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ORIGINAL ARTICLE

Political Psychology

Beyond bidimensional measures: Introducing a culturally tailored measure of political orientation

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Abstract

Political orientation profoundly influences individual and social decisions. Yet adequate and culturally adaptable tools to quantify it are missing. In personality research, it is common to use questionnaires to capture the multifaceted nature of a construct. Thus, surprisingly, most studies assess political orientation using single-item scales that fail to account for cultural contexts beyond two-party systems. Using a bottom-up approach in which the core content of political orientation was defined by a German sample ($N = 117$), the current preregistered study developed a contemporary German questionnaire of political orientation (CGPOQ). The CGPOQ consists of 20 items that together form three main factors: "Tradition and National Security," Gender and Sexuality," and "Global Thinking." The factor structure that was determined by exploratory factor analysis ($N = 1{,}089$) was validated by confirmatory factor analysis in an independent sample ($N = 303$). Good fit was demonstrated by comparing the CGPOQ with several convergent (self-identification, older conservatism questionnaire, voting intention, social dominance orientation, right-wing authoritarianism) and divergent (religiosity, empathy) measures. The results indicate that the CGPOQ is a valid and reliable instrument for measuring political orientation in a German population. Furthermore, it challenges the assumption that political orientation relies on the same two dimensions across cultures.

KEYWORDS

conservatism, political ideology, political orientation, questionnaire, validation

INTRODUCTION

Political orientation is related to many aspects of human cognition and behavior. Thus, it is becoming increasingly relevant in science, particularly in political psychology, social psychology, and cognitive science. For example, people with different political orientations have been found to differ in their physiological reactivity to threatening stimuli (Oxley et al., 2008), in their moral judgments (Hannikainen et al., 2017), and in several personality traits (Carney et al., 2008). Profound claims about individual differences in political orientation essentially require a good measure of it.

Political orientation refers to an individual's or a group's general stance or position on political issues, ideologies, and values. It reflects a set of beliefs, attitudes, and preferences that shape one's understanding of how society should be organized, how power should be distributed, and what policies and principles should guide political decision-making. Due to its multifaceted nature, there is no single, universally agreed-upon definition that captures its diverse dimensions. Studies often rely on proxies or related constructs—such as conservatism (Hamilton, 2020), right-wing authoritarianism (RWA; Altemeyer, 1981), social dominance orientation (SDO; Pratto et al., 1994), party preference, voting behavior, and single-item assessments on the conservative–liberal or left–right spectrum—as measures that, while useful, fail to capture all aspects and the depth of political orientation.

Political orientation is often described in relation to the degree to which individuals or social groups adhere to a conservative ideology. Conservatism has been defined as "the instinctive human fear of sudden change, and tendency to habitual action" (Hamilton, 2020), thus promoting traditional social institutions and preserving traditional values. In other words, conservatives do not fundamentally reject the new, but they are particularly critical of the need for innovation. Conservatism can be further divided into political, economic, and social conservatism. Political conservatism can be understood as an affiliation with policies or political parties that preserves the current state at the expense of innovation; economic conservatism refers to the extent to which governments should regulate enterprises and the lives of their citizens; and social conservatism includes cultural aspects, such as preserving ancient moral traditions of humanity (Everett, 2013).

Measures of conservatism have been regularly used to assess a person's political orientation or ideology, largely equating the two concepts (e.g., Proch et al., 2019; van Leeuwen & Park, 2009). Wilson (1973) suggested three ways to understand the construct of conservatism. First, he proposed a dimensional distribution from conservative to liberal. Second, he suggested a bipolar distribution that is almost dichotomous with no dimensions in between. Third, he suggested that conservatism could be conceptualized as a trait without an opposite pole. The first two propositions are widely accepted in the social sciences and psychology and are typically assessed using single-item scales that either range from conservative to liberal (Graham et al., 2009; Inbar et al., 2012; Pratto et al., 1994) or are a dichotomous categorization of conservative or liberal based on party affiliation or partisanship (e.g., Morgan et al., 2010; Osmundsen et al., 2021). However, single-item self-report measures cannot account for the different meanings of conservatism or liberalism across different individuals and societies. The limitations of single-item scales have also been demonstrated by Feldman and Johnston (2014). They found that not only socially and economically conservative people self-define as conservative but also people who are socially conservative but economically liberal, and socially liberal and economically conservative. When participants labeled themselves, many of them chose a label other than conservative. Their results demonstrate that a self-placement on a single dimension cannot account for the ideological spectrum existing in a society.

By using a unidimensional measure to capture multidimensional preferences, meaningful variation within a political belief system is lost. Further, these results highlight that the equation of conservatism and political orientation is debatable. Similarly, Zumbrunnen and

Gangl (2008) found conflict between cultural and economic conservatism, which exist as distinct strands and independently impact an individual's ideology. While cultural conservatism influenced participants' views on social issues (e.g., women's role in society), economic conservatism did not. *Conservatism* can thus be understood as a broad umbrella term that subsumes not only political but also economic, social, and cultural ideologies. Therefore, while conservatism certainly overlaps with political orientation, it is not the same construct. The opposite of conservatism is usually called *liberalism*. However, this term is ambiguous in several ways and may not be an appropriate end of the scale on which to place conservatism. As Feldman and Johnston (2014) showed, self-identification as a liberal depends on the underlying ideology (e.g., economic or social). In addition, *liberal* is a context-specific term. Whereas in the United States *liberal* is used as the antonym of *conservative* and is often considered synonymous with a left-wing political orientation, in Europe it refers to the specific political theory of liberalism (particularly economic liberalism). However, even in the United States, recent research indicates that "leftists" do not solely identify as more extreme liberals but can be identified as a distinct group (Alto et al., 2022). As another example, in Germany, the Free Democratic Party (FDP) is called the liberal party, largely because of its stance on economic issues. However, in the positioning of political parties on the left–right continuum, they are relatively conservative (Jankowski et al., 2022).

According to Converse (1964), political orientation can be defined as policy preferences or party affiliation. Therefore, partisan identification is another commonly used measure of political orientation in current research. However, even though partisanship is a matter of political identification, it does not mean that party affiliation or voting behavior can capture the full breadth of one's ideology. For example, categorizing people as Democrats or Republicans based on the U.S. political landscape neither sufficiently differentiates nor makes the results of studies fully transferable to other cultural contexts. Especially in a multiparty system, policies and party programs are short-lived references, and people may adjust their voting behavior accordingly (Clarke & Stewart, 1998). A human trait should be measured not only with an instrument that is based on current circumstances, but also with one that has some consistency over time. In multiparty systems, differences between parties are more subtle, especially when it comes to party programs or specific policies (Benoit & Laver, 2006). A categorical system (with only two expressions) cannot represent the diversity of such a complex construct. People might identify with some of a party's objectives but lean toward another party on another issue.

Another possibility, widely used to assess political orientation, is the employment of left–right self-assessment scales (e.g., Bayo-Moriones et al., 2015; Montagnoli et al., 2016). Historically, the terms *left* and *right* were derived from the seating order of the French Assembly during the French Revolution (Bienfait & van Beek, 2001). Supporters of the king, and thus the ancient regime, sat to the right of the president, whereas those who supported the revolution sat to the left side. The left–right distinction is well established in political terminology. The appeal of using left–right scales in psychological research might be that there is some comparability of estimates across time and countries (Albright, 2010). Another advantage of using this scale as a proxy for political orientation is that the ambiguous term *liberalism* can be avoided. However, the terms *left* and *right* also have several implications. Inglehart and Klingemann (1976) found that the left–right assessments go beyond measuring political orientation. Besides ideological political identification, it includes party loyalty based on a party's reputation as well as social background factors, such as social class. Similarly, Bauer et al. (2017) found that there is no interpersonal comparability for left–right scales, which additionally depend on the social and educational background of the respondents. Left–right scales have also been found to measure a different construct than assessment scales on the conservative–liberal spectrum. For example, a Finnish study with a representative sample found that the measures of political orientation based on left–right and conservative–liberal scales yielded the same results for only one of five foundations and varied for all the others (Kivikangas et al., 2017). Thus, there is a

correlation between the left–right scales and conservatism–liberalism scales (see, e.g., Proch et al., 2019), but they cannot be used interchangeably.

The popularity of single-item scales might stem from the lack of modern questionnaires that fit the current time and culture. Available measures of political orientation date back to the 1960s and 1980s and hardly cover today's important political issues (e.g., Altemeyer, 1981; Wilson & Patterson, 1968). In addition, previous research on political orientation has been conducted almost exclusively in the United States and is largely influenced by the U.S. political system. Measures derived from this research might not be applicable to other cultures and thus be susceptible to biases.

To our knowledge, there is no questionnaire that has been developed specifically for a German or, more generally, a German-speaking sample that considers its cultural specificities. Most scales that are used in the German language were translated and validated from existing U.S. questionnaires (e.g., Machiavellismus-Konservatismus: Cloetta, 2014; *Social and Economic Conservatism Scale [SECS]:* Everett, 2013; *Revision einer Konservatismusskala:* König & Frank, 2000). The only recent questionnaire measuring political orientation using an exploratory bottom-up approach is the SECS, developed for a U.S. sample (Everett, 2013). To our knowledge, there are no similar approaches for a German population. In addition, it has been argued that studies of political orientation often lack diversity and representativeness at the socioeconomic level because they mainly use university student populations (Zmigrod & Tsakiris, 2021). Therefore, it is important to develop a questionnaire that measures political orientation based on the cultural specificity of Germany, allowing for adequate and reliable claims about this population.

The aim of the present study was to develop and validate a short but comprehensive, up-to-date measure of political orientation in the German context that accounts for the above-mentioned shortcomings. Since it is important to represent the entirety of a society to draw conclusions for that population, we aimed for a diverse sample, including people of different ages, genders, and educational levels, from rural and urban areas of different regions. Importantly, we chose a bottom-up approach by using items based on German lay definitions of social and political conservatism to account for Germany's specificities with regard to its political system and society. Following Everett's (2013) exploratory approach, we used participants' answers to a multi-item report about topics of interest to conservatives and liberals. Based on these answers, we developed items that were further evaluated by another sample and clustered, using an exploratory factor analysis. Through this approach, the questionnaire is specific to the societal context of Germany but not dependent on current party programs. In addition, this approach allowed us to investigate whether the traditional distinction between social and economic conservatism also applies to a German population.

Methodologically, we aimed at extracting and clustering items that define a measure of political orientation and possible subscales. With regard to the validation of the questionnaire, we had the following hypothesis: To evaluate the convergent validity of a questionnaire, it should have a high correlation with other questionnaires that measure the same or a similar construct. Our hypothesis was that our newly developed *Contemporary German Political Orientation Questionnaire* (CGPOQ) should correlate with an older translation of Wilson and Patterson's (1968) scale measuring conservatism (König & Frank, 2000) and self-reported political orientation on a single-item conservatism–liberalism scale.

To test the discriminant validity of a newly developed questionnaire, it is necessary to compare its contents to traits that are different but still related to the trait of interest. Several studies have substantiated a link between a conservative attitude and religiousness (e.g., Brady et al., 2018; Johnson et al., 2016; Kelly & Morgan, 2008; Lewis & Maltby, 2000; Piazza & Sousa, 2014) as well as a liberal attitude and empathy (e.g., Hasson et al., 2018; Sirin et al., 2017; Wagaman & Segal, 2014). In line with this, we expected that the newly developed CGPOQ (with higher scores indicating a more conservative attitude) to correlate negatively

with a questionnaire measuring empathy (Paulus, 2016) and positively with a self-assessment of religiousness. Since empathy and religiousness are related but different constructs, the correlations of empathy and religiousness with the new questionnaires should be smaller than the correlation with the measure by König and Frank (2000) and the single-item measure of political orientation. As a measure of criterion validity, we compared the participants' scores on the new questionnaire based on their party affiliation. We expected that voters of conservative/right parties (AfD, CDU/CSU) would differ from voters of liberal/left parties (Die Linke, Bündnis 90/GRÜNEN) in their answers in the CGPOQ.

Lastly, to test whether the proposed factor structure of the CGPOQ could account for new data, we tested whether the proposed factor structure remained the same in a new sample of participants. We also compared the results with a one-item self-identification on a left–right scale, a conservative–liberal scale, and participants' party preferences. Since social dominance orientation (SDO) and right-wing authoritarianism (RWA) are constructs related to conservatism, we also compared the questionnaire to these concepts as a measure of convergent validity in the new sample.

MATERIALS AND METHODS

Item development

To create items for the questionnaire, we included two questions at the end of a different laboratory study at the University of Goettingen. The sample consisted of 117 native German speakers (69 female, 48 male; $M_{age} = 42.04$ years, $SD_{age} = 16.93$) and was composed of university students and members of the local community. Participants varied in their occupation and level of education (72 college students or employees with a university degree, 28 employees without a university degree, 4 persons unemployed, 13 persons in retirement) as well as in their indicated religious affiliation (48 nonreligious, 66 Christian, 2 Buddhist). We asked them what they define as common characteristics of social and political conservatism or liberalism. Specifically, we asked, "Please write down what you consider to be the most important topics of interest to very conservative compared to very liberal people when it comes to social questions and political questions. For example, one could think that 'the man as the head of the family' characterizes conservatism and 'welfare benefits' characterizes liberalism." Participants answered the questions on a computer and were asked to list as many topics as they could think of but at least five in a text box. Issues mentioned by at least 15% of the participants were used to formulate the 47 items used in this study.

Data collection and participants

The study for the exploratory analysis was preregistered on the Open Science Framework (osf) before data collection (https://osf.io/px9h2/). The project was approved by the ethics committee of the Institute of Psychology at the University of Goettingen in accordance with the Declaration of Helsinki. Data were collected online using the online survey tool *formR* (Arslan et al., 2020). All participants gave informed consent in accordance with the Declaration of Helsinki by pressing an "I agree" button located beneath an explanatory letter before completing the study. Participants were able to perform the study at home on their own computers or mobile devices in their own time but were asked to turn off all interfering factors (e.g., music, other websites, and television) and to answer the items without pausing. Eligible participants were German citizens aged above 18 years who spoke German at a very good level and were permitted to vote in a federal election in Germany. They were recruited through our lab

database, postings in stores, social media sites, and newspaper advertisements. As reimbursement, participants could receive personalized feedback and enter a lottery to win a total of 1,100€. The sample size was determined using the N:*p* ratio (Costello & Osborne, 2005), which suggests a ratio of at least 1:20 participants before items are dropped. Therefore, we aimed to collect data from 1,000 participants to account for possible item heterogeneity and participant exclusion based on the attention checks. Data were collected from 1,089 participants (762 female, 319 male, 8 other; $M_{age} = 31.74$ years, $SD_{age} = 13.19$) who completed the entire survey. Participants were excluded if they failed one of two grammar questions, which also served as an attention test. This resulted in a complete data set of 1,044 participants (738 female, 298 male, 8 other; $M_{age} = 31.65$ years, $SD_{age} = 13.25$, $Range_{age} = 18–93$). Additional demographic data collected were highest educational attainment, German state of residence, and size of hometown by number of inhabitants (online appendix, Table S1).

To test whether the proposed factor structure would remain the same and to perform a confirmatory factor analysis (CFA), we collected additional data in a follow-up study (see the online appendix for CFA). In this study, we presented the 22-item version of the CGPOQ to a new sample of $N = 303$ participants (154 female, 147 male, 2 other; $M_{age} = 47.32$ years, $SD_{age} = 15.35$, $Range_{age} = 18–74$). The new sample also provided ratings on a one-item left–right scale, a one-item conservative–liberal scale, and questionnaires to measure RWA (Beierlein et al., 2015) and SDO (Aichholzer, 2019) as additional measures of criterion validity.

Measures and questionnaires

The measured variables included items that were developed for the new Contemporary German Political Orientation Questionnaire (CGPOQ) and other measures of political orientation or related traits, which were used to assess the validity of the CGPOQ and are described in more detail below.

CGPOQ

The 47 items that were created for the CGPOQ are short written statements like "Continuity and stability in the society strengthen Germany" or "An open attitude towards other opinions and cultures is important." All items can be found in the online appendix (Table S3). During testing, items were presented one by one in a random order for each participant to avoid sequence effects. Participants indicated how much they agreed or disagreed with the statement on an 11-point percentage scale ranging from 0% = completely disagree to 100% = fully agree. For 23 of the items, a higher score reflected a more conservative orientation. The other 24 items were phrased in such a way that a higher score indicated a more progressive orientation.

Measures of validity

To assess the validity of the CGPOQ, other measures of political orientation and related concepts were included. The main measure of convergent validity was the *Konservatismusskala* (König & Frank, 2000). At this stage, the scale consisted of 41 items with answer options that range from 1 to 4 (1 = very conservative attitude, 4 = very liberal attitude). To compare the CGPOQ with assessments of political orientation using single-item scales, we used a single-item self-assessment with the following question: "How would you assess yourself with regard to your attitude towards political, social and other public issues?" Participants answered this question on a 9-point Likert scale ranging from –4 = very conservative to +4 = very liberal.

In order to have two more distantly related constructs to compare with the CGPOQ, we chose empathy and religiosity as measures of divergent validity. Religiosity was assessed with the question stem "I would describe myself as," with answers ranging from 1 = not at all religious to 7 = very religious. Empathy was measured with the *Saarbrücker Persönlichkeitsfragebogen* (SPF; Paulus, 2016), which is a validated German questionnaire based on the Interpersonal Reactivity Index (Davis, 1983). It consists of 16 items rated on a scale ranging from 1 = never to 5 = always, with higher scores indicating greater empathy.

We assessed party affiliation, which served as a measure to determine criterion validity. We asked, "Which party can you identify with the most?" Participants could choose from the following parties, which were presented in alphabetical order: CDU/CSU, SPD, AfD, FDP, Die Linke, Bündnis 90/Die Grünen, Die PARTEI, Freie Wähler, andere (other). We chose these parties because they were the eight parties with the most votes (>1% each) in the German federal election in 2017.

In addition to the abovementioned measures, we assessed items measuring attitude-specific political issues and belief superiority, the Big Five personality traits using a short version of the *Big Five Inventory* (BFI-K; Rammstedt & John, 2005), and three more measures of party affiliation. These questions are not part of the current article and will therefore not be discussed further.

RESULTS

Item analysis

First, we recoded the items where a higher score indicated a more progressive/liberal orientation. In the following, a higher score reflects a more conservative orientation for all questionnaires. As extreme skewness and kurtosis can be problematic for the computation of an exploratory factor analysis (Muthén & Kaplan, 1985) and can result in artificial factors (Bandalos & Gerstner, 2016), items with a critical skewness of ±2 and a kurtosis of ±7 were excluded based on the recommendations by Curran et al. (1996). There were seven critical items. Although one critical item did not meet the skewness criterion (item 41), it was retained for additional analysis with a more representative weighted subsample. The analysis with this weighted subsample is described in more detail at the end of the next section. Overall, we excluded six items due to critical kurtosis and skewness. Subsequently, we conducted an item analysis in which the items were evaluated in terms of their item-total correlation. Since we assumed a general underlying construct of political orientation, we decided to exclude items that did not correlate well with the whole scale ($r < .40$). We excluded items stepwise because the exclusion of one item has a direct impact on the whole analysis (Moosbrugger & Kelava, 2020). First, we removed six items with an item-total correlation below .20. Then we repeated the analysis and excluded three more items with an item-total correlation below .30 step-by-step until every item met the criterion. Next, we excluded an additional five items that had an item-total correlation below .40. In total, we excluded 20 items, leaving 27 items for subsequent analyses.

Exploratory factor analysis

We conducted an *exploratory factor analysis* (EFA) using *principal axis factoring* to infer the relationship between different items and their underlying constructs. We chose this method over the data reduction method of *principal component analysis* (PCA) since EFA is more appropriate for the purpose of discovering an underlying structure of latent variables (Costello &

Osborne, 2005). The EFA and the corresponding requirements and values were calculated with the *psych* package (Revelle, 2020) in R (R Core Team, 2021) using R Studio.

First, we tested whether the data were suited for an EFA. The histogram of the correlation matrix was normally distributed with many correlations above .30 and no correlations above .80. Bartlett's test of sphericity was significant, $\chi^2(351) = 14092.75$, $p < .001$, which indicated that all correlations in the correlation matrix were significantly different from 0 and therefore suitable for factor analysis. The Kaiser-Meyer-Olkin criterion of sampling adequacy yielded a mean of 0.95 (Range = 0.89–0.98), which is considered to be excellent (Hutcheson & Sofroniou, 1999).

To determine how many factors to extract, we used a combination of methods. We calculated a first unrotated EFA and obtained three factors with eigenvalues greater than 1, applying the Kaiser criterion (Kaiser, 1960). Together, the three factors explained 49% of the variance of the data, with the first factor explaining 35% (eigenvalue = 9.51), the second explaining 9% (eigenvalue = 2.33), and the third explaining 5% (eigenvalue = 1.23). The scree plot (Cattell, 1966) showed a point of inflection at the fourth factor (online appendix, Figure S1), also indicating the extraction of three factors. We additionally used the Minimum Average Partial Correlation Test (MAP; Velicer, 1976), as it has been suggested to be a more reliable factor extraction method (Costello & Osborne, 2005). The MAP reached a minimum of 0.01 with three factors. The last method we used was parallel analysis (Horn, 1965), which suggested the extraction of five factors. Since the parallel analysis is also a highly recommended method for determining the number of factors to be extracted (Costello & Osborne, 2005) and is considered the most accurate criterion by Hayton et al. (2004), we compared factor solutions with three, four, and five extracted factors. Solutions with more than three extracted factors had very few items that loaded on two of the four or five factors, and many of these items had cross-loadings, leading to their subsequent exclusion. Since factors should contain at least three items (Costello & Osborne, 2005), these factors would have had to be dropped in further analyses. Considering these results, as well as the results of the other extraction methods, the final decision was to extract three factors.

We chose an oblique rotation method, namely, *oblimin* rotation, because we expected factors measuring different facets of political orientation to correlate with each other. When factors are in fact uncorrelated, orthogonal and oblique rotation have been shown to produce nearly the same factor structure, whereas orthogonal rotation can result in a loss of information if items are correlated (Costello & Osborne, 2005). In addition to *oblimin*, we repeated the analysis using *promax* and *goemin* to test whether they yielded the same factor solution, which was the case for both methods. After factor extraction, items that did not load above .3 on any factor (one item), as well as items that showed considerable cross-loadings (four items), were excluded. We assessed cross-loadings according to two exclusion criteria (Fürntratt, 1969; Rost & Schermer, 1986). We applied these criteria in a stepwise fashion until all items passed both of them. Both criteria converged in nearly all cases. In total, we excluded another five items from the 27 items initially used for the EFA, leaving 22 items in the questionnaire at this point.

There was a nonrepresentative bias in our sample regarding party affiliation, with more progressive voters being overrepresented. To ensure that our analysis and factor structure were not affected by this, we repeated the entire analysis with a weighted subsample of participants (see the online appendix for a description of the additional analyses).

Factor structure

After all item exclusions, the questionnaire consisted of 22 items. The factor structure (Table S4) explained 47.15% of the variance, with factor 1 (12 items) explaining 22.73%, factor

2 (five items) explaining 13.85%, and factor 3 (five items) explaining 10.57% of the data. Mean communality was .47, with no items having communalities below .20. This is acceptable considering our large sample size of $N > 1{,}000$ (MacCallum et al., 1999). The chi-square test was significant, $\chi^2(168) = 609.20$, $p < .001$. Since the power of the chi-square test approaches 1.0 with large sample sizes and even trivial differences will be detected (West et al., 2012, p. 211), a chi-square ratio was calculated. It indicated a good model fit, as it was less than 5 ($\chi^2/df = 3.63$) as suggested by Wheaton et al. (1977).

The three factors were interpreted based on the content of the contributing items as follows:

1. Tradition and National Security: Items in this factor concern issues of sociocultural and socioeconomic conservatism. It includes strengthening Germany as a national state and its (Christian) values and traditions, focusing on hierarchy, merit and respect, and strengthening the German economy (e.g., "Germany is based on Christian values that must be protected by the state").
2. Gender and Sexuality: This factor includes questions about the understanding of marriage and family, gender roles, and the understanding of gender (e.g., "Gender cannot just be divided into two categories; thus other gender identities need to be recognized").
3. Global Thinking: This factor includes tolerating minorities, looking beyond issues of one's own country, and being inclusive (e.g., "An open attitude toward other opinions and cultures is important"). It also includes items on climate change and views on the death penalty. Overall, this factor is relatively heterogeneous.

All items had moderate to good loadings, with minimum loadings of .40 and maximum loadings of .89. Internal consistency was good, with Cronbach's alpha of .91 for the entire CGPOQ scale, .89 for Tradition and National Security, .85 for Gender and Sexuality, and .72 for Global Thinking.

Distribution of CGPOQ and subscales

Descriptive statistics for the total CGPOQ score and the subscales are presented in Table 1. Whereas the histograms of the total CGPOQ and the Tradition and National Security subscale follow a nearly central and only slightly skewed distribution, the subscales Global Thinking and Gender and Sexuality are skewed to the right (Figure 1A). Shapiro–Wilk tests for normality were significant for the whole scale and all subscales (all $ps < .001$), indicating a non-normal distribution for all scales. Therefore, nonparametric tests were used for all further analyses. Spearman's rank correlation coefficient was used for correlational analyses, Kruskal-Wallis test for variance analyses, and Wilcoxon rank sum test for pairwise comparisons. Factors were correlated with each other, with Tradition and National Security and Gender and Sexuality correlating with $r_s = .47$ ($p < .001$), Tradition and National Security and Global Thinking

TABLE 1 Descriptive statistics for the CGPOQ, its subscales, and other measures of political orientation.

Scales	Mean	Median	*SD*	*Q1*	*Q3*	Skewness	Kurtosis
CGPOQ	41.66	40.91	16.31	29.55	52.73	0.23	−0.32
Tradition and National Security	59.01	60.00	19.07	45.83	74.17	−0.24	−0.48
Gender and Sexuality	20.43	12.00	22.83	2.00	30.00	1.42	1.45
Global Thinking	21.25	16.00	17.66	8.00	32.00	1.00	0.61
Konservatismusskala	1.99	1.98	0.31	1.78	2.19	0.35	0.12
Single-item self-assessment	−1.35	1.92	−2	−4	0	0.56	−0.31

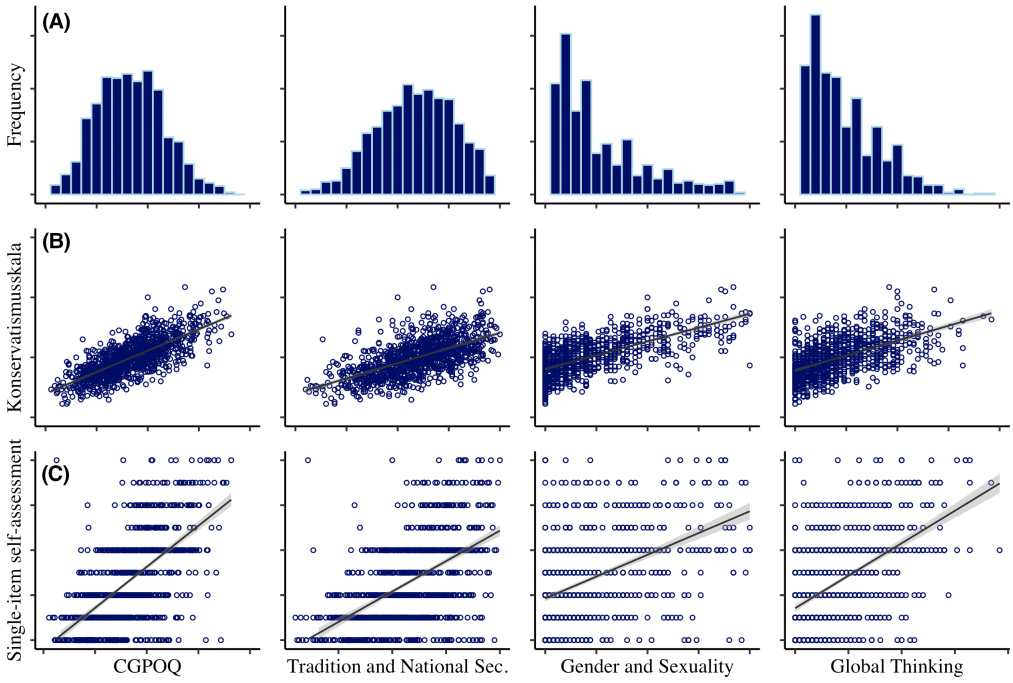

FIGURE 1 (A) Frequency plot, (B) correlation with the *Konservatismusskala*, and (C) single-item self-assessment for the CGPOQ and its subscales.

correlating with $r_s = .57$ ($p < .001$), and Gender and Sexuality and Global Thinking correlating with $r_s = .54$ ($p < .001$).

Validity

As a measure of convergent validity, we used the *Konservatismusskala* (König & Frank, 2000) and the single-item self-assessment on the conservative–liberal spectrum. The *Konservatismusskala* was slightly skewed to the right, with participants mostly scoring at the lower end of the scale. Figure 1B shows the relationship between the *Konservatismusskala* and the CGPOQ. The CGPOQ correlated with the *Konservatismusskala* with $r_s = .75$ ($p < .001$), indicating a strong relationship. Correlations with the subscales of the CGPOQ were slightly lower but still high with $r_s = .63$ for Tradition and National Security, $r_s = .66$ for Gender and Sexuality, and $r_s = .58$ for Global Thinking (all $ps < .001$). The single-item self-assessment was also highly correlated with the CGPOQ (see Figure 1C), with $r_s = .62$ ($p < .001$). Correlations with the subscales of the CGPOQ were $r_s = .54$ for Tradition and National Security, $r_s = .49$ for Gender and Sexuality, and $r_s = .52$ for Global Thinking (all $ps < .001$).

As measures for divergent validity, we assessed the correlations with the related but distant traits of religiousness and empathy. Religiousness showed a small but significant correlation with the overall CGPOQ score ($r_s = .18$, $p < .001$; Figure 2A), as well as with the subscales Tradition and National Security ($r_s = .19$, $p < .001$) and Gender and Sexuality ($r_s = .16$, $p < .001$). Global Thinking was not significantly correlated with religiousness ($r_s = .01$, $p = .808$). Empathy showed a significant negative correlation with the entire CGPOQ scale ($r_s = -.25$, $p < .001$; Figure 2B), as well as with the subscales Tradition and National Security ($r_s = -.17$, $p < .001$), Gender and Sexuality ($r_s = -.23$, $p < .001$), and Global Thinking ($r_s = -.28$,

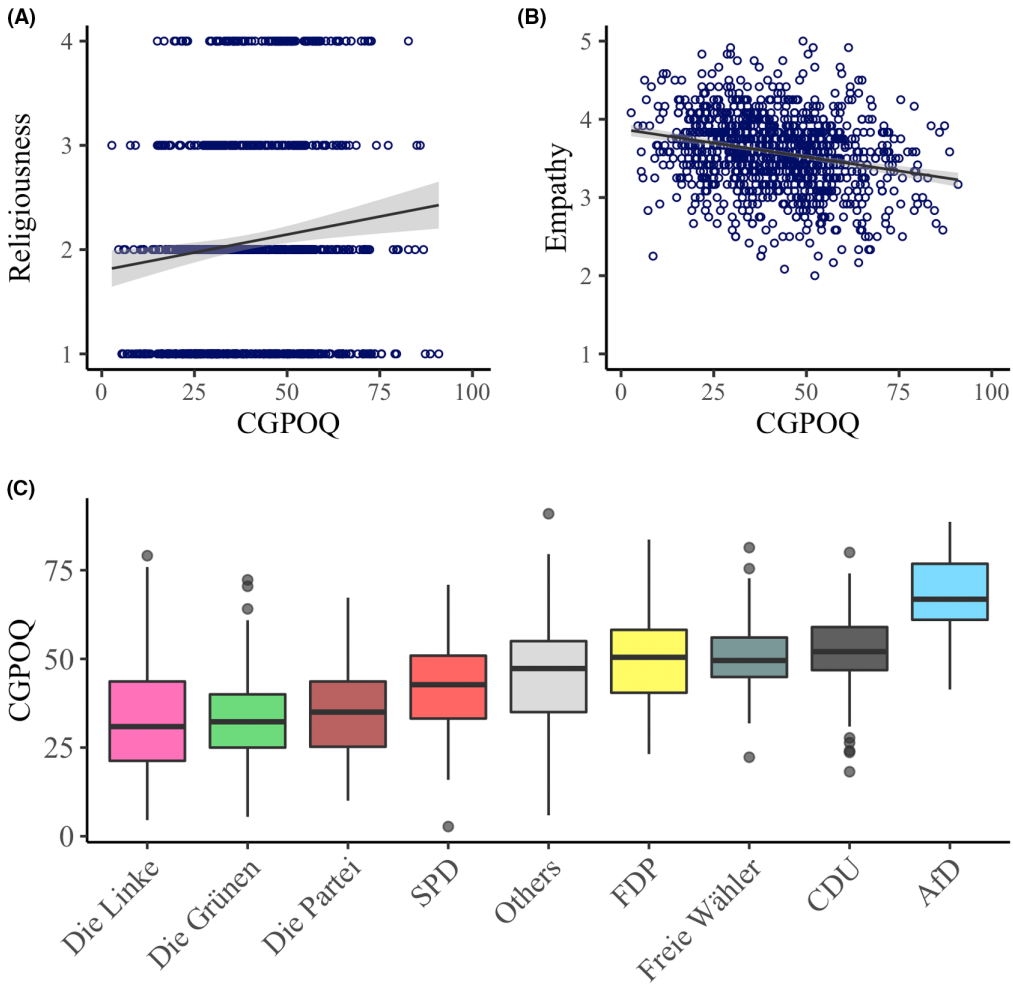

FIGURE 2 Divergent and criterion validity: (A) relationship of religiousness and CGPOQ score, (B) relationship of empathy and CGPOQ score, and (C) relationship of party affiliation and CGPOQ score.

$p < .001$). Overall, the measures of convergent validity showed larger correlations ($r_s = .49$–$.75$) than the measures for divergent validity ($r_s = .01$–$.28$). As a measure of criterion validity, we examined the relationship between the CGPOQ and party affiliation. We assumed that participants' CGPOQ scores would differ based on their party affiliation. Figure 2C shows that more conservative-affiliated parties, such as the AfD and the CDU, had a more conservative distribution of CGPOQ scores than more progressive-affiliated parties, such as Die Linke or Bündnis 90/Die Grünen. The Kruskal-Wallis test was significant, $\chi^2(8) = 357.41$, $p < .001$, indicating a relationship between party affiliation and the overall CGPOQ score, with a large effect size, $\eta^2 = .34$, 95% CI [.3, .39]. Post hoc pairwise comparisons showed that CGPOQ scores could differentiate between more progressive and more conservative parties (see Table S5). At the subscale level, all three subscales showed a significant relationship with party affiliation: Global Thinking had the largest effect size, $\chi^2(8) = 296.96$, $p < .001$; $\eta^2 = 0.28$, 95% CI [.24, .33]. Tradition and National Security had a similarly high effect size, $\chi^2(8) = 285.32$, $p < .001$; $\eta^2 = 0.27$, 95% CI [.23, .32], whereas Gender and Sexuality did not appear to contribute as much to the overall criterion validity, $\chi^2(8) = 181.5$, $p < .001$; $\eta^2 = 0.17$, 95% CI [.13, .22].

To compare the criterion validity of the CGPOQ with the older *Konservatismusskala* as well as the single-item self-assessment, we also calculated a Kruskal-Wallis test and post hoc comparisons with party affiliation. While the *Konservatismusskala* was also able to discriminate between party affiliations, $\chi^2(8) = 222.55$, $p < .001$, the effect size was considerably smaller, $\eta^2 = 0.21$, 95% CI [.17, .26], than the effect size of the CGPOQ, and the scale did not discriminate between the different party affiliations as well (for all post hoc comparisons, see Table S6). Similarly, the single-item self-assessment could also differentiate between different party affiliations, $\chi^2(8) = 234.22$, $p < .001$, but the effect size was again considerably smaller, $\eta^2 = 0.22$, 95% CI [.18, .28], than the effect size of the CGPOQ.

In sum, the CGPOQ showed a strong relationship with other measures of political orientation and a considerably lower correlation with more distantly related measures, demonstrating construct validity by possessing both convergent and divergent validity. CGPOQ scores also differed reliably between different party affiliations, demonstrating criterion validity, which was considerably higher than the criterion validity of an older scale. All data and analysis scripts are available at https://osf.io/px9h2/.

Confirmatory factor analysis

A CFA was conducted with a new sample to validate the factor structure revealed by the exploratory analysis with the first data set. A preceding EFA with the new data reproduced the factor structure of the CGPOQ scale. Nevertheless, two further items were excluded based on the EFA with the new data: One item of the Global Thinking subscale showed a very low loading on the factor as well as cross-loadings. Since it also did not fit well thematically (item 8, "The death penalty should be allowed for particularly serious crimes"), it was excluded for the CFA. The second item that was excluded (item 21, "Homosexual marriage must be equal to heterosexual marriage") had very high intercorrelations with other items of the same factor (Gender and Sexuality). This was plausible because there was some thematic redundancy (homosexual marriage). Therefore, we decided to exclude this item as well to diversify the subscale. The results of the CFA, along with measures of quality criteria and validity, are described in more detail in the online appendix. With the adjustments made as a result of the CFA, the final CGPOQ consists of 20 items. The questionnaire as well as a possible introductory text are available at https://osf.io/px9h2/.

Short version of the CGPOQ

As many studies have limited space to assess political orientation, especially when collecting large samples, we also want to propose a short version of the CGPOQ (S-CGPOQ). To this aim, a broader item exclusion was conducted based on statistical and theoretical considerations to propose the S-CGPOQ with 11 items. Items that were excluded either had relatively low loadings on the scale or covered a topic similar to other items. The Tradition & Hierarchy subscale was reduced to five items, and the other two subscales were reduced to three items each.

Another CFA was performed with the S-CGPOQ. The model fit values indicated an acceptable fit, $\chi^2(41) = 135.992$, $p < .001$, $\chi^2/df = 3.32$, SRMR = .081, RMSEA = .087. Internal consistency was still acceptable, with Cronbach's alpha of .81 for the whole CGPOQ scale, .78 for Tradition and National Security, .77 for Gender and Sexuality, and .66 for Global Thinking. Correlations with convergent and divergent measures were similar to the whole scale (see Table S8). The Kruskal-Wallis test was also significant, $\chi^2(7) = 94.94$, $p < .001$, indicating criterion validity.

DISCUSSION

The aim of the present study was to develop a short but comprehensive German questionnaire to measure political orientation. Using a novel approach, we consecutively developed items that clustered into three underlying factors in an exploratory factor analysis and were corroborated in a confirmatory analysis with a total of 20 items—namely, Tradition and National Security, Gender and Sexuality, and Global Thinking. To the best of our knowledge, the CGPOQ is the first questionnaire specifically designed for a German population based on current political topics but detached from specific party programs. As such, it is an excellent tool for studies that investigate the processes and influences of political orientation. The CGPOQ showed strong correlations with measures of convergent and criterion validity, and smaller correlations with measures of divergent validity, indicating good quality for a measure of political orientation. Furthermore, the CGPOQ shows a higher criterion validity than an existing German conservatism scale (i.e., *Konservatismusskala*; König & Frank, 2000).

Political orientation is a multifaceted concept, a characteristic that should also be reflected in a variety of dimensions in its assessment (Feldman & Johnston, 2014). The dimensionality of the CGPOQ, with three underlying factors, differs significantly from other commonly used scales for assessing political orientation, which are mostly uni- or bidimensional. One explanation for this discrepancy is that our questionnaire is the first to have items specifically developed for a German sample based on a pilot study. Germany differs not only culturally but also in terms of its political system from the United States, where most assessment tools for political orientation have been developed and used. Germany's multiparty system, as opposed to two-party systems, might have resulted in a different underlying dimensional pattern of political orientation. The importance of considering society-specific aspects in research is reinforced by studies that have found country differences in the assessment of personality variables (e.g., Allik & Mccrae, 2004; Romano et al., 2021). An assessment tool tailored to a certain country or society will help to make appropriate claims about it. An approach similar to ours could be used in other countries to obtain a better measure of political orientation, depending on cultural specificities.

Apart from cultural specificities, a questionnaire should be constructed by using a representative sample. As pointed out by Harman (2018), studies on political orientation have been conducted mostly with Western convenience samples (i.e., students, left-leaning), which limits the interpretation of their results. Although not fully representative, our diverse sample included data from people of different ages, genders, and education levels who come from rural and urban areas in different regions (east or west) of Germany. We especially encouraged supporters of conservative parties to participate in our study to address the biased treatment of political conservatives in current research. The replication of the results with the more representative subsample regarding party affiliation suggests that the bias in our overall sample did not affect the factor structure.

The three factors of the CGPOQ differ in the number of items that are included. The first factor, Tradition and National Security, includes 12 items and explains the most variance (22.73%). A strong first factor has also been found in other scales measuring political orientation or conservatism (e.g., Everett, 2013; König & Frank, 2000; Wilson & Patterson, 1968) and can probably be subsumed as a social conservatism/tradition factor. In all questionnaires, this factor includes items concerning the role of the family in society and traditional and religious (Christian) values, as well as items that focus on the preservation of "own" versus "foreign" culture. This strong first factor appears to be stable over time, as it remains consistent over the years across several scales, even though the political landscape has changed significantly in recent decades. The second factor, Gender and Sexuality, is straightforward and rather narrow in content. Though it cannot account for measuring political orientation by itself, this factor may be particularly valuable for studies that focus on the topic of gender and sexuality.

The third factor, Global Thinking, is not as cohesive as the first two factors but has broader content. The overarching questions addressed by the items of this factor are of supranational importance, such as the climate crisis and societal change due to migration. Compared to the first factor, the second and third factors of the CGPOQ focus more on current policies and sociopolitical issues, include fewer items, and explain less variance. Due to evolving societal values and changes in acceptable behavior, measures of political orientation are only appropriate for a period of time and lose their measurement precision (Henningham, 1996). Thus, it is likely that the second and third factors will vary slightly over the years as political systems change. Looking at the three factors separately provides a more comprehensive picture than a single overall score. All the factor intercorrelations were around $r = .50$, indicating that each factor adds unique variance to the overall construct of political orientation. At the same time, they are high enough to assume a single underlying construct. Therefore, we believe that a total score across all items of the three factors reflects an individual's political orientation.

The CGPOQ provides a timely and reliable measure of political orientation. This is first demonstrated by the fact that the factor structure remained the same in a new, large, and population-representative sample that was recruited several years later than the first one. Although the model-fit values for the CFA were not ideal, the factor structure as well as the item loadings remained the same for both independent samples and cover a wide range of sociocultural and socioeconomic topics. Furthermore, the quality criteria for the CGPOQ show high validity. This is further supported by the comparison of the CGPOQ with older German measures of conservatism (e.g., *Konservatismusskala*; König & Frank, 2000) as well as with single-item measures of political orientation. The CGPOQ outperforms these measures in terms of criterion validity. An additional advantage of the CGPOQ over previous measures is that participants indicate only their agreement or disagreement with different statements, without having a concept of liberal/conservative or left/right in mind, which might lead to interindividual differences in the interpretation of these terms.

In addition to the 20-item CGPOQ, we also proposed a short version with only 11 items. The reason for developing this short scale was that many studies, especially those with large samples, have little space and time to assess individual traits, such as political orientation. The composition of the S-CGPOQ has been based on theoretical and statistical considerations. It proposes a scale that is narrower in space but still covers the content of the full scale. As such, the S-CGPOQ still allows for a more refined assessment of political orientation than single-item measures. However, we still recommend using the whole scale and to resort to the short scale only if time is of the essence. The S-CGPOQ should only be used in large samples and not when looking at individual scores. Although the quality criteria for the S-CGPOQ are acceptable, they are significantly better for the full scale.

Although the factor structure of the CGPOQ breaks with the uni- or bidimensional assessment of political orientation in terms of the number of subconstructs included, we still had to label the ends of the scales of the questionnaire for the resulting individual score. Benoit and Laver (2006) have pointed out that "there is no 'one true' dimensionality for any given policy space" (p. 159). However, conservative/liberal and left/right have been the primary methods of classifying political orientation. It is questionable whether the labels for the endpoints of political ideology scales can be used interchangeably since they have strong influence on the self-identification with them. For example, Kivikangas et al. (2017) found differences in political ideology between left/right and conservative/liberal self-identification. The same has been shown in attitude research in that perspectives and context can influence a person's self-rating although their self-identification stays the same (Upshaw et al., 1970). The CGPOQ has the advantage that participants do not have to position themselves on a political spectrum but are asked to indicate their agreement with a statement on a percentage scale. In this way, we avoid the possibility that the ends of the scale could be misunderstood or interpreted differently by individuals who fill out the questionnaire. However, for the interpretation of the results,

it is still important to have adequate labels. Our choice for this was pragmatic. "Right" is a sensitive political label for a person's self-identification. Ames and Smith (2010) found that people who refuse to take an ideological position or are instable in their self-identification are latent rightist. "Conservative" and "liberal" are still the most common labels for a political ideology and probably provide the most substantive consensus among researchers. However, the label "liberal" is ambiguous for social versus economic ideologies in the political spectrum (Feldman & Johnston, 2014). The label "progressive" has not only been popular as self-identification for Democratic voters in the United States but is also increasingly used by the media (Kurtzleben, 2021). Thus, we chose "conservative" and "progressive" as the labels for the endpoints of our scale because of their relatively unambiguous meaning.

In addition to having three underlying factors rather than a uni- or bidimensional construct, an important finding in the development of the CGPOQ is the lack of an economic dimension. Most other questionnaires assessing political orientation or conservatism have obtained or tested for an economic factor (e.g., Everett, 2013; Puthillam et al., 2021). The initial item set that was generated based on the exploratory study included items reflecting economic issues, such as items on tax relief for companies (item 5) or welfare benefits (item 24). However, most of these items were excluded in the development process due to a low inter-item correlation, indicating that these items did not differentiate well between political orientations in our sample. In the process of the questionnaire development, we also tested for factor solutions, including four and five factors. The four-factor solution initially contained three items (items 4, 6, and 34) that reflected a belief in meritocracy and the importance of a strong economy, thus resembling an economic factor. However, the items cross-loaded on the first factor (Tradition and National Security), which led to the exclusion of item 6 from the analysis, and therefore to the exclusion of the whole factor, as factors should contain at least three items (Costello & Osborne, 2005). Importantly, the omission of the potential economic factor does not seem to be due to the rather progressive main sample, as the analysis with the representative subsample showed converging results. Therefore, we opted for the three-factor solution where two of the economic items (items 4 and 6) are included in the final questionnaire, which load on the factor Tradition and National Security.

As a consequence of not forming a separate factor, economic items play a smaller role compared to other scales (Everett, 2013; Feldman & Johnston, 2014). A look at the economic items of these other scales shows that some of them are very U.S.-specific. For example, gun ownership and health insurance are not current discourses in Germany. Therefore, commonly used economic items may not be well suited to German society. However, the lack of an economic scale does not mean that the CGPOQ does not account for socioeconomic and sociocultural cleavages (Lipset & Rokkan, 1967). Rather, these cleavages are incorporated in the three scales of the CGPOQ and may even be more representative of the interdependence of contemporary sociocultural and socioeconomic issues.

Limitations

While providing valuable insights, our study has certain limitations that should be acknowledged. First, the item development study relied on a self-selected sample from one town, which may not be representative of the general population in Germany. However, it is worth noting that, unlike other studies, our recruitment efforts extended beyond students, resulting in a diverse sample in terms of age, educational background, and occupation. In addition, the generalizability of our study is constrained by its focus on the German population, precluding cross-cultural comparisons. Nevertheless, the approach we employed in our research has the potential to be applied in other countries, allowing for comparative studies to be conducted in the future. Finally, it is important to acknowledge that the items used in our study might

have been influenced by current political debates and cleavages, and their relevance may not be perpetual. As political landscapes and discussions evolve, the ongoing applicability of the CGPOQ needs to be tested.

Conclusion

The Contemporary German Political Orientation Questionnaire fills a gap in research on political orientation in the German-speaking world: It provides a solid alternative to existing measures of political orientation that is tailored to the German societal system. Due to the richness of the questionnaire's multi-item approach, the CGPOQ can provide more precise assessments of a sample's political orientation than single-item measures. As such, it provides a promising tool for future psychological and social studies in which participants' political orientation is of interest. More broadly, this questionnaire could also be used to assess the current political climate in the German population. In addition, the approach presented here for the development of a German sample might provide a basis for the development of questionnaires of political orientation in other countries. In this way, comparative assessments of political orientation might be possible in the future while still taking country-related characteristics into account.

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SUPPORTING INFORMATION

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