

Original Research

Cultural Distance, Host Acculturation Orientation, and Psychological Adaptation among African International Students at Portuguese UniversitiesFélix Neto ^{1,*}, Joana Neto ²

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International students represent a significant sojourner group. Increasing international student numbers makes it ever more relevant to understand the determinants of their psychological adaptation. This research investigates the question of how perceived cultural distance (PCD) impacts acculturation variables (social contact with host nationals and host national identity) and outcomes such as saudade and life satisfaction among African international students. The sample comprised 422 college students (195 from Angola and 227 from Cape Verde) who attended higher education in Portugal. Participants completed scales measuring perceived cultural distance, social contact with host nationals, host national identity, saudade, and life satisfaction. We conducted path analysis to test the hypothesized models. Perceived cultural distance was significantly and positively linked to saudade and significantly and negatively related to life satisfaction. In addition, social contact with host nationals and host national identity fully mediated the relationship of PCD with both indicators of psychological adaptation. Our findings indicate that taking practical steps to help



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IS enhance contacts with domestic students and host national identity may be effective strategies to support international students' psychological adaptation. Suggestions for future investigation are presented.

Keywords

International students; life satisfaction; national identity; perceived cultural distance; saudade; social contact

1. Introduction

Sojourners are “people who travel internationally to achieve a particular goal or objective with the expectation that they will return to their country of origin after the purpose of their travel has been achieved” ([1], p. 173). International students (IS) constitute a significant sojourner subgroup. There has been an increase in the number of IS in Western universities in recent decades [2]. The number of IS who attended higher education rose worldwide from 2 million in 1999 to 5 million in 2016 [3].

The purpose of this work is to examine how perceived cultural distance (PCD) influences acculturation variables (social contact with host nationals and host national identity) and outcomes such as saudade and life satisfaction among African international students living in Portugal. In a review of the literature, Alharbi and Smith ([4], p. 30) noted that “in the literature pertaining to students in higher education in general and international students specifically, little is known about wellbeing. Additionally, it is not clear what factors play important roles in maintaining positive wellbeing and limiting negative feelings”.

1.1 Acculturation and Adaptation

The literature on cross-cultural research shows that acculturation, and its outcome, adaptation, has been the focus of much investigation [1, 5]. Acculturation refers to cultural and psychological changes resulting from intercultural contact [6]. It is a dynamic and complex process that includes changes in language, values, social relationships, and identification. Psychological adaptation (PA) “refers to how comfortable and happy a person feels with respect to being in the new culture, or anxious and out of place.” ([7], p. 91).

According to the acculturation framework by Arends-Tóth and Van de Vijver [8], three categories can be distinguished: Acculturation conditions (e.g., characteristics of both countries) influence acculturation outcomes (e.g., PA) via acculturation orientations (e.g., preferences toward the host culture). Within this framework, PCD functions as an acculturation condition, while contacts with host nationals and host national identity represent acculturation orientations. Saudade and life satisfaction are indicators of PA and thus represent acculturation outcomes.

1.1.1 Cultural Distance

PCD between home and host cultures is a significant aspect of the acculturation process of IS [9]. PCD refers to the extent to which IS perceive their home culture to be different from the sojourn

culture. The Cultural Distance Hypothesis (CDH), which suggests a negative relationship of PCD with adaptation, prevails in intercultural research on IS [7, 10]. The CDH indicates that higher PCD between home and host cultural contexts results in more difficulty in adaptation.

PCD has been associated with anxiety among IS in the United Kingdom [11]. Adaptation difficulty was linked to the PCD between the country of the IS and the sojourn country (Britain) [12]. Among IS in Russia, high PCD was related to homesickness [13] and stress [14]. In a study among IS in the United Kingdom, Demes and Geeraert [7] found that PCD was significantly and positively linked to stress and anxiety, and significantly and negatively associated with self-esteem and life satisfaction. Tausova et al. [10] also found a significant and positive relationship of PCD with mental health problems and acculturative stress, and a significant negative association between PCD and life satisfaction among IS in the Netherlands. Overall, greater PCD is consistently linked with poorer psychological adaptation.

1.1.2 Host Acculturation Orientation

Host acculturation orientation refers to an individual's preferred amount of interaction with and adherence to customs of the sojourn country [8]. Research on IS has reported that a stronger host orientation is related to lower stress [7] and less homesickness [13]. Conversely, ISs that report higher PCD typically present weaker host orientation [15].

Social contact with host nationals and host national identity are central components of host acculturation orientation [5]. Social contacts with members of the larger society are a fundamental aspect of acculturation [16]. For example, those in Germany who developed personal relationships with domestic students benefited most from their sojourn [17]. In a study with immigrant youth in Portugal, contact with domestic peers predicted significant psychological adaptation [18]. Portuguese immigrants in Switzerland who had more contact with locals reported greater migration life satisfaction [19]. Similarly, Angolan IS who had more contact with domestic peers reported greater levels of academic satisfaction [20]. African immigrants who had more contact with local people experienced less loneliness [21]. When both cultures are perceived as dissimilar, they have fewer friendships with the sojourn society [22].

Another aspect that is central to the host acculturation orientation is host national identity, which represents the sense of belonging to the sojourn society [23]. The strength of host national identity reveals the extent to which international students identify with the host society. In a study with immigrant youth in Portugal, national identity was positively related to national language use and contact with Portuguese peers, and negatively associated with perceived discrimination [18]. Studies have indicated that national identity and adaptation are positively connected. For example, in an international project with 13 countries, including Portugal, the host national identity was positively linked to self-esteem, life satisfaction, and school adaptation, and negatively associated with behavior problems [16]. Hence, a strong host national identity can serve as a source of emotional stability and a valuable resource for adaptation.

1.1.3 Acculturation Outcomes

Acculturation outcomes concern the results of the acculturation process, such as PA [24]. PA is evaluated through assessing well-being or psychological distress. In this context, saudade and life satisfaction are considered key indicators of psychological adaptation [5, 25].

Saudade is considered one of the most commonly experienced emotions in Lusophone nations [26]. Farrell [27], grounded on Natural Semantic Metalanguage, sought to differentiate saudade from nostalgia and homesickness. According to this scholar, the main difference between saudade and nostalgia is that nostalgia “focuses on past experience rather than on a person or people and the feeling is much less intense” (p. 251). In relation to homesickness, Farrell ([27], p. 254) reports that “saudade is more a feeling of the heart than homesickness”.

Saudade is “a bittersweet, usually intense emotional experience that occurs when you remember a loved one from whom you are separated, an important place from which you are estranged, or a time that was happy and is now over” ([28], p. 2). About forty percent of respondents in several samples in Portugal (teenagers, college students, and immigrants) reported experiencing saudade often or very often [29]. Research has linked saudade to a negative affective context [30]. In a study conducted in Switzerland, Portuguese migrants reported higher levels of saudade than did non-migrants [31]. Saudade was negatively correlated with host national identity ($r = -0.31, p < 0.001$), indicating that a stronger sense of belonging to the sojourn society is associated with lower experienced saudade. In contrast, saudade was positively related to identification with the home country ($r = 0.21, p < 0.01$). A stronger sense of connection to one’s country of origin was associated with greater saudade. In this study, saudade appeared to reflect emotional maladjustment among migrants.

Life satisfaction refers to “a global evaluation of a person’s quality of life according to chosen criteria” ([32], p. 478). Research has shown that life satisfaction is positively related to health, meaningful social relations, and productivity, among other factors [33]. A study involving Portuguese immigrants in Switzerland found that having fewer mental health problems was a strong predictor of greater life satisfaction [34].

1.2 African International Students in Portugal

A substantial increase in the number of IS in Portugal has recently been observed. From the academic year 2009/10 to 2021/22, the number of IS coming to Portugal more than tripled. In 2009/10, the proportion of IS enrolled in higher education was 5%. By 2021/22, there were 66,638 IS attending higher education, constituting 16.1% of higher education student enrollment [35]. There was a prevalence of female IS (54.8%). The most popular programs among IS were Management and Administration, and Law (25.4%), followed by Engineering, Manufacturing, and Construction (18.7%). These IS came from 165 different nationalities. More than half of them were from Lusophone countries (54.1%) and almost a third (31.4%) from the European Union. More than a quarter were from Africa (26.4%). The largest groups of IS were from Brazil (27.5%), followed by Guinea-Bissau (7.9%), Cape Verde (6.9%), Angola (6.8%), France (6.1%), Spain (6.4%), Italy (5.8%), and Germany (4.6%). A total of 4,620 Cape Verdean IS and 4,539 Angolan IS were enrolled in Portuguese higher learning institutions in the 2021/22 academic year. Students from other African countries, such as Mozambique and São Tomé and Príncipe, also attended Portuguese institutions of higher education.

Motivation to study abroad is a key aspect impacting students’ PA [36]. Several factors motivated IS from Angola and Cape Verde to choose Portugal: a shared language, relatives living in Portugal, international agreements, standard of living, quality of education, and potential job opportunities

[37]. A large majority of Angolan and Cape Verdean IS intended their sojourn to be temporary [38, 39].

A qualitative study of 12 Cape Verdean IS found that in the face of adversity, “they regarded their struggle in a positive light and the overriding sentiment was of satisfaction with themselves and their lives” ([39], p. 73). Studying abroad was seen as a chance to acquire new skills and foster personal growth.

1.3 The Present Study

Building on the framework proposed by Arends-Tóth and Van de Vijver [8], we differentiate acculturation conditions, orientations, and outcomes, and examine the role of PCD (an acculturation condition) on saudade and life satisfaction (outcomes), and how this relationship is mediated across host orientations (social contact with host nationals and host national identity).

A gap in the acculturation field is that investigation has mainly focused on direct effects of variables on adaptation and neglected indirect processes that underlie the relationship between these factors [5, 40-42]. Although prior studies suggest that PCD is negatively related to psychological adaptation, the mechanisms through which PCD and psychological adaptation occur within the Portuguese context remain insufficiently explored, hence justifying this work.

This study seeks to clarify the relationship of PCD with psychological adaptation by examining the potential mediating roles of social contact with host nationals and host national identity. Previous research supported the assumption that the PCD determines PA [7, 10]. The idea of host orientations (as indicated by endorsement of contact with host nationals and host country identity) as mediators is based on three lines of reasoning: (1) Higher PCD is associated with lower host orientations [15, 22]; (2) Higher orientations with the host society have been associated with better psychological adaptation outcomes [13, 16, 20]; (3) Acculturation orientations were previously used as mediators [10, 43]. For instance, Dimitrova and Aydinli-Karakulak [44] found that for Turkish immigrant youth in Bulgaria and Germany, acculturation orientations partially mediated the relationship of religious identity with adjustment to Turkish culture. The current work aims to contribute new insights to the literature and offer empirical evidence that can be used to inform interventions to improve the psychological adaptation of IS.

Based on the literature above, we tested eight hypotheses:

- H1. PCD will be positively associated with saudade.
- H2. PCD will be negatively associated with life satisfaction.
- H3. PCD will be negatively associated with social contact with host nationals.
- H4. PCD will be negatively associated with host national identity.
- H5. Social contact with host nationals will mediate the relationship of PCD with saudade.
- H6. Host national identity will mediate the relationship between PCD and saudade.
- H7. Social contact with host nationals will mediate the relationship between PCD and life satisfaction.
- H8. Host national identity will mediate the relationship between PCD and life satisfaction.

2. Methods

2.1 Participants

The sample consisted of 422 African IS (195 from Angola, and 227 from Cape Verde). Of these, 42% were male and 58% female. Their ages ranged from 18 to 40 ($M = 26.42$; $SD = 5.51$). The mean age at arrival was 18.94 years ($SD = 4.56$). The mean duration of residence in the sojourn country was 7.51 years ($SD = 4.46$). All respondents self-reported their nationality as Angolan or Cape Verdean.

2.2 Instruments

Beyond the demographic information (nationality, gender, age, and duration of residence), the questionnaire included the following scales:

2.2.1 Perceived Cultural Distance

This was evaluated with the Brief Perceived Cultural Distance Scale (BPCDS; [7]), which includes twelve statements about how different the host country is from the home country in cultural aspects, such as climate, food and eating, norms, and language. Response options ranged from 1 (“very similar”) to 7 (“very different”). Greater values indicate greater PCD between home and host countries. The BPCDS showed good reliability and validity for IS [7]. In the current work, internal consistency was excellent: $\alpha = 0.90$, $\omega = 0.92$.

2.2.2 Contact with Host Nationals

This was evaluated with two statements assessing the number and frequency of interactions with Portuguese individuals (e.g., “How often do you meet Portuguese friends?”). Responses ranged from 1 (“rarely”) to 5 (“almost always”), with higher values indicating greater contact. Cronbach’s alpha was 0.97, and Spearman-Brown reliability was also 0.97 - see recommendations by Eisinga et al. [45] concerning two-item scales.

2.2.3 Host Country (Portuguese) Identity

This was evaluated with three statements adapted from Phinney and Devich-Navarro [46]. An example statement is: “I am proud of being Portuguese”. Ratings ranged from 1 (“strongly disagree”) to 5 (“strongly agree”). In this work, internal consistency was high: $\alpha = 0.80$, $\omega = 0.82$.

2.2.4 Self-Reported Saudade

Saudade was assessed with a single item measuring the degree of emotional difficulty associated with being in the sojourn country. Response options ranged from 1 (“no difficulty”) to 5 (“extremely difficult”). Higher values denoted greater emotional difficulties with saudade.

2.2.5 Life Satisfaction

This was measured with a single item: “The conditions of my life are excellent”. This was rated on a scale from 1 (“strongly disagree”) to 7 (“strongly agree”). Greater values reflected greater life satisfaction.

2.3 Procedure

The sample was recruited from two Portuguese universities (in Lisbon and Porto) by two research assistants. It was convenient to use the snowball method (bonds with respondents). The use of this method is adequate for cross-cultural studies, namely if researchers do not have access to a precise list of the whole population [47]. This method entails advantages and disadvantages as indicated by Lonner and Berry [47]: “Their accessibility makes them very cost-effective, in terms of both money and time; however, all such samples depart to an unknown degree from true representativeness” (p. 87). Participants filled out a paper-and-pencil survey in Portuguese, the official language of both countries. Concerning ethical considerations, the study was conducted following the legal and ethical norms of Portugal and according to the Declaration of Helsinki. Students were informed about the goals of the research and gave their informed consent. Information was also given to the respondents, emphasizing voluntary participation, confidentiality, and the right to withdraw from the survey at any time. No financial compensation was provided.

2.4 Data Analysis

Descriptive statistics of the measures were performed. Internal consistency was calculated using Cronbach’s alpha and McDonald’s Omega. One-sample *t*-tests were conducted to provide an overall portrait of the participants. Pearson’s correlations were used to assess associations among the scales. To test for multicollinearity, variance inflation factors (VIFs) were examined for all predictors before path analysis. Mediation models were tested in which the condition variable (perceived cultural distance) influenced the host orientations variables (contact with host nationals and host country identity), which in turn influenced the outcomes (loneliness and life satisfaction) by means of path analysis. The analyses were carried out using IBM SPSS and AMOS (version 29.0). Significance levels were set at 0.05.

2.5 Ethics Approval

All procedures performed in the study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

3. Results

Results are presented into two parts: the first addresses preliminary analyses, while the second addresses the test of the hypotheses examining the relationship between the condition variable (perceived cultural distance), the host orientations (contact with host nationals and host country identity), and outcomes (saudade and life satisfaction).

3.1 Preliminary Analyses

Descriptive statistics of the measures were carried out (see Table 1). The one-sample *t*-test showed that the mean score for perceived cultural distance ($M = 3.89$) was significantly lower than the midpoint (4) of this measure ($p < 0.001$). Hence, this sample tended to report low perceived cultural distance. The mean scores for contact with host nationals, host national identity, saudade, and life satisfaction were all significantly above the midpoint of the scales (all p 's < 0.001). Hence, the findings denote that African IS reported high levels of contact with host nationals, host national identity, saudade difficulties, and life satisfaction.

Table 1 Descriptive statistics of the measures for the international students (N = 422).

	<i>M</i>	<i>SD</i>	Range	Sk	Ku
Perceived cultural distance	3.89	1.10	1-7	0.89	-0.44
Contact with host nationals	3.58	1.16	1-5	-0.89	0.01
Host country identity	3.21	0.91	1-5	-0.73	0.23
Saudade	3.94	0.96	1-5	-0.70	0.08
Life satisfaction	4.88	1.36	1-7	-0.49	-0.08

Notes: M = Mean; SD = Standard Deviation; Sk = Skewness; Ku = Kurtosis.

The findings of descriptive statistics and regression analyses indicated that there were no serious violations of normality and linearity assumptions (e.g., skewness from -0.89 to 0.89, kurtosis from -0.44 to 0.23, and VIF from 1.23 to 1.31) [48].

3.2 Hypotheses Testing

Next, we tested the hypotheses. A correlation matrix is shown in Table 2. As expected, PCD correlated positively with saudade ($r = 0.15$, $p < 0.01$) and negatively with life satisfaction ($r = -0.16$, $p < 0.001$). Findings support our first and second hypotheses. Furthermore, PCD correlated negatively with social contact with host nationals ($r = -0.48$, $p < 0.001$) and host culture identity ($r = -0.44$, $p < 0.001$), supporting our third and fourth hypotheses.

Table 2 Intercorrelations of variables (N = 422).

	1	2	3	4	5
1 Perceived cultural distance	---				
2 Contact with host nationals	-0.48*** [-0.55, -0.40]	---			
3 Host country identity	-0.44*** [-0.51, -0.35]	0.50*** [0.42, 0.57]	---		
4 Saudade	0.15** [0.06, 0.25]	-0.16*** [-0.25, -0.06]	-0.16*** [-0.25, -0.06]	---	
5 Life satisfaction	-0.16*** [-0.25, -0.06]	0.18*** [0.08, 0.27]	0.20*** [0.11, 0.29]	-0.09 [-0.18, 0.01]	---

Note. Values in square brackets indicate the 95% confidence interval for each correlation.

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

Path analysis was used to examine whether social contact with host nationals mediates the effect of PCD on saudade. All pairwise correlations were significant. Results of regression analysis testing the potential mediating role of social contact with host nationals on the relationship of PCD with saudade are shown in Figure 1. Results showed that PCD was indirectly linked to saudade via its impact on social contact with host nationals. PCD significantly predicted social contact with host nationals, $\beta = -0.48$, $p < 0.001$, and social contact with host nationals significantly predicted saudade, $\beta = -0.11$, $p = 0.038$. The results are in line with the mediational hypothesis. PCD did not predict significantly saudade after the control of the mediator, social contact with host nationals, $\beta = 0.10$, $p = 0.069$, in consonance with complete mediation. About 3% of the variance in saudade was accounted for by the predictor measures. The indirect role was calculated based on a percentile bootstrap estimation approach with 1,000 samples, established with IBM SPSS Amos. Findings showed that the indirect coefficient was significant, $\beta = 0.05$, $p = 0.03$, 95% CI = 0.004, 0.107, and thus hypothesis 5 was supported.

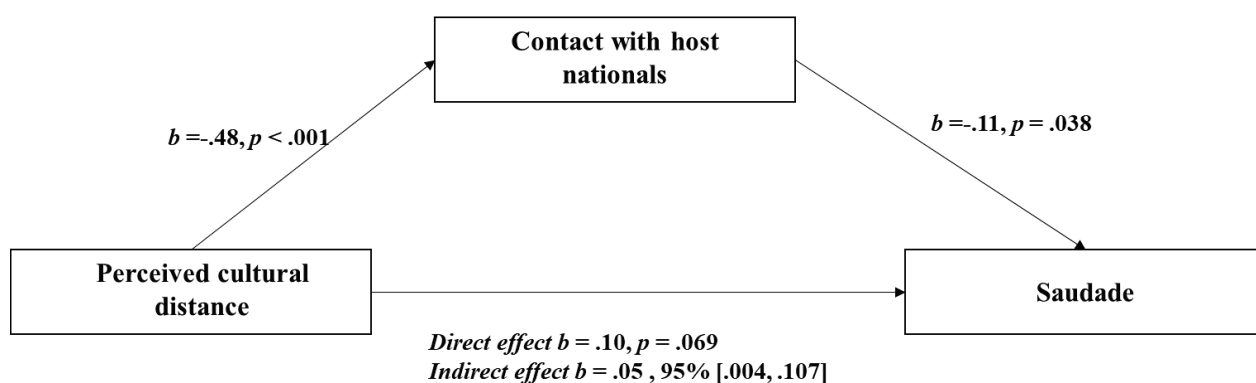


Figure 1 The mediating role of contact with host nationals between perceived cultural distance and saudade.

The results of regression analysis testing the potential mediating role of host country identity on the relationship between PCD and saudade are presented in Figure 2. Results showed that PCD was indirectly linked to saudade via its link with host country identity. PCD significantly predicted host country identity, $\beta = -0.44$, $p < 0.001$, and host country identity significantly predicted saudade, $\beta = -0.11$, $p = 0.043$. These findings are in line with the mediational hypothesis. PCD did not predict significantly saudade after controlling for the mediator, host country identity, $\beta = 0.11$, $p = 0.064$, in consonance with complete mediation. Around 3% of the variance in saudade was accounted for by the predictor measures. Findings showed that the indirect coefficient was significant, $\beta = 0.047$, $p = 0.038$, 95% CI = 0.002, 0.095, and thus hypothesis 6 was supported.

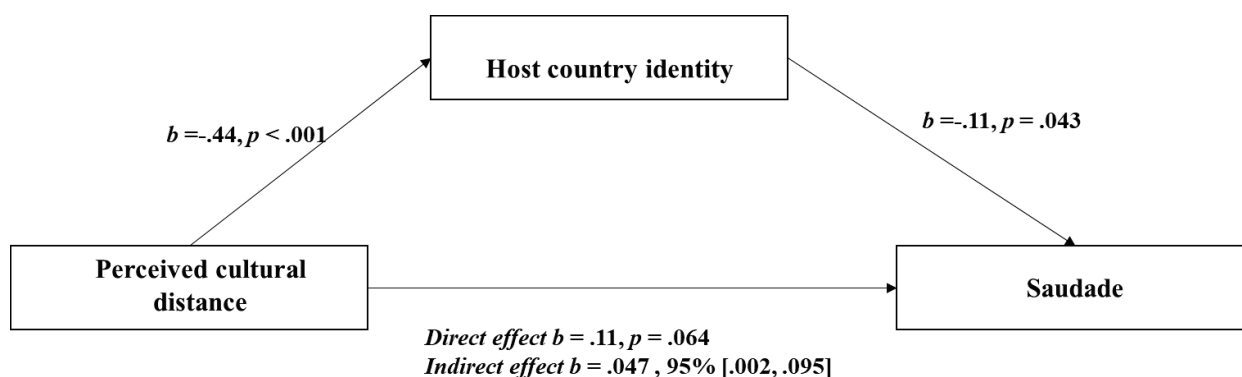


Figure 2 The mediating role of host country identity between perceived cultural distance and saudade.

The results of regression analysis analyzing the potential mediating role of social contact with host nationals on the relationship between PCD and life satisfaction are reported in Figure 3. Results showed that PCD was indirectly linked to life satisfaction via social contact with host nationals. PCD significantly predicted social contact with host nationals, $\beta = -0.48, p < 0.001$, and social contact with host nationals significantly predicted life satisfaction, $\beta = 0.13, p = 0.017$. These findings are in line with the mediational hypothesis. PCD did not predict substantially life satisfaction after controlling for the mediator, social contact with host nationals, $\beta = -0.10, p = 0.077$, in consonance with complete mediation. About 4% of the variance in life satisfaction was accounted for by the predictor measures. The findings showed that the indirect coefficient was significant, $\beta = -0.063, p = 0.011$, 95% CI = -0.117, -0.014, and thus hypothesis 7 was supported.

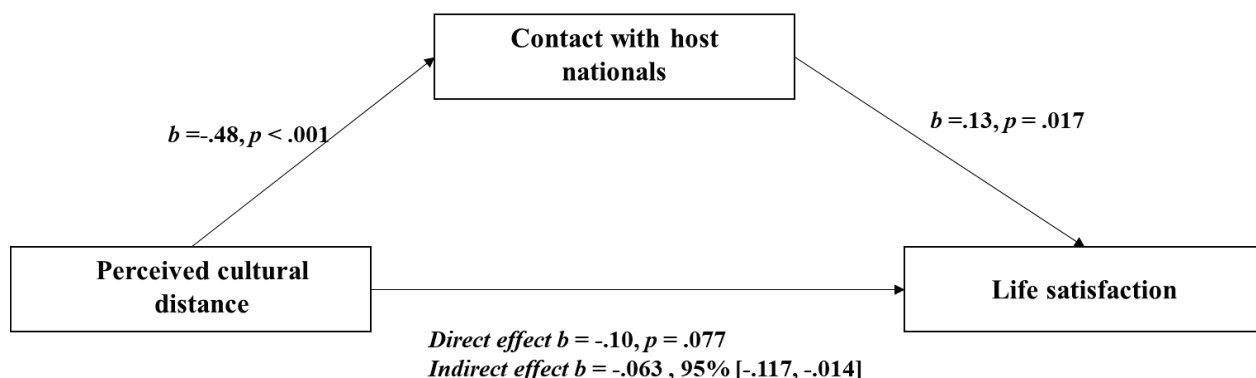


Figure 3 The mediating role of contact with host nationals between perceived cultural distance and life satisfaction.

The results of the regression analysis testing the potential mediating role of host country identity on the relationship between PCD and life satisfaction are shown in Figure 4. Results showed that PCD was indirectly linked to life satisfaction through its relationship with host country identity. PCD significantly predicted host country identity, $\beta = -0.44, p < 0.001$, and host country identity significantly predicted life satisfaction, $\beta = 0.17, p = 0.002$. These findings are in line with the mediational hypothesis. PCD did not significantly predict life satisfaction after controlling the mediator, host country identity, $\beta = -0.086, p = 0.103$, in consonance with complete mediation. Around 5% of the variance in life satisfaction was accounted for by the predictor measures. Findings

showed that the indirect coefficient was significant, $\beta = -0.073$, $p = 0.002$, 95% CI = -0.123, -0.030, and thus hypothesis 8 was supported.

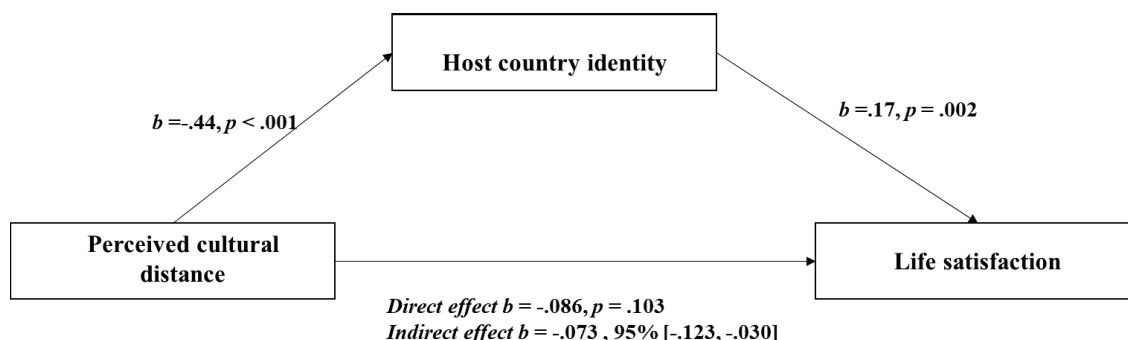


Figure 4 The mediating role of host country identity between perceived cultural distance and life satisfaction.

4. Discussion

The present study set out to analyze the roles of PCD, social contact with host nationals, and host country identity in shaping the psychological adaptation of African IS in Portugal. Eight hypotheses were advanced, and all were supported. We discuss our findings, starting with PCD (acculturation condition) and its immediate effects on saudade and life satisfaction (outcomes), and then inspecting the importance of social contact with host nationals and host country identity (host acculturation orientations) as mediators between acculturation condition and outcomes.

The hypotheses that posited that higher PCD to the host culture would be related to more saudade (H1) and lower life satisfaction (H2) were confirmed. In agreement with expectations, higher PCD was related to higher saudade. This aligns with previous studies relating high PCD to homesickness, stress, anxiety, and depression [11, 13]. Similarly, higher PCD was linked to lower life satisfaction, aligning with findings by Demes and Geeraert [7] and Tausova et al. [10].

Therefore, PCD was negatively associated with both indicators of psychological adaptation (experiencing more saudade difficulties and less life satisfaction). These findings echo the CDH and correspond with prior research [9, 10]. Current results underscore the PA challenges faced by IS who perceive greater cultural differences.

Consistent with expectations, higher PCD was related to reduced social contact with host nationals (H3) and weaker host country identity (H4). These findings suggest that perceived cultural distance hinders the formation of relationships with host nationals and the development of a sense of belonging to the host culture. This aligns with existing literature on the importance of social interaction with domestic peers (e.g., [49, 50]).

As expected, social contact with host nationals mediated the relationship of PCD and both indicators of psychological adaptation, supporting hypotheses 5 and 7. That is, path analysis results showed that PCD was indirectly related to saudade and life satisfaction via social contact with host nationals. It can be understood that greater PCD decreases international students' psychological adaptation, as well as having an indirect impact via the social contact with host nationals as a mediator. International students who reported higher PCD experienced less social contact with host nationals and, in turn, tended to experience less saudade difficulties and more life satisfaction.

Host national identity also mediated the relationship of PCD with both indicators of psychological adjustment, supporting hypotheses 6 and 8. Path analysis results showed that PCD was indirectly related to saudade and life satisfaction via host national identity. It can be understood that PCD decreases international students' psychological adaptation, as well as having an indirect impact via the host national identity as a mediator. International students who perceived more cultural distance felt less host country identity and, in turn, tended to experience less saudade difficulties and more life satisfaction. These results suggest that initiatives promoting social contact and cultural identification may improve international students' psychological well-being.

This study has several limitations. First, it used self-reported data, which may introduce social desirability bias. The next work could integrate an instrument to assess social desirability [51]. Second, the cross-sectional design does not allow the establishment of causal inferences. Therefore, ongoing work should use longitudinal or experimental approaches to resolve this issue. Third, this study was carried out in one country. Future research should test whether the present results can be generalized to IS in other cultural contexts. Fourth, there are significant limitations to assessing saudade and life satisfaction using single items and host-national contact with two items. This approach reduces the reliability and construct validity required for in-depth analysis. Replacing or supplementing these scales with more comprehensive and validated inventories would enhance the study's methodological rigor. Full scales measuring saudade [28], life satisfaction [52], and host-national contact [16] should be used in the subsequent research to test the replication and generalizability of the current findings. However, it is worth remembering that there are short tools with adequate psychometric features, such as the single-item measure of life satisfaction [53, 54], the Single-Item Self-Esteem Scale [55], and the Five-Item Personality Inventory (FIPI, [56]). Finally, this study considered just one acculturation condition, the PCD. Suppose PCD influences IS's psychological adaptation negatively. In that case, there are also protective factors of PA, such as "personal resources factors (e.g., personality traits or self-efficacy) or environmental or contextual factors (e.g., social support or locals' acceptance)" ([9], p. 2). Cultural intelligence [9] and personal growth initiative [10] also affect PA positively. Future research might explore potential protective factors of PA. Despite these limitations, this research is the first to examine the relationship and mechanisms linking perceived cultural distance, social contact with host nationals, host national identity, and psychological adaptation among African IS.

5. Conclusion

In summary, this research highlights the importance of host acculturation orientations in understanding the impact of PCD on psychological outcomes among IS. It explored the relationships between PCD, social contact with host nationals, host country identity, and psychological adaptation in a sample of African IS in Portugal. The findings underscore the importance of PCD, social contact with host nationals, and host national identity when adapting to other educational and cultural contexts as an IS. We found that greater PCD was related to lower psychological adaptation. Further, we found that social contact with host nationals and host national identity played mediating roles in the association between PCD and the two indicators of psychological adaptation. Social contact with host nationals and host national identity emerged as significant determinants of psychological adaptation, which suggests that taking practical steps to help IS

enhance contacts with domestic students and host national identity may be effective strategies to support international students' psychological adaptation.

This study provides several practical implications for work with IS. Our findings give support to the pursuit of host acculturation orientations for IS as an essential basis for increasing their psychological adaptation. To the extent that acculturation orientations are malleable, programs intended to improve PA might target IS with success. Encouraging interactions with domestic students seems a promising avenue for improving PA. A potential way to increase PA would be to develop peer-to-peer programs in which IS would be paired with a domestic colleague. Faculty development programs might promote cross-cultural interactions via extracurricular activities [57] and intercultural teamwork in the classroom [58]. The improvement of international students' PA is beneficial not only for themselves but also for institutions that receive IS.

Abbreviations

BPCDS	Brief Perceived Cultural Distance Scale
CDH	Cultural Distance Hypothesis
IS	International students
M	Mean
PA	Psychological adaptation
PCD	Perceived cultural distance
SD	Standard deviation
VIF	Variation inflation factor

Author Contributions

Neto Félix: Writing – review & editing, Formal analysis, Conceptualization. Neto Joana: Writing – review & editing, Writing – original draft, Validation, Methodology.

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Competing Interests

The authors have declared that no competing interests exist.

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