Values and Attitudes Toward Immigrants Among School Children in Switzerland and Poland

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Abstract
Research on key determinants of negative attitudes toward immigration has often suggested that values held by individuals systematically explain such sentiments. Universalists appear to have more positive and conservatives more negative attitudes. So far, however, these insights are based on studies using adult samples. In our study, we analyze these relations among children and adolescents. For the analysis, we utilized a Swiss-Polish panel dataset (2015–2017, N=5,332) with three time points collected among school children aged 8–19 years. We employed autoregressive cross-lagged models. The results indicated that while universalism decreased negative attitudes toward immigrants, the expected effect for conformity-tradition was not found.

Keywords Values · Attitudes toward immigration · Panel data · School children · Autoregressive cross-lagged models

Introduction
In recent years, especially since the “refugee crisis” of 2015/2016, Europe as well as other areas around the globe have experienced a shift in the political climate. Right-wing parties are growing in popularity and are increasingly represented in regional and national parliaments (Akkerman et al., 2016). However, the change toward the political right is not only observed in the composition of the legislative bodies, it can also be detected in societal attitudes. One attitude that has become alarmingly negative is the attitude toward foreigners. For example, in their recent study on right-wing dynamics, Decker and Brähler (2018) found that almost one-third of Germans express xenophobic views, and their results demonstrate that respondents’ negative attitudes toward minority groups (such as Muslims and Sinti and Roma) have steadily increased in recent years.

Dynamics in attitudes toward foreigners, immigrants, and minorities in general have been at the center of social scientists’ interest for decades. Besides analyzing trends and country differences in these attitudes (Berthoff, 1951; Decker & Brähler, 2018; Lubbers et al., 2002; Savelkoul et al., 2012), researchers were also interested in explaining them. So far, many key aspects explaining attitudes toward immigrants and immigration such as age, gender, education, income, employment status, race, and a persons’ own migration background have been identified (Becker, 2019;
Hypotheses.

In addition to these sociodemographic characteristics, research also revealed that other—less easily observed—factors, in particular basic human values, may influence individuals’ attitudes toward immigrants (e.g., Davidov, Meuleman, et al., 2008; Davidov, Schmidt, et al., 2008). While considering values as explanatory factors may increase the level of complexity in explaining attitudes toward immigrants, it also offers an important way of explaining negative attitudes toward immigration. After all, values reflect basic motivations that may form behaviors, convictions, and beliefs of diverse topics including attitudes toward minorities (Sagiv & Schwartz, 1995; see also Davidov et al., 2008; Davidov, Schmidt, et al., 2008; Davidov et al., 2014; Davidov & Meuleman, 2012; Meuleman et al., 2020; Schwartz, 2007; Vecchione et al., 2012). This literature has shown that those who value tolerance and a just treatment of all exhibit more positive attitudes toward immigrants, while those valuing tradition, stability, and the preservation of the status quo display more negative attitudes toward immigrants (e.g., Davidov et al., 2014; Iser & Schmidt, 2005; Tartakovsky & Walsh, 2016; Vecchione et al., 2012; Zhirkov et al., 2021).

So far, however, these studies used adult samples. Limited knowledge exists about the influence of values on attitudes toward immigrants among children and adolescents (for exceptions, see, e.g., Alivernini et al., 2019; Brown, 2011). This is unfortunate since studying the effect of values on attitudes toward immigrants among younger people would reveal whether similar mechanisms apply also to them in the explanation of negative attitudes toward foreigners. Examining the relation among both children and adolescents may also indicate if, with increasing age, the associations between values and attitudes become increasingly similar to those among adults. Furthermore, exploring the relation might reveal new ways to address negative attitudes toward immigrants at an early age, for example, when implementing school projects aiming toward fostering a greater sense of community as well as influencing children’s attitudes toward others, specifically minority groups.

In the following, we analyze whether the relations between values and attitudes toward immigrants among children and adolescents resemble those found among adults. To address this issue, we will first look at the mechanisms underlying these relations from a theoretical perspective by introducing the basic concepts of attitudes and values and exploring their association in general as well as the specific association of universalism and conformity-tradition with attitudes toward immigrants. Next, we will consider whether the theoretical concepts can easily be transferred and operationalized among children. Then we will formulate specific hypotheses.

For our analysis, we will use data collected among children from two different cultural settings: German-speaking regions of Switzerland and Poland. The two regions differ considerably with regard to the prevalence of migrants. While in Switzerland 27% of under 15-year-olds do not have the Swiss citizenship (Federal Statistical Office, 2021), only around 6% of the Polish population is foreign (Statistics Poland, 2020). The two countries differ also in the allocation of new immigrants to residential areas. In Switzerland, new immigrants are often assigned to live in specific regions for their first years in Switzerland (Martén et al., 2019). This leads to a more uniform distribution of immigrants across Swiss regions. These two differences make it more likely for Swiss children to encounter and have personal contact with individuals with a migration background in comparison to Polish children. Including children and adolescents’ samples from both countries into the analyses will provide information on the robustness of the link between values and attitudes toward immigrants in children across two different settings. Before turning to the analyses and results, however, we will introduce our theoretical considerations, followed by a description of the dataset and measures. After the empirical part, we discuss our findings and provide some concluding remarks.

### Theoretical Background and Previous Research

#### Values, Attitudes, and Their Linkage

Basic human values can be described as “transsituational goals […] that serve as guiding principles in the life of a person […]” (Schwartz, 1994, p. 21). In other words, values are abstract goals or standards that people aim for and are guided and motivated by. While different people pursue different goals and attribute importance to different values, values are considered to be stable within individuals and across different life situations (Rokeach, 1973; Schwartz, 2012). There are several theories and approaches to studying values (e.g., Kahle, 1983; Maslow, 1954; Rokeach, 1973). In the present study, we refer to Shalom Schwartz’s (1994) theory of basic human values. In his theory, Schwartz differentiates between various values each highlighting a different motivational aim. Together, the values form a circular motivational continuum with values having similar motivational aims being placed more closely to one another, while values that follow conflicting goals are placed furthest from one another. Figure 1 illustrates this relation with regard to ten basic human values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. Generally, people who tend to score high on certain values tend to score lower on opposite values, for example, universalism and power. The ten values mentioned can also be grouped in four...
higher-order values, self-enhancement, openness to change, self-transcendence, and conservation with hedonism located between self-enhancement and openness to change. Overall, the ten basic human values as well as their relation with each other have been validated across different countries and cultures, demonstrating their universal applicability (Beramendi & Zubieta, 2017; Bilsky et al., 2011; Davidov, Meuleman, et al., 2008; Davidov, Schmidt, et al., 2008; Schwartz, 1992; Schwartz et al., 2001; Steinmetz et al., 2012).

Whereas there are only few values, the literature suggests that attitudes are both innumerable and less stable over time than values. Attitudes are often referred to as evaluations of individual objects, persons, or situations (Eagly & Chaiken, 1998; Krech et al., 1962; Thurstone, 1931). Thus, for each new situation that arises, a new evaluation and, hence, an attitude can be formed. Whereas values were found to be relatively stable across the life course as well as different situations, attitudes are more likely to change over time and to vary across different life situations (Alwin & Krosnick, 1991).

Most researchers agree that values and attitudes are not independent from one another and that there are links between certain values and certain attitudes. This linkage was explored by Homer and Kahle (1988) in their work on the value–attitudes–behavior hierarchy. They argue that because “[…] values are the most abstract of the social cognitions” (Homer & Kahle, 1988, p. 638), they can be seen as sources from which attitudes are inferred. Therefore, they expect the more general and abstract values to influence the more specific attitudes. This theoretical approach has since been commonly accepted, and over the last decades, studies on the value–attitudes–behavior hierarchy corroborated this hierarchical notion across multiple scenarios and cultures (Beierlein et al., 2016; Homer & Kahle, 1988; Milfont et al., 2010; Schwartz, 2007; Shim et al., 1999; Shin et al., 2017; Vaske & Donnelly, 1999).

Values and Attitudes Toward Immigration

For explaining attitudes toward immigrants and immigration as well as favoring multi-culturalism and integration of minorities, three values were found to be especially influential: universalism, conformity, and tradition (e.g., Beierlein et al., 2016; Davidov et al., 2014; Iser & Schmidt, 2005; Sagiv & Schwartz, 1995; Vecchione et al., 2012). In the following paragraphs, we will describe these values in more detail and present the mechanisms linking these values to attitudes toward immigrants.

Universalism, belonging to the higher-order value self-transcendence, describes an individual’s understanding and appreciation for all others and nature. Thus, according to the theory, the more universalistic a person is, the more tolerant he or she is toward others (Schwartz, 1994). This desire to help and understand other people is likely to lead to a more welcoming attitude toward immigrants. Having a positive attitude toward immigrants gives universalistic people the opportunity to fulfill their motivational goal of helping others in need.

Previous research supports this expectation. It was found that people scoring high on universalism generally have a more positive attitude toward immigrants and toward immigration (Davidov et al., 2014, 2019; Iser & Schmidt, 2005; Schwartz, 2007).

In contrast to universalism, conformity and tradition belong to the higher-order value conservation. Conformity describes the desire to restrain from actions and activities that might be harmful to others or to the norms and social expectations in place (Schwartz, 1994). Tradition highlights a person’s aim to be respectful and acceptant “of the customs and ideas that traditional culture or religion provide” (Schwartz, 1994, p. 22). The two values are often modeled together as a single value because they are conceptually and empirically very close to each other, sharing a similar motivation (Davidov, 2010; Davidov et al., 2014; Schwartz, 1994).

Immigration can be perceived as a threat to this stability particularly by individuals attributing a high importance to conformity and tradition values. After all, immigrants bring along new traditions, norms, and cultural backgrounds. They are likely to question the existing system and conventions and possibly introduce new, unfamiliar cultures and beliefs. Therefore, people who highly value conformity and tradition might feel personally harmed or violated as their societal
order and underlying motivation for stability are under threat (Davidov et al., 2014). Consequently, they are more likely to have negative attitudes toward immigration.

Previous research supports this expectation. People scoring high on conformity-tradition values were found to exhibit more negative attitudes toward immigrants in various studies across different cultural settings (e.g., Davidov et al., 2014; Iser & Schmidt, 2005).

Hypotheses

Little is known about the relationship between values and attitudes toward immigration among children. Neither has the relation of universalism and attitudes toward immigrants, nor the relation of conformity-tradition and attitudes toward immigrants been studied among children, as research on the topic has so far investigated adult samples using surveys specifically targeting adults.

However, research on children’s value systems and the similarity of these to the value structure among adults already exists. Multiple studies have demonstrated across cultural contexts that children not only hold values but values that are similar to those found among adults (Bilsky et al., 2013; Döring et al., 2010, 2015). Furthermore, these values and their structure are highly matched with Schwartz’s theory of basic human values (Schwartz, 1994); hence, children seem to exhibit a value structure similar to that of adults (Bilsky et al., 2005, 2013; Döring et al., 2010, 2015). Moreover, recent research suggests that in line with the findings for adults (Bardi et al., 2009; Schwartz, 2006), children’s value preferences are also relatively stable (Cieciuch et al., 2016; Vecchione et al., 2016). Overall, the value structures of both children and adults could therefore be considered quite similar.

While investigating children’s values is a relatively new approach, children’s attitudes toward outgroups (such as ethnic minorities) have been at the center of research interest for several decades (e.g., Aboud & Doyle, 1996; Clément et al., 1977; Griffiths & Nesdale, 2006; Verkuyten, 2002). Researchers found that children’s attitudes toward outgroups develop at an early age (Aboud & Skerry, 1984), and when using child-appropriate methods of data collection, children, like adults, are able to clearly express their attitudes toward outgroups such as ethnic minorities (Doyle & Aboud, 1995; Doyle et al., 1988; Verkuyten, 2002; Williams et al., 1975).

Assuming that the attitude–value–behavior hierarchy (Homer & Kahle, 1988) is also present in children, we suggest applying the mechanism portrayed above to children.

Thus, we expect a higher score on universalism to be associated with more positive attitudes toward immigrants in children at a later time point (H1) and a higher score on conformity-tradition to be associated with more negative attitudes toward immigrants at a later time point (H2). A recent study suggests, however, that while values influence attitudes toward minorities, these attitudes may simultaneously also influence the individuals’ values, though more weakly (Eisentraut, 2019).

Therefore, in order to consider this possibility, we also expect a significant association between children’s attitudes toward immigrants and universalism (H3) and conformity-tradition (H4) at a later time point.

Method

Data

For the analysis, we are drawing on a Swiss-Polish panel dataset that includes three waves collected between October 2015 and December 2016 at schools in Switzerland and Poland. Thirty-six schools and 127 classes participated in Poland, whereas in Switzerland, 12 schools and 68 classes participated in the data collection. In total, 1,513 Swiss children and 3,819 Polish children between the ages of 8 and 19 years were asked (among other things) about their value priorities and attitudes toward immigrant children. The Polish and Swiss panel data included three waves administered in October 2015, June 2016, and December 2016, respectively. Data were collected in a classroom setting. While, in Switzerland, data collection was administered using paper and pencil, in Poland it was administered online. In both cases, the children were presented with self-administered questionnaires.

For the analysis, the children’s data were split into two cohorts. This was necessary because the questionnaire design was slightly different for the different age groups. The younger cohort (N = 433 in Poland, N = 253 in Switzerland) consisted of pupils attending the 4th grade, whereas the older cohort (N = 3,386 in Poland, N = 1,260 in Switzerland) consisted of pupils attending the 7th grade (1st grade of the Polish gymnasium) as well as the 9th/10th grade (9th grade in Switzerland and 10th grade/1st grade of the lyceum in Poland). In total, the dataset consisted of four groups, that is, two age cohorts in two countries. Appendix 1 includes more detailed information on the composition of the sample (for further details and documentation, see also Kindschi et al. (2019) and Becker et al. (2020)).

Each of the four groups participated at each time point, but some pupils as well as schools dropped out of the panel study prematurely or joined later on. The number of pupils participating in each of the three waves as well as the percentage of pupils participating in all three waves is reported in Appendix 2. To address the issue of missing values efficiently, the full information maximum likelihood
The young children’s (4th graders) values were measured by a modified version of the Picture-Based Value Survey for Children (PBVS-C) (Döring et al., 2010). This survey includes 20 pictures with short titles, two for each value from Schwartz’s theory of basic human values (1992, 1994). Figure 2 illustrates pictures measuring tradition and universalism values as they appeared in the questionnaire.

The original instrument required the children to rank the individual value items in accordance with the relevance they assigned to them. A specific number of values had to be assigned to each of the ranking categories (e.g., 2 out of 20 values had to be assigned the label “very important”). Therefore, the relevance of an individual value needed to be judged with respect to the other values (Döring et al., 2010). In the modified version, the same pictures were used, however, instead of ranking the values with respect to each other, the children were asked to rate the level of importance they attributed to each value independently on a six-point scale ranging from “not important at all” to “very important.” The original instrument has been validated and applied cross culturally, including Germany and Poland, but not yet Switzerland (Bilsky et al., 2005, 2013; Cieciuch et al., 2015).

For the older children (7th and 9th/10th graders), a text-based version, including items from validated versions of the Portrait Value Questionnaire (PVQ) (Cieciuch et al., 2014; Schmidt et al., 2007; Schwartz et al., 2001), was used. Children were asked to report to what extent a person who considers certain values to be important resembles them on a six-point scale ranging from “not like me at all” to “very much like me.” Universalism was measured by three questions describing the importance of tolerance toward different people and different groups within society, the importance of equal treatment for everyone, and the importance of caring for nature. Conformity was measured by questions describing the importance of abiding by the law and behaving properly. The questions measuring tradition tapped into the importance of maintaining traditional values and beliefs. For both the younger and the older children, the questions asked were used as items to build the two latent constructs (Brown, 2015), universalism (UN) and conformity-tradition (COTR).

Attitudes toward Immigrants

Attitudes toward immigrants were measured using a recently developed instrument specifically designed for children (Becker et al., 2020). The instrument included pictures and short stories describing two immigrant groups: Muslim immigrants and black immigrants. Attitudes toward both groups were measured as latent constructs with four items corresponding to four questions in the questionnaire. For measuring attitudes toward Muslim immigrants (AM), the picture showed a boy and a girl dressed in traditional Muslim clothing (see Fig. 3). The story read like this: “Mustafa and Salma are new in town. Mustafa and Salma are not from Switzerland/Poland. Please imagine that Mustafa or Salma attends the same school as you. To what extent do you agree with the following statements?” Four statements rated on a six-point scale ranging from “fully agree” to “do not agree at all” asked whether the children would be happy to have either Mustafa or Salma as a neighbor, as a friend, to work on a school project together, or to be invited over to their place. The same questions were asked to measure attitudes toward black immigrants (AB), with the only difference that these questions referred to a picture with two black children named Jamal and Leila. The measures were scalar invariant across three age groups of pupils, three time points and the two countries Switzerland and Poland. In addition, the measures exhibited external validity and very good reliability with high factor loadings (> 0.796) and high Cronbach’s alpha.

1 Models using listwise deletion instead of FIML had significantly smaller samples. Further, very small effects that were significant in the FIML models, were no longer significant. However, overall, the two model types exhibited similar effects and led to the same conclusions.

2 Additional analyses provided empirical support for metric invariance for each age cohort across the two countries and over time. Detailed information on the results of the invariance analyses can be found in Appendix 3. Information on value specific invariance analyses that include factor loadings and global fit measures can be obtained from the first author upon request.
reliabilities (> 0.918). The external validity of the instrument was further supported by additional data collected among adults (Becker et al., 2020).

An overview of the value and attitude items and their respective affiliations to the latent constructs can be found in Appendix 4. Information on the covariances between the items can be found in the supplementary material.

**Control Variables**

As control variables, we included age in years as well gender (1 = male, 0 = female) into the analyses. Other control variables commonly used for adult samples, such as income and education, were not applicable in this case because all respondents were still in school and only few students in the older cohort in the dataset fulfilled the legal requirements to earn money.3

**Statistical Analyses**

To delineate the relations between values and attitudes toward immigrants in our panel data, we employed autoregressive cross-lagged models (ARCL) (Finkel, 1995) with latent variables (Bollen, 1989; Schlueter et al., 2007). This allowed us to analyze the relations between values and attitudes toward immigrants in more detail (Granger, 1969). Specifically, it enabled us to determine whether the association operates as expected, from values to attitudes, or also the other way around, from attitudes to values. In addition, ARCL models permit the examination of the stability of values and attitudes over time (Finkel, 1995).

To reduce the complexity of the models and facilitate the reporting of results, we set the cross- and autoregressive effects to be equal over time.4 We accounted for the fact that identical items were used at each time point by introducing autocorrelations where needed (Finkel, 1995). To ensure that the latent variables measured the same concept over the three time points, we introduced longitudinal metric invariance (e.g., Steenkamp & Baumgartner, 1998), holding factor loadings equal over time both for the attitudes and the values (Little, 2013). Detailed results on the invariance analyses can be found in Appendix 3. We added age and gender into the models as control variables influencing values and attitudes at the first time point. Figure 4 illustrates a model where UN and AM are used. We implemented similar models in which COTR and/or AB were included instead.

We examined the effect of each value (COTR and UN) on each attitude (AM and AB) within both the young and the older age cohorts of children and in each of the two countries (Poland and Switzerland) separately (i.e., 2 values × 2 attitudes × 2 age cohorts × 2 countries). This resulted in 16 separate models.5

For the evaluation of the model fit, we considered two global fit measures, the comparative fit index (CFI) and the root mean square error of approximation (RMSEA) (Arbuckle, 2016). We considered models with a CFI value higher than 0.90 in combination with a RMSEA value lower than 0.08 as exhibiting an acceptable fit (Hu & Bentler, 1999; Marsh et al., 2004).

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3 Unfortunately, the data included neither information on the children’s household income nor contextual information at the class or the school level (such as percentage of immigrants in the class or at the school).

4 Information on the fit of additional models without these restrictions can be found in Appendix 5. The model fit and results of the unrestricted and the restricted models as well as the overall conclusions were very similar.

5 We also ran multi-group models resulting in similar findings. Further, these models indicated that metric invariance can be assumed across the two countries. Detailed outputs may be obtained from the first author upon request.
Results

Factor loadings for both attitudes and values were all acceptable. The standardized factor loadings for AM and AB varied between 0.785 and 0.967 in the 16 models, and the standardized factor loadings of the value items varied between 0.307 and 0.963 (with few exceptions of some universalism items in the young Swiss children and a single tradition value in the older Polish children which were slightly below 0.300). The fit measures for all models were acceptable, with CFI's ranging between 0.915 and 0.995 and RMSEA values ranging between 0.019 and 0.085. After each section, a table summarizes the main results (see Tables 1 and 2). More detailed results can be found in Table 3 as well as Appendices 6 and 7 (unstandardized loadings).

**UN, AM, and AB**

Table 1 presents a summary of the directional associations of UN on attitudes toward Muslim and black immigrants in Switzerland and Poland for both the younger and the older cohort. As the table demonstrates, in six of the eight

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### Table 1 Summary of relations between UN, AM, and AB by country and age cohort

| Relationship | Age cohort | Country  | Expected link of UN on attitudes supported by the data? | Significant link of attitudes on UN? |
|--------------|------------|----------|--------------------------------------------------------|--------------------------------------|
| UN→AM        | Younger children | Switzerland | N                                                   | N                                   |
|               |             | Poland    | Y                                                   | N                                   |
|               | Older children | Switzerland | Y                                                   | N                                   |
|               |             | Poland    | Y                                                   | Y                                   |
| UN→AB        | Younger children | Switzerland | N                                                   | N                                   |
|               |             | Poland    | Y                                                   | N                                   |
|               | Older children | Switzerland | Y                                                   | N                                   |
|               |             | Poland    | Y                                                   | Y                                   |

*Note: UN universalism, AM attitudes toward Muslim immigrants, AB attitudes toward black immigrants, Y yes, N no*
### Table 2 Summary of relations between COTR, AM, and AB by country and age cohort

| Relationship | Age cohort | Country | Expected link of COTR on attitudes supported by the data? | Significant link of attitudes on COTR? |
|--------------|------------|---------|----------------------------------------------------------|-------------------------------------|
| COTR→AM      | Younger children | Switzerland | N                                                      | Y                                   |
|              |             | Poland   | N                                                      | Y                                   |
|              | Older children | Switzerland | N                                                      | N                                   |
|              |             | Poland   | N                                                      | N                                   |
| COTR→AB      | Younger children | Switzerland | N                                                      | N                                   |
|              |             | Poland   | N                                                      | N                                   |
|              | Older children | Switzerland | N                                                      | N                                   |
|              |             | Poland   | N                                                      | N                                   |

**Note:** COTR conformity-tradition, AM attitudes toward Muslim immigrants, AB attitudes toward black immigrants, Y yes, N no

### Table 3 Results by country, model, and age cohort

#### Younger children

- **Universalism and attitudes toward Muslim immigrants**
  - AM w1: 0.556 / 0.275
  - AM w2: 0.621 / 0.286
  - AM w3: 0.605 / 0.481
  - UN w1: 0.605 / 0.481
  - UN w2: 0.621 / 0.545
  - UN w3: 0.600 / 0.574

- **Universalism and attitudes toward black immigrants**
  - AB w1: 0.512 / 0.276
  - AB w2: 0.561 / 0.291
  - AB w3: 0.670 / 0.627
  - UN w1: 0.593 / 0.554
  - UN w2: 0.623 / 0.575
  - UN w3: 0.686 / 0.639

- **Conformity-tradition and attitudes toward Muslim immigrants**
  - AM w1: 0.492 / 0.408
  - AM w2: 0.541 / 0.434
  - AM w3: 0.316 / 0.525
  - COTR w1: 0.199 / 0.468
  - COTR w2: 0.216 / 0.525
  - COTR w3: 0.559 / 0.510

- **Conformity-tradition and attitudes toward black immigrants**
  - AB w1: 0.513 / 0.398
  - AB w2: 0.560 / 0.425
  - AB w3: 0.585 / 0.474
  - COTR w1: 0.585 / 0.474
  - COTR w2: 0.653 / 0.525
  - COTR w3: 0.567 / 0.562

#### Older children

- **Universalism and attitudes toward Muslim immigrants**
  - AM w1: 0.438 / 0.424
  - AM w2: 0.479 / 0.456
  - AM w3: 0.104 / 0.092
  - UN w1: 0.600 / 0.574
  - UN w2: 0.662 / 0.633
  - UN w3: 0.686 / 0.639

- **Universalism and attitudes toward black immigrants**
  - AB w1: 0.439 / 0.335
  - AB w2: 0.477 / 0.356
  - AB w3: 0.087 / 0.104
  - UN w1: 0.623 / 0.575
  - UN w2: 0.686 / 0.639
  - UN w3: 0.686 / 0.639

- **Conformity-tradition and attitudes toward Muslim immigrants**
  - AM w1: 0.503 / 0.524
  - AM w2: 0.547 / 0.564
  - AM w3: 0.559 / 0.510
  - COTR w1: 0.559 / 0.510
  - COTR w2: 0.626 / 0.562
  - COTR w3: 0.567 / 0.562

- **Conformity-tradition and attitudes toward black immigrants**
  - AB w1: 0.489 / 0.437
  - AB w2: 0.532 / 0.463
  - AB w3: 0.567 / 0.562
  - COTR w1: 0.567 / 0.562
  - COTR w2: 0.637 / 0.628
  - COTR w3: 0.567 / 0.562

**Note:** Standardized coefficients for Switzerland/Poland. AM attitudes toward Muslim immigrants, AB attitudes toward black immigrants, UN universalism, COTR conformity-tradition, w wave number, n.s. not significant. Only significant (p < 0.05) coefficients are presented. All models control for the effects of the background variables age and gender.
cases, this association was as expected, that is, positive and significant \( (p < 0.05) \). In the two other cases (younger Swiss children), there was no significant effect. Table 2 and the respective figure in Table 3 further indicate that in two cases (older Polish children), the reversed link was found to be significant as well. However, the reversed links were generally smaller than the link found for UN on the attitude toward immigrants. In all cases, the stability coefficients were medium to large and significant, ranging between 0.34 and 0.69 (standardized).

**COTR, AM, and AB**

Table 2 presents a summary of the directional associations of COTR on attitudes toward Muslim and black immigrants, in Switzerland and Poland, and for the younger and the older cohorts. As the table demonstrates, in none of the eight cases was the expected association supported by the data \( (p > 0.05) \). Table 3 further indicates some unexpected positive associations among the older Polish and one model of the younger Swiss children. These associations appeared to be small, albeit significant. The reversed links were generally insignificant with the exception of AM for the younger children’s cohort in both countries. Similarly, in almost all cases, the stability coefficients were large and significant (with the exception of COTR in the AM model of the younger children’s cohort in Switzerland), ranging between 0.41 and 0.65.

**Discussion**

Research on key determinants of attitudes toward immigration has often suggested that values held by individuals, especially universalism, conformity, and tradition values, can systematically explain such sentiments (e.g., Davidov et al., 2014; Meuleman et al., 2020; Schwartz, 2007; Vecchione et al., 2012). These studies showed that universalism values increase, and conformity and tradition values decrease positive attitudes toward immigrants. So far, however, the results were based on adult samples. Nothing is known about this relation among children. Previous studies suggest that a similar value structure and value stability pattern found in adults is also present among children (Bilsky et al., 2013; Cieciuch et al., 2016; Döring et al., 2010, 2015; Vecchione et al., 2016). Thus, in this study, we tried to address this gap by examining closely the relations between the values universalism, conformity, and tradition and attitudes toward immigrants also among children. For the empirical test, we utilized panel data collected among school children from two different age cohorts and over three time points in two countries, Poland and Switzerland.

The expected association between universalism and attitudes toward immigrants was supported by the data in most of the age, cohort, and country groups examined. The association of universalism was significantly positive and substantial in six of the eight cases. Only among the young Swiss children did we not find a significant relation. Overall, the results suggest that the relation between universalism and attitudes toward immigrants among children is similar to that commonly found in adults. As for the reversed link, it appeared only among older Polish children. In all other groups, no significant reversed associations were found. This suggests that the general direction between values and attitudes toward immigrants appeared to be as suggested by the value–attitude–behavior hierarchy (Homer & Kahle, 1988).

By way of contrast, we could not find empirical support for the expected link of conformity-tradition on the attitudes toward immigrants. Overall, it seems that, unlike adults, and contrary to our expectations, conformity-tradition does not exhibit a substantial negative influence on children’s attitudes toward immigrants. And except for the link between attitudes toward Muslim immigrants and conformity-tradition for the younger children, the reversed association did not appear to be significant either.

These findings suggest that other mechanisms may be in place when it comes to children’s rather than adults’ attitudes toward immigrants. It could well be the case that both the meaning of the conformity-tradition value and its association with attitudes toward immigrants develop only later in life. Potentially, the content of conformity and tradition values may develop with the passage of time as a result of societal adaptation, being formed in concordance with societal norms and expectations.6

The study of this relation from a developmental perspective would be highly interesting. Unfortunately, the dataset used does not allow adopting such a perspective since the time that elapsed between the first and the third wave of data collection—roughly a year—was too small for performing such an analysis. While the age difference between the different cohorts could in principle offer such a perspective, the values of the younger and older children were collected using different instruments (PBVS-C vs. PVQ). Therefore, direct comparisons may be problematic. Uncovering whether and to what extent the content of values and their relation to

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6 We performed a separate analysis with data from the European Social Survey (European Social Survey, 2018) for Switzerland, which revealed that the association between conformity-tradition values and negative attitudes toward immigrants is stronger with increasing age of the respondents. Thus, it could be that this association is indeed age dependent. The analysis of this association can be provided by the first author upon request.
attitudes change with age throughout child- and into adulthood could be an exciting avenue for future research.

Another interesting aspect that was beyond the scope of the study concerns the relation between attitudes toward immigrants and the other individual and higher-order values of the theory of basic human value, in particular the value security. Security, just like conformity and tradition, may also be theoretically relevant for explaining attitudes toward immigrants and conservation overall has also been found relevant for adults’ attitudes toward immigrants (e.g., Tartakovsky & Walsh, 2016; Vecchione et al., 2012). However, including security into the models, by using the higher-order value conservation, did not change the conclusion.7 Indeed, the goal of the present study was to examine associations between values and attitudes toward immigration that were found to be empirically robust. Such robust associations were found in previous studies among adults in particular for universalism and the unified value conformity-tradition (e.g., Davidov et al., 2014; Iser & Schmidt, 2005).

Another limitation concerning the data is that, although we controlled for potential effects of age and gender in the models, we were unable to control for other socio-economic factors of the children, since no information on the children’s parents and their socio-economic background was available. This is unfortunate because various sociodemographic factors could be of relevance in explaining attitudes toward immigrants in children, as they are in adults (e.g., Becker, 2019; Bridges & Mateut, 2014; Hainmueller & Hiscox, 2007; Mayda, 2006; O’Rourke & Sinnott, 2006). However, previous studies using adult samples have demonstrated that the effects of values on attitudes toward immigration are not influenced by the presence of sociodemographic control variables in the models and remain robust (e.g., Davidov, Meuleman, et al., 2008; Davidov, Schmidt, et al., 2008). We were able to control for the children’s own immigration status, but only for a small subsample of Swiss schools. Analyses including this variable, however, indicated that the children’s migration background did not change the conclusions (see Appendix 8).

In addition, we also lack contextual information on the classes and schools. After all, the presence of a high share of immigrant children at the class or school level, information about the size of the community of the children’s place of residence, or the teacher’s background could intervene in the relations between values and attitudes toward immigrants. Accounting for these variables could be an important avenue for future research on children’s attitudes toward immigrants.

Finally, another factor potentially influencing the results could be the specific way in which the immigrants were illustrated in the pictures. In both cases, the pictures present smiling, happy children. This could have influenced the children’s perception of immigrants and could explain why no significant link between conformity-tradition and attitudes toward immigrants was found. Since all children received the same pictures and no alternative pictures were available, it is—at this point—impossible to say to what extent the rather positive depiction of the immigrant children might have influenced the results of our analyses. Future studies should experiment with different depictions in order to address this issue more thoroughly.

Notwithstanding these limitations, our study is the first to examine longitudinally, in different countries and across different age cohorts, the potential effects of human values on attitudes toward immigration among children. The results indicate that while conformity and tradition values do not exert the expected effect, universalism values are likely to form positive attitudes toward immigration also among children. Our results can thus offer some empirical evidence for the potential general effect—also among children—of values on attitude formation.

Appendix 1

Sample Description

| Country         | Switzerland (CH) | Poland (PL) |
|-----------------|------------------|-------------|
| N countries     | 1,513            | 3,819       |
| Age group       | Younger children | Older children | Younger children | Older children |
| N age group     | 253              | 1,260       | 433           | 3,386         |
| w1 age range    | 8–12             | 11–17       | 8–11          | 12–19         |
| Mean (SD)       | 9.65 (0.81)      | 13.20 (1.09)| 9.74 (0.53)  | 14.61 (1.59) |
| w1 gender (% male) | 54.35         | 47.31       | 51.97         | 44.47         |

Note: w wave number

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7 Further details concerning this additional analysis using the higher-order value conservation may be obtained from the first authors upon request.
### Appendix 2

Participation Across Waves

|            | Switzerland | Polish |          |          |
|------------|-------------|--------|----------|----------|
|            | Younger children | Older children | Younger children | Older children |
| N total    | 253 (100%)   | 1,260 (100%) | 433 (100%) | 3,386 (100%) |
| N w1       | 184 (72%)    | 1,152 (91%)  | 280 (65%)   | 1,837 (54%)  |
| N w2       | 158 (62%)    | 1,098 (87%)  | 275 (64%)   | 1,809 (53%)  |
| N w3       | 147 (58%)    | 805 (64%)    | 236 (54%)   | 1,481 (44%)  |
| Participating in w1 and w2 | 156 (62%) | 1,075 (85%)  | 238 (55%)   | 1,399 (41%)  |
| Participating in w1, w2 and w3 | 115 (46%) | 702 (56%)    | 178 (41%)   | 914 (27%)    |

Note: w = wave number

### Appendix 3

Global Fit Measures for all Single-country Models (Examining Longitudinal Measurement Invariance)

| Age            | Country     | Model                   | CFI | RMSEA |
|----------------|-------------|-------------------------|-----|-------|
| UN and attitudes toward Muslim immigrants |            |                         |     |       |
| Younger children | Switzerland | Configural              | 0.924 | 0.085 |
|                 |             | Longitudinal metric     | 0.918 | 0.085 |
|                 | Poland      | Configural              | 0.986 | 0.034 |
|                 |             | Longitudinal metric     | 0.986 | 0.032 |
| Older children  | Switzerland | Configural              | 0.986 | 0.030 |
|                 | Poland      | Longitudinal metric     | 0.983 | 0.032 |
| UN and attitudes toward black immigrants |            |                         |     |       |
| Younger children | Switzerland | Configural              | 0.941 | 0.071 |
|                 |             | Longitudinal metric     | 0.932 | 0.073 |
|                 | Poland      | Configural              | 0.995 | 0.018 |
|                 |             | Longitudinal metric     | 0.995 | 0.019 |
| Older children  | Switzerland | Configural              | 0.984 | 0.031 |
|                 | Poland      | Longitudinal metric     | 0.980 | 0.033 |
| COTR and attitudes toward Muslim immigrants |            |                         |     |       |
| Younger children | Switzerland | Configural              | 0.929 | 0.074 |
|                 |             | Longitudinal metric     | 0.921 | 0.075 |
|                 | Poland      | Configural              | 0.983 | 0.031 |
|                 |             | Longitudinal metric     | 0.985 | 0.029 |
| Older children  | Switzerland | Configural              | 0.988 | 0.030 |
|                 | Poland      | Longitudinal metric     | 0.987 | 0.031 |

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# Appendix 4

Means (with standard deviations in parentheses) for the items in the analysis by country

| Concept                         | Items                               | Mean (SD) – CH | Mean (SD) – PL |
|--------------------------------|-------------------------------------|----------------|----------------|
| **Attitudes toward black immigrants** | Black neighbor                      | 4.66 (1.29)    | 4.51 (1.28)    |
|                                 | Black friend                        | 4.89 (1.26)    | 4.59 (1.27)    |
|                                 | Black school                        | 4.78 (1.31)    | 4.48 (1.29)    |
|                                 | Black invite                        | 4.77 (1.36)    | 4.39 (1.36)    |
| **Attitudes toward Muslim immigrants** | Muslim neighbor                     | 4.32 (1.40)    | 3.93 (1.45)    |
|                                 | Muslim friend                       | 4.48 (1.42)    | 3.96 (1.45)    |
|                                 | Muslim school                       | 4.51 (1.41)    | 3.95 (1.44)    |
|                                 | Muslim invite                       | 3.36 (1.49)    | 3.77 (1.51)    |
| **Universalism (younger children)** | Caring for nature                   | 4.89 (1.41)    | 4.86 (1.19)    |
|                                 | Making friends with strangers       | 5.45 (1.09)    | 4.02 (1.44)    |
| **Tradition-Conformity (younger children)** | Following the rules              | 5.60 (0.93)    | 4.98 (1.22)    |
|                                 | Thinking about God                  | 4.65 (1.77)    | 5.13 (1.18)    |
|                                 | Learning about the past             | 4.85 (1.36)    | 4.40 (1.29)    |
| **Universalism (older children)**  | Caring for nature                   | 4.30 (1.15)    | 3.45 (1.31)    |
|                                 | Being tolerant                      | 4.92 (1.13)    | 4.61 (1.43)    |
|                                 | Treating all people fairly          | 5.28 (0.90)    | 4.85 (1.29)    |
| **Tradition-Conformity (older children)** | Obeying all the laws              | 3.45 (1.41)    | 3.79 (1.41)    |
|                                 | Maintaining traditional values and beliefs | 4.92 (1.13)    | 4.61 (1.43)    |

*Note: Means and standard deviations (SD) calculated across groups for wave 1. CH Switzerland, PL Poland*
## Appendix 5

Global Fit Measures for Models with and Without Equality Restrictions on the Stability Coefficients and the Cross-lagged Effects

| Value/attitude combination | Age          | Country   | Model     | CFI  | RMSEA |
|----------------------------|--------------|-----------|-----------|------|-------|
|                            | Younger children | Switzerland | free | 0.918 | 0.086 |
| UN / AM                   |              | Poland    | restricted | 0.918 | 0.085 |
| Older children            | Switzerland  | free     | 0.967 | 0.049 |
|                            |              | restricted | 0.986 | 0.032 |
| Poland                    | free         | 0.983 | 0.032 |
| restricted                | 0.983 | 0.032 |
| Old children              | Switzerland  | free     | 0.987 | 0.029 |
| Poland                    | restricted   | 0.987 | 0.029 |
| UN / AB                   | Younger children | Switzerland | free | 0.949 | 0.065 |
|                            |              | Poland    | restricted | 0.932 | 0.073 |
| Older children            | Switzerland  | free     | 0.995 | 0.019 |
|                            |              | restricted | 0.995 | 0.019 |
| Poland                    | free         | 0.980 | 0.033 |
| restricted                | 0.980 | 0.033 |
| COTR / AM                 | Younger children | Switzerland | free | 0.922 | 0.076 |
|                            |              | Poland    | restricted | 0.921 | 0.075 |
| Older children            | Switzerland  | free     | 0.985 | 0.028 |
|                            |              | restricted | 0.985 | 0.029 |
| Poland                    | free         | 0.986 | 0.033 |
| restricted                | 0.987 | 0.031 |
| COTR / AB                 | Younger children | Switzerland | free | 0.918 | 0.072 |
|                            |              | Poland    | restricted | 0.915 | 0.073 |
| Older children            | Switzerland  | free     | 0.989 | 0.024 |
|                            |              | restricted | 0.989 | 0.023 |
| Poland                    | free         | 0.986 | 0.031 |
| restricted                | 0.986 | 0.031 |

*Note:* Free indicates models in which both stability (autoregressive) and cross-lagged paths were allowed to vary across time. Restricted indicates models in which both stability (autoregressive) and cross-lagged paths were held equal across time. All other parameter constraints were identical across the free and the restricted models.
Appendix 6

Results from the Analyses of Universalism and Attitudes toward Immigrants

| Age          | Country | Effect of | CFI | RMSEA |
|--------------|---------|-----------|-----|-------|
|              |         | CFI | RMSEA |
| UN on attitude | Attitude on UN | UN on UN | Attitude on attitude |
| Attitudes toward Muslim immigrants | Switzerland | 0.063 (0.076) | 0.007 (0.090) | 0.750*** (0.159) | 0.667*** (0.062) | 0.918 0.085 |
| Younger children | Poland | 0.263** (0.094) | 0.195 (0.108) | 0.592*** (0.142) | 0.299*** (0.085) | 0.986 0.032 |
| Older children | Switzerland | 0.112** (0.036) | 0.035 (0.044) | 0.708*** (0.054) | 0.493*** (0.032) | 0.983 0.032 |
| Poland | 0.205*** (0.025) | 0.111*** (0.028) | 0.679*** (0.033) | 0.475*** (0.023) | 0.987 0.029 |
| Attitudes toward black immigrants | Switzerland | 0.072 (0.078) | 0.025 (0.087) | 0.733*** (0.128) | 0.593*** (0.069) | 0.932 0.073 |
| Younger children | Poland | 0.233** (0.080) | 0.061 (0.106) | 0.679*** (0.139) | 0.302*** (0.074) | 0.995 0.019 |
| Older children | Switzerland | 0.093** (0.036) | −0.027 (0.044) | 0.734*** (0.053) | 0.492*** (0.032) | 0.980 0.033 |
| Poland | 0.220*** (0.024) | 0.128*** (0.028) | 0.686*** (0.031) | 0.365*** (0.023) | 0.982 0.031 |

Note: Unstandardized effects with the respective standard errors in parentheses; *p < 0.05, **p < 0.01, ***p < 0.001

Appendix 7

Results from the Analyses of Conformity-tradition and Attitudes toward Immigrants

| Age          | Country | Effect of | CFI | RMSEA |
|--------------|---------|-----------|-----|-------|
|              |         | CFI | RMSEA |
| COTR on Attitude | Attitude on COTR | COTR on COTR | Attitude on COTR |
| Attitudes toward Younger Muslim immigrants | Switzerland | 0.240* (0.099) | 0.566* (0.232) | 0.236 (0.351) | 0.593*** (0.074) | 0.921 0.075 |
| Poland | 0.084 (0.068) | 0.154* (0.070) | 0.553*** (0.102) | 0.442*** (0.054) | 0.985 0.029 |
| Older children | Switzerland | −0.023 (0.043) | −0.030 (0.046) | 0.665*** (0.092) | 0.565*** (0.025) | 0.987 0.031 |
| Poland | 0.052* (0.021) | 0.005 (0.021) | 0.585*** (0.048) | 0.582*** (0.018) | 0.988 0.031 |
| Attitudes toward Younger black immigrants | Switzerland | 0.088 (0.081) | 0.111 (0.092) | 0.724*** (0.145) | 0.593*** (0.065) | 0.915 0.073 |
| Poland | 0.041 (0.065) | 0.129 (0.068) | 0.552*** (0.100) | 0.423*** (0.052) | 0.989 0.023 |
| Older children | Switzerland | −0.009 (0.041) | −0.041 (0.044) | 0.678*** (0.090) | 0.548*** (0.025) | 0.986 0.031 |
| Poland | 0.057** (0.021) | 0.002 (0.023) | 0.668*** (0.041) | 0.470*** (0.019) | 0.964 0.047 |

Note: Unstandardized effects with the respective standard errors in parentheses; *p < 0.05, **p < 0.01, ***p < 0.001
Appendix 8

Results for Switzerland Including the Additional Control Variable Migration Background

| Value / attitude combination | Age                  | Effect of Value on attitude | Attitude on value | Value on value | Attitude on attitude | CFI   | RMSEA |
|------------------------------|----------------------|-----------------------------|-------------------|----------------|----------------------|-------|-------|
| UN / AM                      | Younger children     | 0.065                       | 0.021             | 0.706***       | 0.668***             | 0.933 | 0.074 |
|                              | Older children       | 0.113**                    | 0.044             | 0.697***       | 0.482***             | 0.979 | 0.035 |
| UN / AB                      | Younger children     | 0.071                       | 0.028             | 0.728***       | 0.594***             | 0.933 | 0.069 |
|                              | Older children       | 0.088*                      | −0.026            | 0.724***       | 0.423***             | 0.976 | 0.037 |
| COTR / AM                    | Younger children     | 0.242*                      | 0.559*            | 0.247          | 0.593***             | 0.919 | 0.073 |
|                              | Older children       | −0.007                      | −0.059            | 0.732***       | 0.545***             | 0.987 | 0.032 |
| COTR / AB                    | Younger children     | 0.091                       | 0.106             | 0.741***       | 0.591***             | 0.915 | 0.070 |
|                              | Older children       | −0.013                      | −0.069            | 0.734***       | 0.546***             | 0.985 | 0.033 |

Note: Unstandardized effects; *p < 0.05, **p < 0.01, ***p < 0.001

Appendix 9

Additional File 1

The full dataset is currently not publicly available. The part of the dataset supporting the conclusions of this article is included within the article and its additional files (see Additional file 1).

Additional_File_1.dta

The file contains all cases and variables used for the above analyses.

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