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## Parental Socialization Goals in Five Countries: Measurement Equivalence and Cross-Country Differences

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## **Parental Socialization Goals in Five Countries: Measurement Equivalence and Cross-Country Differences**

How parents raise their children highly differs. Parenting is, amongst others, driven by socialization goals (SGs). SGs refer to the specific behaviors or character traits that parents foster in their children and want their children to attain when they grow up (Durgel et al., 2009; Harwood et al., 1996; He et al., 2021). SGs are linked not only to parenting styles and behavioral control (Chen-Bouck et al., 2019), but also to child outcomes like helping behavior (Fonseca et al., 2018) or depressive symptoms (Zhou et al., 2021).

SGs are informed by the cultural model of the parents (Keller et al., 2006). The most commonly used constructs when investigating cultural values are individualism and collectivism (He et al., 2021; G. Hofstede, 2011; Tamis-LeMonda et al., 2008). The individualism-collectivism dimension is one of Hofstede's four (later six) dimensions to characterize societies (G. Hofstede, 1980, 2011). The dimension describes the degree to which people in a society are integrated into groups and the extent to which individuals consider themselves as independent from others. According to Geert Hofstede (2011):

On the individualist side we find cultures in which the ties between individuals are loose: everyone is expected to look after him/herself and his/her immediate family. On the collectivist side we find cultures in which people from birth onwards are integrated into strong, cohesive in-groups, often extended families [...] that continue protecting them in exchange for unquestioning loyalty and oppose other ingroups. (p.11).

In collectivistic societies, group harmony needs to be maintained, while in individualistic countries, people are expected to speak their mind. The dimension was assumed to be unidimensional, with individualism being conceptualized as the opposite of collectivism. Even though unidimensionality was assumed on the societal level, many researchers also assumed it to be valid on the individual level. Regarding the impact on parenting, specific SGs have been ascribed to the two poles. Parents in individualistic countries were proposed to value self-esteem, self-development, and self-maximization more. On the other hand, parents in collectivistic societies were expected to value group harmony, obedience and connection to the family more (He et al., 2021; Markus & Kitayama, 1991; Qu et al., 2016; Tamis-LeMonda et al., 2008).

The unidimensionality assumption of individualism and collectivism has been highly criticized (He et al., 2021; Kağıtçibasi, 2005; Oyserman et al., 2002; Tamis-LeMonda et al., 2008). According to Tamis-Le-Monda et al. (2008), "macro-level changes in immigration, political and economic trends, and technological advances mean that cultures cannot be neatly classified as collectivist or individualist just as any given person cannot be described as valuing either relatedness or autonomy" (p.184). Oyserman et al.

(2022) concluded in their review and meta-analysis, that collectivism and individualism are orthogonal constructs and not two poles of the same dimension.

To better understand family values, Kağıtçibasi (1996, 2005) extended the framework to two dimensions, which form the cultural model of a parent: interpersonal distance (with the poles of relatedness and separateness) and agency (with the poles of autonomy and heteronomy). The combinations of these two dimensions form the cultural model of the parent. Western societies are often characterized as separated and autonomous, which is referred to as the independent model (Kağıtçibasi, 2005). Parents in these societies value self-enhancement and self-maximization in their child (Keller et al., 2006). The second cultural model is the interdependent model. In these collectivistic societies (often in rural, subsistence-based families), individuals are perceived as interrelated and heteronomous. Since there are strong psychological and material dependencies between family members, child autonomy is considered as more of a threat in these societies and parents are more likely to value obedience in their child (Keller et al., 2006). The third model, the model of autonomous relatedness, can be found in urban, educated, middle-class families from societies with an interrelated cultural heritage which have undergone socio-economic development (Kağıtçibasi, 2005). Kağıtçibasi and Ataca (2005) investigated adolescents, their mothers, and their grandmothers in Turkey and showed that while material interdependencies decreased with socioeconomic development in the last decades, psychological interdependencies did not. Families in autonomous relatedness societies value obedience less and autonomy more than families in interdependent societies, but close family ties continue to be important.

In adding the third model, Kağıtçibasi highlights the importance of urbanization and education for change in family values. Socio-demographic characteristics influence cultural values both at the national and at the individual level (Park & Lau, 2016). In rural communities with low economic development and few educational opportunities, group solidarity and social roles are more important to meet people's needs (Greenfield, 2009). In urbanized communities, on the other hand, formal schooling and commercial economies lead to everyday interactions with strangers and socialization must prepare individuals for competition in both education and economy (Greenfield, 2009; Park & Lau, 2016). Socio-demographic factors might even have a higher impact on values than cultural heritage (Park et al., 2015).

## **Cross-Country Differences in Socialization Goals**

Most of the cross-country studies on SGs in the past two decades compared only two countries, most often one individualistic with one collectivistic (e.g., He et al., 2021; Li et al., 2010; Liang et al., 2021; Pearson & Rao, 2003; Qu et al., 2016; Schwarz et al., 2005). Fewer studies included more than one country per cultural model (e.g., Keller et al., 2006; Park et al., 2014; Putnam et al., 2019). Whereas the USA and China were by far the most studied countries, there were also a few studies comparing a country from Western

Europe with at least one other country. There is some research including South and Middle American countries and at least two studies conducted in Estonia. However, studies are still scarce, and the results are inconclusive. Concerning goals ascribed to individualism, several studies found cross-country differences in line with the individualism-collectivism distinction. (European) American mothers were found to value self-maximization, self-confidence, independence, and self-development more than Chinese mothers (He et al., 2021; Li et al., 2010; Qu et al., 2016). Similarly, German mothers were found to value independence, autonomy, and other individual-oriented goals more than mothers from Russia, India, and South Korea (Kärtner et al., 2010; Schwarz et al., 2005; Tamm et al., 2016). On the other hand, other studies have found no differences in individualistic goals between U.S. parents and Chinese, Russian or Mexican parents (Bancroft, 2014; Liang et al., 2021; Putnam et al., 2019; Tudge et al., 2000) or between parents from Germany and Mexico (Keller et al., 2006). Park et al. found an even higher endorsement of independence in Eastern compared to Western countries (Park et al., 2014). Also, mean values of autonomous goals were higher in China than in Germany and the USA in the study by Keller (Keller et al., 2006).

The same incoherent picture emerges when summarizing the results concerning SGs ascribed to collectivistic societies. Obedience was found to be rated higher in Russia or India compared to Germany (Kärtner et al., 2010; Tamm et al., 2016) and European American mothers emphasized respecting elders and collectivistic goals less than Chinese mothers in studies by Qu et al. (2016) and He et al. (2021). Again, other studies found no differences between relational goals between Chinese, Russian or Mexican and US parents (Bancroft, 2014; Keller et al., 2006; Liang et al., 2021; Putnam et al., 2019) or German parents (Keller et al., 2006). Results also differ in relation to the collectivistic goal: In a study by Li et al. (2010), group harmony, but not filial piety was rated higher by Chinese than by US parents and in a study by Schwarz et al. (2005), South Korean mothers valued group-oriented, but not proper demeanour as more important than German parents. Obedience was even as associated with Western instead of Eastern membership in the study by Park et al. (2014).

### **Measurement Invariance**

In order to draw valid conclusions concerning level differences between populations, one must ensure that scores have the same meaning across populations. This is often referred to as measurement invariance (MI) between groups. With the growing capacity of computers and availability of software, testing for MI has become a *sine qua non* in multigroup research in the last decades (Poortinga & Fontaine, 2022; Raykov et al., 2012). However, a majority of cross-cultural comparative quantitative studies still do not test for MI (Boer et al., 2018). Of the above-mentioned studies investigating SG, MI was either not tested for or not found, questioning the interpretation of mean differences. Missing MI of scales can bias results (Meuleman et al., 2022).

Different procedures to test MI have been proposed. The most common procedure is the Multigroup Confirmatory Factor Analysis (MG CFA) framework with Maximum

Likelihood (ML) or Robust ML (MLR) as an estimator for interval scaled items. Models with different constraints are compared against each other. To ensure valid mean comparisons, strong (also “full score”/“scalar”) invariance needs to be established. This is the case if a model in which loadings and intercepts are fixed to be equal between groups fits the data equally well as a model without these constraints.

Strong invariance in the MG CFA framework implies the very strict assumption that the intercepts and values are the same across groups. This assumption has been criticized as being unrealistic (Van De Schoot et al., 2015). Alternative approaches were subsequently developed, e.g., partial invariance and Bayesian Approximative MI (BAMI). In the partial invariance approach, when strong invariance cannot be met, parameters with large differences are freed. If, for example, the loading of one item is very different between two groups, this loading is allowed to vary between groups, while the other parameters are still fixed to be equal (Byrne et al., 1989). However, partial invariance is a data-driven process that could be difficult to replicate. In the BAMI approach on the other hand, instead of fixing loadings and intercepts to be exactly equal, small deviations from “zero difference” are allowed to occur. This approach has performed well when there are (many) small differences in the intercepts and factor loadings across groups (Van De Schoot et al., 2013).

## **The Current Study**

With the current study, we want to enrich the evidence on socialization goals not only by adding new data, but also by including more than two countries, previously ascribed to be individualistic (USA, Germany), or collectivistic (China), or in between (Mexico, Russia; G. J. Hofstede, 2022). We want to test if cross-country differences are still significant when including education and urban vs. rural living surroundings in the model. Lastly, we focus on measurement invariance in this paper. We test for MI both by using the classical MG CFA approach and by testing for approximate invariance using BAMI. We test for country mean differences in both frameworks and only interpret findings that are robustly shown in both.

To get a broader picture, we include two SGs previously described as individualistic (autonomy and self-development) and three goals described as collectivistic (obedience, filial piety and group harmony). Studies conducted in the USA that differentiate between ethnicities found differences in SGs between European American, African American, and Latino American respondents (Harding et al., 2017; Leyendecker et al., 2002; Qu et al., 2016). Ascription to the individualistic/independent model seems to be the most valid for European American parents. This is why we focus specifically on this group. We test the following hypotheses in the current study:

## **Hypotheses Regarding Collectivistic Goals**

This study is part of a bigger project focusing on collectivistic goals. The hypotheses regarding country differences in SG were preregistered for collectivistic goals (doi: <https://doi.org/10.23668/psycharchives.5630>).

H1: Native Mexican, Native Chinese and Native Russian parents value collectivistic goals more than European American and Native German parents.

H2: Parents value collectivistic goals less when they have higher education.

H3: Parents in rural living surroundings value collectivistic goals more than parents in urban living surroundings.

## **Hypotheses Regarding Individualistic Goals**

H4: Parents value individualistic goals more when they have higher education.

H5: Parents in rural living surroundings value individualistic goals less than parents in urban living surroundings.

While both the individualism-collectivism framework and Kağıtçibasi's model predict a lower endorsement of collectivistic goals in Western countries (e.g., USA and Germany), the frameworks differ in their predictions regarding individualistic goals. While we would expect Western parents to value individualistic goals more according to the individualism-collectivism framework, we would not expect such a main effect according to Kağıtçibasi's model. Following Kağıtçibasi's model, we do not expect differences between educated, urban non-Western (Chinese, Mexican, Russian) and Western (US-, German) parents. Due to the differing predictions, we did not formulate a hypothesis regarding cross-country differences in individualistic goals but examine if the results better fit the individualism-collectivism framework or to Kağıtçibasi's model.

## **Methods**

### **Procedure**

Data collection of the present study was funded by PsychLab, a service of the Leibniz Institute for Psychology (ZPID). Data was collected in an online study by the panel provider Bilendi and cooperation partners. Participants were parents with children aged 4-12 years who were residents in the five countries of interest. Study materials not already available in English, German, Russian, Spanish, and Chinese, were translated by professional translators and then checked by native speakers.

## Measures

### *Socio-demographic information*

**Country.** Respondents were allocated to a group according to the country of data collection (e.g., Mexico), country of birth (own and parents, e.g., Mexico) and language at home (e.g., Spanish). Respondents who were not themselves or whose parents were not born in the respective country, or who do not speak the official language at home were allocated to an extra category (e.g., Mexican immigrant/Minority) and were not analysed in this study. In the US survey we additionally ask for respondents' race/ethnicity and allocated those who identified as European American parents.

**Education:** University degree. Respondents were asked if they have a university degree (yes/no).

**Living surroundings.** Respondents were asked if they would describe their living surroundings as rural or urban.

### *Socialization goals*

Response format was a 5-point Likert scale (very important to not important at all). The reported Cronbach's  $\alpha$  refers to the total sample of this study.

**Collectivistic goals.** Obedience was measured using four items from the obedience socialization goal scale in the German Socio-economic Panel (Richter et al., 2017; e.g. "obeys its parents"; Cronbach's  $\alpha = 0.79$ ). Group harmony was measured with the collectivism socialization goal scale by Li et al. (2010; e.g. "thinks about the help it receives from others when it succeeds"; Cronbach's  $\alpha = 0.79$ ) with five items. We renamed the scale to avoid confusion with the collectivism framework. Filial piety is measured by using the 3-item scale by Chao (2000; e.g. "honors the family"; Cronbach's  $\alpha = 0.63$ ).

Table 1  
*Socio-Demographic Characteristics of the Five Samples*

	Gender (% female)	Age M/SD	University degree	Urban (% vs. Rural)
<b>Germany</b> (N=95)	59 (62.1%)	38/7.1	20 (21.1 %)	50 (52.6 %)
<b>Russia</b> (N=101)	41 (40.6%)	38/8.8	52 (51.5 %)	96 (95 %)
<b>USA – Eur. Am.</b> (N=83)	61 (73.5 %)	40/7.03	38 (45.8 %)	44 (53 %)
<b>Mexico</b> (N=107)	85 (79.4 %)	31/7.3	43 (40.2 %)	97 (90.7 %)
<b>China</b> (N=114)	72 (63.2 %)	34/ 5.6	66 (57.9 %)	107 (93.9 %)
<b>Group comparison</b>	$X^2(4)=38.55^{**}$	$F(4,457)=20.1^{**}$	$X^2(4)=31.54^{**}$	$X^2(4)=106.68^{**}$

**Individualistic goals.** Self-development is measured by four items developed by Chao (2000; e.g. "possesses high self-esteem"; Cronbach's  $\alpha = 0.73$ ). Autonomy is measured via six items from the German Socio-economic Panel (Richter et al., 2017; e.g. "learns to overcome obstacles in life"; Cronbach's  $\alpha = 0.86$ ).

## Statistical Analysis

Data preparation was done using the IBM Statistical Package of Social Sciences (SPSS) version 27.0 for Windows. We used the lavaan package and the blavaan package in R (Merkle & Rosseel, 2018; Rosseel, 2012) for MI analyses and group comparisons. Robust Maximum Likelihood Estimation (MLR) was used in lavaan, Full Information Maximum likelihood estimation (FIML) was used for missing data. We deleted cases with no data on the variables of interest or whose response indicated no serious participation (only highest or lowest answer category chosen for all items in the survey irrespective of content).

**Measurement invariance.** We tested for MI by using two procedures: In a first step, a Multi Group Confirmatory Factor Analysis (MG CFA) with Robust Maximum Likelihood Estimation (RML) was used. We included  $\chi^2$ , the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) for evaluation of the model fit. A CFI  $> .90$  was rated as acceptable and  $> .95$  as good, a RMSEA  $< .06$  was rated as good (Hu & Bentler, 1999). To evaluate the meaningfulness of changes of the model fit we used the change in the CFI ( $\Delta$ CFI) from the configural to the restricted model because this index is proposed to be independent of overall model fit and sample size. A value of  $\Delta$ CFI smaller than or equal to  $-.01$  indicates that the null hypothesis of invariance should not be rejected (Cheung & Rensvold, 2002).

In our study, when strong invariance was not met, we both tried for partial invariance and tested BAMI. In the partial invariance approach, we freed loadings and intercepts when necessary, according to modification indices only for those groups, where the modification indices indicated the highest improvement in fit. For the remaining groups, loadings and intercepts were still restricted to be equal. We repeated the procedure until acceptable fit was reached. We tested BAMI with wiggle room variances of 0.01, 0.05, 0.1 and 0.5. We used the Posterior Predictive P-Value (PPP) and the deviance information criteria (DIC) for model evaluation. A PPP close to 0.5 indicates good fit and a smaller DIC in model comparisons indicates better fit of the respective model.

**Scale structure.** We tested for the proposed scale structure (self-development and autonomy as individualistic goals; group harmony, obedience, and filial piety as collectivistic goals) by comparing a first order model with a higher order model (collectivistic and individualistic goals as second-order factors). We used the likelihood ratio test ( $\chi^2$ ) to compare models.

**Group comparisons.** We compared socialization goal endorsement between countries and tested for the impact of education and urban/rural living surroundings. We interpreted



differences only when they were confirmed by both the partial MI-SEM model and the BAMI model.

## Results

### Descriptive Statistics

Sociodemographic characteristics differ between the samples (Table 1). The majority of the respondents were female, except in Russia. The mean age of respondents was lowest in Mexico (31 years) and highest in the USA (40 years). Germans had the lowest and China the highest share of university degrees. Also, respondents from the USA and Germany stated about equally as often that they lived in urban vs. rural living surroundings, whereas the vast majority from Russia, Mexico and China stated that they lived in urban surroundings. Gender, and age was not associated with socialization goals ( $r = -0.048-0.075$ , all  $ps > .10$ ). University degree and living surrounding are included in the main analysis. Mean item scores for the socialization goals ranged from  $M = 3.29$  to  $M = 4.56$ . We excluded two items from the autonomy scale due to ceiling effects (more than 90 % of respondents chose “very important” or “rather important” as response categories).

### Measurement invariance tests

The configural models fitted the data well for autonomy, group harmony and obedience (see Table 2 and Table 3 for MI results). The fit of the configural model for self-development was inconsistent (CFI good, RMSEA too high). No model fitted the filial piety scale in the MG CFA approach using MLR (non-convergence or Heywood cases). We therefore excluded the filial piety scale in the group comparison analyses and the scale structure analysis.

None of the remaining four scales reached full strong invariance. Both self-development and autonomy reached weak invariance (Table 2), whereas obedience and group harmony did not reach weak invariance (Table 3). We therefore tested partial MI and BAMI for all scales. Partial strong invariance in the MG-CFA framework was established by freeing one to three items per group and scale. This way at least two anchor items remained equal in loadings and intercepts for all scales and groups except for the Chinese group, for which no loadings, but 3 of 4 intercepts had to be freed for the self-development and the autonomy scale. When using the BAMI approach, approximate MI was reached for the four scales, using a variance wiggle room of 0.1.

Table 2  
*Measurement Invariance Tests of Individualistic Socialization Goal Scales*

Self-development					Autonomy			
Robust Maximum Likelihood Multigroup CFA								
	X² (df)	CFI	ΔCFI	RMSEA	X² (df)	CFI	ΔCFI	RMSEA
Configural	18.53 (5)	0.98		0.14	4.68 (10)	1.00		0.00
Weak	24.89 (17)	0.98	0.0	0.08	25.06 (22)	0.99	0.008	0.05
Strong	138.5 (29)	0.72	0.26	0.21	67.70 (34)	0.92	0.08	0.12
Strong Partial¹	27.16 (22)	0.99	-0.08	0.05	29.3(28)	1.00	0.003	0.03
Bayesian Approximate Measurement Invariance								
	PPP		DIC		PPP		DIC	
Configural	0.208		4316.164		0.509		3912.68	
Weak	0.212		4320.394		0.154		3931.456	
Strong	0		4420.941		0.001		3957.595	
Strong MI with wiggle room of variances								
σ²								
0.01	0.108		4324.806		0.256		3924.126	
0.05	0.328		4318.026		0.472		3921.109	
0.1	0.349		4319.253		0.493		3922.608	
0.5	0.329		4323.07		0.515		3924.827	

Parameters freed for partial MI: *Self-development*: 1 of 4 intercept freed for the USA, Germany, 2 freed for Mexico, 3 freed for China; *Autonomy*: 2 intercepts freed for the USA, 1 for Mexico, 3 for China

Table 3

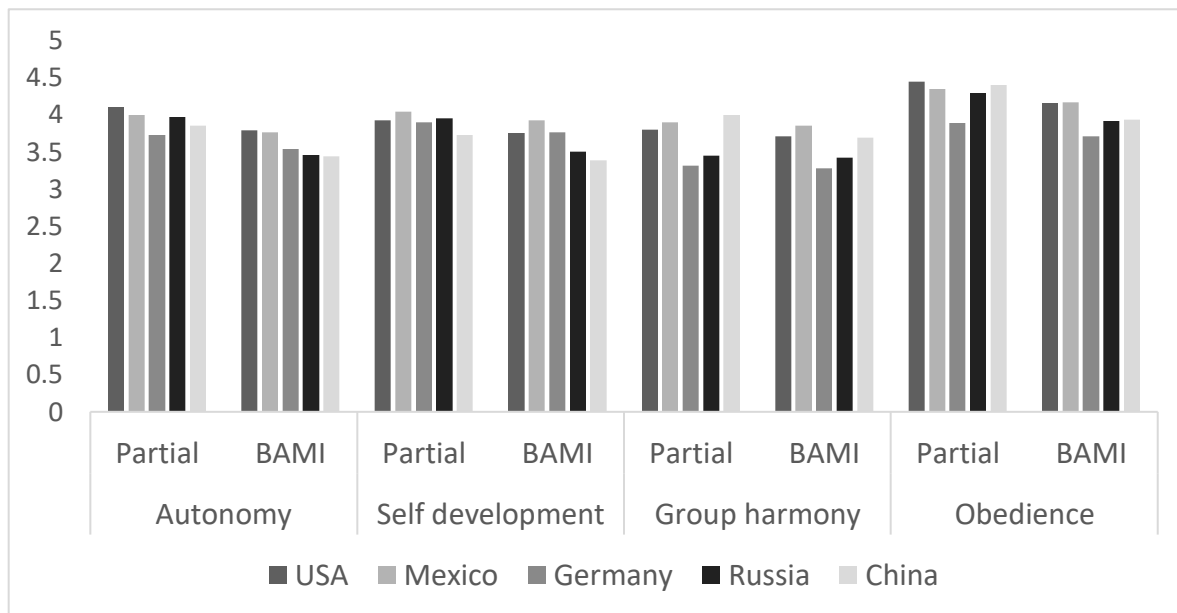
*Measurement invariance tests of collectivistic socialization goal scales*

Group harmony					Obedience				Filial piety	
Robust Maximum Likelihood Multigroup CFA										
	X² (df)	CFI	ΔCFI	RMSEA	X² (df)	CFI	ΔCFI	RMSEA		
Configural	15.37 (15)	1		0.018	1.26 (5)	1		0		
Weak	39.34 (31)	0.98	0.016	0.058	34.73 (17)	0.96	0.036	0.113		
Weak partial <sup>1</sup>	27.78 (28)	1	0.00	0.0	13.88 (15)	1	0.0	0		
Strong	99.03 (44)	0.89	0.11	0.122	82.97 (27)	0.88	0.118	0.154		
Strong Partial <sup>2</sup>	38.68 (38)	1	0.00	0.015	28.07 (23)	0.99	0.01	0.051		
Bayesian Approximate Measurement Invariance										
	PPP	DIC			PPP	DIC			PPP	DIC
Configural	0.301	5191.014			0.504	3838.267			0.356	3511.191
Weak	0.212	5184.247			0.084	3874.517			0	3550.324
Strong	0	5231.804			0	3939.041			0	3632.935
Strong invariance with wiggle room of variances										
σ²										
0.01	0.175	5183.264			0	3934.228			0.025	3528.052
0.05	0.398	5179.074			0.432	3860.261			0.226	3514.437
0.1	0.433	5180.557			0.555	3858.073			0.295	3512.57
0.5	0.403	5185.956			0.608	3858.339			0.361	3511.672

<sup>1</sup> Parameters freed for partial weak MI: *Group harmony*: 1 item loading freed for each the USA, Russia and China. *Obedience*: 1 item loading freed for Germany, 1 for China

<sup>2</sup> Parameters freed for partial strong MI: *Group harmony*: 1 intercept freed each for the USA, Mexico, Russia and China. *Obedience*: 1 intercept freed Germany, 1 for China, 1 for the USA

Figure 1  
*Latent Means of Socialization Goal Scales*



### Scale structure

The first order factor model with four separate factors,  $X^2(113) = 227.935$ , CFI = 0.95, fitted the data significantly better than the higher-order model with two second-order factors,  $X^2(114) = 233.405$ , CFI = 0.95;  $\Delta X^2(1) = 6.98$ ;  $p = 0.01$ . Since correlations between all factors were very high in the first order factor model ( $r = 0.86-0.95$ ), we also tested a one-factor model, but this model fitted the data significantly worse than the first order factor model with four factors,  $\Delta X^2(6) = 38.094$ ,  $p < 0.001$ .

### Group comparisons

We tested for cross-country differences in latent means of the four remaining SG in both the partial strong MI and the BAMI model. Latent means are displayed in Figure 1. In both models, we added education and urban/rural living surroundings as predictors. Results can be found in Table 4.

There were three significant differences in autonomy according to the MLR model and one in the BAMI model, but none found by both methods. Regarding self-development, there was one difference according to the MLR model but none in the BAMI model. There were no significant effects of living surroundings on autonomy or self-development in both models (see Table 4). An effect of university degree was found only in the BAMI model, both for autonomy and self-development.

Group harmony was valued less in both Germany and in Russia compared to European Americans in the USA and parents from Mexico in both models. Obedience was also valued less in Germany compared to the USA and Mexico in both models. There were no significant effects of education or urban vs. rural living surroundings on collectivistic SGs (see Table 4).

Table 4

*Latent Mean Comparisons of Socialization Goals Between Countries (congruent results are printed in bold)*

Comparison (i-j)		Autonomy		Self-Development		Group Harmony		Obedience		
		Difference in intercepts (unstandardized) Cohen's d								
		Partial MI	BAMI	Partial MI	BAMI	Partial MI	BAMI	Partial MI	BAMI	
USA	Mexico	0.1	0.02	-0.12	-0.17	-0.11	-0.14	0.1	-0.01	
		0.22	0.04	0.22	0.49	0.19	0.28	0.24	0.02	
	Germany	0.38**	0.25	0.03	-0.02	<b>0.48**</b>	<b>0.44+</b>	<b>0.56**</b>	<b>0.45+</b>	
		0.67	0.39	0.05	0.02	0.81	0.70	0.94	0.83	
	Russia	0.13	0.33	-0.02	0.25	<b>0.35*</b>	<b>0.29+</b>	0.15	0.25	
		0.23	0.06	0.04	0.05	0.63	0.53	0.32	0.05	
	China	0.25	0.35	0.2	0.36	-0.2	0.02	0.05	0.23	
		0.60	0.07	0.35	0.07	0.40	0.00	0.12	0.05	
Mexico	Germany	0.27	0.23+	0.15	0.16	<b>0.58**</b>	<b>0.58+</b>	<b>0.46**</b>	<b>0.46+</b>	
		0.52	0.44	0.27	0.35	1.16	1.09	0.83	1.07	
	Russia	0.03	0.31	0.1	0.4	<b>0.45**</b>	<b>0.43+</b>	0.06	0.25	
		0.05	0.06	0.19	0.09	0.97	0.95	0.13	0.05	
	China	0.15	0.33	0.31*	0.54	-0.1	0.16	-0.05	0.24	
		0.38	0.07	0.64	0.11	0.23	0.03	0.13	0.05	
Germany	Russia	-0.25	0.08	-0.05	0.26	-0.13	-0.15	-0.4**	-0.2	
		0.42	0.02	0.09	0.05	0.26	0.33	0.66	0.04	
	China	-0.13	0.1	0.17	0.37	-0.68**	-0.41	-0.51**	-0.22	
		0.27	0.02	0.29	0.07	1.42	0.08	0.93	0.05	
Russia	China	-0.12	0.02	0.22	0.12	-0.55**	-0.26	-0.01	-0.02	
		0.26	0.00	0.41	0.02	1.25	0.05	0.23	0.00	
University degree		<i>B</i>	0.09/0.21+		0.09/0.17+		0.05/-0.07		0.004/-0.01	
Living surroundings (urban)		<i>B</i>	0.07/0.14		0.07/0.1		0.09/0.12		0.08/0.14	
Model fit Partial MI model										
$\chi^2(df)$ , p		93.1(66), <i>p</i> =0.02		63.03(60), <i>p</i> =0.37		102.4(86), <i>p</i> =0.11		71.72(61), <i>p</i> =0.16		
CFI		0.94		0.99		0.97		0.98		

\*\*Bonferroni-Holm corrected p-value < 0.01; \*p < 0.05; +BAMI: CI does not include 0.

*Note.* BAMI results with wiggle room  $\sigma^2=0.1$  are displayed. A  $\sigma^2$  of .05 leads to the same pairwise differences, except for the difference on the autonomy scale between the US sample and the German sample (changes from CI = 0.004-0.497 to CI= 0.001-0.501). We additionally repeated the Partial MI analyses including only the urban participants. We found the same significant and non-significant differences as in the whole sample except for the US-Germany difference in the autonomy scale. Results upon request from the author.

## Discussion

The individualism-collectivism framework and the more recent framework of Kağıtçibasi, which distinguishes between independent, interdependent, and autonomous relatedness societies, predict differences in the endorsement of SGs between cultures and countries. Previous research has produced varying results and thus do not clearly support one of the frameworks. Often only two countries were compared (mostly the USA and China), influential factors such as education were not included in the analyses, and the MI of the instruments was not tested. Our study adds to the body of research by examining SGs in five countries from different parts of the world. German and European American parents were previously classified as belonging to the individualism/ independent model, Chinese parents to the collectivism/autonomous relatedness model, and Mexican and Russian parents rather to the collectivism/autonomous relatedness model than to the individualism/ independent model (G. J. Hofstede, 2022; Keller et al., 2006; Liang et al., 2021). We examined two presumed individualistic and three presumed collectivistic SGs, checked for MI before comparing countries, and included living surroundings (rural vs. urban) and education (university degree yes vs. no) in the analyses. We tested for differences, taking into account the results of the MI check and analysed the data using two different frameworks (partial MI with MLR and BAM). We only interpret differences found in both models.

Partial as well as Bayesian approximate MI were reached for the autonomy, self-development, group harmony and obedience scales, whereas for the filial piety scale, we could not establish MI and thus excluded the scale in the following analyses. The assumption that self-development and autonomy could be treated as individualistic goals and obedience and group harmony as collectivistic goals was not supported by our data. All scales were correlated highly with each other. This finding does not correspond to the idea of typical socialization goals for individualistic and collectivistic societies. Furthermore, we did not find any differences in self-development or autonomy between the countries. This also contradicts the individualism-collectivism distinction but fits the model from Kağıtçibasi (1996) well. As our samples from China, Mexico and the Russia consisted mainly of urban participants, the parents can be allocated to Kağıtçibasi's autonomous-related model. According to the model, parents in these societies value independent goals as highly as parents from autonomous societies do.

We had expected a higher endorsement of obedience and group harmony in parents from China, Mexico, and Russia compared to parents from the USA and Germany. Our results do not confirm these hypotheses and thus do not support a pattern of "individualistic western" vs. "collectivistic non-western" societies. Instead, we found higher endorsement of both obedience and group harmony in the USA than in Germany. The endorsement of group harmony was also higher in the USA compared to Russia and in Mexico compared to Russia and Germany. Obedience was valued more highly in Mexico than in Germany. As such, our results also do not fit with a distinction between independent (USA, Germany) and autonomous related societies (China, Mexico,

Russia). Instead, we find differences between the USA and Mexico on the one hand (higher values in collectivistic goals) and Germany and Russia on the other hand. There were no differences between China and the other countries.

The results regarding the USA and Germany match previous research that found clear differences between two Western countries in attitudes towards child behavior (Harkness et al., 2000). Additionally, previous research has shown a high endorsement of individualistic goals in China and a surprisingly high endorsement of obedience in Western countries (Liang et al., 2021; Park et al., 2014).

We had expected effects of education and urban vs. rural living surroundings on SGs but did not find them. Including the university degree as education variable might have contributed to this result, as this subdivides the sample at a high level (however, using high school degree as a variable for education did not change our results.). While we had variance in our sample regarding education, it is possible that our sample was still educated “too highly” to find an effect. Since the study was conducted using online panels, no illiterate respondents or those without access to the internet could have taken part. No effect of education was also found in the study by Qu et al. (2016), who also examined a well-educated sample.

The missing effect of living surroundings could also be a consequence of our data composition, since the majority of respondents from rural living surroundings were from Germany and the USA, where agriculture is highly industrialized and the gap in infrastructure between rural and urban areas might be smaller than, e.g., in Russia. The Russian, Mexican, and Chinese samples consisted mainly of urban participants, so we lacked the statistical power to find differences between urban and rural participants in these countries. In addition, the uneven distribution of urban/rural participants might confound country differences. However, the same country differences emerged when we included only urban participants in the analyses (results available on request from the corresponding author).

## Limitations

There are some important limitations to consider in our study. Our samples were not representative of the respective countries and with  $N = 77-112$  per country they were rather small. We measured education by asking respondents directly if they had a university degree. While this question is easy to understand for the individual respondent, university degrees in different countries may not imply the same quality and duration of education and the measure only differentiates were roughly between participants. More specific information on the type of university degree would have been desirable. However, the socio-demographic characteristics we collected (age, gender of respondent, education, partnership status, urban/rural living surroundings) did not influence the SGs.

While we examined MI, other methodological issues might have influenced our results. We did not control for response styles, which might have biased our results. Ceiling effects in our data cannot be ruled out, as all but one item had a median of 4

“rather important” or 5 “very important”. However, the variance is still sufficient to find country differences. Not all mean differences were robust when comparing the results from the Partial MI model with MLR as an estimator and the BAMI model. We decided to only interpret the robust findings that we found in both models. However, the partly diverging findings show the influence of analysis methods on conclusions. We believe that one should always use (and report) at least one alternative procedure to ensure robust findings.

## Conclusion

Our study adds to existing studies questioning simple distinctions into two or three cultural models/types of societies. While our results partially support Kağıtçıbaşı's model by finding no differences across countries in individualistic goals, the pattern of differences in collectivistic goals does not fit her model nor the distinction between individualism and collectivism. Grouping countries into those models thus might cover existing differences (we found the most differences between the USA and Germany). Country differences are complex, more research is needed to find reliable patterns in and influences on SGs.

## Compliance with Ethical Standards

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of University of Hildesheim (2022/02/07; No. 209).

## Consent to participate

Informed consent was obtained from all individual participants included in the study.

## Data availability

The data that support the findings of this study are openly available in <https://doi.org/10.23668/psycharchives.7769>

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