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Cultural novelty and international students' experience: a five-country study

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Abstract
Research has linked cultural differences between a sojourner's home and host country with their cultural transformation. Nonetheless, the results of empirical studies are inconclusive due to different operationalizations of cultural differences and testing among different groups of sojourners. We extend previous investigations by examining the effects of cultural novelty (i.e., the subjective perception of cultural differences) on the experience of international students ($N=1114$) in Denmark, Germany, Italy, Poland, and the USA. Drawing on acculturation and social learning theories, we conceptualized a model of students' adjustment and satisfaction taking into account cultural novelty. We tested the model through multi-group structural equation modeling (SEM) and examined the various relationships across subsamples from all five countries. We determined the significant effects of cultural novelty and a range of factors impacting students' intercultural experience, such as their cultural intelligence, cultural background, second-language skills, time in the host country, and socialization with domestic students, and how the effects may vary by the host country. We discuss implications for future research and practice.

Keywords Cultural novelty/distance · International student experience · Higher education · Cultural adjustment/adaptation · Student satisfaction

Introduction

> [During the first weeks in Italy] I was away from home with a different language, different country, and different people... it was very stressful. It was hard to adapt to the social life. (…) We had about 18 nationalities [in our class] and it's amazing because we were mostly international students and everyone wanted to make friends. (An international student in Italy)

This experience shared by one of our students fits into the narrative that relocating to a foreign country is an alluring experience that helps individuals broaden their horizons,

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yet entailing psychological strain caused by adjusting to the new environment. Cultural adjustment involves a considerable amount of interaction with locals, which serves as a basis for comparisons of what is similar to/different from their home culture (Hemmasi & Downes, 2013). Studies have linked *cultural novelty/distance*, that is, the perceived difference between the home and host culture (cf., Triandis, 1998), with social difficulty in the host country among various types of sojourners. Sojourners include international students, that is, individuals crossing borders for the purpose of study (OECD, 2021); business expatriates, that is, individuals who legally move to another country to execute work; and immigrants (Andresen et al., 2014). The mixed findings regarding the (lack of) impact of cultural novelty on the adjustment and well-being of international students (Finn et al., 2022), expats (Selmer, 2006), and immigrants (Kashima & Abu-Rayya, 2014) suggest that more empirical research is needed to better understand the cultural intricacies related to navigating the host environment.

This study addresses the following research question: *To what extent is cultural novelty associated with international students' intercultural experience, and what factors contribute to that experience despite cultural novelty?* We will seek to answer it using online survey data collected from international students in Denmark, Germany, Italy, Poland, and the USA. Unlike prior studies that used objective cultural distance indices to gauge the variation in participants' national cultures (e.g., Azar & Drogendijk, 2016; Finn et al., 2022; Hemmasi & Downes, 2013; Kashima & Abu-Rayya, 2014), we use cultural novelty as the subjective perception of cultural differences. Prior studies that operationalized cultural distance using aggregated indices of cultural dimensions have produced inconsistent findings in various contexts (Shenkar, 2012).

This study contributes to the global mobility literature by empirically testing the assumption that cultural novelty determines international students' experience. We respond to calls (Kashima & Abu-Rayya, 2014) to investigate the effects of cultural difference using various groups of sojourners and operationalizations of cultural distance, as well as examining the effects of a range of individual, sociocultural, and language-related factors linked to the perceived cultural difference, such as students' cultural intelligence and cultural background, time in the host country, socialization with locals, and second-language skills. We also contribute to the international students' literature by investigating students' experiences both in English-speaking (the USA) and underexplored non-English-speaking countries (Wilczewski & Alon, 2022).

This article explores factors influencing international students' adjustment to the host country and conceptualizes the role of cultural novelty in their experience drawing on acculturation and social learning theories. After establishing proxies for student experience (i.e., adjustment and satisfaction), we conceptualize several factors that may affect students' intercultural experience. Next, we present the method and results, followed by a discussion, limitations, future research directions, practical implications, and a conclusion.

Literature review

Adjustment to the host country

Adjustment (or adaptation, accommodation, acculturation; Kim, 2001; Searle & Ward, 1990) refers to the degree to which an individual fits in the cultural environment (Gudykunst & Hammer, 1988). Adjustment is also viewed as a process of adapting to the host

beliefs, values, norms, and behaviors to function in a new environment (Haslberger, 2005). An individual may exhibit different degrees of fitness to different aspects of functioning in the host environment. For example, Searle and Ward (1990) differentiated between *psychological adjustment*, that is, one's feelings of well-being and satisfaction in the host environment, and *sociocultural adjustment*, that is, one's ability to fit in the new environment and navigate its interactional aspects. The former relates to emotional states and is based on attitudinal states, while the latter refers to culture-specific skills, being based on behavioral changes (Selmer, 2001). Black et al. (1991) proposed a three-component model including *general/cultural adjustment* to the living conditions in the host country, *interactional adjustment* to interactions with locals in work and non-work contexts, and *work adjustment* to the work environment (reflected in expats' psychological comfort with professional tasks, responsibilities, and standards). Drawing on the aforementioned models, this study uses general adjustment, interactional adjustment, and satisfaction as proxies for the international student experience.

Cultural novelty as a predictor of international students' experience

Cultural novelty plays a role in adjusting to the host environment in that the more differences an individual discerns between the home and host culture, the more cultural learning is required for them to adjust. This logic underpins social learning theory (Bandura, 1977), which views learning as a socially grounded process of adjusting an individual's behavior in response to their reciprocal interactions with the environment, as well as intercultural adjustment theories (Berry, 1997; Black et al., 1991; Kim, 2001; Searle & Ward, 1990), where the individual reproduces the acquired cultural knowledge in cultural contexts.

Empirical research has linked objective and subjective cultural distance with international students' adjustment and well-being. Furnham and Bochner (1982) found that students from culturally distant countries (e.g., the Middle East and the Far East) encountered more difficulties adjusting socially to the UK than students from Northern Europe. The perceived cultural difference has also been found to hamper students' sociocultural adjustment (Galchenko & van de Vijver, 2007; Searle & Ward, 1990; Ward & Kennedy, 1993), social integration (Spencer-Oatey et al., 2017), and psychological adjustment (Akhtar & Kröner-Herwig, 2015; Cetinkaya-Yildiz et al., 2011).

Nonetheless, adjusting to a similar environment may be as difficult for an individual as adjusting to a more exotic one. This is known as the Psychic/Cultural Distance Paradox (O'Grady & Lane, 1996), according to which the assumptions of cultural similarity prevent individuals from learning about the host culture. The lack of cultural knowledge causes adjustment issues and psychological strain. The Cultural Distance Paradox has been found in research on business expats (Hemmasi & Downes, 2013; Selmer, 2006), as well as international students. For example, studies (Ward & Kennedy, 1993; Yu & Downing, 2012) showed that Western students' higher interest in an Eastern country (China) and expectation of cultural differences better prepared them for the intercultural experience and fostered their sociocultural adjustment.

Given the contradictory results in prior research, we examine the relationship between cultural novelty and dependent variables without predicting its direction:

Hypotheses 1a–c: Cultural novelty is related to general adjustment (1a), interactional adjustment (1b), and satisfaction (1c).

Other determinants of international students' experience

Cultural intelligence

Individuals' intercultural effectiveness largely depends on developing a global mindset through cultural intelligence, that is, one's ability to function in cultural situations (Ang et al., 2007). Culturally intelligent individuals look for partnerships despite cultural differences (Plum et al., 2008) and adjust better to the host environment (Ang et al., 2007). The international students' literature has linked students' cultural intelligence with their cultural well-being (Peng et al., 2015), adjustment (Wang et al., 2017), and satisfaction with life (Chen et al., 2021; Wang et al., 2017). Therefore, we propose,

> Hypotheses 2a–c: Cultural intelligence is positively related to general adjustment (2a), interactional adjustment (2b), and satisfaction (2c).

Time in the host country

The perceived cultural difference changes (Hemmasi & Downes, 2013) throughout a sojourner's learning path. Social learning theory (Bandura, 1977) states that an individual's learning is dependent on one's reciprocal interaction with the environment. Being exposed to cultural situations, international students can learn culturally appropriate behaviors that should reduce the negative feedback received from the environment. Similarly, acculturation theory (Ward & Kennedy, 1999) views time in the host country as one of the main predictors of sociocultural adjustment. Empirical research suggests that, over time, students show more tolerance toward cultural differences through positive interactions with locals (Sobkowiak, 2019) and exhibit lower psychological distress (Cetinkaya-Yildiz et al., 2011). Thus, we propose the following:

> Hypotheses 3a–c: Time in the host country is positively related to general adjustment (3a), interactional adjustment (3b), and satisfaction (3c).

Second-language proficiency

According to acculturation theory (Berry, 1997) and communication and cross-cultural adaptation theory (Kim, 2001), second-language and communication skills facilitate individuals' adjustment through intercultural interactions with locals. Empirical research confirms that skills in the host language and English as a lingua franca predict international students' social ties (i.e., host-national, international, and co-national ties) (Cao et al., 2017), sociocultural adjustment (Swami et al., 2010), and psychosocial adjustment (i.e., low depressive symptoms and the feeling of belonging to the local community) (Wilson et al., 2020). While social interactions with locals foster students' adjustment and social connectedness in the host environment (Rosenthal et al., 2007; Rui & Wang, 2015), language difficulties, cultural challenges, unfamiliar patterns of interactions, and difficulty socializing with locals, or—inadequate sociocultural adjustment—combine to affect students' satisfaction with their intercultural experience (Campbell & Li, 2008). Thus, we hypothesize the following:

Hypotheses 4a–c: Host-language proficiency has a positive direct effect on general adjustment (4a) and interactional adjustment (4b), and a positive indirect effect on satisfaction (4c).
Hypotheses 5a–c: English proficiency has a positive direct effect on general adjustment (5a) and interactional adjustment (5b), and a positive indirect effect on satisfaction (5c).
Hypotheses 6a–c: Socialization with domestic students is positively related to general adjustment (6a), interactional adjustment (6b), and satisfaction (6c).

Students' cultural background

Redmond (2000) found that international students from collectivistic countries had difficulty handling stress through social integration in an individualistic country (the USA). Constantine et al. (2005) related students' lower adjustment to the forbearance of problems, which is more common in collectivistic cultures where individuals keep problems to themselves to avoid burdening others. Thus, it is expected that students from collectivistic countries will encounter more difficulty adjusting to individualistic host countries and will have a less satisfying experience than students from individualistic home countries.

Hypotheses 7a–c: Students' home country's culture is related to general adjustment (7a), interactional adjustment (7b), and satisfaction (7c).

Adjustment as a predictor of students' satisfaction

We regard students' satisfaction as an affective response to their experience (Selmer et al., 2015) and fitness to the host environment. Thus, based on prior research linking the two constructs in international students' experience (Rienties et al., 2012; van Rooij et al., 2018; Wilczewski et al., 2021), we expect that students' adjustment will predict their satisfaction:

Hypotheses 8 a–b: General adjustment (8a) and interactional adjustment (8b) are positively related to satisfaction.

The overall theoretical model is presented in Fig. 1.

Method

Procedure and participants

This research was approved by ethical committees at the participating universities. Self-report data were collected through an online questionnaire from international students in five countries: Denmark, Italy, Germany, Poland, and the USA. Data from two universities in the USA were collected between November 2019 and February 2020 and February and May 2020, respectively, from Denmark and Germany between November 2019 and March 2020, from Poland between November 2019 and May 2020, and from Italy between March and April 2021.

Participants came from 106 countries, mostly from China (14.3%), India (14.1%), Germany (4.8%), Italy (4.7%), Ukraine (4.1%), Turkey (2.8%), Belarus (2.6%), Pakistan

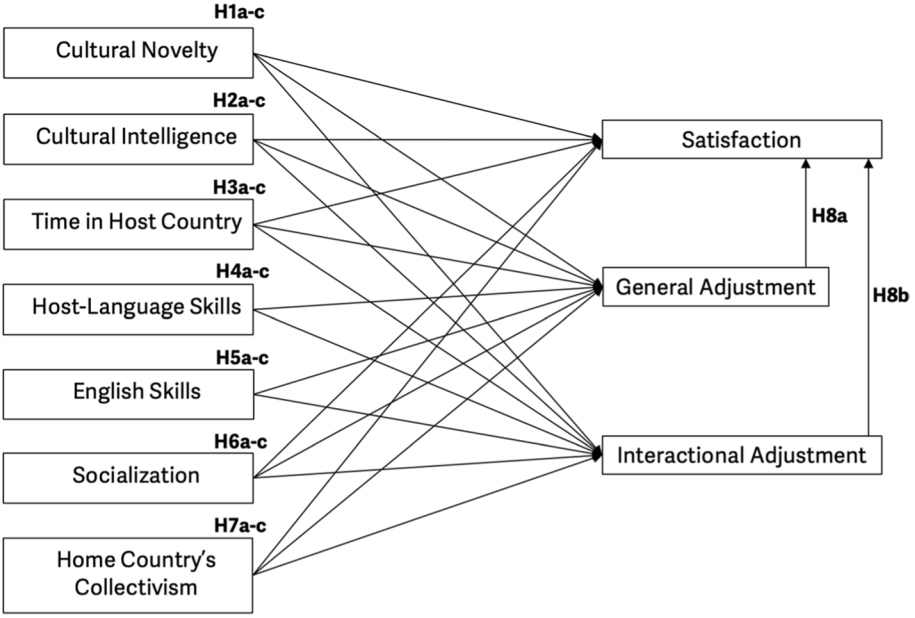

Fig. 1 Hypothesized model of international students' adjustment and satisfaction

(2.5%), Nigeria and France (2.2% each), and others below 2%. The Danish sample was dominated by students from Germany (20%), Poland (14.8%), Italy (12.6%), and Sweden (7.4%); the German sample—by students from India (25.4%), Iran (12, 6.9%), and China (19, 11%); the Italian sample—by students from China (10.8%), Iran (9.7%), Russia (8.7%), India (7.7%), and Pakistan (5.1%); the Polish sample—by students from Ukraine (12.7%), Belarus (10%), Italy (9.6%), and China (5.2%); the US sample—by students from China (35.3%) and India (29.3%); and others below 5%.

Participants were recruited through an e-mail invitation from the relevant Student Administration Office. Participation was voluntary and no remuneration was provided. Participants with self-declared knowledge of English at (at least) B1 level were asked to complete an anonymous online questionnaire, which took about 15 min. Further descriptive information is included in Table 1.

In Hofstede et al.'s (2010) terms, most participants (73.9%) came from collectivistic cultures (see Table 1). All the host countries were classified as individualistic cultures.

Measures

Adjustment

Students' adjustment was assessed with Black and Stephens' (1989) scale to measure general, interactional, and work adjustment on a 7-point scale (1 = very unadjusted, 7 = very adjusted). The first two aspects were measured in this study using seven items expressing *general adjustment* (e.g., "Food"; $\alpha = 0.75$) and four items expressing *interactional adjustment* (e.g.,

Table 1 Participants' background variables ($N = 1114$)

Variable	Frequency	%
Host country		
• Denmark	175	15.7
• Italy	195	17.5
• Germany	173	15.5
• Poland	291	26.1
• USA*	280	25.2
Gender		
• Female	587	52.7
• Male	505	45.3
• Other or Prefer not to say	22	2.1
Age		
• 18–20	975	87.5
• 21–30	77	6.9
• 30 +	62	5.6
Foreign-language skills		
• 1 language	279	25.0
• 2 languages	454	40.8
• 3 or more languages	381	34.2
Time in host country		
• 0–4 weeks	24	2.2
• 1–3 months	204	18.3
• 4–6 months	189	17.0
• 7–12 months	148	13.3
• 13–18 months	132	11.8
• 19–24 months	111	10.0
• 2–4 years	160	14.4
• Over 4 years	146	13.1
Time in other foreign countries		
• 0–4 weeks	461	41.4
• 1–3 months	154	13.8
• 4–6 months	115	10.3
• 7–12 months	115	10.3
• 13–18 months	56	5.0
• 19–24 months	47	4.2
• 2–4 years	60	5.4
• Over 4 years	106	9.5
Participant home culture[1]		
• Individualistic	291	26.1
• Collectivistic	823	73.9

*US sample involves 199 participants from University 1 and 81 from University 2

[1]Hofstede et al. (2010)

[2]Responses collected after March 1, 2020

"Speaking with host nationals"; α = 0.90). Factor analysis confirmed the two-factor structure of the construct.

Satisfaction

Participants rated nine items on a 7-point scale (1 = strongly agree, 7 = strongly disagree), which assess satisfaction with their general and social life, study experience, and interactions with other students and professors (e.g., "I am satisfied with my interactions with the local/host country community", α = 0.87). Two items expressing satisfaction with social life outside of class and with interactions with the local community were adapted from, respectively, Rienties et al. (2012) and Owens and Loomes (2010). We added other items (see Appendix) to capture students' satisfaction with different aspects of their experience. Factor analysis yielded a one-factor structure of the construct; factor loadings are presented in the Appendix.

Cultural novelty

Cultural novelty was measured with an eight-item scale from Black and Stephens (1989), adapted from Torbiorn (1982). Students assessed how similar various aspects of the host culture were to their home culture on a 5-point scale (1 = extremely different, 5 = extremely similar) (e.g., "Everyday customs that must be followed", α = 0.81). For a more straightforward interpretation of the results, their answers were reverse-coded. The construct showed a single-factor structure.

Cultural intelligence

Cultural intelligence was assessed with a 10-item scale (Thomas et al., 2015), measuring the knowledge, skill, and metacognition domains in the experience of interacting with people from other cultures (e.g., "I know the ways in which cultures around the world are different"; α = 0.78). A 5-point scale was used (1 = not at all, 5 = extremely well). The construct showed a single-factor structure.

Time in the host country

Participants defined time spent in the host country by selecting one of eight time ranges (see Table 1). We assumed a non-linear effect of time on students' adjustment and satisfaction, following the U-curve adjustment framework (Black & Mendenhall, 1991).

Second-language skills

Participants assessed their host-language and English skills (speaking, listening, reading, and writing) on a 5-point scale (1 = none, 5 = fluent). The four items formed a reliable single measure (α = 0.92 for host language; α = 0.97 for English).

Socialization with domestic students

Socialization with locals was measured with one item about participation in social activities (e.g., sports, social outings) with domestic students. A 7-point scale was used (1 = never, 7 = at least once a week).

Home-country collectivism

Individualism-collectivism is a (national) cultural dimension that reflects the behaviors of individuals toward themselves and their in-group members. Thus, the dimension is relevant for investigations into students' intercultural experiences. While individualism describes societies where social ties are loose and individuals see themselves as autonomous, collectivism describes tightly knit societies where individuals are integrated into solid and cohesive in-groups (Hofstede et al., 2010). Given recent research confirming a high validity of the individualism-collectivism dimension for cross-cultural research (Beugelsdijk & Welzel, 2018; Minkov & Kaasa, 2021), while questioning the validity of other Hofstede's dimensions (Minkov & Kaasa, 2021), we will use individualism-collectivism as a proxy for students' cultural backgrounds. For participants' cultural backgrounds, we coded their country of origin as individualistic ("0") or collectivistic ("1") cultures, based on Hofstede et al.'s (2010) indices.

Control variables

We controlled for participants' gender and age (see Table 1) to check for potential differences in students' perceptions of cultural differences and their experiences. In the model, female was used as a dummy variable. We also controlled for students' "time spent in other foreign countries" (see Table 1), as research suggests that students with prior international experience exhibit lower acculturative stress (Akhtar & Kröner-Herwig, 2015).

Although our sample included responses collected before and after 1 March 2020 (the pandemic-induced transition to online learning in all host countries), we did not control for the potential influence of the pandemic on students' experience due to a lack of variance in the German sample. This invariance violated the assumption of multigroup SEM.

Data analysis

The analysis was done through multigroup structural equation modeling (SEM) using R package lavaan (Rosseel, 2012). SEM examines the relationships between exogenous and endogenous variables (Bollen, 1989). This study modeled interactional adjustment, general adjustment, and satisfaction as endogenous variables. We accounted for the measurement errors between the two adjustment variables. Multigroup SEM allows the estimation of whether or not the components of the structural model are invariant (Byrne, 1998). In our study, the grouping variable is the host country (1 = Denmark, 2 = Germany, 3 = Poland, 4 = Italy, and 5 = the USA). The procedures of multigroup SEM took two steps. First, invariance was assumed for the structural model. Second, data were analyzed simultaneously for all five groups.

To test the conceptual model (see Fig. 1) and hypotheses, we conducted the goodness of fit tests, demonstrated by the ratio of chi-square to the degree of freedom (χ^2/df) less than 3; the root mean square error of approximation (RMSEA) less than 0.05; and the comparative fit index (CFI), the goodness of fit index (GFI), and the adjusted goodness of fit index (AGFI) greater than 0.90 (Kline, 2011; Schrodt & Phillips, 2016). Then, we reported at the local level the significance of each path, assessed using t-ratio (alpha level = 0.05). The

model was a good fit to the data and modification indices suggested that no modification was needed (i.e., no path had a modification indicator of 3.84 or above, Byrne, 1998).

Results

Table 2 presents the descriptive statistics and correlations for all variables. Cultural novelty was negatively related to general adjustment (r=-0.20, p<0.01), interactional adjustment (r=-0.14, p<0.01), and satisfaction (r=-0.11, p<0.01). The correlations between general adjustment and satisfaction (r=0.61, p<0.01) and interactional adjustment and satisfaction (r=0.53, p<0.01) were positive and significant, as expected. Apart from the USA where English is the host language, students exhibited higher levels of host-language proficiency (M=4.43, $S.D.$=0.74) than English (M=3.25, $S.D.$=1.43).

Table 3 presents the results of the SEM analysis. The chi-square test and the overall goodness of fit indicators suggested that the model was a good fit to the data, $\chi^2(10, 1114)=10.40$, $p=0.41$; CFI=1.000, GFI=0.999, and RMSEA=0.01. The model tested accounts for meaningful variance in the endogenous variables across all the five groups (see Table 3). The modification index also showed that no additional paths would improve the model further.

To test the hypotheses, we reported the effects of specific variables from the model (see more details in Table 3). Cultural novelty had a negative effect on general adjustment in Denmark ($\beta=-0.19$, $p=0.01$), Poland ($\beta=-0.30$, $p<0.001$), and the USA ($\beta=-0.26$, $p=0.002$). It also had a negative effect on interactional adjustment in Denmark ($\beta=-0.24$, $p=0.047$) and Poland ($\beta=-0.44$, $p<0.001$). Its effect on student satisfaction was significant only in Germany, and it was positive ($\beta=0.23$, $p=0.01$). H1a, H1b, and H1c were thus partly supported.

The SEM results showed significant direct effects of cultural intelligence on general adjustment only in Poland ($\beta=0.27$, $p=0.006$), on interactional adjustment in Italy ($\beta=0.71$, $p<0.001$) and the USA ($\beta=0.50$, $p<0.001$), and on satisfaction in Italy ($\beta=0.28$, $p=0.04$). Thus, results supported H2a, H2b, and H2c.

Time spent in the host country had a positive effect on general adjustment in Denmark ($\beta=0.06$, $p=0.03$), Italy ($\beta=0.08$, $p=0.01$), and the USA ($\beta=0.07$, $p=0.001$), and on interactional adjustment in Poland ($\beta=0.07$, $p=0.04$) and the USA ($\beta=0.11$, $p<0.001$). Furthermore, we found that time spent in the host country had a negative effect on satisfaction in Italy ($\beta=-0.06$, $p=0.02$), Poland ($\beta=-0.05$, $p=0.02$), and the USA ($\beta=-0.04$, $p=0.04$). Thus, H3a, H3b, and H3c were supported.

Host-language proficiency had a significant effect on general adjustment in Denmark ($\beta=0.27$, $p=0.03$) and the USA ($\beta=0.26$, $p=0.04$). It did not have any effect on interactional adjustment in any of the countries. Therefore, H4a was supported and H4b was not supported. English proficiency had a positive effect on general adjustment only in Denmark ($\beta=0.12$, $p=0.008$), and on interactional adjustment in Denmark ($\beta=0.29$, $p<0.001$), Germany ($\beta=0.23$, $p=0.008$), Italy ($\beta=0.35$, $p<0.001$), and Poland ($\beta=0.21$, $p<0.001$). Therefore, H5a and H5b were supported.

Socialization with domestic students had a significant and positive effect on general adjustment in all the countries: USA ($\beta=0.07$, $p=0.02$), Italy ($\beta=0.08$, $p=0.01$), Poland ($\beta=0.11$, $p<0.001$), Denmark ($\beta=0.15$, $p<0.001$), and Germany ($\beta=0.08$, $p=0.03$). It also had a positive effect on interactional adjustment in all the countries:

Table 2 Pearson's correlations among the variables ($N = 1114$)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. General adjustment	–														
2. Interaction adjustment	.58**	–													
3. Satisfaction	.61**	.53**	–												
4. Cultural novelty	−.20**	−.14**	−.11**	–											
5. Cultural intelligence	.16**	.20**	.16**	.03*	–										
6. Time in host country	.18**	.17**	.02	.02	.05	–									
7. Time in other foreign countries	.06	.09**	.01	−.09**	.12**	.03	–								
8. Host-language skills	.18**	.11**	.10**	−.07*	.24**	.06	.13**	–							
9. English skills	.16**	.38**	.13**	.05	.05	.25**	−.08*	−.01	–						
10. Socialization with domestic students	.26**	.33**	.33**	−.17**	.14**	.05	.12**	.12**	.13**	–					
11. Home country's collectivism[1]	−.10**	.01	−.07*	.35**	−.06	.07*	−.22**	−.21**	.18**	−.18**	–				
12. Gender_Female[2]	−.001	.01	−.03	.03	.05	.04	.03	.04	−.02	−.01	−.08**	–	–		
13. Gender_Male[3]	−.07*	−.07*	−.04	−.09**	−.12*	−.03	−.08*	−.12*	.01	−.06*	.11**	–	–		
14. Gender_Others[4]	−.04	−.02	−.07*	−.04	−.02	.03	−.02	−.04	.003	−.03	.004	–			
15. Age	.03	.07*	.02	.08**	.002	.19**	−.001	−.06*	.17**	−.05	.15**	.13**	.09**	.16**	–
Scale	1–7	1–7	1–7	1–5	1–5	1–8	1–8	1–5	1–5	1–7	0–1	0–1	0–1	0–1	1–3
Mean	5.14	4.72	5.17	2.55	3.89	4.67	3.06	4.43	3.25	4.72	–	–	–	–	1.18
S.D	.95	1.49	1.09	.80	.53	2.13	2.39	.74	1.43	1.63	–	–	–	–	0.51

[1] 0 = individualistic country, 1 = collectivistic country (Hofstede et al., 2010)

[2] 1 = female, 2 = male or "other/prefer not to say"

[3] 1 = male, 2 = female or "other/prefer not to say"

[4] 1 = "other/prefer not to say", 2 = female or male

* $p < 0.05$, ** $p < 0.01$ for two-tailed tests

Table 3 Standardized path coefficients of the multigroup analysis ($N = 1114$)

Path	Denmark ($N = 175$) β (S.E.)	Germany ($N = 173$) β (S.E.)	Italy ($N = 195$) β (S.E.)	Poland ($N = 291$) β (S.E.)	USA ($N = 280$) β (S.E.)
Cultural novelty → general adjustment	−0.19 (0.08)*	0.03 (0.10)	−0.15 (0.09)	−0.30 (0.07)***	−0.26 (0.08)**
Cultural intelligence → general adjustment	0.00 (0.12)	0.19 (0.13)	0.23 (0.14)	0.27 (0.10)**	0.16 (0.11)
Time in host country → general adjustment	0.06 (0.03)*	0.02 (0.03)	0.08 (0.03)*	0.04 (0.02)	0.07 (0.02)***
Host-language skills → general adjustment	0.27 (0.12)*	0.10 (0.08)	0.08 (0.11)	0.08 (0.07)	0.26 (0.13)*
English skills → general adjustment	0.12 (0.04)**	−0.03 (0.06)	0.01 (0.06)	0.05 (0.04)	0.13 (0.13)
Socialization → general adjustment	0.15 (0.04)***	0.08 (0.04)*	0.08 (0.03)*	0.11 (0.03)***	0.07 (0.03)*
Home country's collectivism → general adjustment	−0.06 (0.16)	−0.76 (0.41)	0.01 (0.17)	0.01 (0.12)	0.21 (0.24)
Age → general adjustment	−0.35 (0.18)	0.02 (0.13)	0.17 (0.35)	−0.14 (0.20)	0.10 (0.08)
Gender → general adjustment	−0.03 (0.10)	0.08 (0.09)	−0.02 (0.07)	0.002 (0.06)	−0.10 (0.08)
Time in foreign countries → general adjustment	0.03 (0.02)	−0.04 (0.03)	0.01 (0.02)	−0.01 (0.02)	0.02 (0.02)
R^2	29%	11%	13%	19%	21%
Cultural novelty → interactional adjustment	−0.24 (0.12)*	0.16 (0.15)	−0.18 (0.13)	−0.44 (0.10)***	−0.14 (0.10)
Cultural intelligence → interactional adjustment	0.02 (0.19)	0.27 (0.19)	0.71 (0.19)***	0.09 (0.16)	0.50 (0.13)***
Time in host country → interactional adjustment	−0.07 (0.04)	−0.03 (0.04)	0.06 (0.04)	0.07 (0.03)*	0.11 (0.03)***
Host-language skills → interactional adjustment	−0.11 (0.19)	−0.18 (0.12)	0.03 (0.16)	0.11 (0.10)	0.25 (0.15)
English skills → interactional adjustment	0.29 (0.07)***	0.23 (0.09)**	0.35 (0.08)***	0.21 (0.05)***	0.10 (0.15)
Socialization → interactional adjustment	0.19 (0.05)***	0.27 (0.05)***	0.15 (0.05)***	0.25 (0.04)***	0.08 (0.03)*
Home country's collectivism → interactional adjustment	0.02 (0.25)	−0.55 (0.60)	0.02 (0.24)	0.71 (0.18)***	−0.14 (0.28)
Age → interactional adjustment	−0.69 (0.28)*	0.38 (0.19)*	0.49 (0.50)	−0.35 (0.31)	−0.09 (0.09)
Gender → interactional adjustment	0.23 (0.16)	−0.15 (0.13)	−0.05 (0.10)	0.14 (0.10)	−0.05 (0.09)
Time in foreign countries → interactional adjustment	0.05 (0.03)	−0.03 (0.04)	0.01 (0.03)	0.01 (0.03)	0.05 (0.02)
R^2	30%	24%	31%	31%	27%
Cultural novelty → satisfaction	0.06 (0.08)	0.23 (0.09)**	−0.02 (0.09)	0.09 (0.07)	−0.05 (0.08)
Cultural intelligence → satisfaction	0.06 (0.12)	0.02 (0.11)	0.28 (0.13)*	−0.11 (0.10)	0.17 (0.10)
Time in host country → satisfaction	−0.02 (0.03)	−0.01 (0.02)	−0.06 (0.03)*	−0.05 (0.02)*	−0.04 (0.02)*

Table 3 (continued)

Path	Denmark ($N=175$) β (S.E.)	Germany ($N=173$) β (S.E.)	Italy ($N=195$) β (S.E.)	Poland ($N=291$) β (S.E.)	USA ($N=280$) β (S.E.)
Socialization → satisfaction	0.14 (0.04)***	0.10 (0.03)**	0.04 (0.03)	0.12 (0.03)***	0.07 (0.03)*
Home country's collectivism → satisfaction	0.01 (0.17)	−0.64 (0.36)	0.44 (0.16)**	−0.32 (0.12)**	0.22 (0.21)
Age → satisfaction	−0.57 (0.19)**	0.11 (0.12)	−0.07 (0.33)	0.12 (0.20)	0.09 (0.07)
Gender → satisfaction	−0.17 (0.11)	−0.07 (0.08)	−0.06 (0.07)	−0.04 (0.07)	0.01 (0.07)
Time in foreign countries → satisfaction	−0.01 (0.02)	0.02 (0.02)	0.01 (0.02)	−0.02 (0.02)	−0.05 (0.02)**
R^2	41%	54%	54%	48%	45%
General adjustment → satisfaction	0.33 (0.08)***	0.43 (0.08)***	0.64 (0.08)***	0.62 (0.07)***	0.50 (0.07)***
Interactional adjustment → satisfaction	0.15 (0.05)**	0.28 (0.05)***	0.23 (0.05)***	0.16 (0.05)***	0.23 (0.06)***

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

The model controlled for age, gender, and time in other foreign countries

USA ($\beta = 0.08$, $p = 0.02$), Italy ($\beta = 0.15$, $p = 0.001$), Poland ($\beta = 0.25$, $p < 0.001$), Denmark ($\beta = 0.19$, $p < 0.001$), and Germany ($\beta = 0.27$, $p < 0.001$). Furthermore, it had a positive effect on satisfaction in USA ($\beta = 0.07$, $p = 0.02$), Poland ($\beta = 0.12$, $p < 0.001$), Denmark ($\beta = 0.14$, $p < 0.001$), and Germany ($\beta = 0.10$, $p = 0.002$). H6a, H6b, and H6c were all supported.

Students' home culture's collectivism only showed a positive effect on interactional adjustment in Poland ($\beta = 0.71$, $p < 0.001$). However, we found that it had differential effects on satisfaction: positive in Italy ($\beta = 0.44$, $p = 0.005$), but negative in Poland ($\beta = -0.32$, $p = 0.009$). These findings indicate that H7a was not supported but H7b and H7c were supported.

General adjustment had a positive effect on satisfaction in all the groups: USA ($\beta = 0.50$, $p < 0.001$), Italy ($\beta = 0.64$, $p < 0.001$), Poland ($\beta = 0.62$, $p < 0.001$), Denmark ($\beta = 0.33$, $p < 0.001$), and Germany ($\beta = 0.43$, $p < 0.001$). Interactional adjustment also had a positive effect on satisfaction in all the groups: USA ($\beta = 0.23$, $p < 0.001$), Italy ($\beta = 0.23$, $p < 0.001$), Poland ($\beta = 0.15$, $p = 0.002$), Denmark ($\beta = 0.15$, $p = 0.003$), and Germany ($\beta = 0.28$, $p < 0.001$). H8a and H8b were supported.

The confirmed effects of adjustment on satisfaction also suggest indirect effects of language skills, as hypothesized in H4c and H5c. In Denmark and the USA, students with better host-language skills exhibited higher satisfaction partly through higher general adjustment. Additionally, students who had better English proficiency and adjusted better either generally (in Denmark) or interactionally (all the countries except in the USA) would report higher satisfaction. These findings indicate that host-language and English skills have indirect effects on the three outcome variables; yet the effects may vary by each host country. H4c and H5c were thus supported.

In terms of control variables, time spent in other foreign countries only had a significant and negative effect on satisfaction in the USA ($\beta = -0.05$, $p = 0.009$). Age had a negative effect on interactional adjustment ($\beta = -0.69$, $p = 0.01$) and satisfaction in Denmark ($\beta = -0.57$, $p = 0.003$), while its effect on interactional adjustment was positive in Germany ($\beta = 0.38$, $p = 0.05$). Gender had no effect on any of the outcome variables in all countries.

Discussion, limitations, and research directions

This study contributes to research on perceived cultural differences by providing empirical evidence for the relevance of cultural novelty to international students' experience in a host country. Cultural novelty was negatively related to general and interactional adjustment, which resonates with prior research (Galchenko & van de Vijver, 2007; Searle & Ward, 1990; Spencer-Oatey et al., 2017; Taušová et al., 2019; Ward & Kennedy, 1993), but lends no support for the Psychic/Cultural Distance Paradox. However, the effect of cultural novelty on students' satisfaction was significant and positive only in Germany, while it was nonsignificant and either positive or negative in other countries. This positive effect in Germany may be explained by students' desire to experience a culturally novel lifestyle (What Motivates International Students?, 2015) rather than by the cultural composition of the samples. For example, while both the German and the US samples were dominated by students

from Southern Asian cultures (India and Iran) and a Confucian culture (China), the effect of cultural novelty on students' satisfaction in the USA was negative (although nonsignificant). Accordingly, we contribute to the cultural adjustment literature by showing different and country-specific effects of cultural novelty on sojourners' adjustment and satisfaction. Future research should examine those effects in the experience of sojourners with different motivations for relocating abroad, as well as in other national contexts.

Second, we examined the effects of several individual, sociocultural, and language-related factors on students' experience as shaped by cultural novelty. We found that cultural intelligence positively affected students' adjustment and satisfaction. This resonates with research linking students' cultural intelligence with interactional adjustment and general well-being (Ang et al., 2007), cultural well-being (Peng et al., 2015), and satisfaction with life (Wang et al., 2017). Nevertheless, these effects of cultural intelligence were significant for some countries but not others, which calls for more contextualized research to examine cultural variances of host cultural contexts.

Time spent in the host country positively predicted students' adjustment, which confirms acculturation and social learning theories and extends prior results on students' psychological well-being (Cetinkaya-Yildiz et al., 2011) and intercultural competence (Sobkowiak, 2019). However, time in the host country negatively predicted satisfaction, suggesting that students' satisfaction decreases over time, parallel to the increase of their sociocultural adjustment. They may be missing the novelty aspect of their experience. Because these effects are significant for some countries but not others, they should be further examined through longitudinal research in different countries to precisely track adjustment and satisfaction trajectories over time.

Next, we established that proficiency in the host language and English as a lingua franca have a direct effect on students' adjustment and an indirect effect on their satisfaction, supporting intercultural adjustment theory (Kim, 2001; Ward et al., 2001), and extending prior results (Cao et al., 2017; Duru & Poyrazli, 2011; Taušová et al., 2019; Wilson et al., 2020) to four non-Anglophone host countries. However, the lack of direct effect of host-language proficiency (including English in the USA) on interactional adjustment in any of the five host countries is contrary to research linking host-language proficiency with students' cultural adjustment (Rui & Wang, 2015; Wilson et al., 2020). Our results are especially surprising given that students in our study reported higher proficiency in the host language ($M = 4.43$, $S.D. = 0.74$) than in English as the lingua franca ($M = 3.25$, $S.D. = 1.43$) and were primarily located in non-English speaking countries. This could be explained by the fact that international students in our sample are studying in English-taught programs, where English is the main language spoken in both academic and social settings to a large extent. As a result, the host-language proficiency of international students does not directly impact their interactional and general adjustment. Arguably, international students—especially those with limited host-language proficiency (Sawir et al., 2012)—tend to socialize in multicultural groups involving domestic students, where communication is done in English. This theorizing is underpinned by the identified direct effects of English as a lingua franca on interactional adjustment in all four non-English-speaking countries, as well as by the direct effect of socialization with domestic students on interactional adjustment in all countries.

Furthermore, we extend prior research linking students' collectivism-individualism with different paths of cultural adjustment. Contrary to prior results (Constantine

et al., 2005; Redmond, 2000), students from collectivistic countries showed higher interactional adjustment in individualistic Poland. Nonetheless, with a score of 60 (Hofstede et al., 2010), Poland is somewhat in the middle of the collectivism-individualism continuum. Our results should hence be treated with caution as students from collectivistic countries such as Ukraine, Belarus, and China, which comprised 27.9% of the Polish sample, could have found the tightly-knit Polish societal structure favorable for adjusting interactionally. Surprisingly, the effect of students' collectivism on their satisfaction was positive in Italy (with a score of 76 on individualism; Hofstede et al., 2010), but negative in much less individualistic Poland, which again is consistent with our theorizing linking novelty with satisfaction, as explained before. Future context-sensitive research could determine factors influencing different adjustment trajectories across cultural contexts.

Consistent with prior research (Akhtar & Kröner-Herwig, 2015; Gokpinar-Shelton & Pike, 2021), gender was not a predictive factor of students' experience. The opposing effects of age on students' interactional adjustment (positive in Germany and negative in Denmark) and the negative effect on satisfaction in Denmark contribute to research showing the negative impact of age on acculturative stress (Akhtar & Kröner-Herwig, 2015). Finally, contrary to research linking students' prior international experience with lower acculturative stress (Akhtar & Kröner-Herwig, 2015), time in other countries did not predict students' adjustment in our study, while it did negatively predict the satisfaction of students studying in the USA. This result suggests higher expectations of internationally experienced students toward the host country, which extends recent results showing that a global mobility experience mostly benefits—in terms of developing intercultural effectiveness—students without prior international experience (Zimmermann et al., 2021). Overall, the different effects of age and international experience in different locations call for further cross-cultural research.

This research has several limitations that, nevertheless, warrant avenues for future research. First, the cross-sectional nature of this study prevented us from determining the dynamics of cultural novelty in students' experiences. Moreover, given the perceived cultural similarity that may impede sojourners' cultural adjustment, future research could gather students' pre-departure perception of the host country and examine its development throughout the critical initial stage of study abroad experience. Focusing on students' social networks formation before and after relocation could also shed light on the role of social networks in facilitating students' cultural learning, adjustment, and satisfaction. Second, coupling questionnaire survey data with experiential interview data could better explain the relationships between antecedents of students' experience (e.g., the positive relationship between cultural novelty and students' satisfaction). Third, we used a direct item to measure socialization with domestic students, which could have affected the measurement validity of this variable.

Practical implications

To mitigate the adverse effects of cultural novelty on students' adjustment and satisfaction, universities could emphasize students' foreign-language proficiency by offering a range of language courses on-site and even before arrival (e.g., through online courses). Hosting and sending institutions could offer intercultural communication courses to enhance

students' adjustment (Young & Schartner, 2014) and sensitize them to cultural differences. Next, host universities could promote socialization with domestic students before arrival (Pitts, 2009) (e.g., through joining student groups, attending on-campus activities, cultural events, and peer programs). Engagement in meaningful activities with locals could reduce students' psychological distress and enhance their adjustment, satisfaction, and well-being (Duru & Poyrazli, 2011). Finally, teachers need to develop cultural sensitivity and understand international students' expectations, cultural values, and beliefs (Campbell & Li, 2008) to create an intercultural classroom environment and reduce the adverse effects of cultural novelty.

Conclusion

Acculturation and social learning theories link individuals' perceived cultural differences with sociocultural and psychological difficulties in the host country. However, empirical research shows inconsistent results concerning the role of cultural novelty on sojourners' adjustment and well-being. This research responds to calls to further investigate cultural novelty in sojourners' experiences using online survey data from international students from 106 countries studying in Denmark, Germany, Italy, Poland, and the USA. Results showed significant effects of cultural novelty and students' cultural intelligence, cultural background, second-language skills, time in the host country, and socialization with domestic students on international students' adjustment and satisfaction.

Appendix

Table 4 Question items for the satisfaction scale and their loadings from exploratory factor analysis

Item	Loading
1. I am satisfied with living in the host country	0.71
2. I am satisfied with studying in the host country	0.79
3. I am satisfied with my social life outside of class	0.69
4. I am satisfied with my interactions with the local/host country community	0.72
5. I am satisfied with my interactions with domestic students	0.70
6. I am satisfied with my interactions with international students	0.62
7. I am satisfied with my interactions with professors and instructors in the host university	0.70
8. I am satisfied with the quality of education in the host university	0.70
9. I am satisfied with the social and cultural events offered by the host university	0.72

Cronbach's $\alpha = 0.87$.

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Declarations

Conflict of interest The authors declare no competing interests.

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