, conventional, prefer routine, uncurious, conservative, practical, traditional	imaginative, creative, origi- nal, prefer variety, curious, liberal, intellectual

Table 1. The Five-Factor Model of Personality

Source: Authors' own elaboration based on John (2021); McCrae & Costa (2003); Weinschenk (2014).

are more likely to engage in civic matters (Mondak et al., 2010), they are more often involved in political campaigns (Gerber et al., 2011b) and feel a stronger sense of civic duty (Blais & St-Vincent, 2011). Moreover, they actively participate in political parties, trade unions, sports associations, and other organizations (Dinesen, Nørgaard, & Klemmensen, 2014). Extraverts are also more prone to get politically mobilized than people with a low level of extraversion (Ha et al., 2013). Importantly, extraversion is associated with group-based political participation (e.g., attendance and speaking at political meetings, willingness to sign petitions, and participation in political discussion) rather than individual behaviors, such as voting in elections (Mondak & Halperin, 2008). Citizens with higher levels of extraversion are also more likely to participate in protests because they like to interact with people and have a strong tendency to seek out the company of others, and protesting can satisfy their need for attention and social interactions (Brandstätter & Opp, 2014). Extraversion is also a driving force behind formal, informal, and online volunteering (Ackermann, 2019; Omoto, Snyder, & Hackett, 2010; Bekkers, 2005).

Polish Political Science Studies

Intellect or openness to experience is often associated with some forms of civic activity and political participation (Dinesen et al., 2014; Vecchione & Caprara, 2009). In some analyses, this trait is considered a factor in increasing individual protest participation (Ha et al., 2013; Opp & Brandstätter, 2010). However, other studies have not found a significant relationship between these variables, indicating that it depends on the political culture of a particular country (Chang, Weng, & Wang, 2021; Ackermann, 2019; Mondak et al., 2010). Researchers also indicate a mixed effect of intellect on voter turnout. Some studies have not diagnosed a significant relationship between these variables (Weinschenk, 2017; Gerber et al., 2011b; Mondak & Halperin, 2008), although others show that intellect increases the likelihood of voting (Wang, 2016). Concerning social commitment, intellect positively affects the individual's propensity to volunteer online but negatively affects the likelihood of formal volunteering (Ackermann, 2019).

The relationship between agreeableness and civic participation is more ambiguous. Previous studies indicate that agreeableness strongly correlates with pro-social activities that do not involve social conflicts. Individuals with high agreeableness scores are more likely to join social organizations (Dinesen et al., 2014). Agreeableness is also associated with nonpolitical volunteering (Bekkers, 2005; Carlo et al., 2005; Finkelstein & Brannick, 2007; Okun, Pugliese, & Rook, 2007). This relationship is even stronger in the case of informal volunteering, like helping people in the neighborhood or online volunteering (Ackermann, 2017). However, agreeableness is considered to be of little importance for political participation, i.e., engagement in election campaigns, local political activity, contacting elected officials, and speaking at local meetings (Gerber et al., 2011b; Mondak et al., 2010). Finding a clear connection between agreeableness and electoral participation is also difficult. Some studies show a positive relationship between agreeableness and voting (Mattila et al., 2011; Schoen & Schumann, 2007). Others, however, do not find a significant correlation between them (Mondak & Halperin, 2008; Wang, Weng, & Tsai, 2019). Similar ambiguous results were obtained with regard to participation in protests. Although most analyses confirm that agreeable people do not engage in protests (Chang et al., 2021; Mondak et al., 2010; Opp & Brandstätter, 2010), others see that this effect may be dependent on the political context and mediated by other predictors, such as political interest, internal efficacy, and political discussion (Gallego & Oberski, 2012).

Although one might expect that conscientiousness as a personality trait related to abiding by social norms would positively impact civic participation,

most studies do not confirm this. Previous research generally has found no significant relationship between conscientiousness and voter turnout (Weinschenk, 2017; Gallego & Oberski, 2012; Mattila et al., 2011; Mondak et al., 2010). This trait is also not related to formal and informal volunteering (Ackermann, 2019; Carlo et al., 2005). However, it is indicated that highly conscientious people have a higher sense of civic duty (Weinschenk, 2014), which may be associated with treating voting as an obligation, following the rules, paying taxes, and keeping an eye on public authorities (Dinesen et al., 2014). Citizens with this trait are less likely to engage in protests and antigovernment behavior (Chang et al., 2021; Mondak & Halperin, 2008).

The majority of studies do not show significant relationship between emotional stability and political participation (Gallego & Oberski, 2012; Mattila et al., 2011; Mondak et al., 2010). However, some analyses confirm the positive impact of this trait on voter turnout (Gerber et al., 2011b) and formal volunteering (Ackermann, 2019). Contradictory findings, on the other hand, are brought by studies on the propensity to political protests. Some researchers diagnose a positive relationship between emotional stability and protests (Brandstätter & Opp, 2014), while in other studies, these variables are negatively correlated (Chang et al., 2021).

Despite the growing psychological and political science literature, there is still a marginal number of research on the relationship between personality and civic activity. Previous studies referenced above mostly use data from the United States, Canada, or Western Europe, in other words, well-established and stable democracies. Our research is one of the few that focuses on a society functioning in the conditions of the new democracy. Such a group of countries includes Poland, which entered the road to democracy only after 1989. This is important because, as research shows, the impact of personality on political and civic activity depends on the political and cultural context (Weinschenk, 2017). Additionally, we treat civic activity more broadly than other research, taking into account its four types: social commitment, social participation, individual political activity, and political participation.

The main objective of the conducted research was to check whether personality traits determine the four types of civic activity (social commitment, political participation, electoral participation, and individual political activity) of young voters in Poland. Based on the cited literature, we set up three research hypotheses:

- Polish Political Science Studies
- H1: Extraversion is associated with all four types of civic activity distinguished in our research (social commitment, political participation, electoral participation, individual political activity).
- H2: Intellect positively impacts certain forms of civic activity, especially individual political activity.
- H3: The remaining personality traits (agreeableness, conscientiousness, emotional stability) are not strongly related to the diagnosed types of civic activity.

METHODS

Procedure & participants

As we wanted to diagnose the effect of the personality traits of young people on civic activity, the participants were recruited using online advertisements on social media (Facebook). The study was conducted online during the COVID-19 pandemic and lasted between May 5 and June 1, 2021. The respondents completed a survey that included five-factor personality inventory (a Polish version of IPIP-BFM-20), civic activity measure (Civic Activity Questionnaire), political self-identification, and basic socio-demographic variables (gender, age, place of residence).

The final sample was made up of 172 people aged 18–24 (91 females – 52.9%). The study participants differed in place of residence (rural area – 52 participants, city up to 20,000 inhabitants – 8 participants, city between 20,001 and 100,000 inhabitants – 30 participants, city between 100,001 and 200,000 inhabitants – 21 participants, city above 200,000 inhabitants – 61 participants). Ideological self-identification in our study was measured on a 7-point scale (1 = extreme left; 7 = extreme right). In addition, the respondents could select the answer "I do not know/I cannot determine" (30 participants used this option). In the end, center-left-oriented people prevailed in the study group (M = 3.80; SD = 1.35). The independent samples t-test showed that the men tested (M = 4.43; SD = 1.18) were significantly more right-wing than the women (M = 3.09, SD = 1.18); t(140) = 6.760, p < .001. This result is consistent with opinion polls, which indicate a significant difference in the political orientations of young males and females (Scovil, 2021b).

MEASURES

IPIP-BFM-20 (Polish version)

In our study, we used a modified version of the Mini-IPIP (Donnellan et al., 2006) – a 20-item short form of the 50-item International Personality Item Pool – Five-Factor Model (IPIP-FFM) measure (Goldberg, 1999). It has been translated into Polish and validated (Topolewska et al., 2014). The IPIP-BFM-20 (Polish version) consists of 20 statements on which respondents are asked to take a position using a 5-point scale (1 = 'It does not apply to me at all', 5 = 'It completely applies to me'), and it determines the five Big Five factors of personality: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Intellect/Imagination. In our sample, Cronbach's alpha coefficients were all within the acceptable range (Extraversion: α = .86, Agreeableness: α = .81, Conscientiousness: α = .83, Neuroticism: α = .83, and Intellect/Imagination: α = .71). Thus, our research instrument showed high reliability, and the study participants did not have to spend over 30 minutes to complete the questionnaire, as is the case with the NEO-PI-R inventory combined with questions relating to political reality (Gerber et al., 2011a, p. 267).

Civic Activity Questionnaire (CAQ)

To determine civic activity, we have modified the Civic Activity Questionnaire (CAQ) used in Polish studies (Klamut, 2015). This measuring instrument distinguishes four types of active citizenship: social commitment, social participation, individual political activity, and political participation. Due to the characteristics of our sample, we decided to change the original CAQ and threw out the questions directed to the older generation of citizens (e.g., I am a member of a social organization focused on building a democratic system in Poland). Finally, we exploited 13 items from the original version of CAQ questions and added 3 own questions concerning electoral participation. The respondents referred to them on a 5-point scale, where 1 meant 'definitely not' and 5 indicated 'definitely yes'. Based on the research, we have distinguished four factors that make up civic activity: political participation, electoral participation, social commitment, and individual political activity. Scales containing these factors indicated high reliability. In all cases, the Cronbach's alpha coefficients exceeded the value of

0.75 (Electoral participation: α = .89, Political participation: α = .81, Individual political activity: α = .75, Social commitment: α = .75).

RESULTS

We started our empirical analysis by comparing the averages in personality traits and types of civic activity among women and men. In our sample, women were found to be more agreeable (t = 3.733, p < .001) and conscientious (t = 2.013, p = .023) but less extraverted (t = -2.080, p = .020) and emotionally stable (t = -3.041, p = .001). Intellect did not significantly differentiate representatives in relation to gender. This essentially corresponds to the results of previous studies on gender differences in personality traits (Weisberg, DeYoung, & Hirsh, 2011; Costa, Terracciano, & McCrae, 2001; Feingold, 1994). Mean scores in individual personality items and the significance of gender differences are included in Table 2.

Referring to civic activity, our respondents showed relatively little social commitment and political participation, which is consistent with the profile of young Polish citizens presented in the introduction. The majority, however, admitted that they vote in elections at various levels, as well as follow information about social and political reality. Regarding gender differences, women were more often involved in actions that fit into the social commitment (t = 3.046, p = .001), but less frequently they showed individual political activity (t = -6.440, p < .001) and electoral participation (t = -3.840, p < .001). However, we did not find any significant gender differences in political participation. Detailed data illustrating the mean scores in the Civic Activity Questionnaire are presented in Table 3.

 Table 2. IPIP-BFM-20 (Polish Version) Descriptive Statistics

Item	Mean (SD) total	Mean (SD) females	Mean (SD) males
IPIP1 (+). I am the life of the party (Jestem duszą towarzystwa)	3.10 (1.07)	3.04 (1.06)	3.17 (1.08)
IPIP11 (+). I talk to a lot of different people at parties (Rozmawiam z wieloma różnymi ludźmi na przyjęciach)	3.26 (1.29)	3.14 (1.32)	3.40 (1.24)
IPIP6 (-). I keep in the background (Trzymam się z boku)	3.12 (1.17)	3.02 (1.14)	3.22 (1.21)
IPIP16 (-). I am quiet around strangers (Wśród nieznajomych jestem małomówny/a)	2.86 (1.31)	2.53*** (1.13)	3.22*** (1.40)
IPIP7 (+). I sympathize with others' feelings (Jestem wyrozumiały/a dla uczuć innych ludzi)	3.95 (1.05)	4.24*** (.84)	3.64*** (1.18)
IPIP17 (+). I take time out for others (Znajduję czas dla innych)	4.00 (.93)	4.19** (.82)	3.79** (1.00)
IPIP2 (-). I feel little concern for others (Niezbyt obchodzą mnie inni ludzie)	3.65 (1.13)	3.89** (.97)	3.38** (1.23)
IPIP12 (-). I am not interested in other people's problems (Nie interesują mnie problemy innych ludzi)	3.76 (1.06)	3.92* (.96)	3.57* (1.14)
IPIP8 (+). I get chores done right away (Bez zwłoki codziennie wypełniam swoje obowiązki)	2.69 (1.12)	2.93** (1.08)	2.41** (1.09)
IPIP18 (+). I follow a schedule (Postępuję zgodnie z harmonogramem)	2.90 (1.21)	3.12** (1.26)	2.64** (1.11)
IPIP3 (-). I leave my belongings around (Zostawiam moje rzeczy, gdzie popadnie)	3.01 (1.34)	3.10 (1.17)	2.90 (1.50)
IPIP13 (-). I often forget to put things back in their proper place (Często zapominam odkładać rzeczy na miejsce)	2.93 (1.32)	2.95 (1.17)	2.91 (1.48)
IPIP4 (+). I am relaxed most of the time (Zwykle jestem zrelaksowany/a)	2.69 (1.07)	2.51* (.96)	2.90* (1.15)
IPIP14 (+). I seldom feel blue (Rzadko czuję się przygnębiony/a)	2.55 (1.08)	2.47 (.97)	2.63 (1.20)
IPIP9 (-). I worry about things (Często martwię się czymś)	2.26 (1.16)	2.03** (1.03)	2.52** (1.26)
IPIP19 (-). I have frequent mood swings (Często miewam huśtawki nastrojów)	2.67 (1.34)	2.33*** (1.12)	3.05*** (1.47)
IPIP5 (+). I have a rich vocabulary (Mam bogate słownictwo)	3.88 (.87)	3.78 (.90)	3.99 (.83)
IPIP15 (+). I am full of ideas (Mam głowę pełną pomysłów)	3.65 (.99)	3.63 (1.01)	3.68 (.99)
IPIP10 (-). I have difficulty understanding abstract ideas (Mam trudności ze zrozumieniem abstrakcyjnych pojęć)	3.90 (.97)	3.73* (1.01)	4.10* (.89)
IPIP20 (-). I do not have a good imagination (Nie mam zbyt bogatej wyobraźni)	4.04 (1.02)	4.05 (1.02)	4.02 (1.02)

Extraversion: IPIP1, IPIP6, IPIP11, IPIP16; Agreeableness: IPIP2, IPIP7, IPIP12, IPIP17; Conscientious: IPIP3, IPIP8, IPIP13, IPIP18; Emotional Stability: IPIP4, IPIP9, IPIP14, IPIP19; Intellect: IPIP5, IPIP10, IPIP15, IPIP20.

Polish version of questions in parentheses; t-test significance levels: *** p < .001, ** p < .01, * p < .05

 Table 3. Civic Activity Questionnaire (CAQ) Descriptive Statistics

Item	Mean	Mean (SD)	Mean (SD)
	(SD) total	females	males
CAQ1. I follow information about the social and political life in the country and the world (Śledzę informacje dotyczące życia społeczno-politycznego w kraju i w świecie)	3.93	3.42***	4.51***
	(1.05)	(1.04)	(.71)
CAQ2. I help people in need financially (Pomagam finansowo potrzebującym)	2.85	3.07**	2.60**
	(1.11)	(1.05)	(1.13)
CAQ3. I actively participated in the election campaign of other people or my own (Aktywnie uczestniczyłem/am w kampanii wyborczej innych osób lub własnej)	1.97	1.93	2.00
	(1.09)	(.87)	(1.30)
CAQ4. I observe and evaluate the actions taken by politicians (Obserwuję i oceniam działania, które podejmują politycy)	3.52	3.15***	3.94***
	(1.10)	(1.07)	(.97)
CAQ5. I participate in the activities of a political organization, e.g., a political party, youth organization, an organization associated with a political party, trade unions (Uczestniczę aktywnie w działaniach organizacji politycznej, np. partii politycznej, młodzieżówki, organizacji związanej z partią polityczną, związków zawodowych)	1.63	1.56	1.72
	(.89)	(.73)	(1.03)
CAQ6. I boldly express my opinion on socio-political issues in conversations with other people (Śmiało wyrażam moją opinię dotyczącą spraw społeczno-politycznych w rozmowach z innymi ludźmi)	3.69	3.45**	3.96**
	(1.15)	(1.18)	(1.05)
CAQ7. I help those in need on my own, giving my time and work (Samodzielnie pomagam potrzebującym, udzielając swojego czasu i pracy)	2.52	2.79***	2.22***
	(1.11)	(1.07)	(1.07)
CAQ8. I work in an organization focused on supporting politicians (Działam w organizacji nastawionej na wsparcie polityków)	1.52	1.47	1.57
	(.81)	(.69)	(.92)
CAQ9. I participate in the activities of an association, foundation, or church group (Uczestniczę aktywnie w działaniach stowarzyszenia, fundacji czy grupy przy parafii)	1.98	1.93	2.04
	(1.14)	(1.04)	(1.25)
CAQ10. Sometimes I devote my free time to work for the community I live in, e.g., cleaning together, organizing a festival (Zdarza mi się poświęcać mój wolny czas na pracę na rzecz najbliższego otoczenia, w którym mieszkam, np. wspólne sprzątanie, organizowanie festynu)	2.30	2.34	2.25
	(1.17)	(1.09)	(1.27)
CAQ11. I take part in collections for people harmed by natural disasters (Biorę udział w zbiórkach na rzecz osób pokrzywdzonych w efekcie klęsk żywiołowych)	2.16	2.34**	1.96**
	(.99)	(1.00)	(.93)
CAQ12. I consciously choose my candidate in the parliamentary elections by analyzing the various information available (Świadomie wybieram swojego kandydata w wyborach parlamentarnych, analizując różne dostępne informacje)	4.17	3.91***	4.47***
	(.96)	(1.01)	(.82)

Item	Mean	Mean (SD)	Mean (SD)
	(SD) total	females	males
CAQ13. I work in an organization focused on political activity (Działam w strukturach organizacji nastawionej na aktywność polityczną)	2.02	2.07	1.96
	(1.03)	(.92)	(1.15)
CAQ14. I participate in every parliamentary election since I have the right to vote (Biorę udział w każdych wyborach parlamentarnych, odkąd posiadam czynne prawo wyborcze)	4.25	3.99***	4.54***
	(1.13)	(1.22)	(.95)
CAQ15. I participate in every presidential election since I have the right to vote (Biorę udział w każdych wyborach prezydenckich, odkąd posiadam czynne prawo wyborcze)	4.30	4.03***	4.59***
	(1.09)	(1.22)	(.83)
CAQ16. I participate in every local election since I have the right to vote (Biorę udział w każdych wyborach samorządowych, odkąd posiadam czynne prawo wyborcze)	4.01	3.78**	4.27**
	(1.28)	(1.36)	(1.13)

Social commitment: CAQ2, CAQ7, CAQ10, CAQ11; Political participation: CAQ3, CAQ5, CAQ8, CAQ9, CAQ13; Electoral participation: CAQ12, CAQ14, CAQ15, CAQ16; Individual political activity: CAQ1, CAQ4, CAQ6.

Polish version of questions in parentheses; t-test significance levels: *** p < .001, ** p < .01, * p < .05

To check the effect of personality on civic activity, we conduct the OLS regression analysis (Table 4). In this way, we created four models in which the dependent variables were specific types of civic activity (social commitment, political participation, electoral participation, individual political activity). Our models also include the sociodemographic variables diagnosed in the study (gender, place of residence, and ideology understood as placement on the left-right scale). The r-squared suggests that the proposed model best explains the impact of personality traits on individual political activity and social commitment. However, it has a limited explanatory value for political and electoral participation.

Consistent with hypothesis H1, extraversion was the most significant determinant of political activity. However, it explains not all four types of civic activity, as we assumed, but only three. The results confirm that extraversion boosts individual political activity, social commitment, and political participation, whereas it is not statistically significant for electoral participation.

Hypothesis H2, that the intellect should positively impact individual political activity, has also been confirmed. However, this personality trait was not significant for other types of civic activity.

Contrary to hypothesis H3, agreeableness and conscientiousness were also associated with some manifestations of civic activity. Those who score higher on

agreeableness were more likely to involve in electoral participation and actions that fit into social commitment, whereas conscientiousness was positively associated with political participation. Emotional stability was found as the only factor that was not significantly related to any of the distinguished components of civic

Among other factors, the most important variable in the presented models was gender. Women significantly more frequently engaged in social commitment, but less often voted and showed individual political activity. However, gender was not related to political participation. In addition, ideology had an effect on individual political activity. Those who placed their views closer to the left end of the left-right scale turned out to be more active in this dimension.

Table 4.	Personality	and Civid	c Activity	(OLS	Regression	Results)
----------	-------------	-----------	------------	------	------------	----------

	Social commitment	Political participation	Electoral participation	Individual political activity
	B (SE)	B (SE)	B (SE)	B (SE)
Gender (male)	256 (.154)*	.120 (.157)	.424 (.169)**	.791 (.150)***
Place of residence	048 (.039)	023 (.040)	.018 (.043)	021 (.038)
Ideology	037 (.057)	.045 (.058)	.015 (.063)	099 (.055)*
Extraversion	.174 (.065)**	.137 (.068)**	019 (.073)	.201 (.065)***
Agreeableness	.257 (.080)***	.124 (.082)	.155 (.088)*	.098 (.078)
Conscientiousness	.050 (.065)	.134 (.066)**	.046 (.071)	.046 (.063)
Emotional Stability	.097 (.070)	.004 (.071)	.044 (.076)	022 (.068)
Intellect	013 (.096)	007 (.098)	.127 (.106)	.159 (.094)*
Constant	1.244 (.643)*	.316 (.653)	2.326 (.705)***	1.371 (.624)**
R2	.189	.097	.085	.272

^{***} p < .01, ** p < .05, * p < .10

activity.

CONCLUSION

The results of our research are in line with previous studies confirming a significant relationship between personality and civic activity. As in other analyses, extraversion was the factor that most strongly determined various forms of civic engagement, while other Big Five personality traits were less predictive of

civic activity. Consistent with most studies, we also failed to identify significant associations between emotional stability and civic activity.

As we predicted, extraversion turned out to be positively related to individual political activity, social commitment, and political participation. Consistent with our expectations, those who score higher on intellect were more likely to engage in individual political activity, and emotional stability was not important for civic activity. Somewhat unexpectedly, we also diagnosed some dependencies with the other Big Five traits. Agreeableness turned out to be positively associated with social commitment and electoral participation, while conscientiousness determines political participation.

Importantly, our study sheds a different light on the role of personality in explaining citizen engagement. It concerns the new democracy, in which this subject has not been studied so far, and refers to young Poles who differ in behavior patterns from the generations brought up in non-democratic conditions. Moreover, in our analysis, we do not treat civic activity in one dimension but distinguish its four types: social commitment, political participation, electoral participation, and individual political activity.

While this study broadens our knowledge about relationship between personality traits and civic activity, some limitations must be mentioned. First of all, our research has some limitations regarding sampling methods and sampling size. The study did not use random sampling, meaning there is no basis for generalizing the results on all young Poles. The sample also consisted of a specific group of Facebook users. It is worth mentioning, however, that this is one of the first studies trying to explain how personality determines civic activity in Poland, and we treat it as exploratory. In the future, we intend to replicate them on larger and more heterogeneous samples. This will allow for precise capture of the impact of particular personality traits on civic activity. It is also worth considering in subsequent studies the use of a broader personality questionnaire and the inclusion of additional variables associated with civic activity and the propensity to vote (age, level of education, income, political interest, political knowledge, effectiveness, and political agency). Second, we must emphasize that our findings should be interpreted concerning Poland, which is a relatively young democracy. Therefore, it is difficult to find a universal answer to the puzzle of the influence of personality traits on human behavior in them. Third, the political context may have influenced the results of the study. Shortly before the study, we dealt with the increased activity of young people caused by a threat to values important to them (the judgment of the Constitutional Tribunal limiting the right to abortion).

In the context of future research, it is worth considering the cross-country study taking into account other countries of the former Eastern Bloc. Thanks to this, it would be possible to compare the importance of personality to the citizen engagement. Our research shows that the effect of personality on civic behavior patterns is not very different from what has been diagnosed in Western Europe. However, this may be related to the fact that Poland was one of the driving forces of democratic changes after 1989. In this context, one can diagnose slightly different relations between personality and civic activity in other countries of Central and Eastern Europe.

REFERENCES:

- Ackermann, K. (2017). Individual Differences and Political Contexts: The Role of Personality Traits and Direct Democracy in Explaining Political Protest. *Swiss Political Science Review*, 23(1), 21–49. DOI: 10.1111/spsr.12227.
- Ackermann, K. (2019). Predisposed to Volunteer? Personality Traits and Different Forms of Volunteering. *Nonprofit and Voluntary Sector Quarterly*, 48(6), 1119–1142. DOI: 10.1177/0899764019848484.
- Barbaranelli, C., Caprara, G.V., Vecchione, M., & Fraley, C.R. (2007). Voters' Personality Traits in Presidential Elections. *Personality and Individual Differences*, 42(7), 1199–1208. DOI: 10.1016/j.paid.2006.09.029.
- Bawden, D., & Robinson, L. (2020). Information Overload: An Introduction. In: D. Bawden, & L. Robinson, Oxford Research Encyclopedia of Politics. Oxford: Oxford University Press. DOI: 10.1093/acrefore/9780190228637.013.1360.
- Bekkers, R. (2005). Participation in Voluntary Associations: Relations with Resources, Personality, and Political Values. *Political Psychology*, *26*(3), 439–454. DOI: 10.1111/j.1467-9221.2005.00425.x.
- Blais, A., & St-Vincent, S.L. (2011). Personality Traits, Political Attitudes and the Propensity to Vote. *European Journal of Political Research*, *50*(3), 395–417. DOI: 10.1111/j.1475-6765.2010.01935.x.
- Blais, J., & Pruysers, S. (2017). The Power of the Dark Side: Personality, the Dark Triad, and Political Ambition. *Personality and Individual Differences*, *113*, 167–172. DOI: 10.1016/j.paid.2017.03.029.
- Brandstätter, H., & Opp, K.D. (2014). Personality Traits ("Big Five") and the Propensity to Political Protest: Alternative Models. *Political Psychology*, *35*(4), 515–537. DOI: 10.1111/pops.12043.

- Caprara, G.V., Schwartz, S., Capanna, C., Vecchione, M., & Barbaranelli, C. (2006). Personality and Politics: Values, Traits, and Political Choice. *Political Psychology*, *27*(1), 1–28. DOI: 10.1111/j.1467-9221.2006.00447.x.
- Carlo, G., Okun, M.A., Knight, G.P., & de Guzman, M.R.T. (2005). The Interplay of Traits and Motives on Volunteering: Agreeableness, Extraversion and Prosocial Value Motivation. *Personality and Individual Differences*, 38(6), 1293–1305. DOI: 10.1016/j.paid.2004.08.012.
- Caspi, A., Roberts, B.W., & Shiner, R.L. (2005). Personality Development: Stability and Change. *Annual Review of Psychology*, 56(1), 453–484. DOI: 10.1146/annurev. psych.55.090902.141913.
- Chang, Y.B., Weng, D.L.C., & Wang, C.H. (2021). Personality Traits and the Propensity to Protest: A Cross-National Analysis. *Asian Journal of Political Science*, 29(1), 22–41. DOI: 10.1080/02185377.2020.1814365.
- Chys, P. (2021, August). *Młodzi Polacy a poczucie wpływu na sprawy publiczne i zaangażowanie w protesty* [Young Poles on Sense of Influence on Public Affairs and Their Participation in Protests]. Komunikat z Badań CBOS, 95. Public Opinion Research Center.
- Costa, P.T., Jr., McCrae, R.R., & Löckenhoff, C.E. (2019). Personality Across the Life Span. *Annual Review of Psychology*, 70, 423–448. DOI: 10.1146/annurevpsych-010418-103244.
- Costa, P.T., Jr., Terracciano, A., & McCrae, R.R. (2001). Gender Differences in Personality Traits across Cultures: Robust and Surprising Findings. *Journal of Personality and Social Psychology*, 81(2), 322–331. DOI: 10.1037/0022-3514.81.2.322.
- Cox, D.A. (2022, August 25). *Gen Z Mistrusts Everything Big Business, Government, Other People, You Name It.* Business Insider. Retrieved from: https://www.businessinsider.com/gen-z-trust-issues-government-business-college-other-people-institutions-2022-8?IR=T.
- Cybulska, A., & Pankowski, K. (2021, October). *Preferencje partyjne najmłodszych wyborców i ich ewolucja w ostatnich dwóch dekadach* [Political Party Preferences of the Youngest Voters and Their Evolution in the Last Two Decades]. Komunikat z Badań CBOS, 121. Public Opinion Research Center.
- Dinesen, P.T., Nørgaard, A.S., & Klemmensen, R. (2014). The Civic Personality: Personality and Democratic Citizenship. *Political Studies*, 62(1_suppl), 134–152. DOI: 10.1111/1467-9248.12094.
- Donnellan, M.B., Oswald, F.L., Baird, B.M., & Lucas, R.E. (2006). The Mini-IPIP Scales: Tiny-Yet-Effective Measures of the Big Five Factors of Personality. *Psychological Assessment*, 18(2), 192–203. DOI: 10.1037/1040-3590.18.2.192.
- ESS Round 10: European Social Survey Round 10 Data. (2020). Data File Edition 1.2.
 Sikt Norwegian Agency for Shared Services in Education and Research, Norway
 Data Archive and Distributor of ESS Data for ESS ERIC. DOI: 10.21338/NSD-ESS10-2020.

- Polish Political Science Studies
- Fagbenro, D.A., Kenku, A.A., & Olasupo, M.O. (2019). Personality Traits and Attitude toward Corruption among Government Workers. *Psychology and Behavioral Science International Journal*, 11(1), 555801. DOI: 10.19080/PBSIJ.2019.11.555801.
- Feingold, A. (1994). Gender Differences in Personality: A Meta-Analysis. *Psychological Bulletin*, *116*(3), 429–456. DOI: 10.1037/0033-2909.116.3.429.
- Feliksiak, M. (2021, October). *Młodzi Polacy o zasadach demokracji* [Young Poles about Principles of Democracy]. Komunikat z Badań CBOS, 120. Public Opinion Research Center.
- Feliksiak, M. (2022, March). *Aktywność w organizacjach obywatelskich* [Activity in Social Organizations]. Komunikat z Badań CBOS, 41. Public Opinion Research Center.
- Finkelstein, M.A., & Brannick, M.T. (2007). Applying Theories of Institutional Helping to Informal Volunteering: Motives, Role Identity, and Prosocial Personality. *Social Behavior and Personality: An International Journal*, 35(1), 101–114. DOI: 10.2224/sbp.2007.35.1.101.
- Fu, S., Li, H., Liu, Y., Pirkkalainen, H., & Salo, M. (2020). Social Media Overload, Exhaustion, and Use Discontinuance: Examining the Effects of Information Overload, System Feature Overload, and Social Overload. *Information Processing & Management*, 57(6), 102307. DOI: 10.1016/j.ipm.2020.102307.
- Gallego, A., & Oberski, D. (2012). Personality and Political Participation: The Mediation Hypothesis. *Political Behavior*, 34(3), 425–451. DOI: 10.1007/s11109-011-9168-7.
- Gendźwiłł, A., & Żerkowska-Balas, M. (2018, June). *Polacy o samorządach: Opinia publiczna u progu samorządowej kampanii wyborczej*. Warszawa: Fundacja im. Stefana Batorego.
- Gerber, A.S., Huber, G.A., Doherty, D., & Dowling, C.M. (2011a). The Big Five Personality Traits in the Political Arena. *Annual Review of Political Science*, *14*(1), 265–287. DOI: 10.1146/annurev-polisci-051010-111659.
- Gerber, A. S., Huber, G. A., Doherty, D., Dowling, C. M., Raso, C., & Ha, S. E. (2011b). Personality Traits and Participation in Political Processes. *The Journal of Politics*, 73(3), 692–706. DOI: 10.1017/S0022381611000399.
- Goldberg, L.R. (1999). A Broad-Bandwidth, Public Domain Personality Inventory Measuring the Lower-Level Facets of Several Five-Factor Models. In: I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.). Personality Psychology in Europe. Vol. 7 (pp. 7–28). Tilburg: Tilburg University Press.
- Gramlich, J. (2019, August 6). Young Americans Are Less Trusting of Other People and Key Institutions Than Their Elders. Pew Research Center. Retrieved from: https://www.pewresearch.org/fact-tank/2019/08/06/young-americans-are-less-trusting-of-other-people-and-key-institutions-than-their-elders/.
- Ha, S.E., Kim, S., & Jo, S.H. (2013). Personality Traits and Political Participation: Evidence from South Korea. *Political Psychology*, *34*(4), 511–532. DOI: 10.1111/pops.12008.
- John, O.P. (2021). History, Measurement, and Conceptual Elaboration of the Big-Five Trait Taxonomy: The Paradigm Matures. In: O.P. John, & R.W. Robins (Eds.).

- *Handbook of Personality: Theory and Research* (4th Ed.) (pp. 35–82). New York: Guilford Press.
- Joly, J.K., Hofmans, J., & Loewen, P. (2018). Personality and Party Ideology among Politicians. A Closer Look at Political Elites from Canada and Belgium. Frontiers in Psychology, 9, 552. DOI: 10.3389/fpsyg.2018.00552.
- Kądziela, A. (2023, April). *Polityczny portret młodych Polaków 2023*. Warszawa: Konrad Adenauer Stiftung.
- Klamut, R. (2015). Kwestionariusz aktywności obywatelskiej (KAO) narzędzie do badania różnych rodzajów aktywności obywatelskiej. *Psychologia Społeczna*, *10*(1), 68–83. DOI: 10.7366/1896180020153205.
- Krieger, F., Becker, N., Greiff, S., & Spinath, F.M. (2019). Big-Five Personality and Political Orientation: Results from Four Panel Studies with Representative German Samples. *Journal of Research in Personality*, 80, 78–83. DOI: 10.1016/j.jrp.2019.04.012.
- Lubiński, K. (2021, October). *Stosunek młodych Polaków do demokracji w latach* 1992–2021 [Attitude of Young Poles to Democracy in Years 1992–2021]. Komunikat z Badań CBOS, 118. Public Opinion Research Center.
- Marmola, M. (2020). *Nowe partie w systemach partyjnych państw Grupy Wyszehradzkiej*. Toruń: Wydawnictwo Adam Marszałek.
- Marzęcki, R. (2020, September 15). *Młodzi mogą wnieść do polityki nową jakość. W 2023 roku mają ostatnią szansę*. Klub Jagielloński. Retrieved from: https://klubjagiellonski.pl/2020/09/15/mlodzi-moga-wniesc-do-polityki-nowa-jakosc-w-2023-roku-maja-ostatnia-szanse/.
- Mattila, M., Wass, H., Söderlund, P., Fredriksson, S., Fadjukoff, P., & Kokko, K. (2011). Personality and Turnout: Results from the Finnish Longitudinal Studies. *Scandinavian Political Studies*, 34(4), 287–306. DOI: 10.1111/j.1467-9477.2011.00273.x.
- McCrae, R.R., & Costa, P.T., Jr. (2003). *Personality in Adulthood: A Five-Factor Theory Perspective* (2nd Ed). New York: Guilford Press.
- McCrae, R.R., & Terracciano, A. (2005). Personality Profiles of Cultures: Aggregate Personality Traits. *Journal of Personality and Social Psychology*, 89(3), 407–425. DOI: 10.1037/0022-3514.89.3.407.
- Mondak, J.J., & Halperin, K.D. (2008). A Framework for the Study of Personality and Political Behaviour. *British Journal of Political Science*, 38(2), 335–362. DOI: 10.1017/S0007123408000173.
- Mondak, J.J., Hibbing, M.V., Canache, D., Seligson, M.A., & Anderson, M.R. (2010). Personality and Civic Engagement: An Integrative Framework for the Study of Trait Effects on Political Behavior. *American Political Science Review, 104*(1), 85–110. DOI: 10.1017/S0003055409990359.
- Okun, M.A., Pugliese, J., & Rook, K.S. (2007). Unpacking the Relation between Extraversion and Volunteering in Later Life: The Role of Social Capital. *Personality and Individual Differences*, 42(8), 1467–1477. DOI: 10.1016/j.paid.2006.10.020.
- Omoto, A.M., Snyder, M., & Hackett, J.D. (2010). Personality and Motivational Antecedents of Activism and Civic Engagement. *Journal of Personality*, 78(6), 1703–1734. DOI: 10.1111/j.1467-6494.2010.00667.x.

- Polish Political Science Studies
- Omyła-Rudzka, M. (2022, March). *Zaufanie społeczne* [Social Trust]. Komunikat z Badań CBOS, 37. Public Opinion Research Center.
- Opp, K.D., & Brandstätter, H. (2010). Political Protest and Personality Traits: A Neglected Link. *Mobilization: An International Quarterly*, 15(3), 323–346. DOI: 10.17813/maiq.15.3.p73861l1625021u1.
- Raciborski, J. (2021). Zachowania wyborcze młodych Polaków: wielka zmiana. In: K. Skarżyńska (Ed.). *Młodzi dorośli: Identyfikacje, postawy, aktywizm i problemy życiowe* (pp. 53–61). Warszawa: Wydawnictwo SGGW.
- Sanchez-Roige, S., Gray, J.C., MacKillop, J., Chen, C.H., & Palmer, A.A. (2018). The Genetics of Human Personality. *Genes, Brain and Behavior, 17*(3), e12439. DOI: 10.1111/gbb.12439.
- Schmitt, D.P., Allik, J., McCrae, R.R., & Benet-Martínez, V. (2007). The Geographic Distribution of Big Five Personality Traits: Patterns and Profiles of Human Self-Description across 56 Nations. *Journal of Cross-Cultural Psychology*, 38(2), 173–212. DOI: 10.1177/0022022106297299.
- Schoen, H., & Schumann, S. (2007). Personality Traits, Partisan Attitudes, and Voting Behavior: Evidence from Germany. *Political Psychology*, 28(4), 471–498. DOI: 10.1111/j.1467-9221.2007.00582.x.
- Scovil, J. (2021a, February). *Zainteresowanie polityką i poglądy polityczne młodych Polaków na tle ogółu badanych* [Interest in Politics and Political Views of Young Poles as Compared to All Respondents]. Komunikat z Badań CBOS, 16. Public Opinion Research Center.
- Scovil, J. (2021b, March). *Poglądy polityczne młodych Polaków a płeć i miejsce zamiesz-kania* [Political Views of Young Poles versus Gender and Place of Residence]. Komunikat z Badań CBOS, 28. Public Opinion Research Center.
- Sindermann, C., Mõttus, R., Rozgonjuk, D., & Montag, Ch. (2021). Predicting Current Voting Intentions by Big Five Personality Domains, Facets, and Nuances – A Random Forest Analysis Approach in a German Sample. *Personality Science*, 2, e6017. DOI: 10.5964/ps.6017.
- Topolewska, E., Skimina, E., Strus, W., Cieciuch, J., & Rowiński, T. (2014). Krótki kwestionariusz do pomiaru Wielkiej Piątki IPIP-BFM-20. *Roczniki Psychologiczne/Annals of Psychology, 17*(2), 367–384.
- Turska-Kawa, A. (2011). Osobowościowe predykatory zachowań wyborczych. Rozważania w kontekście modelu "Wielkiej Piątki". *Preferencje Polityczne*, 2, 165–186.
- Twenge, J.M., & Campbell, W.K. (2019). Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets. *Psychiatric Quarterly*, 90(2), 311–331. DOI: 10.1007/s11126-019-09630-7.
- Twenge, J.M., Spitzberg, B.H., & Campbell, W.K. (2019). Less In-Person Social Interaction with Peers among U.S. Adolescents in the 21st Century and Links to Loneliness. *Journal of Social and Personal Relationships*, 36(6), 1892–1913. DOI: 10.1177/0265407519836170.

- Van Gestel, S., & Van Broeckhoven, C. (2003). Genetics of Personality: Are We Making Progress? *Molecular Psychiatry*, 8(10), 840–852. DOI: 10.1038/sj.mp.4001367.
- Vecchione, M., & Caprara, G.V. (2009). Personality Determinants of Political Participation: The Contribution of Traits and Self-Efficacy Beliefs. *Personality and Individual Differences*, 46(4), 487–492. DOI: 10.1016/j.paid.2008.11.021.
- Vecchione, M., Schoen, H., Castro, J.L.G., Cieciuch, J., Pavlopoulos, V., & Caprara, G.V. (2011). Personality Correlates of Party Preference: The Big Five in Five Big European Countries. *Personality and Individual Differences*, *51*(6), 737–742. DOI: 10.1016/j.paid.2011.06.015.
- Wang, C.H. (2016). Personality Traits, Political Attitudes and Vote Choice: Evidence from the United States. *Electoral Studies*, 44, 26–34. DOI: 10.1016/j.electstud.2016.07.004.
- Wang, C.H., Weng, D.L.C., & Tsai, C. (2019). Personality Traits and Political Participation in Taiwan: A Mediation Approach. *Political Science*, 71(3), 175–192. DOI: 10.1080/00323187.2020.1767506.
- Weinschenk, A.C. (2014). Personality Traits and the Sense of Civic Duty. *American Politics Research*, 42(1), 90–113. DOI: 10.1177/1532673X13484172.
- Weinschenk, A.C. (2017). Big Five Personality Traits, Political Participation, and Civic Engagement: Evidence from 24 Countries. *Social Science Quarterly*, 98(5), 1406–1421. DOI: 10.1111/ssqu.12380.
- Weisberg, Y.J., DeYoung, C.G., & Hirsh, J.B. (2011). Gender Differences in Personality across the Ten Aspects of the Big Five. *Frontiers in Psychology*, *2*, 178. DOI: 10.3389/fpsyg.2011.00178.