

Young consumers in cultural context: A cross-national study of Hofstede's value dimensions

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ABSTRACT

Objective: The study aims to evaluate the internal validity of a scale measuring cultural traits in relation to Hofstede's framework and to identify the individual cultural characteristics of young people across three countries: Poland, South Korea, and the United States.

Research Design & Methods: We conducted the research using the computer-assisted web interview (CAWI) method. Young participants from three culturally diverse nations received a web-based questionnaire, designed in accordance with Hofstede's model and enriched with elements from other cultural measurement studies.

Findings: The results confirmed that one can measure Hofstede's dimensions as distinct, multidimensional constructs, with MA and IVR demonstrating strong cross-cultural validity. However, the weaker performance of IDV and UAI highlights semantic and contextual differences across societies, underlining the need for cultural adaptation of tools. The study also revealed that young cohorts often deviate from national cultural averages, reflecting their faster adoption of global trends, technology, and new media.

Implications & Recommendations: Theoretically, the study supports Hofstede's framework while pointing to the need for flexible, culturally inclusive, and dynamically validated scales. Practically, it demonstrates that youth-specific and locally tested strategies are essential in international marketing and management. Future research should extend cross-cultural validation to more countries, refine weaker items, and explore hybrid etic-emic models.

Contribution & Value Added: The article contributes to cultural research by empirically testing Hofstede's framework at the individual level, addressing generational differences, and offering methodological insights into the cross-cultural validation of measurement tools. It also provides practical recommendations for tailoring strategies to younger consumer segments across markets.

Article type: research article

Keywords: national culture; Hofstede's dimensions; cultural traits; young consumers; cross-cultural validation; CFA; Poland; South Korea; the United States of America

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INTRODUCTION

National culture plays a vital role in each individual's life and within the community they belong to (Kacprzak & Dziewanowska, 2015; Pham *et al.*, 2024; Schoefer *et al.*, 2025). It comprises elements that form a complex whole, including the habits learned by humans as members of society (Benedict, 1949; Bartosik-Purgat, 2019), such as a nation's values, beliefs, norms, and patterns of behaviour (Leung *et al.*, 2005). According to Geertz (1973), national culture is the historically transmitted pattern of meanings expressed in symbolic forms, through which people communicate, preserve, and develop their understanding of and attitudes towards life. Solomon (2019) argues that we should view culture as the personality of society, influencing many aspects of individual behaviour, including consumer choices –

culture acts as a lens through which we interpret products. McCracken (1986) also describes culture as a lens through which people perceive the world. In his view, culture shapes how individuals see the phenomena around them, including globalisation, media, and technological advancements. According to Hofstede (1984, p. 9), national culture is a 'collective programming of the mind that distinguishes members of one group or category of people from another'.

The literature offers numerous typologies of national cultures, with authors describing cultural traits of societies using various scales of measurement (e.g., Trompenaars & Hampden-Turner, 2001; Hofstede *et al.*, 2010; Meyer, 2014). One of the most recognisable and influential frameworks is the model introduced by Hofstede *et al.* (2010). The cultural traits identified in that study can explain people's reactions and behaviours across different cultures as employees, consumers, and community members. The results from that study often reflect a country's cultural characteristics and serve as a basis for comparing cultural traits, behaviours, and decisions (e.g., Singh, 2006; Minkov *et al.*, 2019; Guftométros & Guerreiro, 2021; Schoefer *et al.*, 2025). In other words, this approach relies on the premise that culture influences how people think, value, and behave, and that we can study and compare cultural differences at the national level (Hofstede, 1984). However, these are average results for societies; they do not represent the characteristics of individual segments in terms of specific cultural traits. Additionally, young people sometimes display characteristics that diverge from national averages (Chang, 2024), because they usually tend to adopt global trends more rapidly and are more influenced by new media and technologies (e.g., Kopaničová & Klepochová, 2016; Ponzoa *et al.*, 2021; Chang, 2024; Schoefer *et al.*, 2025). They are also more sensitive to changes in their environment. Several studies have identified differences within the young people's segment compared to the results obtained in the Hofstede study. For example, Eringa *et al.* (2015) present the findings of an analysis assessing the validity of Hofstede's cultural dimensions among contemporary international business students. The survey included 1 033 students from the Netherlands, Germany, China, South Africa, and Qatar. Concerning the specific dimensions, it is notable that power distance showed significant differences across all the countries studied. Similarly, long-term orientation varied significantly in most cases. When considering the countries, notable differences emerged between Hofstede's measurements and those of the survey, especially regarding individualism, power distance, uncertainty avoidance, and long-term orientation in China. This may reflect the evolving nature of cultures over time and the generational differences in value systems (Eringa *et al.*, 2015). However, to the best of our knowledge, this topic remains insufficiently explored.

The primary aim of our survey was twofold: firstly, to evaluate the internal validity of the developed scale for measuring cultural traits in relation to Hofstede's study, and secondly, to identify the individual cultural characteristics of young people across three countries based on Hofstede's model. Our research is academically original and significant, and it offers practical insights into the behaviour and decision-making of young people. Notably, our study focuses on the participants' individual cultural traits rather than societal-level characteristics, which is a limitation of Hofstede's research. To accomplish this focus, we conducted primary research using the computer-assisted web interview (CAWI) method, involving young participants from three culturally distinct nations: Poland, South Korea, and the United States. The research instrument, a web questionnaire, complied with Hofstede's model and integrated elements from other studies that measured similar features. We chose these three countries because of their cultural and economic differences, as well as their roles as cultural bridges connecting North America, Europe, and Asia.

The main research thesis drew from studies by other authors indicating the distinctiveness of young consumers' characteristics from the country's average behavioural patterns (e.g., Eringa *et al.*, 2015; Chang, 2024). Therefore, the main thesis claimed that the specifics of cultural traits differed among young people in comparison to the results identified in a country in the light of Hofstede's study. The paper consists of the following parts: first, we present the theoretical background of Hofstede's model, including its strengths, weaknesses, and a cultural overview of the three analysed countries. The next part presents the methodology, describing the sample, the measurement scale, and the operationalisation of the six cultural dimensions. In the results section, we provide the scale validation,

CFA results, invariance testing, and cross-cultural comparisons. Finally, the paper provides concluding remarks, implications, and a discussion of the study's limitations and directions for future research.

LITERATURE REVIEW

Hofstede's Cultural Model

Despite its limitations and criticisms, Hofstede's model ranks among the most influential studies on cultural differences. This research analysed data from employees of the multinational corporation IBM based on questionnaires that enabled researchers to identify the key dimensions of national culture. The initial measurement took place between 1967 and 1973 (Hofstede, 1984), with a sample of more than 116 000 questionnaires (Hofstede *et al.*, 2010). The respondents were IBM employees in over 50 countries (Hofstede, 1984). A central assumption of this study was that one could compare national cultures by analysing responses from those working within the same organisation, thereby eliminating differences caused by distinct corporate cultures.

The primary research tool used in the study was a standardised questionnaire on employee values, attitudes, and beliefs (Hofstede, 1984), including questions on attitudes towards hierarchy, teamwork, risk-taking, and future orientation. The results underwent statistical calculations, namely factor analysis, allowing the researchers to distinguish dimensions of culture (Hofstede, 1984). Through the statistical analysis, Hofstede's model enables a systematic and reproducible comparison of cultures (Minkov & Hofstede, 2011). Initially, the team identified four dimensions of culture (Hofstede, 1984):

1. Power distance (PDW) measures the degree of acceptance of power inequality in a society.
2. Individualism vs collectivism (IDV) measures how well people function as individuals or within a group.
3. Masculinity vs femininity (MA) determines the dominant values in society, namely competition and success vs caring and cooperation, and the degree to which a culture maintains the traditional gender role distinctions. In 2023, researchers renamed this dimension as 'motivation towards achievement and success'.
4. Uncertainty avoidance (UAI) measures the tolerance level for uncertainty and unpredictability.

Later, the research expanded the model to include two additional dimensions (Hofstede & Bond, 1988; Minkov & Hofstede, 2011):

5. Term orientation (TO) refers to society's approach to tradition and the future.
6. Indulgence vs restraint (IVR) determines the degree to which society allows itself to indulge in pleasures and desires.

Eventually, these adjustments produced a model consisting of six cultural dimensions to compare societies based on their values and norms.

Strengths and Weaknesses of Hofstede's Model

The Hofstede model enables a structured comparison of cultures, allowing for the prediction of differences in people's behaviour and values across countries (Hofstede, 1984). Unlike earlier approaches based on descriptive analyses, the Hofstede model offers measurable and comparable indicators (Mooij, 2013), updated and expanded several times (Hofstede & Bond, 1988; Minkov & Hofstede, 2011). However, Baskerville (2003) criticises the attempt to represent complex aspects of culture through numerical indicators and matrices. In her opinion, such a reduction can lead to a loss of important nuances and cultural dynamics that resist capturing within the framework of rigid categories. Nevertheless, some authors point out that Hofstede's dimensions remain relevant despite globalisation and changing social conditions (Beugelsdijk & Welzel, 2018).

Hofstede's indicators provided the foundation for creating databases and online tools to enable cross-country comparisons, thus making the model more accessible to researchers and business practitioners (Hofstede Insights, 2024). This model has practical applications in international business, assisting companies to adapt management, human resource management, negotiation, and cross-cultural communication strategies (Hofstede, 2001; Kirkman *et al.*, 2006; Ploae, 2012). Furthermore, it

generated much subsequent research on organisational and national culture, such as Trompenaars's models, GLOBE, and Schwartz's value theory (Schwartz, 1994; House *et al.*, 2004; Zainuddin *et al.*, 2018), and influenced the development of theories related to leadership, business strategies, and cultural differences in social psychology (Taras *et al.*, 2012).

Despite its popularity and widespread use in cross-cultural research and international management, Hofstede's model has limitations and weaknesses. The former primarily concern methodology (*e.g.*, Spector *et al.*, 2001; Orr & Hauser, 2008; Bolzonella, 2024), generalisation (*e.g.*, Taras *et al.*, 2012; Ploae, 2012), and the research sample (*e.g.*, McSweeney, 2002). Among the weaknesses, researchers note that the study focused on respondents from a single company, IBM. This means its results may reflect IBM's organisational culture more than national cultural differences (McSweeney, 2002). Certain authors suggest that the model may be overly 'IBM-centric' (Beugelsdijk & Welzel, 2018). However, Taras *et al.* (2012) highlight the model's subsequent validation and extension to larger survey samples covering different countries and economic sectors, thereby increasing its empirical credibility. Nonetheless, Venaik and Brewer (2013) indicate that Hofstede's model relies on data from specific periods that may no longer be current. Consequently, there is a risk that some of the dimensions may not accurately reflect a country's present values and practices unless the data undergo regular updates. At the same time, they emphasise that culture is a dynamic variable rather than a static one (Venaik & Brewer, 2013). Blodgett *et al.* (2008) note in their study that Hofstede's cultural dimensions are valuable for analysing cross-cultural differences, though some may require updating or reinterpretation. The findings suggest that cultures evolve, and Hofstede's original data may not fully capture the contemporary differences between nations. According to the authors, the Hofstede model remains useful for analysing cultural differences in business and management but may be less applicable to rapidly developing societies (Blodgett *et al.*, 2008; Zainuddin *et al.*, 2018).

Another significant limitation highlighted in the literature is that Hofstede created his model to analyse cultural differences at the national level (Bolzonella, 2024). Venaik and Brewer (2013) emphasise that employing this model to examine individual behaviour or organisational practices is inappropriate because it ignores internal cultural diversity within countries. Other scholars also stress that Hofstede's model assigns fixed values to entire nations but overlooks important regional, ethnic, subcultural, and individual differences among people within a single society (*e.g.*, Taras *et al.*, 2012; Khlif, 2016). Furthermore, Kirkman *et al.* (2006) suggest that the portrayal of national cultures in this model seems overly generalised, as each culture and its members are internally diverse and their characteristics constantly evolve over time (Kirkman *et al.*, 2006; Ploae, 2012; Khlif, 2016). In essence, reducing complex national cultures to several dimensions can lead to oversimplifications (Ploae, 2012). Additionally, Baskerville (2003) notes that Hofstede equated the concept of a nation with culture, which is a simplistic perspective. In reality, national borders scarcely correspond with cultural boundaries. Moreover, Venaik and Brewer (2013) discuss the risk of ecological fallacy, which involves assuming that all members of a culture display similar traits. This is because the model relies on average scores for entire countries. In truth, a country might encompass considerable regional, ethnic, and class differences that this model fails to account for.

In addition to the above limitations, some researchers also observe that Hofstede's model relies on Western research methods and might not fully represent the perspectives of cultures outside Europe or North America (McSweeney, 2002; Ploae, 2012; Zhou & Kwon, 2020). Despite the aforementioned strengths and weaknesses of the Hofstede model, scholars commonly use it in post-comparative research, where cultural values serve as variables influencing a phenomenon (Zainuddin *et al.*, 2018).

Poland, South Korea, and the United States in the Light of Hofstede's Dimensions

According to Hofstede's model, the United States is one of the most individualistic societies in the world (Figure 1). The culture here emphasises personal achievement and independence. Poland represents a moderately individualistic country, where people value freedom, but family and local communities are still important. In turn, South Korea is a collectivist society, where group interests and social harmony are essential. People often identify strongly with groups, such as their family or workplace.

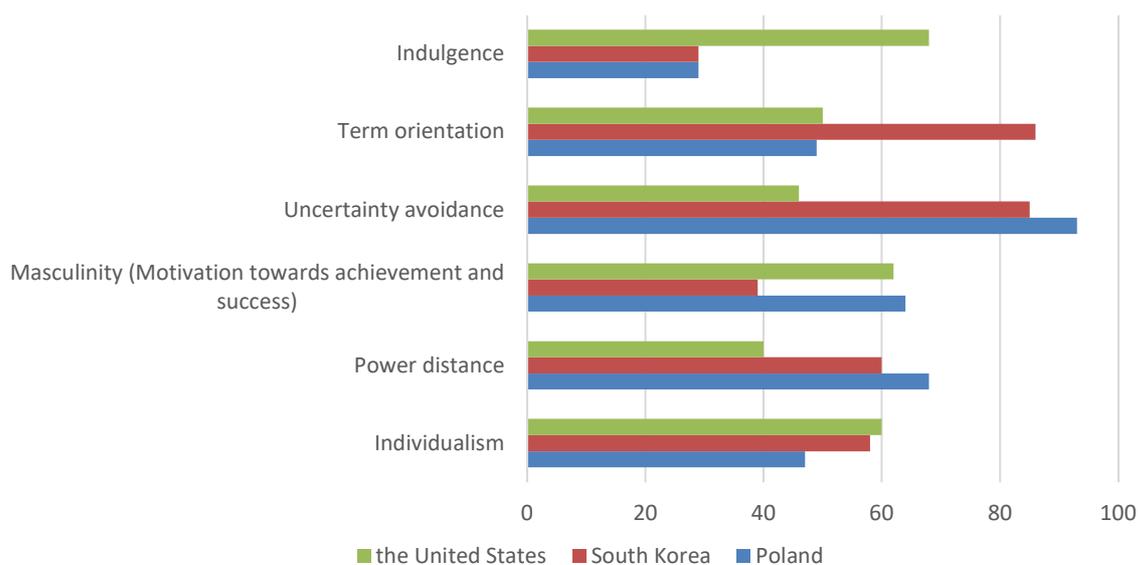


Figure 1. Hofstede's dimensions for Poland, South Korea, and the United States

Source: Hofstede Insight, 2025; Hofstede *et al.*, 2010.

Regarding the PWD dimension in Poland, the societal and organisational hierarchies proved quite pronounced; for example, subordinates expect clear guidance from their superiors. South Korea also displays a relatively high power distance, likely influenced by Confucianism, which emphasises respect for elders and authorities and shapes organisational and social culture. Conversely, the United States has a comparatively low PWD, indicating a greater sense of equality in interpersonal relationships and more freedom for employees to express themselves in relation to their superiors.

Referring to the MA dimension in Poland and the United States, we observed a similar result, favouring success, competition, and material achievements. Conversely, in South Korea, priorities focus on interpersonal relationships, harmony, and quality of life.

Regarding UAI, Poland scored the highest, which may indicate that people favour clear rules and structures and tend to be risk-averse to change. South Korea also achieved a high score for this dimension. Koreans dislike uncertainty, so they follow rules and procedures both in their work and personal lives. However, Americans are more receptive to uncertainty, risk, and experimentation, adjusting more quickly to change.

Koreans, who value frugality, perseverance, and investment in the future, achieved the highest TO rate. Poland has a short-term culture, characterised by a greater focus on traditions, rapid success, and relatively short-term goals. Similarly, Americans tend to demonstrate a short-term approach, focusing on quick success, results, and consumption.

Regarding the IVR dimension, Poles and Koreans appear as restrained countries, meaning that social norms influence behaviour and regulate desires, and people tend to be rather pessimistic. In contrast, Americans are more permissive, which allows for greater freedom to express emotions and enjoy life's pleasures.

RESEARCH METHODOLOGY

The primary research used in the study employed the CAWI method, engaging young participants from three culturally distinct countries: Poland (PL), South Korea (KOR), and the United States (US), with the support and permission of the ethical commission at our university. We collected the data from January to April 2025. Professors from various economic and business universities distributed the link to the questionnaire among their students, aged between 18 and 30, during classes in Poland (N = 201), South Korea (N = 253), and the United States (N = 214) (Table 1). There was a reasonably balanced gender distribution in each of the national groups, with a slightly higher proportion of women. In the

Korean group, women accounted for 59.3% of respondents, men for 40.3%, and one person (0.4%) described their gender as different. The Polish sample provided equal representation of women and men (50% each), while in the American group, women constituted 51%, men 48%, and 1% of respondents declared a different gender identity. Regarding the participants' age, we noticed significant differences between the groups ($p < 0.001$). The Polish sample was the youngest, with a mean age of 22.1 years and a slight variation ($SD = 2.63$). The Korean group had a higher mean age of 24.87 years, and the American group had a mean age of 24.25 years.

Table 1. Sample characteristics

Characteristic	KOR N = 253 ¹	PL N = 201 ¹	US N = 214 ¹	p-value ²
Gender				0.078
Female	150/253 (59.3%)	101/201 (50%)	109/214 (51%)	
Male	102/253 (40.3%)	100/201 (50%)	102/214 (48%)	
Other	1/253 (0.4%)	0/201 (0%)	3/214 (1%)	
Age	24.87 (6.98) Me: 23	22.1 (2.63) Me: 22	24.25 (3.67) Me: 24.5	< 0.001

¹ n/N; mean (SD); Me: median

² Pearson's chi-squared test; Kruskal-Wallis rank sum test

Source: own study.

The questionnaire included questions about Hofstede's six dimensions and personal information, such as gender. We developed a 28-item scale that measures Hofstede's six dimensions of culture at the individual level (Appendix 1). In creating this scale, we utilised the results of previous studies, such as CVSCALE (Yoo *et al.*, 2011; Alon *et al.*, 2023), validated across five dimensions, and a scale measuring the sixth dimension of IVR developed by Heydari *et al.* (2021). Respondents indicated their agreement with each statement using a 5-point Likert scale, where '1' means 'strongly disagree' and '5' means 'strongly agree'.

The IDV scale in the questionnaire assesses how much individuals value personal autonomy, independence in decision-making, and prioritising their own interests over those of the group. Items IDV2 and IDV4 emphasise personal responsibility and self-reliance, while IDV3 and IDV5 focus on self-motivation and comfort with distinguishing oneself.

The UAI scale evaluates a person's discomfort with ambiguity and preference for predictable, structured settings. Items UAI1-UAI3 measure the need for rules and order, while UAI4-UAI6 explore emotional reactions to unpredictability and risk.

The PWD scale evaluates the cultural acceptance of hierarchical authority and unequal power distribution. Items PWD1 and PWD3 highlight the legitimacy of unequal decision-making, while PWD2 and PWD4 represent social distance between individuals of higher and lower status.

The MA dimension explores cultural attitudes towards gender roles, assertiveness, and perceptions of gender-specific behaviour. The statements used in the study reflect traditional gender-role expectations, such as prioritising career over family (MA1) or belief in biologically or socially rooted differences in problem-solving and work ability (MA2-MA4).

The TO scale measures the cultural focus on future planning, perseverance, and delaying gratification. Items TO1 and TO2 relate to long-term goal commitment, while TO3 and TO4 stress the value of sacrificing immediate comfort for future stability and success.

The IVR scale evaluates attitudes towards pleasure-seeking, emotional expression, and the pursuit of gratification. Specifically, IVR1 and IVR2 indicate a general acceptance of personal enjoyment, while IVR3 and IVR4 assess resistance to delaying or suppressing desires.

RESULTS AND DISCUSSION

Scale Validation

After gathering data, we conducted a statistical analysis to achieve the primary aim of the research: internally validating the scale for Hofstede's dimensions and assessing the levels of these dimensions in the countries studied.

To evaluate the internal reliability and convergent validity of the measurement instruments, we calculated four indicators: Cronbach's alpha (α), composite reliability (ρ_C), average variance extracted (AVE), and rho A (ρ_A) (Table 2). Our aim was not solely to validate the scale in general, but also to examine differences between groups, so we developed the internal validity of measurements for all the cultural groups. The interpretive criteria we used relied on the recommendations of Hair *et al.* (2011) and those of Fornell and Larcker (1981).

Table 2. Internal validity of measurements

Measure	α	ρ_C	AVE	ρ_A
IDV				
US	0.80	0.85	0.5	0.8
PL	0.52	0.76	0.51	0.52
KOR	0.62	0.78	0.55	0.68
UAI				
US	0.81	0.89	0.72	0.85
PL	0.49	0.78	0.64	0.66
KOR	0.66	0.78	0.47	0.66
PWD				
US	0.76	0.83	0.55	0.86
PL	0.50	0.78	0.65	0.67
KOR	0.69	0.83	0.62	0.70
MA				
US	0.85	0.90	0.69	0.85
PL	0.82	0.88	0.64	0.86
KOR	0.81	0.88	0.64	0.86
TO				
US	0.76	0.85	0.58	0.76
PL	0.54	0.76	0.52	0.57
KOR	0.63	0.78	0.47	0.63
IVR				
US	0.86	0.89	0.68	0.92
PL	0.70	0.85	0.66	0.83
KOR	0.79	0.86	0.61	0.82

Source: own study.

The results show that the MA and IVR scales achieved the highest and most consistent reliability and convergent accuracy, with high index values across all three groups (*e.g.*, $\alpha > 0.80$, $AVE \geq 0.64$) (Fornell & Larcker, 1981). We can perceive these scales as accurately reflecting the measured constructs regardless of the cultural context (Nunnally, 1978). Conversely, the IDV and UAI scales exhibited notable variation in reliability between countries. Specifically, in the Polish sample, the α values for IDV and UAI were 0.52 and 0.49, respectively, indicating low internal consistency. Additionally, the AVE for UAI in South Korea (0.47) did not meet the minimum threshold for convergent validity (0.50), which could suggest cultural differences in the interpretation of scale items. The PWD scale demonstrated moderate to good reliability in each group, although we once again observed a lower α value (0.50) in Poland. The TO scale, however, showed the lowest accuracy in the Korean sample ($AVE = 0.47$), possibly indicating a need to adapt the scale items to the local cultural context.

In conclusion, although most scales demonstrate acceptable levels of reliability and relevance, the noticeable differences between the countries highlight the need for further testing of measurement invariance. In particular, a comparative analysis of the CFA models under the invariance test – configural, metric, and scalar – warrants confirmation of whether one measures the constructs equivalently across the studied populations (Milfont & Fischer, 2010).

Confirmatory factor analysis (CFA) took place separately for the three cultural groups to verify the accuracy of measuring six latent constructs derived from Hofstede's cultural model: IDV, UAI, PWD, MA, TO, and IVR. We assigned a set of indicators to each construct, and we calculated standardised CFA parameters. Having linked several observable indicators to each construct, we evaluated their relevance based on the following parameters: non-standardised factor loading (B), standard errors of the B estimate (SE), Z statistical values, as well as lower (LCI) and upper (UCI) confidence intervals and standardised loadings (β) (Table 3). Subsequently, we assessed the convergent validity of the indicators and the model fit to the empirical data using metrics such as CFI (Comparative Fit Index), TLI (Tucker-Lewis Index), RMSEA (Root Mean Square Error of Approximation), SRMR (Standardized Root Mean Square Residual), GFI (Goodness-of-Fit Index), and AGFI (Adjusted Goodness-of-Fit Index) (Table 4). To verify the factor model estimates, we performed structural equation modelling in R using the lavaan package (Rosseel, 2012). The calculation used the diagonally weighted least squares mean- and variance-adjusted (DWLSMV) test statistic algorithm (Rhemtulla *et al.*, 2012; Li, 2021). This method allows for the calculation of robust estimates and standard error corrections due to the ordinal nature of observable variables.

The Z -values for non-standardised loadings (B) are overwhelmingly significant ($Z > 10$), demonstrating excellent statistical accuracy. Simultaneously, the values of standardised factor loadings (β) reflect the strength of the relationship between observable variables and latent constructs.

The US group exhibits the highest β values, especially for MA3 ($\beta = 0.90$), IVR4 ($\beta = 0.89$), and IDV2 ($\beta = 0.82$). This indicates a strong connection between theory and empirical data. In Poland, most indicators also show $\beta > 0.60$, although there are weaker elements. For instance, IDV3 has $\beta = 0.38$, suggesting potential issues with the operationalisation of the individualism construct in the Polish context. UAI6 records $\beta = 0.36$ and $Z = 4.66$ – on the borderline of acceptability. In South Korea, the situation is comparable: for most indicators, β is within the acceptable range. For example, MA3 ($\beta = 0.87$), UAI1 ($\beta = 0.85$), and IVR3 ($\beta = 0.83$) demonstrate strong convergent relevance. Conversely, IDV2 ($\beta = 0.31$) and PWD4 ($\beta = 0.50$) may pose interpretation problems.

Referring to the fit values of the CFA models, the results indicate a good fit of the model to the data in the US group (Table 4). The values of key indicators (CFI = 0.95, TLI = 0.96, IFI = 0.95, GFI/AGFI = 0.96) exceed the recommended thresholds of acceptability (≥ 0.90). The values RMSEA = 0.05 and SRMR = 0.08 confirm a good though imperfect fit. Despite a significant χ^2 test, as is typical with larger samples, the overall picture suggests that the data in this group accurately reflect the model.

Regarding Poland (Table 4), the model shows a limited fit. The CFI (0.88), TLI (0.89), and IFI (0.87) indices do not meet the required thresholds, and the SRMR exceeds 0.08 (at 0.09), indicating an unacceptable fit. Only RMSEA (0.05) and GFI/AGFI (0.94/0.93) are within the acceptable ranges. The lack of fit may point to issues with the indicators' cultural relevance or to different interpretations of the questionnaire items. Similarly, the fit indices in the Korean group do not meet the basic standards for model quality. The CFI and IFI values equal 0.88, and the SRMR reaches 0.09. Additionally, the RMSEA is at a borderline level of 0.06, with an UCI of 0.07, which also suggests a limited fit. The GFI/AGFI values are comparable to those of the Polish group (0.94), but the overall fit remains below expectations.

Next, Table 5 presents four consecutive levels of measurement invariance analysis for the grouping variable (country): configural, metric, scalar, and strict – with the use of maximum likelihood estimation (MLR).

Table 3. The CFA results

Indicator	->	Latent variable	B			SE			LCI			UCI			θ			Z		
			PL	KOR	US	PL	KOR	US	US	KOR	US	PL	KOR	US	PL	KOR	US	PL	KOR	US
IDV	->	IDV1	0.60	0.53	0.75	0.06	0.05	0.04	0.75	0.63	0.82	0.60	0.53	0.75	0.60	0.53	0.75	10.83***	10.34***	18.63***
IDV	->	IDV2	0.63	0.31	0.82	0.06	0.06	0.04	0.82	0.43	0.90	0.63	0.31	0.82	0.63	0.31	0.82	10.80***	4.95***	21.12***
IDV	->	IDV3	0.38	0.68	0.66	0.07	0.05	0.05	0.66	0.77	0.75	0.38	0.68	0.66	0.38	0.68	0.66	5.41***	13.76***	14.52***
IDV	->	IDV4	0.64	0.59	0.74	0.06	0.05	0.04	0.74	0.69	0.81	0.64	0.59	0.74	0.64	0.59	0.74	10.89***	12.21***	19.21***
IDV	->	IDV5	0.65	0.59	0.62	0.05	0.04	0.05	0.62	0.68	0.72	0.65	0.59	0.62	0.65	0.59	0.62	11.97***	13.13***	13.03***
IDV	->	IDV6	0.57	0.43	0.70	0.07	0.05	0.05	0.70	0.53	0.79	0.57	0.43	0.70	0.57	0.43	0.70	8.22***	8.27***	15.01***
UAI	->	UAI1	0.77	0.85	0.83	0.06	0.03	0.03	0.83	0.90	0.89	0.77	0.85	0.83	0.77	0.85	0.83	12.77***	28.34***	28.49***
UAI	->	UAI2	0.70	0.78	0.86	0.05	0.03	0.03	0.86	0.84	0.92	0.70	0.78	0.86	0.70	0.78	0.86	13.15***	22.52***	29.03***
UAI	->	UAI3	0.73	0.71	0.79	0.05	0.03	0.03	0.79	0.78	0.85	0.73	0.71	0.79	0.73	0.71	0.79	13.38***	20.74***	23.38***
UAI	->	UAI4	0.62	0.56	0.66	0.06	0.05	0.04	0.66	0.66	0.74	0.62	0.56	0.66	0.62	0.56	0.66	11.10***	11.73***	16.13***
UAI	->	UAI5	0.46	0.57	0.51	0.06	0.05	0.05	0.51	0.67	0.62	0.46	0.57	0.51	0.46	0.57	0.51	7.51***	11.50***	10.06***
UAI	->	UAI6	0.36	0.36	0.12	0.08	0.06	0.06	0.12	0.48	0.24	0.36	0.36	0.12	0.36	0.36	0.12	4.66***	5.60***	1.83
PWD	->	PWD1	0.63	0.74	0.70	0.08	0.04	0.05	0.70	0.82	0.80	0.63	0.74	0.70	0.63	0.74	0.70	8.18***	18.22***	14.03***
PWD	->	PWD2	0.65	0.83	0.94	0.07	0.04	0.05	0.94	0.90	1.03	0.65	0.83	0.94	0.65	0.83	0.94	9.04***	22.32***	19.09***
PWD	->	PWD3	0.62	0.59	0.68	0.07	0.05	0.05	0.68	0.69	0.77	0.62	0.59	0.68	0.62	0.59	0.68	9.32***	12.65***	14.58***
PWD	->	PWD4	0.50	0.51	0.68	0.07	0.05	0.04	0.68	0.61	0.76	0.50	0.51	0.68	0.50	0.51	0.68	7.32***	10.04***	15.12***
MA	->	MA1	0.81	0.83	0.81	0.03	0.03	0.04	0.81	0.88	0.88	0.81	0.83	0.81	0.81	0.83	0.81	23.87***	30.17***	22.90***
MA	->	MA2	0.74	0.81	0.83	0.04	0.03	0.03	0.83	0.86	0.89	0.74	0.81	0.83	0.74	0.81	0.83	18.57***	28.77***	30.04***
MA	->	MA3	0.86	0.87	0.90	0.04	0.03	0.02	0.90	0.92	0.94	0.86	0.87	0.90	0.86	0.87	0.90	24.36***	34.43***	37.46***
MA	->	MA4	0.75	0.59	0.75	0.04	0.05	0.04	0.75	0.68	0.82	0.75	0.59	0.75	0.75	0.59	0.75	17.07***	12.82***	20.30***
TO	->	TO1	0.51	0.72	0.82	0.08	0.04	0.03	0.82	0.81	0.88	0.51	0.72	0.82	0.51	0.72	0.82	6.21***	16.63***	26.15***
TO	->	TO2	0.59	0.71	0.90	0.07	0.05	0.03	0.90	0.81	0.96	0.59	0.71	0.90	0.59	0.71	0.90	8.95***	14.41***	29.10***
TO	->	TO3	0.54	0.47	0.33	0.07	0.07	0.06	0.33	0.61	0.44	0.54	0.47	0.33	0.54	0.47	0.33	7.48***	6.85***	5.76***
TO	->	TO4	0.61	0.65	0.92	0.07	0.05	0.03	0.92	0.74	0.98	0.61	0.65	0.92	0.61	0.65	0.92	8.35***	13.17***	32.83***
IVR	->	IVR1	0.70	0.72	0.72	0.04	0.04	0.04	0.72	0.79	0.79	0.70	0.72	0.72	0.70	0.72	0.72	16.37***	20.45***	19.73***
IVR	->	IVR2	0.75	0.73	0.87	0.04	0.04	0.02	0.87	0.80	0.91	0.75	0.73	0.87	0.75	0.73	0.87	19.52***	19.44***	39.96***
IVR	->	IVR3	0.83	0.84	0.80	0.04	0.03	0.03	0.80	0.90	0.86	0.83	0.84	0.80	0.83	0.84	0.80	21.36***	29.85***	26.89***
IVR	->	IVR4	0.77	0.68	0.89	0.04	0.04	0.02	0.89	0.75	0.93	0.77	0.68	0.89	0.77	0.68	0.89	18.17***	18.58***	45.24***

Note: – direction of the latent variable’s effect on indicators; B – non-standardised factor loading; SE – standard error of the B estimate; Z – the Z-value; LCI, UCI – 95% confidence intervals, lower and upper respectively; θ – standardised factor loading.

*** – $p < 0.001$; ** – $p < 0.01$; * – $p < 0.05$

Source: own study.

Table 4. The CFA model fit rates in the three cultural groups

Country/ Indicator	χ^2 (df)	CFI	TLI	IFI	RMSEA	PCLOSE (p-value for Close Fit)	SRMR	GFI	AGFI
PL	671.28 (df = 445)*	0.88	0.89	0.87	0.05; 90% CI [0.04-0.06]	0.000	0.09	0.94	0.93
KOR	838.11 (df = 447)*	0.88	0.90	0.88	0.06; 90% CI [0.05-0.07]	0.000	0.09	0.94	0.94
US	659.83 (df = 444)*	0.95	0.96	0.95	0.05; 90% CI [0.04-0.06]	0.000	0.08	0.96	0.96

* – $p < 0.001$

Source: own study.

Table 5. Results of invariance analysis for the groups

Model	DF	AIC	BIC	χ^2	χ^2 diff	DF diff	p
Configural	1005	50683.65	52021.42	1900.43			
Metric	1049	50699.88	51839.46	2004.66	82.16	44	0.000
Scalar	1093	50970.35	51911.74	2363.03	345.98	44	0.000
Strict	1149	51164.24	51853.40	2669.03	226.94	56	0.000

Note: χ^2 diff – statistical significance of the difference between estimates for collinear levels of invariance χ^2 . p – statistical significance of the difference.

Source: own study.

The multigroup CFA indicated that the configural model demonstrated an acceptable fit, confirming that the factor structure was consistent across groups. Imposing equality constraints on factor loadings (metric invariance) led to a statistically significant χ^2 increase ($\Delta\chi^2 = 82.16$, $\Delta df = 44$, $p < 0.001$); however, given the sensitivity of χ^2 to sample size, one should examine changes in alternative fit indices to confirm practical invariance. Introducing equal intercept constraints (scalar invariance) resulted in a substantial drop in model fit ($\Delta\chi^2 = 345.98$, $\Delta df = 44$, $p < 0.001$), suggesting that the analysis failed to achieve full scalar invariance. Finally, the strict invariance model further worsened the fit ($\Delta\chi^2 = 226.94$, $\Delta df = 56$, $p < 0.001$), indicating heterogeneity in residual variances across groups. These results support configural and likely metric invariance, but only partial scalar invariance, limiting the comparability of latent means (Chen, 2007).

Regarding the cultural dimensions, based on the CFA (Table 3) conducted for Hofstede's six cultural scales, we should note the following observations (Table 6):

1. The MA and IVR scales show the highest cross-cultural accuracy and stability, with very high standardised loadings and statistically significant Z values.
2. The PWD and TO scales present a good fit, although some indicators (e.g., PWD4 in South Korea, TO3 in the United States) show lower measurement quality.
3. The IDV and UAI scales have weaker fits. The weakest indicator in any culture is UAI6 – worth considering for elimination.
4. The best fit of the CFA model emerged in the US group, while the models in Poland and South Korea require a minor adaptation of indicators to improve structural consistency.

Hofstede's Dimensions

The cross-cultural analysis compared the respondents' performance on IDV, UAI, PWD, MA, TO, and IVR. We analysed means (M), standard deviations (SD), and standard errors (SE) for each indicator and conducted tests of significance for intergroup differences (Table 7). Due to the non-parametric nature of the data analysed, we also performed the Kruskal-Wallis test (Kruskal & Wallis, 1952).

Regarding the IDV, differences emerged among all three groups, where respondents from the United States exhibited the highest average values (e.g., $M \approx 4.1$), indicating the greatest level of individualism among all participants. The scores for South Korea ($M \approx 3.856$) were slightly above those for

Table 6. Relevance and cross-cultural fit of cultural scales: A summary of the CFA

Scale	Overall accuracy (β and Z)	Cross-cultural fit	Remarks
IDV	+ Moderate	cross-culturally variable	Weak β : IDV3 (PL = 0.38), IDV2 (KOR = 0.31)
UAI	+ Moderate	unequal between cultures	UAI6 (US): Z = 1.83, β = 0.12 – for exclusion
PWD	++ Good	relatively stable	Strong PWD2 (β > 0.80) but weaker PWD4
MA	+++ Very good	cross-culturally consistent	β \geq 0.75 for the majority in PL, KOR and US
TO	++ Good	moderate diversity	Weaker TO3 in the US (β = 0.33), but very strong TO4
IVR	+++ Very good	cross-culturally consistent	IVR3 – one of the best indicators overall

Source: own study.

Table 7. Item-level descriptive statistics (M \pm SD; SE) for cultural dimensions in PL, KOR, and US

Cultural item	KOR (M \pm SD; SE)	PL (M \pm SD; SE)	US (M \pm SD; SE)
IDV1	M = 3.5; SD = 1.12; SE = 0.07	M = 3.61; SD = 1.08; SE = 0.08	M = 4.22; SD = 0.87; SE = 0.06
IDV2	M = 4.08; SD = 0.86; SE = 0.05	M = 4.09; SD = 0.86; SE = 0.06	M = 4.41; SD = 0.77; SE = 0.05
IDV3	M = 3.05; SD = 1.24; SE = 0.08	M = 2.98; SD = 1.16; SE = 0.08	M = 3.73; SD = 1.11; SE = 0.08
IDV4	M = 4.05; SD = 0.86; SE = 0.05	M = 3.92; SD = 0.91; SE = 0.06	M = 4.28; SD = 0.78; SE = 0.05
IDV5	M = 4.01; SD = 0.1; SE = 0.06	M = 3.9; SD = 1.09; SE = 0.08	M = 3.59; SD = 1.21; SE = 0.08
IDV6	M = 4.45; SD = 0.7; SE = 0.05	M = 4.3; SD = 0.72; SE = 0.05	M = 4.42; SD = 0.74; SE = 0.05
UAI1	M = 4.15; SD = 0.94; SE = 0.06	M = 4.24; SD = 0.81; SE = 0.06	M = 4.0; SD = 1.03; SE = 0.07
UAI2	M = 4.04; S = 0.92; SE = 0.06	M = 3.98; SD = 0.74; SE = 0.05	M = 3.94; SD = 0.95; SE = 0.06
UAI3	M = 4.19; SD = 0.85; SE = 0.05	M = 4.21; SD = 0.89; SE = 0.07	M = 3.87; SD = 1.03; SE = 0.07
UAI4	M = 3.97; SD = 1.1; SE = 0.07	M = 3.73; SD = 1.08; SE = 0.08	M = 3.6; SD = 1.14; SE = 0.08
UAI5	M = 3.37; SD = 1.16; SE = 0.07	M = 2.94; SD = 1.21; SE = 0.09	M = 3.1; SD = 1.16; SE = 0.08
UAI6	M = 2.79; SD = 1.26; SE = 0.08	M = 2.63; SD = 1.15; SE = 0.08	M = 2.5; SD = 1.21; SE = 0.08
PWD1	M = 2.45; SD = 1.21; SE = 0.08	M = 2.15; SD = 1.14; SE = 0.08	M = 2.04; SD = 1.17; SE = 0.08
PWD2	M = 2.12; SD = 1.23; SE = 0.08	M = 1.5; SD = 0.92; SE = 0.06	M = 1.5; SD = 0.89; SE = 0.06
PWD3	M = 2.94; SD = 1.25; SE = 0.08	M = 2.66; SD = 1.06; SE = 0.07	M = 2.15; SD = 1.11; SE = 0.08
PWD4	M = 3.15; SD = 1.23; SE = 0.08	M = 2.33; SD = 1.09; SE = 0.07	M = 2.14; SD = 1.11; SE = 0.08
MA1	M = 2.56; SD = 1.41; SE = 0.09	M = 2.21; SD = 1.26; SE = 0.09	M = 1.98; SD = 1.2; SE = 0.08
MA2	M = 2.69; SD = 1.3; SE = 0.08	M = 3.08; SD = 1.3; SE = 0.09	M = 2.48; SD = 1.3; SE = 0.09
MA3	M = 2.25; SD = 1.3; SE = 0.08	M = 2.58; SD = 1.31; SE = 0.09	M = 2.37; SD = 1.29; SE = 0.09
MA4	M = 3.47; SD = 1.36; SE = 0.09	M = 3.45; SD = 1.54; SE = 0.11	M = 2.97; SD = 1.51; SE = 0.1
TO1	M = 4.34; SD = 0.75; SE = 0.05	M = 4.28; SD = 0.89; SE = 0.06	M = 4.48; SD = 0.72; SE = 0.05
TO2	M = 4.23; SD = 0.88; SE = 0.06	M = 4.2; SD = 0.81; SE = 0.06	M = 4.36; SD = 0.82; SE = 0.06
TO3	M = 3.12; SD = 1.24; SE = 0.08	M = 3.14; SD = 1.19; SE = 0.08	M = 3.38; SD = 1.25; SE = 0.09
TO4	M = 4.41; SD = 0.76; SE = 0.05	M = 4.3; SD = 0.87; SE = 0.06	M = 4.46; SD = 0.74; SE = 0.05
IVR1	M = 3.58; SD = 1.15; SE = 0.07	M = 3.23; SD = 1.28; SE = 0.08	M = 3.42; SD = 1.3; SE = 0.09
IVR2	M = 3.63; SD = 1.03; SE = 0.06	M = 3.85; SD = 0.94; SE = 0.07	M = 3.55; SD = 1.11; SE = 0.08
IVR3	M = 3.15; SD = 1.19; SE = 0.07	M = 3.67; SD = 1.03; SE = 0.07	M = 3.41; SD = 1.2; SE = 0.08
IVR4	M = 3.29; SD = 1.23; SE = 0.08	M = 3.34; SD = 1.13; SE = 0.08	M = 3.11; SD = 1.2; SE = 0.08

Source: own study.

Poland (M \approx 3.8) on many of the IDV items, namely four out of six. This seems surprising given Hofstede's classic data, where Poland scored a higher level of individualism than South Korea (Table 8). This may have occurred because Hofstede's research defined cultural values at the societal level, namely the macrolevel, whereas our study measured individual perception – that is, how respondents feel and express their approach to everyday life.

The UAI also revealed notable differences, particularly between South Korea and the United States. American respondents exhibited the lowest UAI scores (M \approx 3.5), whereas the highest scores emerged among Koreans (M \approx 3.75), and Poles ranked in between (M \approx 3.6). Poland's UAI scored lower than South Korea's, but the difference is not substantial. South Korea shows higher levels of UAI on certain items, especially those related to emotional responses to unpredictability and social structures (UAI4-UAI6).

Table 8. The cultural indicator level by country

Indicator	Highest	Medium	Lowest
IDV	US	KOR	PL
UAI	KOR	PL	US
PWD	KOR	PL	US
MA	PL	KOR	US
TO	US	KOR	PL
IVR	PL	KOR	US

Source: own study.

Across all four items of the PWD scale, group differences were statistically significant. Korean participants had the highest mean scores (*e.g.*, $M \approx 2.67$), indicating a greater acceptance of social hierarchy and authority. Poland's scores were intermediate ($M \approx 2.16$), while the lowest values emerged in the US group ($M \approx 1.95$), reflecting a more egalitarian approach typical of American culture. The average PDWs in Poland and the United States did not exceed 2.5 on a 1-5 scale. In South Korea, the score was just above 2.5, suggesting that even young Koreans tend to underrepresent high PWD.

In relation to MA, Polish respondents achieved the highest average score ($M \approx 2.83$), with Koreans close behind ($M \approx 2.74$), while Americans scored the lowest ($M \approx 2.45$), indicating a comparatively lower endorsement of traditional masculine norms in the United States. Notably, item MA4 received the highest average across all three countries, with particularly strong agreement in South Korea ($M = 3.47$) and Poland ($M = 3.45$), reflecting a persistent cultural endorsement of gender essentialism in the workplace. Meanwhile, MA1 and MA3, which relate to beliefs about male assertiveness or dominance in careers or problem-solving, scored lower across all three countries, suggesting a growing scepticism towards traditional gender hierarchies.

Regarding TO, respondents from the United States demonstrated the highest focus on the future and planning (*e.g.*, $M \approx 4.17$). The Korean group scored similarly but slightly lower ($M \approx 4.025$), while the lowest averages emerged in the Polish group ($M \approx 3.98$). Although the differences between Poland and South Korea are minor, the trend shows a more forward-looking approach in American culture.

For the IVR dimension, few differences between groups reached statistical significance. Poland and South Korea showed higher mean values (*e.g.*, PL: $M \approx 3.52$; KOR: $M \approx 3.4$), while US respondents recorded the lowest values ($M \approx 3.37$). Although these trends may suggest greater expression of needs and emotions in Eastern European and Asian cultures among young people, the lack of significant differences warrants a cautious interpretation.

CONCLUSIONS

Regarding the first part of the study's objective, which involved assessing the accuracy of the tool used to measure cultural dimensions, we performed a CFA for Poland, South Korea, and the United States. The CFA's purpose was to evaluate the quality of indicators/items within each cultural scale – IDV, UAI, PWD, MA, TO, and IVR – across the three groups, thereby identifying strong, weak, and unstable indicators between cultures. Secondly, we determined the fit indices of the CFA model in each cultural group. The CFA results showed an acceptable model fit in all groups (*e.g.*, $CFI > 0.88$, $RMSEA \leq 0.06$) (Wang *et al.*, 2020). The highest fit indices emerged in the US group ($CFI = 0.95$; $RMSEA = 0.05$), which seems to comply with the conclusions that Hofstede's model relies mainly on the Western research method (McSweeney, 2002; Ploae, 2012; Zou & Kwon, 2020). The factor loadings analysis indicated that the MA and IVR scales had the highest convergent validity, with standardised loadings of $\beta \geq 0.75$ and statistically significant values across all three groups. The PWD and TO scales demonstrated good overall fit, although some individual indicators did not fully meet the significance criteria. The IDV and UAI scales displayed lower β values (below 0.50) in certain groups, with some indicators showing non-significant Z values, suggesting that further adaptation of some items may be necessary.

The invariance testing results show that the core factorial structure of the scale is consistent across cultural groups, as indicated by the acceptable fit of the configural model. This supports the theoretical assumption that young people in Poland, South Korea, and the United States understand the measured constructs similarly. Additionally, the findings on metric invariance suggest that the relationships between the latent constructs and their indicators are mostly comparable across these groups, enabling a meaningful comparison of their structural relationships.

However, the absence of full scalar invariance indicates that some item intercepts differ across cultures. This implies that respondents from various cultural backgrounds may interpret certain items differently or use distinct reference frames when answering. Such differences may arise from linguistic nuances, cultural norms, or varying response styles. Therefore, direct comparisons of latent means between groups require caution, and approaches like partial scalar invariance techniques or alignment optimisation methods may be useful in future research.

The absence of strict invariance highlights variability in measurement error terms across groups, potentially reflecting differences in the reliability of responses or cultural variability in item-specific precision. This further underscores the importance of culturally sensitive adaptation of measurement instruments, particularly when investigating cross-cultural differences in value-based constructs.

Taken together, the results confirm that while the scale offers cross-cultural structural stability, some measurement properties vary across contexts. This aligns with previous research on cultural dimensions, which often identified structural comparability but also intercept and residual variability between groups (e.g., Blodgett *et al.*, 2008; Yoo *et al.*, 2011; Zainuddin *et al.*, 2018).

To achieve the second part of our primary objective, namely to identify the individual cultural characteristics of young respondents in the three countries based on Hofstede’s model, we employed the scale developed for this study.

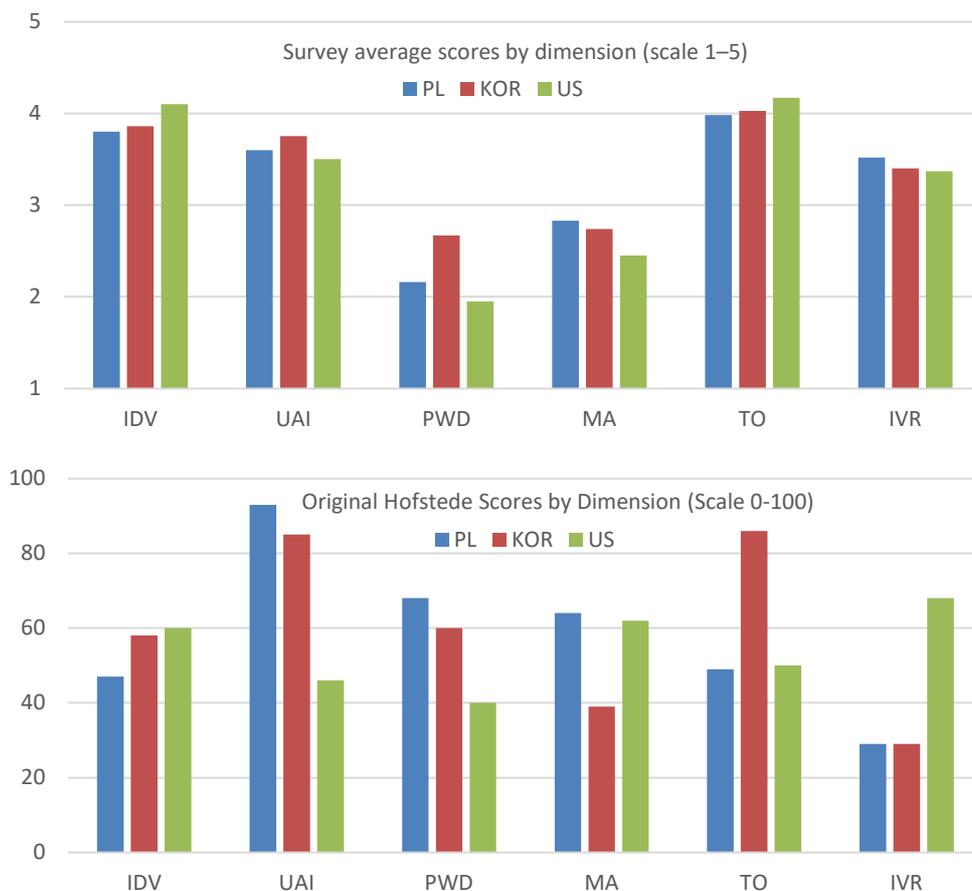


Figure 2. The survey versus Hofstede cultural dimensions scores

Source: own elaboration based on our results and Hofstede’s study (Hofstede Insight).

Individualism

The results of the present study partially confirm the cultural order outlined in Hofstede's research, as the highest scores for most items on the IDV scale appeared in the American group. However, the comparison between Poland and South Korea was less consistent with the traditional, Hofstede pattern (Figure 2). Such a deviation from predictions may indicate significant shifts in the attitudes of young adults in Asian countries, including South Korea. The increasing influence of Western values, the individualisation of lifestyles, urbanisation, and an education system focused on competition and self-fulfilment might be strengthening individualistic attitudes among the younger generation of Koreans. Conversely, the collectivist values in Poland could remain more deeply embedded in social structures than Hofstede's nationwide indicators imply, particularly among groups of young adults, for whom community, social relations, and interdependence hold high importance. Generally, the IDV scores were the highest in this study, which shows a relation to Beugelsdijk and Welzel's (2018) study.

Uncertainty Avoidance

In this study, the results from respondents aged 18-30 do not fully reflect the classical assumptions concerning the UAI dimension in Hofstede's research. Although Poland showed relatively high averages on some items of the UAI scale, South Korea scored higher in most cases. Conversely, the United States consistently had the lowest scores. The discrepancy between the results obtained and the values proposed by Hofstede may stem from several factors. Firstly, Hofstede's measurement relied on surveys conducted in the 1970s and 1980s among employees of a multinational corporation, which limited the snapshot to a specific demographic profile. In contrast, the current study focused on young adults, whose attitudes may differ significantly from those of previous generations. Secondly, contemporary socio-cultural changes, including globalisation, technological development, and increased mobility, may have contributed to a weakening of traditional behavioural patterns associated with the need for predictability. The young generation in Poland may be more cognitively flexible and less inclined to avoid uncertainty than earlier cohorts.

Power Distance

Our study's findings generally do not fully confirm Hofstede's pattern, with the highest PWD values observed in the Korean group and the lowest in the US group. Poland ranked somewhat differently, although in some scale items (*e.g.*, PWD1-PWD3), it achieved values close to those of the Americans. This suggests that young respondents from Poland may be less willing to accept rigid hierarchical structures than Hofstede's model indicates. These differences could stem from the socio-cultural changes in Poland after 1989, which have contributed to the democratisation of social relations, the development of education, and increased civic awareness. Additionally, the younger generation of Poles, raised amid systemic transformation and openness to the West, may have higher expectations of egalitarian cooperation and governance. Notably, despite global influences, Korean respondents still demonstrated commitment to structural hierarchy when compared to the Polish and US groups, which may reflect the persistent influence of Confucian values on their social system. The differences among young people concerning PWD also emerged in Eringa *et al.*'s (2015) study.

Masculinity

The study's findings showed some alignment with Hofstede's masculinity scores but also revealed subtle differences across specific items. The US sample demonstrated the lowest agreement with masculine-coded items, possibly indicating a greater social acceptance of gender equality norms in both professional and personal spheres. Poland's relatively higher averages – but not very high M values – suggest that traditional gender norms may still hold significant socio-cultural influence, especially regarding workplace roles (MA4). Despite Hofstede's initial classification as low on masculinity, South Korea demonstrated higher agreement with certain statements, notably MA4, indicating possible discrepancies between macrolevel indices and individual gender beliefs. Importantly, masculinity is a multifaceted cultural dimension, with various scale items reflecting different aspects – from rivalry and ambition to work

approach and self-discipline. The findings imply that traditional cultural indicators might not fully capture the complexity of young people's attitudes today, necessitating a careful and nuanced interpretation.

Time Orientation

The results show that US respondents scored the highest on each item of the TO scale, indicating a particularly strong orientation towards organisation, planning, and punctuality. However, overall, all the countries exhibit high averages, reflecting a strong commitment to planning and working for the future. Chang (2024) achieved similar results. These minor differences suggest that this dimension may be more universal compared to the other scales.

Indulgence vs Restraint

Poland scored the highest averages in most IVR items, which may indicate greater openness to meeting needs and emotional expression. South Korea and the United States obtained lower scores, which may suggest more reserved social norms. These data partly differ from Hofstede's original results, possibly reflecting cultural changes or methodological differences. Firstly, our survey included people aged 18-30 years, who may hold different attitudes than the general population, especially regarding generational values. Young Poles growing up amid cultural liberalisation and globalisation may be much more open to emotional expression and pleasure seeking than earlier generations. Secondly, the lower scores of American respondents may mirror increased social, economic, and educational pressures, resulting in a more pragmatic and controlling lifestyle.

In summary, the results indicate that the levels of certain indicators (*e.g.*, IDV, UAI) do not depend on nationality alone. The generational dynamics, the political and socio-economic contexts, and the effects of global cultural trends and environmental factors can heavily influence those indicators as well. Therefore, exercising caution when interpreting Hofstede's traditional cultural indicators is essential, especially when analysing a population of young respondents raised in a rapidly changing cultural environment. The findings may also reflect intracultural variation that static national indices fail to capture.

Nevertheless, the differences might also have arisen because Hofstede examined cultural values at the societal level, namely the macrolevel, whereas our measurement focused on individual perception – that is, how respondents perceive and report their own approach to everyday life. Authors often cite the macrolevel in Hofstede's study as a limitation of his research (Bolzonella, 2024; Venaik & Brewer, 2013), so our study aimed to address this limitation in a cross-cultural context. In other words, many studies assume that people from a specific country possess the characteristics outlined by the Hofstede model. However, we considered differences among individuals within the same culture and study at the personal level. Modern approaches to cross-cultural analysis should allow for accurate unit diagnoses (Bolzonella, 2024) and acknowledge that culture is not static, but evolving – especially under the influence of economic development, education, and modernisation (Venaik & Brewer, 2013; Beugelsdijk & Welzel, 2018).

Despite clear cultural differences between Poland, South Korea, and the United States, the results indicated relatively small differences in the levels of most cultural dimensions measured among the younger generation. Concerning the results, one may conclude that we managed to partially support the main thesis. The scaled average and factor loading (β) values show a high level of consistency across groups, especially on dimensions such as IDV, UAI, MA, and IVR. The exception is the PWD dimension, which revealed more noticeable differences – particularly strong loadings in the Korean group compared to the American group. This may point to a greater persistence of hierarchical social norms in that culture. Overall, however, the convergence of results between the groups may signal a rising cultural similarity among young people, regardless of their country of origin, which could be a consequence of globalisation, digital socialisation, and shared developmental challenges.

Theoretical Implications

Based on the CFA, we can identify several important theoretical implications for cross-cultural research and the construct of culture according to Hofstede. Firstly, the CFA results confirmed that one can measure Hofstede's proposed cultural dimensions as distinct, multidimensional, latent constructs. In

particular, the MA and IVR scales show strong internal consistency and cross-cultural congruence, which supports their theoretical universality (Heydari *et al.*, 2021).

Secondly, variations in the measurement accuracy of certain scales, particularly IDV and UAI, suggest that some cultural dimensions may carry different semantic or contextual meanings across societies. This could imply that cultures express, for example, individualism or uncertainty avoidance in ways shaped by historical, political, economic, and social factors. Additionally, differences in the indicators' average values might stem from both cultural variations and diverse interpretations of the questionnaire items. Theoretically, this highlights the need to develop more culturally inclusive tools.

Thirdly, the results support the need for a cultural adaptation of research tools. While valuable in theory, Hofstede's classic scales require adjustment to fit local cultural and linguistic contexts, particularly in Asian countries or evolving social systems. This creates opportunities for developing more dynamic models of culture that consider social and historical diversity.

Fourthly, this study contributes to the methodological literature by emphasising the multistage validation of psychometric tools. Content validity alone is not enough in comparative research; one also needs to test the structural equivalence of measurement models. Only then can one make reliable cross-cultural comparisons free from a measurement error.

In the light of these observations, the study both validates many of Hofstede's theoretical assumptions and promotes further testing of the theory and the development of more flexible and culturally aware measurement tools (Eringa *et al.*, 2015).

Practical Implications

The study's practical implications provide guidance for international marketing and management, highlighting that while structural cultural tendencies may endure, response patterns and the importance of certain values can differ among younger cohorts. Younger groups often deviate from traditional Hofstede profiles, making youth-specific and locally tested messages vital. The relative stability of MA and IVR suggests that reward framing, recognition, and lifestyle benefits are likely to perform consistently across markets. However, cultural nuances still exist; for example, in the United States, emphasising individual agency and future rewards proves most effective; in South Korea, structured guidance, authority endorsements, and step-by-step onboarding align with higher PWD and UAI; and in Poland, aspirational yet inclusive narratives, combined with value-plus-pleasure appeals, are likely to resonate.

Limitations

Although methodologically solid, this study has several limitations. Firstly, the sample encompassed only three countries – Poland, South Korea, and the United States – and the groups were not representative at the national level, which may limit generalisability. Secondly, the absence of full scalar invariance indicates that mean comparisons across cultures require much caution, as some items might reflect cultural biases or differences in response styles. Thirdly, although widely employed, Hofstede's framework may not entirely capture the complexity or intracultural variability of cultural values, necessitating the use of complementary models in future research.

Directions for Future Research

Future research should broaden cross-cultural validation efforts by including more diverse cultural contexts beyond the three countries analysed in this study. Additionally, future studies could consider refining or culturally adapting the weak-performing items – especially within the IDV and UAI scales – through cognitive interviews or qualitative validation methods. Finally, exploring hybrid models that balance etic (universal) and emic (culture-specific) components may provide deeper insight into how cultural dimensions manifest in different national contexts.

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Appendix 1

Table A1. The scale used in the study

INDIVIDUALISM (IDV)	
IDV1	I enjoy being unique and different from others in many respects.
IDV2	I feel it is essential for me to act as an independent person.
IDV3	I try to do what is best for me, regardless of how that might affect others.
IDV4	Being able to take care of myself is a primary concern for me.
IDV5	I am comfortable with being singled out for praise or rewards.
IDV6	I'm individually responsible for the decisions I make.
UNCERTAINTY AVOIDANCE (UAI)	
UAI1	I prefer structured situations to unstructured situations.
UAI2	Standardized procedures are helpful in my life.
UAI3	It is essential to provide detailed instructions so that I always know what I am expected to do.
UAI4	I feel stressed when I cannot predict the consequences.
UAI5	I would not take risks when an outcome cannot be predicted.
UAI6	I don't quickly adapt to new situations.
POWER DISTANCE (PWD)	
PWD1	People in higher positions should make most decisions without consulting people in lower positions.
PWD2	People in higher positions should avoid social interaction with people in lower positions.
PWD3	People in lower positions should agree with the decisions of those in higher positions.
PWD4	People in higher positions should not delegate essential tasks to lower positions.
MASCULINITY (MA)	
MA1	It is more important for men to have a professional career than for women.
MA2	Men usually solve problems with logical analysis; women typically solve problems with intuition.
MA3	Solving difficult problems usually requires an active, forcible approach, which is typical of men.
MA4	There are some jobs that a man can always do better than a woman.
TIME ORIENTATION (TO)	
TO1	Working hard for success in the future.
TO2	Long-term planning is essential in life.
TO3	Giving up today's fun for success in the future.
TO4	Personal steadiness and stability are crucial in life.
INDULGENCE (IVR)	
IVR1	There should not be any limits on individuals' enjoyment.
IVR2	Societies should value the relatively free gratification of desires and feelings.
IVR3	Desires, especially concerning sensual pleasures, should not be suppressed.
IVR4	The gratification of desires should not be delayed.

Source: own study.

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Use of Artificial Intelligence

We used Elicit.com for literature search and Grammarly.com for proofreading.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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