


# Measuring Democratic Values in Primary School Children: Development and Confirmatory Factor Analysis of a New Survey Instrument

Florian Clemens Monstadt<sup>1</sup> 

[1] *Institute of Educational Research, University of Wuppertal, Wuppertal, Germany.*

---

Measurement Instruments for the Social Sciences, 2025, Vol. 7, Article e16247, <https://doi.org/10.5964/miss.16247>

**Received:** 2024-11-30 • **Accepted:** 2025-09-08 • **Published (VoR):** 2025-11-21

**Handling Editors:** Ayline Heller, GESIS – Leibniz Institute for the Social Sciences, Germany; Marius Dilling, Universität Leipzig, Germany; Peter Schmidt, Justus-Liebig-Universität Gießen, Germany

**Corresponding Author:** Florian Clemens Monstadt, Institute for Educational Research, University of Wuppertal, Gaußstr. 20, 42119 Wuppertal. E-mail: [monstadt@uni-wuppertal.de](mailto:monstadt@uni-wuppertal.de)

---

## Abstract

The internalization of democratic values in childhood is essential for fostering resilient democracies. Despite its importance, research on democratic values in children remains scarce due to methodological challenges. This study aims to develop and evaluate the factorial validity of a new survey instrument measuring five democratic values (participation, equality, following rules, renunciation of violence, and freedom of opinion) in primary school children. Confirmatory factor analyses (CFA) were performed using data from 429 third- and fourth-grade pupils in Germany to assess the instrument's validity. CFA results indicate that most scales—particularly equality, following rules, and renunciation of violence—demonstrate structural validity, while the scales for participation and freedom require further revision. Limitations of the study include the text-heavy survey design and the moderate sample size, precluding advanced invariance testing. Nevertheless, this study provides initial evidence for the feasibility of employing CFA to validate measures of democratic values in children and highlights important directions for future research to enhance the reliability and validity of these instruments.

## Keywords

democratic values, socialization, quantitative, primary school, children

The rise of right-wing populism and authoritarianism has renewed focus on the stability and resilience of democracies. Right-wing populism is closely linked to attitudes such as racism and sexism (Mudde, 2007), making their empirical examination a key task



for the social sciences. At the same time, the opposite view of democratic attitudes is also of crucial importance. Especially the internalization of democratic values as a stable form of diffuse support is crucial for the stability of democracies (Easton, 1975). There is a pressing need to better understand how such values develop. Although political socialization occurs throughout life, childhood is a key phase for internalizing values (Abendschön, 2010; Döring, 2018). However, empirical findings remain scarce, partly due to the challenges of conducting standardized studies with children (Abendschön, 2022).

In general, values can be defined as stable beliefs about desirable goals that influence individuals' behaviour across different situations (Schwartz & Bilsky, 1987). They differ from attitudes particularly in their cross-situational consistency and their level of abstraction (Rokeach, 1973). Various types of values can be distinguished, but this study focuses specifically on the measurement of individually projective values (Klages, 1992). These are internalized at the individual level, but relate to perceptions of society (Vogelbacher, 2019).

The question of which values can be defined as democratic values is, in contrast, controversial. Given the length of this article, it is not possible to provide a detailed discussion of the definitions.<sup>1</sup> As a minimum definition, it can be assumed that “basic principles of democratic regimes are commonly understood to include such values as freedom, participation, tolerance and moderation, respect for legal-institutional rights, and the rule of law” (Beetham, 1994; Simon, 1996, as cited in Norris, 1999, p. 11).

These values are internalized as part of political socialization. While the autonomous and voluntary internalization of social norms and values through rational reflection appears cognitively demanding, findings from cognitive and moral development research show that by primary school age—around six years and older—children already possess the ability to engage independently and flexibly with moral questions (Kohlberg, 1969; Vogelbacher, 2019). Empirical studies show that children encounter political values early on (van Deth et al., 2007). This implies that childhood is a formative period for the development of democratic value orientations (Abendschön, 2010).

## Conceptualization and Operationalization of Democratic Values in Children

Measuring democratic values in childhood entails conceptual and methodological challenges, particularly in ensuring that the instruments used are both theoretically grounded and developmentally appropriate. Although numerous studies have emphasized the importance of early political socialization (Abendschön, 2017), the empirical study of democratic values in children remains underdeveloped and methodologically fragmented.

---

1) For a more comprehensive definition of democratic values, see Abendschön (2010) or Monstadt (2025).

Several established studies have explored children's political orientations, but often with limited theoretical consistency or measurement precision. For instance, [van Deth et al. \(2007\)](#) employed a broad set of items on citizenship, equality, and rules in the "Demokratie Leben Lernen" (DLL) study. Even if the items are thematically relevant, the theoretical reference to fundamental democratic values is worth discussing. Based on DLL-data [Abendschön \(2010\)](#) refers to helpfulness, hard work, gender equality, and law-abidingness as "good citizen orientations." While some of these (e.g., law-abidingness, gender equality) align with democratic principles, the inclusion of hard work raises questions about conceptual clarity. For example, it is quite similar to the items measured in the PBVS-C developed by [Döring et al. \(2010\)](#), which however focuses on the measurement of basic values in children.

To address these limitations, the present study builds on [Norris's \(1999\)](#) framework of core democratic values and uses various measurement instruments derived from previous empirical research to measure these values. Each value was defined conceptually and translated into short, school-related scenarios to ensure contextual relevance and cognitive accessibility for third- and fourth-grade pupils. The items were informed by both theoretical models and existing empirical instruments, while deliberately seeking to avoid their limitations.

*Participation* was operationalized via classroom-based decision scenarios (see Appendix 1.1). The items, adapted from [Kinoshita \(2006\)](#) and [Helwig et al. \(2003\)](#), confronted children with choices between majority voting, consensus decisions, and authority-based decisions. While the majority principle is operationalized as democratic, the latter are seen as non-democratic. Prior research has shown, that esp. younger children prefer consensus-based decisions due to its lower complexity ([Helwig, 1998](#)). Research has shown that children begin to develop differentiated views on the principle of majority rule from around the age of eight ([Kinoshita, 2006](#)). But, even younger children already tend to prefer decisions based on the majority principle ([Helwig et al., 2003](#); [Helwig & Kim, 1999](#); [Helwig & Turiel, 2002](#)).

*Equality* was captured through items addressing task assignments (e.g., sweeping, playing soccer) based on gender (see Appendix 1.2). In contrast to the original formulation in the DLL survey ([van Deth et al., 2007](#)), the abstraction was reduced and the focus shifted from the parents to the children's everyday lives, thus aiming to minimize socially desirable responding related to family norms ([Emde & Fuchs, 2012](#)). This approach allows for the identification of potential stereotypical attributions regarding gender roles held by children and thus captures at least one dimension of equality.

In line with [Norris's \(1999\)](#) definition of democratic values, particularly the emphasis on respect for legal-institutional rights and the rule of law, these principles were operationalized through two distinct but related dimensions. First, *following rules* was measured using items adapted from the DLL study ([van Deth et al., 2007](#)), which presented classroom-based scenarios asking whether children believe rules should always

be followed (see Appendix 1.3). The aim was to capture both the general importance of rules and personal willingness to comply as expressions of respect for legal norms. Second, the *renunciation of violence* was included as a closely related value dimension (see Appendix 1.4). Although rarely addressed in previous studies, it reflects the expectation that democratic societies reject violence as a means of conflict resolution. This was assessed through two items measuring approval or disapproval of violence toward peers and authority figures. The conceptualization aligns with existing instruments such as the ALLBUS (GESIS, 2021), emphasizing that democratic norms favour non-violent, legally grounded solutions in interpersonal and institutional contexts.

*Freedom of opinion* was assessed through four items (see Appendix 1.5): the first addressing the general legitimacy of expressing one's views, as similarly surveyed by Šerek and Lomičová (2020); the second and the third addressing the acceptance of dissenting opinions within the group and towards younger pupils (Solomon et al., 1972); the fourth item examines whether it is legitimate for school authorities to restrict pupils' freedom of expression, which is also inspired by former surveys (Haerper et al., 2022; Helwig, 1998).

Particular attention was paid to ensuring that the questionnaire was designed to be as child-friendly as possible. When designing surveys for children, specific requirements must be met to support comprehension (Maschke & Stecher, 2012). First, this includes, administering the survey in classroom settings, which makes the situation more familiar and comfortable for children (Lang, 1985). Second, simplicity is also essential in the design of response options. Since children in third and fourth grade are already capable of reading, pictorial response formats (see for example the DLL study or the World Vision studies, Andresen & Hurrelmann, 2010) were deliberately not used. Nevertheless, clear and simple categorical answer formats were chosen to provide structure and simplicity of interpretation, as recommended in the literature on children's questionnaires (Maschke & Stecher, 2012). In addition, regular breaks were integrated into the questionnaire to keep all children on the same pace and to allow interviewers to read questions aloud to the class.

All items used categorical response options (e.g., yes/no, boys/girls/both), which were dummy-coded for analysis. One option consistently reflected a democratic orientation, the other a position contrary to democratic norms. This dichotomization was conceptually motivated, as the aim was to contrast acceptance vs. rejection of normative principles, rather than measure degrees of endorsement.

## Method

### Sample and Implementation of the Study

In this study, a total of 429 primary school pupils in 3rd and 4th grade in North Rhine-Westphalia in western Germany were surveyed between August and November 2023.

Children were recruited from a total of 24 classes. 47,9% of the children stated that they were female, which meets the distribution of the representative IGLU study (McElvany et al., 2023, p. 46). In terms of socioeconomic status, the children surveyed tend to be distributed in the upper range of the “Family Affluence Scale (FAS)” (Hobza et al., 2017). The mean score on the 13-point scale is 9.58 ( $SD = 0.12$ ), which means that the pupils surveyed tend to have higher social status.

Initially, the designed questionnaire was checked in two pre-tests. First, the questionnaire was applied in a focus group discussion with three 7 to 9-year-old children to test the wording, the understanding of the items and the relevance for children in this age (Kränzl-Nagl & Wilk, 2000). This was particularly relevant for those items which were translated into German or newly developed and is generally recommended for children studies (Maschke & Stecher, 2012). Second, a test survey with a complete class of fourth graders was conducted. After coordinating the research project with the school management, class teachers and parents, each survey was conducted by two students from a research seminar in the Master of Education. Interviews were conducted in class using a standardized test administration script.

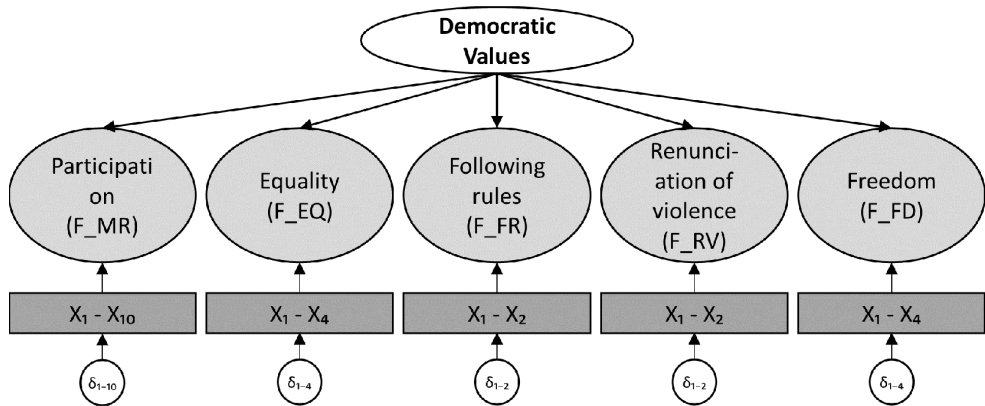
Due to the relatively small sample of 429 children and with approximately 20% missing data in the non-imputed regression models, it seems reasonable to multiple impute these missing values. Fully conditional specifications (fcs) with 20 imputations and 100 burn-in cycles were used to calculate missing values for all variables surveyed, regardless of their scale level (von Hippel, 2020). The following calculations refer to the imputed data set with all cases.

## Validation Approach

The validation strategy applied in this study primarily relies on confirmatory factor analyses (CFA), which are mainly used to assess the internal structural validity of the developed scales. These appear to be well suited for validating the present measurement instrument, as the theoretical construct of democratic values is predetermined as well as the number of factors (Reinecke, 2014). At the same time, it should be emphasized that CFA addresses only one of several dimensions of validity. In accordance to the theoretical basis of the questionnaire, it is expected that the respective items as manifest variables measure the underlying value as a latent construct and accordingly load positively and significantly on the corresponding factor. At the same time, all factors are expected to be interrelated as they together represent the underlying concept of democratic values (see Figure 1).

Figure 1

Simplified Model of the Confirmatory Factor Analysis (CFA)



Accordingly, it must first be checked to what extent the items used measure the latent constructs. Since variables were collected categorically in order to reduce complexity when surveying children, dummy variables must be coded first. Even if CFAs are designed for metric scale levels, the use of nominal variables is possible (Reinecke & Pöge, 2010).

For each scale, the response category that corresponds to the underlying democratic value is selected. For the value of participation, agreement with the majority decision is coded as 1. Preferences for consensus or teacher decisions are coded 0 (for an overview of the exact response categories, see Appendix 1). The internal reliability of the scale measuring the democratic value of participation is 0.42<sup>2</sup>, thus falling just below the commonly accepted threshold of 0.5 (Verma & Abdel-Salam, 2019). Low reliability coefficients are a well-documented challenge in research with children (Emde & Fuchs, 2012). Even in comparable studies, such as the previously discussed DLL study, reliability values must be regarded as marginal (Abendschön, 2010, p. 129). Given the significant research gap in the political socialization of democratic values in childhood, it appears justifiable to use these initial findings as a starting point for further development and refinement. For the value equality, the answer “both”, is coded as 1. A preference for one of the two genders is coded as 0. The internal consistency of this scale is 0.42. For the value following rules, the answer “important” is coded as 1 and, for renunciation of violence, the rejection of both forms of violence. For the former, the bivariate correlation

2) In accordance with the described dummy coding, the Kuder-Richardson Formula 20 (KR-20) was used to calculate the internal consistency of the scales. This measure is considered appropriate for assessing the reliability of scales composed of binary items (Moosbrugger & Kelava, 2020).

between the two items is 0.36 ( $p \leq .05$ ), while for the latter, it is 0.21 ( $p \leq .05$ ). For the value of freedom, general agreement, acceptance of minority opinions and rejection of authoritarian decisions are coded as 1. All other answer options are coded with 0. In this case, the internal consistency is an unacceptable  $-0.02^3$ .

The coefficients in the CFA are to be interpreted as correlations between the manifest variables and the respective factor. The crucial criteria are the direction and significance. As usual with correlations, a coefficient from approx. 0.3 is considered a medium correlation and from 0.6 as satisfactory (Reinecke & Pöge, 2010). In addition, the fit indices indicate the model fit, with a CFI of 0.96 or greater and an RMSEA of 0.05 or less indicating that the model can be accepted (Hu & Bentler, 1998, 1999). To compare different models, the AIC is reported, with a smaller value indicating a better model fit in comparison (Bühner, 2021; Reinecke & Pöge, 2010).

## Results

First, it is worth taking a look at the overall model of the CFA (see Appendix 2.1). With regard to the *participation* factor (F\_MR), the items 3 and 7 stand out, as their factor loadings miss the significance level of 5%. With a  $p$ -value of .063 Item 1 is also just above the required 5% level. Furthermore, it can be seen that the correlations with the participation factor are quite small. Only Item 6 shows a low to medium correlation. All four items load significantly and positively on the factor *equality* (F\_EQ). In particular, Items 3 and 4 demonstrate moderate correlations with the factor. This pattern also applies to the factors *following rules* (F\_FR) and *renunciation of violence* (F\_RV), where significantly positive factor loadings between 0.12 and 0.25 are observed. In contrast, a heterogeneous pattern emerges for the factor *freedom*, characterized by opposing factor loadings. Items 1 and 4 load positively, whereas Items 2 and 3 load negatively. Despite the recoding of the items as dummy variables in line with theoretical considerations, they appear to measure opposing latent constructs. This is especially evident from the significant correlations of Items 1, 2, and 3, which clearly contradict the hypothesized structure.

The covariances between the factors, also reported in Appendix 2.1, are noteworthy. The factor *participation* exhibits non-significant negative correlations with the other factors. Moreover, the factor *freedom* correlates negatively and even significantly with the factors *equality*, *following rules*, and *renunciation of violence*. While those three show highly significant, positive, and satisfactory intercorrelations, the negative correlations with *participation* and *freedom* challenge the assumption that all factors can be subsumed under democratic values.

---

3) After model adjustment (see next chapter), the remaining two items correlate significantly at 0.11.

Additionally, the global model fit indices indicate that the model demonstrates limited fit to the data. The CFI of 0.808 is below the threshold of 0.96, but the RMSEA, at 0.038, is under the recommended cut-off of 0.05 (Hu & Bentler, 1998, 1999). In light of these findings, it seems necessary to further modify the model.

In the next step, only the significant variables were included in the CFA. Due to the small sample size, Item 1 was retained for the factor *participation* in subsequent calculations, while Items 3 and 7 were removed. For the factor *freedom*, the non-significant Item 4 was removed, as well as Item 1, which loaded inversely compared to the other items on the factor. Removing Item 1 resulted in positive loadings for Items 2 and 3 on the factor *freedom*. Additionally, the descriptive distribution of responses (see Appendix 1.5) revealed minimal variance in Item 1, with approximately 98% of children agreeing with the statement. Similarly, item 4 exhibited a high agreement rate of about 89%. Furthermore, this item required a considerable amount of missing data to be imputed, as roughly 14% of children did not respond to it.

In the adjusted CFA-model, the factor loading of Item 1 on the factor *participation* remains significant only at the 10% level (see Appendix 2.2). All other variables are significant at least at the 5% level. Correlations range between 0.07 and 0.30. Notably, the instruments measuring equality, following rules, and renunciation of violence demonstrate satisfactory psychometric performance in the present study. Specifically, these scales showed consistently significant factor loadings with clear theoretical alignment, indicating reliable measurement of these democratic values. For the factor *freedom*, two significant items remain, with correlations ranging from 0.07 to 0.25. All reported correlations remain highly significant in this model as well.

The pattern of covariances remains consistent, with the factor *participation* continuing to correlate negatively and non-significantly with the other factors. The remaining factors, however, correlate significantly and positively with one another, with correlations ranging between 0.5 and 0.8. Additionally, the now-significant correlation of the factor *freedom* with the other factors supports the decision to remove the first item (*free\_gen*) from the model, as this adjustment establishes a relationship with the other democratic values. When comparing the two models, the adjusted model is preferable due to its lower AIC. The CFI improves to 0.912, falling just below the required threshold. Furthermore, the RMSEA value of 0.038 supports acceptance of the model.

## Discussion

The present study aims to develop and validate a standardized instrument for assessing democratic values in elementary school children. Building on existing literature on political socialization and value development, the study examines the extent to which the underlying democratic values (*participation*, *equality*, *following rules*, *renunciation of violence*, and *freedom*) can be measured.

The results of the CFA suggest that the theoretically proposed structure of democratic values can be tentatively confirmed, though some limitations must be addressed. For the values *equality*, *following rules*, and *renunciation of violence*, the items measured the latent constructs significantly and in the expected direction. *Participation* and *freedom* items showed weak or inconsistent factor loadings. This clearly indicates that these two scales do not work as expected. The overall model fit improved after the removal of discrepant items, and the RMSEA now suggests an acceptable model. However, further work is needed to optimize the instrument. The overall model fit for the child sample and particularly the lower CFI reflects the challenges of capturing abstract value constructs in a young age group. While the RMSEA indicates acceptable fit, the CFI remains just below conventional thresholds, even after model adjustment. This may be due to the limited variance in responses and the simplified item formats, which were necessary to ensure child comprehension but may reduce measurement precision. These limitations underline the need for more age-sensitive item formats and further refinement of the instrument. By contrast, the values of *equality*, *following rules*, and *renunciation of violence* were measured with stable and interpretable factor structures. Thus, they provide a basis for further research and practical applications in the context of children's political socialization.

The CFA model was adjusted post hoc to improve fit by excluding items with low loadings. These results should be seen as preliminary and require future replication. Future research should therefore aim to replicate the identified factor structure through cross-validation in new datasets and conduct additional tests such as measurement invariance analyses across different groups (e.g., age, gender, or school context). These steps are essential to ensure that the developed factor structure is robust, reliable, and generalizable, and not merely an artefact of the present sample. Moreover, future studies should consider applying ordinal CFA techniques to account more precisely for the categorical nature of the response formats.

The value *participation* exhibits significant deviations. Several items had to be removed due to non-significant loadings. Additionally, the age effects on decision-making preferences reported in previous studies (e.g., Kinoshita, 2006) could not be replicated in this study. Also, there is no evidence, that the children in this study distinguish between the different domains of decision-making. This aligns with prior findings for the present group of 8–9 year-olds (Kinoshita, 1989, 2006). All this may indicate that the scenarios presented were difficult for children to evaluate or that the concepts underlying the decision modes are not yet fully understood at this age. The results underline the need to further improve the operationalization of this value. For example, less text-heavy items or picture-based scenarios could be used to better illustrate the decision-making situations to the children, similar to the PBVS-C (Döring et al., 2010).

The scale to measure *freedom* also shows methodological challenges. Due to uncorrelated and opposite factor loadings, two items had to be removed. The low variance of

the first item indicates that the children surveyed are either very unanimous or that they may have already internalized social desirability. A further elaboration of the items based less on general principles and more on concrete examples that are closer to the reality of the children could help here. In addition, the situation in which the school administration restricts pupils' freedom of expression may have been too abstract.

The covariances between the factors show that *equality*, *following rules* and *renunciation of violence* correlate positively and significantly with each other, whereas *participation* consistently shows a negative and non-significant relationship. This pattern indicates that, from the children's perspective, *participation* is seen as an independent value that is less closely linked to the other democratic values. Alternatively, this could be a methodological artefact based on the described measurement problems. In any case, it contradicts the theoretical assumption shown in [Figure 1](#).

The results of the present study must be considered in the context of several methodological limitations that influence both the interpretation of the findings and their generalizability. First, the sample size of 429 children is sufficient to conduct confirmatory factor analyses, but too small to conduct more complex analyses such as invariance tests, especially for subgroups such as gender or grade level. Second, the use of a purely text-based questionnaire is a potential barrier, especially for children with lower reading skills. Although pre-tests and a comprehension question ensure comprehensibility, issues with more complex or highly contextualized items may have led to response bias. In addition to the reliance on text-heavy items, the varied design of response formats may also have contributed to reduced comprehension among the children. Although nominal response categories were deliberately chosen to facilitate understanding, this approach may have had the opposite effect. A promising example for potential revision is the PBVS-C by [Döring et al. \(2010\)](#), which was also used in this study to assess basic values. Furthermore, findings by [Gerbeshi et al. \(2024\)](#) suggest that children can respond to simple Likert scales. Future work should explore whether visual analogues or adapted Likert formats might offer a more nuanced balance between simplicity and measurement precision. Third, some items, particularly in the area of participation, seem difficult for the age group to understand. Despite the focus on school situations and the explanation of the decision-making modes, some items may have remained incomprehensible. The low variance in the responses for certain values, such as general freedom of opinion, also indicates that the questions were too general to actually measure the children's underlying values. It should also be noted that neither dropout rates nor the amount of missing data were unusually high. Future studies could incorporate external validation criteria, such as complementary behavioural observations or qualitative interviews. Especially the former could help to assess whether children have actually internalized the respective values and act in accordance with them, as implied by the definition of values ([Schwartz, 2012](#)).

## Conclusion

The present study provides initial empirical evidence that children show interest in political issues reflected in the questionnaire, such as equality, participation, and freedom of opinion. The results of the study show, on the one hand, the difficulties of measuring democratic values in children, but also how promising this is. Esp. the values of *equality*, *following rules* and *renunciation of violence* can be measured nearly accurately. Future research should employ more comprehensive validation strategies to further substantiate and differentiate these findings.

This study offers several implications for future research. First, picture-based or interactive items may improve comprehension and cognitive accessibility. Second, realistic, child-relevant scenarios could enhance item validity. Third, larger, representative samples and qualitative approaches (e.g., interviews, group discussions) may deepen insights and support the refinement of item design and value operationalization.

In sum, this study provides a foundational step toward capturing democratic orientations in children and highlights the potential for early civic education based on robust empirical instruments. The results provide important impulses for the further development of survey instruments and lay a foundation for future methodological and content-related studies in this area. The long-term objective should be to establish democratic values as a central component of civic education and to make them measurable from an early age on.

---

**Funding:** The author has no funding to report.

---

**Acknowledgments:** The author has no additional (i.e., non-financial) support to report.

---

**Competing Interests:** The author has declared that no competing interests exist.

---

**Ethics Statement:** The study was reviewed and approved by the Ethics Committee of the University of Wuppertal. Written informed consent was obtained from all participants' legal guardians.

---

**Data Availability:** The data that support the findings of this study are not publicly available due to ethical and privacy considerations involving minors.

---

## References

- Abendschön, S. (2010). *Die Anfänge demokratischer Bürgerschaft: Sozialisation politischer und demokratischer Werte und Normen im jungen Kindesalter*. Nomos.
- Abendschön, S. (2017). Children and politics. *American Behavioral Scientist*, 61(2), 163–166.  
<https://doi.org/10.1177/0002764216689119>

- Abendschön, S. (2022). Politische Bildung in Kindheit und Jugend. In H. Reinders, D. Bergs-Winkels, A. Prochnow, & I. Post (Eds.), *Empirische Bildungsforschung* (pp. 639–660). Springer Fachmedien Wiesbaden. [https://doi.org/10.1007/978-3-658-27277-7\\_35](https://doi.org/10.1007/978-3-658-27277-7_35)
- Andresen, S., & Hurrelmann, K. (Eds.). (2010). *Kinder in Deutschland 2010: 2. World Vision Kinderstudie*. Fischer-Taschenbuch-Verlag.
- Bühner, M. (2021). *Einführung in die Test- und Fragebogenkonstruktion* (4th ed.). Pearson.
- Döring, A. K. (2018). Measuring children's values from around the world: Cross-cultural adaptations of the Picture-Based Value Survey for Children (PBVS-C). *Studia Psychologica*, 18(1), 49–59. <https://doi.org/10.21697/sp.2018.18.1.03>
- Döring, A. K., Blauensteiner, A., Aryus, K., Drögekamp, L., & Bilsky, W. (2010). Assessing values at an early age: The Picture-Based Value Survey for Children (PBVS-C). *Journal of Personality Assessment*, 92(5), 439–448. <https://doi.org/10.1080/00223891.2010.497423>
- Easton, D. (1975). A re-assessment of the concept of political support. *British Journal of Political Science*, 5(4), 435–457. <https://doi.org/10.1017/S0007123400008309>
- Emde, M., & Fuchs, M. (2012). Datenqualität in standardisierten Interviews mit Kindern. In F. Heinzel (Ed.), *Methoden der Kindheitsforschung: Ein Überblick über Forschungszugänge zur kindlichen Perspektive* (2nd ed., pp. 335–349). Beltz.
- Gerbeshi, L., Ertl, S., & Torrau, S. (2024). Demokratische Teilhabe in der Grundschule – Welche Mitbestimmungsmöglichkeiten nehmen Kinder im Klassenkontext wahr? *Zeitschrift für Bildungsforschung*, 14(2), 233–248. <https://doi.org/10.1007/s35834-024-00430-z>
- GESIS. (2021). *ALLBUS/GGSS 1980-2018 (Kumulierte Allgemeine Bevölkerungsumfrage der Sozialwissenschaften/Cumulated German General Social Survey 1980-2018) Allgemeine Bevölkerungsumfrage der Sozialwissenschaften ALLBUS - Kumulation 1980-2018 (Version 1.1.0)* [Dataset]. GESIS Data Archive. <https://doi.org/10.4232/1.13748>
- Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., Lagos, M., Norris, P., Ponarin, E., & Puranen, B. (2022). *World Values Survey Wave 7 (2017-2022) Cross-National Data-Set (Version 5.0.0)* [Dataset]. World Values Survey Association. <https://doi.org/10.14281/18241.20>
- Helwig, C. C., Arnold, M. L., Tan, D., & Boyd, D. (2003). Chinese adolescents' reasoning about democratic and authority-based decision making in peer, family, and school contexts. *Child Development*, 74(3), 783–800. <https://doi.org/10.1111/1467-8624.00568>
- Helwig, C. C., & Turiel, E. (2002). Civil liberties, autonomy, and democracy. *International Journal of Law and Psychiatry*, 25(3), 253–270. [https://doi.org/10.1016/S0160-2527\(02\)00105-X](https://doi.org/10.1016/S0160-2527(02)00105-X)
- Helwig, C. C., & Kim, S. (1999). Children's evaluations of decision-making procedures in peer, family, and school contexts. *Child Development*, 70(2), 502–512. <https://doi.org/10.1111/1467-8624.00036>
- Helwig, C. C. (1998). Children's conceptions of fair government and freedom of speech. *Child Development*, 69(2), 518–531. <https://doi.org/10.2307/1132181>
- Hobza, V., Hamrik, Z., Bucksch, J., & De Clercq, B. (2017). The Family Affluence Scale as an indicator for socioeconomic status: Validation on regional income differences in the Czech

- Republic. *International Journal of Environmental Research and Public Health*, 14(12), Article 1540. <https://doi.org/10.3390/ijerph14121540>
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424–453. <https://doi.org/10.1037/1082-989X.3.4.424>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Kinoshita, Y. (1989). Developmental changes in understanding the limitations of majority decisions. *The British Journal of Developmental Psychology*, 7(2), 97–112. <https://doi.org/10.1111/j.2044-835X.1989.tb00792.x>
- Kinoshita, Y. (2006). Children's judgment of the legitimacy of group decision-making about individual concerns: A comparative study between England and Japan. *International Journal of Behavioral Development*, 30(2), 117–126. <https://doi.org/10.1177/0165025406063581>
- Klages, H. (1992). Die gegenwärtige Situation der Wert- und Wertwandelforschung—Probleme und Perspektiven. In H. Klages, H.-J. Hippler, & W. Herbert (Eds.), *Werte und Wandel: Ergebnisse und Methoden einer Forschungstradition* (pp. 5–39). Campus.
- Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of socialization theory and research* (3rd ed., pp. 347–480). Rand McNally.
- Kränzl-Nagl, R., & Wilk, L. (2000). Möglichkeiten und Grenzen standardisierter Befragungen unter besonderer Berücksichtigung der Faktoren soziale und personale Wünschbarkeit. In F. Heinzel (Ed.), *Methoden der Kindheitsforschung: Ein Überblick über Forschungszugänge zur kindlichen Perspektive* (pp. 59–76). Juventa.
- Lang, S. (1985). *Lebensbedingungen und Lebensqualität von Kindern*. Campus.
- Maschke, S., & Stecher, L. (2012). Standardisierte Befragungen von Kindern. In F. Heinzel (Ed.), *Methoden der Kindheitsforschung: Ein Überblick über Forschungszugänge zur kindlichen Perspektive* (2nd ed., pp. 320–334). Beltz.
- McElvany, N., Lorenz, R., Frey, A., Goldhammer, F., Schilcher, A., & Stubbe, T. C. (Eds.). (2023). *IGLU 2021. Lesekompetenz von Grundschulkindern im internationalen Vergleich und im Trend über 20 Jahre*. Waxmann. <https://doi.org/10.31244/9783830997009>
- Monstadt, F. C. (2025). Demokratische Wertorientierungen im Kindesalter: Empirische Befunde zu ihrer Verknüpfung mit Grundwerten. *Zeitschrift für Politikwissenschaft*, 35(2), 243–271. <https://doi.org/10.1007/s41358-025-00414-z>
- Moosbrugger, H., & Kelava, A. (Eds.). (2020). *Testtheorie und Fragebogenkonstruktion*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-662-61532-4>
- Mudde, C. (2007). *Populist radical right parties in Europe*. Cambridge University Press.
- Norris, P. (Ed.). (1999). *Critical citizens: Global support for democratic government*. Oxford University Press.

- Reinecke, J. (2014). *Strukturgleichungsmodelle in den Sozialwissenschaften* (2nd ed.). Oldenbourg Wissenschaftsverlag.
- Reinecke, J., & Pöge, A. (2010). *Strukturgleichungsmodelle*. In C. Wolf (Ed.), *Handbuch der sozialwissenschaftlichen Datenanalyse* (pp. 775–804). VS Verlag für Sozialwissenschaften.
- Rokeach, M. (1973). *The nature of human values*. Free Press.
- Schwartz, S. H., & Bilsky, W. (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology*, *53*(3), 550–562.  
<https://doi.org/10.1037/0022-3514.53.3.550>
- Schwartz, S. H. (2012). An overview of the Schwartz Theory of Basic Values. *Online Readings in Psychology and Culture*, *2*(1), Article 11. <https://doi.org/10.9707/2307-0919.1116>
- Šerek, J., & Lomičová, L. (2020). Adolescents' transitions between different views on democracy: Examining individual-level moderators. *Journal of Applied Developmental Psychology*, *66*, Article 101104. <https://doi.org/10.1016/j.appdev.2019.101104>
- Solomon, D., Ali, F. A., Kfir, D., Houlihan, K. A., & Yaeger, J. (1972). The Development of Democratic Values and Behavior among Mexican-American Children. *Child Development*, *43*(2), 625–638. <https://doi.org/10.2307/1127561>
- van Deth, J. W., Abendschön, S., Rathke, J., & Vollmar, M. (2007). *Kinder und Politik*. VS Verlag für Sozialwissenschaften. <https://doi.org/10.1007/978-3-531-90587-7>
- Verma, J. P., & Abdel-Salam, A.-S. G. (2019). *Testing statistical assumptions in research*. John Wiley & Sons.
- Vogelbacher, M. (2019). *Wertorientierungen bei Kindern zu Beginn der Schulzeit: Eine empirische Untersuchung zu Strukturen, Entwicklungen und familiären Determinanten* (2nd ed.). Logos Verlag.
- von Hippel, P. T. (2020). How many imputations do you need? A two-stage calculation using a quadratic rule. *Sociological Methods & Research*, *49*(3), 699–718.  
<https://doi.org/10.1177/0049124117747303>

## Appendix 1 Children's Questionnaire

The distributions refer to the imputed data set. Due to the small sample size, “don't know” responses were also imputed. Tests of the confirmatory factor analysis without imputation of these responses did not lead to any notable differences.

### Appendix 1.1 Participation

Item	Text	Answer	Distribution
dem_	In Emilia's class, the children decide to make a class newspaper.	Majority:	42.84%
Emilia	Someone suggests that there should be a deadline by which everyone should have their part of the newspaper ready.	Consens: Teacher:	32.45% 24.71%

Item	Text	Answer	Distribution
dem_ Noah	Noah's class is planning a class party. Someone suggests that the children should decide for themselves what each of them should prepare for the party.	Majority: Consens: Teacher:	39.56% 26.88% 33.57%
dem_ Elif	Someone in Elif's class suggests that the children should stop running around in the playground because that would mean bumping into other children.	Majority: Consens: Teacher:	18.37% 29.02% 52.61%
dem_ Yusuf	Someone in Yusuf's class suggests that all children should brush their teeth thoroughly in future to protect themselves from tooth decay.	Majority: Consens: Teacher:	31.10% 45.43% 23.47%
dem_ Zofia	Zofia's class recently had the flu. Someone in her class suggests that all the children should wear a mask to protect themselves from infection.	Majority: Consens: Teacher:	22.59% 26.48% 50.93%
dem_ Viktor	Someone in Viktor's class suggests that all the children should play outside at break time when the weather is good because it's healthy.	Majority: Consens: Teacher:	38.25% 31.42% 30.32%
dem_ Mia	Someone in Mia's class suggests that all the children should bring bread for lunch because it's healthy.	Majority: Consens: Teacher:	27.20% 39.23% 33.56%
dem_ Matteo	Someone in Matteo's class suggests that all children should stop drinking lemonade because it's not good for their teeth.	Majority: Consens: Teacher:	26.64% 28.95% 44.41%
dem_ Amira	Someone in Amira's class suggests that no children should be allowed to read comics during the break.	Majority: Consens: Teacher:	20.82% 38.86% 40.33%
dem_ Paul	Paul and Mila sit next to each other and fight every lesson. Mohammed suggests that the two of them should get away from each other to avoid disturbing the other children.	Majority: Consens: Teacher:	16.55% 14.27% 69.18%

## Appendix 1.2 Equality

Question: What do you think, should rather boys, rather girls or both be allowed to do these things? Who should be allowed to...

Item	Text	Answer	Distribution
equ_	...becoming class representative	Fairly boys:	4.90%

Item	Text	Answer	Distribution
rep		Fairly girls:	4.00%
		Both:	91.10%
equ_ sco	...borrow a scooter for the break	Fairly boys:	9.40%
		Fairly girls:	4.40%
		Both:	86.30%
equ_ swe	...do the sweeping duty	Fairly boys:	12.90%
		Fairly girls:	14.20%
		Both:	72.80%
equ_ foo	...play football during the break	Fairly boys:	36.00%
		Fairly girls:	1.00%
		Both:	63.00%

### Appendix 1.3 Following Rules

Item	Text	Answer	Distribution
rul_ gen	If you think about the school rules, e.g. pipe up if you want to say something - how important do you think it is that there are such rules?	Important:	85.90%
		Rather important:	10.00%
		Unimportant:	4.10%
rul_ sel	And how important do you think it is that you stick to these rules yourself?	Important:	85.20%
		Rather important:	9.70%
		Unimportant:	5.10%

### Appendix 1.4 Renunciation of Violence

Item	Text	Answer	Distribution
vio_ chi	If another child annoys you, do you think it's okay to hit them to make them stop?	Yes:	8.60%
		No:	69.50%
		It depends:	21.80%
vio_ par	Imagine watching a parent slapping their child in the face. Do you think that's okay?	Yes:	2.90%
		No:	88.50%
		It depends:	8.60%

### Appendix 1.5 Freedom

Item	Text	Answer	Distribution
free_gen	Everyone should be allowed to express their own opinion!	Yes:	2.19%

Item	Text	Answer	Distribution
		No:	97.81%
free_Tom	In a class, the children are allowed to decide together where to go on the next class trip. All the children want to go to the nearest zoo, but Tom is against it because he doesn't like zoos. Do you think it's okay if Tom disagrees with the other children?	Yes:	86.04%
		No:	13.96%
free_toy	Imagine the children at your school are allowed to help decide which new toys should be bought for the breaks. Do you think it's okay for the first graders to have a say?	Yes:	81.42%
		No:	18.58%
free_man	Imagine the school management decides that they don't want anyone to contradict them. So they decide on a rule that forbids saying anything they don't like. Would it be okay for the school management to set such a rule?	Yes:	11.24%
		No:	88.76%

## Appendix 2 Results of the Confirmatory Factor Analysis

### Appendix 2.1 Results of the Confirmatory Factor Analysis (Complete Model)

Factor	Manifest Variable	Coefficient	SE	P> t
Factor Participation (F_MR)	Item 1	.070	.038	.063
	Item 2	.142	.040	.001
	Item 3	.032	.032	.317
	Item 4	.144	.042	.001
	Item 5	.160	.037	.000
	Item 6	.272	.053	.000
	Item 7	.034	.040	.397
	Item 8	.073	.033	.027
	Item 3	.086	.031	.005
	Item 10	.093	.032	.004
Factor Equality (F_EQ)	Item 1	.136	.017	.000
	Item 2	.181	.021	.000
	Item 3	.251	.027	.000
	Item 4	.255	.030	.000
Factor Following Rules (F_FR)	Item 1	.195	.022	.000
	Item 2	.227	.027	.000
Factor Renunciation of violence (F_RV)	Item 1	.252	.037	.000
	Item 2	.121	.021	.000
Factor Freedom (F_FD)	Item 1	.037	.011	.002
	Item 2	-.072	.026	.006
	Item 3	-.227	.044	.000
	Item 4	.030	.026	.237

Factor	Manifest Variable	Coefficient	SE	P> t
<i>Cov</i> (F_MR, F_EQ)		-.021	.096	.830
<i>Cov</i> (F_MR, F_FR)		-.181	.109	.101
<i>Cov</i> (F_MR, F_RV)		-.143	.125	.253
<i>Cov</i> (F_MR, F_FD)		.051	.123	.676
<i>Cov</i> (F_EQ, F_FR)		.500	.083	.000
<i>Cov</i> (F_EQ, F_RV)		.664	.112	.000
<i>Cov</i> (F_EQ, F_FD)		-.533	.134	.000
<i>Cov</i> (F_FR, F_RV)		.827	.129	.000
<i>Cov</i> (F_FR, F_FD)		-.749	.128	.000
<i>Cov</i> (F_RV, F_FD)		-.433	.143	.003
CFI		0.808	0.025	
RMSEA		0.038	0.003	
Probability RMSEA $\leq$ 0.05		0.991	0.021	
AIC		8235.529	119.639	
<i>df</i>		76		

Note. Calculation with Stata 15.1 using *sem*-command with *mi estimate*. Mean values of the factors were set to 0 and variances to 1. Model fit indices are calculated as means for all of the 10 imputed datasets.

## Appendix 2.2 Results of the Confirmatory Factor Analysis (Adjusted Model)

Factor	Manifest Variable	Coefficient	SE	P> t
Factor Participation (F_MR)	Item 1	.066	.037	.072
	Item 2	.147	.039	.000
	Item 3	—	—	—
	Item 4	.142	.039	.001
	Item 5	.148	.037	.000
	Item 6	.297	.053	.000
	Item 7	—	—	—
	Item 8	.068	.032	.035
	Item 9	.081	.029	.005
	Item 10	.083	.033	.014
Factor Equality (F_EQ)	Item 1	.138	.017	.000
	Item 2	.181	.021	.000
	Item 3	.248	.027	.000
	Item 4	.256	.030	.000
Factor Following Rules (F_FR)	Item 1	.195	.022	.000
	Item 2	.227	.027	.000
Factor Renunciation of violence (F_RV)	Item 1	.253	.037	.000
	Item 2	.121	.021	.000
Factor Freedom (F_FD)	Item 1	—	—	—
	Item 2	.071	.027	.010

Factor	Manifest Variable	Coefficient	SE	P> t
	Item 3	.251	.075	.001
	Item 4	—	—	—
<i>Cov</i> (F_MR, F_EQ)		-.024	.093	.798
<i>Cov</i> (F_MR, F_FR)		-.168	.110	.130
<i>Cov</i> (F_MR, F_RV)		-.158	.119	.186
<i>Cov</i> (F_MR, F_FD)		-.067	.116	.565
<i>Cov</i> (F_EQ, F_FR)		.502	.082	.000
<i>Cov</i> (F_EQ, F_RV)		.662	.112	.000
<i>Cov</i> (F_EQ, F_FD)		.471	.171	.006
<i>Cov</i> (F_FR, F_RV)		.826	.129	.000
<i>Cov</i> (F_FR, F_FD)		.692	.182	.000
<i>Cov</i> (F_RV, F_FD)		.415	.165	.012
CFI		0.912	0.280	
RMSEA		0.030	0.004	
Probability RMSEA $\leq$ 0.05		0.999	0.002	
AIC		7504.994	103.602	
<i>df</i>		64		

Note. Calculation with Stata 15.1 using *sem*-command with *mi estimate*. Mean values of the factors were set to 0 and variances to 1. Model fit indices are calculated as means for all of the 10 imputed datasets.