Original Research

Loneliness Among African Migrants Living in Portugal

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Abstract

This study analyzed the degree of loneliness, as well as acculturation and adaptation factors related to it among African migrants. The study sample consisted of 759 migrants (48.5% females) from four ethnocultural groups (Angolans, Cape Verdeans, Guineans, and Mozambicans) living in Portugal. Participants' mean age was 37 years, and the mean length of sojourn in this country was 21 years. Participants completed self-reported questionnaires to evaluate social contacts, language proficiency, ethnic identity, perceived discrimination, psychological adaptation, sociocultural adaptation, and intercultural adaptation; moreover, loneliness level was evaluated using the ULS-6 scale. Most participants did not report high levels of loneliness. However, as expected, loneliness correlated negatively with social contacts, ethnic identity, and Portuguese language proficiency, whereas it correlated positively with perceived discrimination. The three adaptation factors negatively predicted loneliness beyond acculturation factors. This study also discussed the implications of this research for counselors.

Keywords

Acculturation; adaptation; loneliness; migration

1. Introduction

Migrants experience challenges, such as loneliness, in acculturating and adapting to the society of settlement [1, 2]. However, research on whether and how acculturation and adaptation are involved in loneliness is scant [3-5]; therefore, this research addressed this gap.

Extensive cross-cultural research has been conducted on acculturation and its outcome, adaptation [1, 6, 7]. Acculturation refers to the cultural and psychological changes occurring after coming in contact with groups and people from various cultural backgrounds [8, 9]. This process of change occurs in both dominant and non-dominant individuals and groups. Living and working abroad may involve new social contacts, language barriers, challenges to ethnic identity, the experience of discrimination, and obtaining culturally appropriate skills and psychological resources in the new context. These modifications may affect the loneliness experienced by migrants.

Loneliness has been related to weak health and subjective well-being; therefore, it is a relevant factor affecting migration outcomes [10-12]. To comprehend and potentially change conditions driving loneliness, several studies have focused on factors linked to loneliness [13-15]. In this context, this study determined acculturation and adaptation factors that contribute to loneliness among African migrants living in a European cultural context.

1.1 Loneliness

Loneliness is considered a universal human experience, and social relations are vital to overcoming the same [16]. Every people can feel lonely in any cultural context [17]. Loneliness is defined as "the unpleasant experience that occurs when a person's network of social relationships is significantly deficient in either quality or quantity" ([18], p.15). Central to this definition is the assumption that loneliness is a subjective and negative experience resulting from a perceived deficiency in one's social relationships.

Loneliness poses negative effects that are equal to those created by a pandemic [19]. Indeed, loneliness is associated with numerous negative physical problems, such as obesity, elevated blood pressure [11], a high risk of mortality [20], and mental health outcomes, such as depression, suicidal thoughts, and aggression [10].

Only few studies have focused on migrants' loneliness in Portugal [5, 21]. Because loneliness is linked to well-being, it is important to deepen our understanding of the factors affecting loneliness among African migrants in Portugal.

1.2 African Migrants in Portugal

Intercultural relations have been going on for millennia, especially in Portugal, from its founding in the 12th century until the present day. Both emigration and immigration are prominently observed in Portugal. Since the 1970s, i.e., after the April 1974 revolution and accession to the European Union in the mid-1980s, Portugal has become a destination country. During this period, the majority of immigrants came from countries with which Portugal had historic relations (e.g., Cape Verde, Angola, Brazil, Mozambique, São Tomé e Príncipe, and Guinea-Bissau). However, since the 1990s, cultural and linguistic diversity in immigrant origins has been observed, and a new period

of the migrant experience began with the arrival of East Europeans (e.g., Ukrainians, Moldavians, Russians, Romanians) and Asians (e.g., Chinese).

Several ethnocultural groups constitute the immigrant population in Portugal. In 2019, based on data from the Foreign and Borders Service [22], 590,348 foreign citizens lived in Portugal, constituting 5.7% of the total population. An increase in the immigrant population has been observed since the 1990s, when only approximately 100,000 immigrants were present. Afterward, a 600% increase in the immigrant population occurred in the following decades. Brazilian immigrants (151,304; 25.6%) were the most numerous, followed by Cape-Verdeans (37,436; 6.3%), Angolans (22,691; 3.8%), Guineans (18,886; 3.2%), and Mozambicans (3,501). Among these, the African migrants are mostly concentrated in the Lisbon area and employed in the industrial and construction sectors.

A variety of factors motivate Africans from African countries with Portuguese as the official language to migrate to Portugal: a shared language, family and friends already residing in this country, international agreements, and the possibility of better work opportunities [23, 24]. However, African migrants living in Portugal have received little attention from acculturation researchers [25, 26].

Portuguese nationals exhibit positive and protective attitudes toward immigrants [27]. Moreover, the current political agenda on migration embraces a multicultural ideology. The "Migrant Integration Policy Index" [28] assesses policies that promote integration into societies, resulting in migrants feeling secure, confident, and welcome in the society of settlement. Sweden is ranked first among 52 countries for easiest immigration policies, followed by Finland, and Portugal [28].

1.3 The Present Study

The goal of this research was twofold. The first objective was to analyze the relation between several facets of acculturation and loneliness. Acculturation is a complex and multifaceted phenomenon, with the core features of social contacts, ethnic identity, the language proficiency of the country of settlement, and discrimination [1, 2].

Interactions with migrants of the same nationality are important indicators of acculturation. Ponizovski and Ritsner ([29], p. 408) indicated that "newly immigrated persons find themselves in a drastically different network of social relationships and experience multiple stressors, including losses." Migration often results in loneliness because it involves the establishment of new relations in the host country. Previous research indicated that migrants create novel attachments in the country of settlement through their work, language courses, or the neighborhood [30]. However, the lack of social contact with ethnic and national friends may increase loneliness among migrants [30].

Host country language proficiency and migrants' ethnic identity also represent the key indicators of acculturation [31]. It seems that host country language proficiency may be important to prevent migrants' loneliness. Previous studies have suggested that poor language skills in the host country present a risk of loneliness for migrants [32-34]. Ethnic identity denotes the migrants' sense of belonging to their ethnic culture and provides emotional stability and personal security [35]. Previous research reported a positive association between ethnic identity and adjustment [36]. Ethnic identity negatively predicted loneliness among Chinese migrants [5]. However, most of the

research on ethnic identity was conducted on secondary and university students [37]. Conversely, this study focused on adult individuals. Smith and Silva [37] observed that the association between ethnic identity and well-being among people of color was moderated by age, suggesting that "studies with participants who were younger tended to yield effect sizes of a higher magnitude than those in which participants were older" (p. 49). This result suggests that a strong ethnic identity benefits adolescents and young adults more than older adults.

The level of discrimination perceived by migrants also affects their acculturation. Perceived discrimination which is an acute acculturative stressor [38], refers to the subjective interpretation of being unfairly treated because of prejudice and discrimination. For instance, perceived discrimination was observed to be negatively connected with life satisfaction and mental health [39], leading to higher levels of loneliness [5, 21, 40, 41].

The second objective of this study was to investigate the relationships between adaptation and loneliness. Adaptation "refers to the relatively stable changes that take place in an individual or group in response to external demands" ([36] Berry, 2006, p. 52). We considered three domains of adaptation: psychological, sociocultural, and intercultural adaptations.

Psychological adaptation refers to the personal well-being and optimal mental health in the host society and is sometimes referred to as "feeling well" [2, 42]. Research has demonstrated an intense relationship between lonely feelings and mental health problems [12]. Sociocultural adaptation concerns "intercultural competence with emphasis on behavioral domains" ([43], p. 662). Intercultural competency requires the acquisition and maintenance of culture-specific skills to function effectively in the society of settlement and is sometimes referred to as "doing well" in the activities of the new cultural context. Research on loneliness reported that poor social skills were an antecedent of loneliness. For example, young people with poorer social skills reported higher loneliness [44]. In this context, it can be expected that sociocultural adaptation would be negatively related to loneliness. Intercultural adaptation refers to how well migrants can develop friendly intercultural relations [9] and is referred to as "relating well" in the new society [45]. Tolerance can be considered an indicator of intercultural adaptation or an attitude toward social equality; it contains two aspects: ethnic tolerance and social egalitarianism [9].

Studies examining relationships between demographic factors and loneliness are inconsistent [2, 5], which may be related to the poor effects of demographics and that other factors determine loneliness. Therefore, in this research, we considered whether loneliness could be determined by psychological factors, namely acculturation and adaptation factors. Previous research demonstrated that acculturation and adaptation predict loneliness more strongly than demographic factors [21]. For example, in a sample of Portuguese youth residing in Switzerland, acculturation and adaptation factors were more important than demographic factors in predicting loneliness [34].

Based on the review of theory and empirical findings, we hypothesized the following:

H1: Loneliness is negatively associated with social contact with nationals and co-ethnic migrants.

H2: Loneliness is negatively associated with national language proficiency and ethnic identity.

H3: Migrants who report greater loneliness also report higher perceived discrimination.

H4: Adaptation factors negatively predict loneliness beyond acculturation factors.

H5: Acculturation and adaptation variables account for a larger proportion of the explained variance in loneliness than demographic variables.

2. Methods

2.1 Participants

A total of 759 African migrants, including 391 men and 368 women, aged between 18 and 64 years (*M* = 37.15; *SD* = 11.24), were included in the study (see Table 1). The average duration of a sojourn in Portugal was 21.36 years (*SD* = 10.64). Approximately half of the participants were married (49%), and 48% of them had not completed secondary education. Around 32.8% of participants were blue-collar workers, 27.1% were white-collar workers, 9.5% were managerial workers, 11.3% were professionals, and 18.5% did not work. The predominant religion reported by the participants was Roman Catholic (63%).

Table 1 Socio-demographic characteristics of the African migrants.

African migrants (N = 759)			
	Variable	n (%)	M (SD)
Age (years)			37.15 (11.24)
Gender			
	Male	391 (51.5%)	
	Female	368 (48.5%)	
Nationality			
	Angola	221 (29.1%)	
	Cape Verde	214 (28,2)	
	Guinea-Bissau	211 (27.8%)	
	Mozambique	113 (14.9%)	
Length of stay in Portugal			22.43 (10.92)
Marital status			
	Married	373 (49.1%)	
	Not Married	364 (48.0%)	
	Not answered	22 (2.9%)	
Level of education			
	Less than secondary school	366 (48.2%)	
	Secondary school	149 (19.6%)	
	Higher education	207 (27.3%)	
	Not answered	37 (4.9%)	
Work			
	Unskilled work	249 (32.8%)	
	Skilled work	206 (27.1%)	
	Managerial work	72 (9.5%)	
	Professional work	86 (11.3%)	
	Without work	140 (18.5%)	
	Not answered	6 (0.9%)	
Religion			
	No religion	114 (15.0%)	
	Roman Catholic	476 (62.7%)	
	Protestant	57 (7.5%)	
	Muslim	43 (5.7%)	
	Other	58 (7.7%)	
	Not answered	11 (1.4%)	

2.2 Measures

Demographics. Data on demographic characteristics, including age, gender, place of birth, length of residence, education level, marital status, occupation, and religion, were collected.

Ethnic and national social contacts. Ethnic social contacts were measured using two questions on the number and frequency of interactions with co-ethnic friends [21]. An example is: "How often do you meet close (co-ethnic) friends?" (α = 0.73). National social contacts were measured using two identical questions evaluating the number and frequency of interactions with Portuguese nationals (α = 0.69). Response choices ranged from 1(*Never)* to 5 (*Daily).*

Ethnic identity. This scale was evaluated using a measure created by Phinney et al. [35] that consisted of 4 items. An example is: "I am happy to be (ethnic)." Response choices ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). In this study, the Cronbach's alpha of ethnic identity was 0.91.

Language proficiency. Four items were used to assess proficiency in speaking, reading, writing, and understanding the national language [21]. An example is: "How well do you speak the Portuguese language?" Response choices ranged from 1 (*not at all*) to 5 (*very well*). The Cronbach's alpha of language proficiency was 0.93.

Perceived discrimination. Five statements were used to assess the direct experience of discrimination (e.g., "I have been teased or insulted because of my [national group]") [46]. Ratings ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). The Cronbach's alpha of perceived discrimination was 0.91.

Psychological adaptation. Psychological adaptation was measured using three scales: Satisfaction with Life Scale (SWLS) [47-49], Rosenberg Self-Esteem Scale (RSES) [50, 51], and Scale for Psychological Problems (SPP) [36, 42]. The SWLS consists of 5 items that assess global life satisfaction (e.g., "The conditions of my life are excellent."). The RSES includes 10 items, measuring one's evaluation of self-worth (e.g., "I take a positive attitude toward myself"). The items of SWLS and RSES were rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The SPP consists of 15 items to assess the extent to which people experience depression (e.g., unhappiness), anxiety (e.g., nervousness), and psychosomatic symptoms (e.g., tiredness) by using a 5-point scale ranging from 1 (*never)* to 5 (*all the time*). A composite score for psychological adaptation was computed by averaging scores for life satisfaction (Cronbach's α = 0.84), self-esteem (Cronbach's α = 0.70), and psychosomatic symptoms (Cronbach's α = 0.90), as has been previously performed (e.g., [52, 53]).

Sociocultural adaptation. The Sociocultural Adaptation Scale (SCAS) measures competence in daily intercultural living among migrants [43, 54]. Respondents reported how much difficulty (ranging from 1 [*no difficulty*] to 5 [*extremely difficulty*]) they experienced while facing 20 social situations in the host country (e.g., the climate and using the transport system). Items were recoded so that higher scores indicated lower levels of difficulty. The Cronbach's alpha of sociocultural adaptation was 0.91.

Tolerance. This instrument evaluates both ethnic tolerance (6 items; e.g., "It is good to have people from different ethnic groups living in the same country") and social egalitarianism (5 items; e. g., "If people were treated more equally, we would have fewer problems in this country") [55, 56]. Ratings ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). The Cronbach's alpha of tolerance was 0.70.

Loneliness. The brief 6-item (ULS-6) Portuguese version of the Revised UCLA Loneliness Scale was used [57, 58]. One example is: "People are around me but not with me." Response choices ranged from 1 (*never*) to 4 (*often*). Cronbach's α of loneliness was 0.77.

2.3 Procedure

Migrants were recruited from the Lisbon Metropolitan area by two trained research assistants. The participants were approached through snowball sampling (family members or friends of the respondents). In addition, migrants were recruited from associations. Regarding ethical considerations, the research was executed according to the legal and ethical norms in Portugal. Respondents were informed of the goal of the investigation, informed consent was obtained, and anonymity was assured. Migrants were free to withdraw from the survey anytime without providing any explanation. Respondents were not paid. On March 11, 2020, COVID-19 was declared a pandemic by the World Health Organization; this could have further affected loneliness. However, our data were collected before the COVID-19 outbreak.

2.4 Data Analysis

Six kinds of analyses were performed. First, we calculated descriptive statistics of all scales to provide the respondents' global picture of their acculturation and adaptation. Second, the internal consistency of the multi-item scales was assessed using Cronbach's alphas. Third, a one-sample *t*-test was computed to know if the mean scores of the scales were above or below the scale midpoint. Fourth, analyses of variance (ANOVA) were used to examine eventual demographic effects. Fifth, to demonstrate the relationships between loneliness and social contacts (H1), language proficiency and ethnic identity (H2), and perceived discrimination (H3), Pearson's product-moment correlational analyses were conducted. Finally, to determine the factors affecting loneliness, hierarchical regression models were performed (H4 and H5). IBM SPSS statistical software 26 was used. The criterion for statistical significance was set at 0.05.

3. Results

Prior to testing the hypotheses, descriptive statistics were calculated, and a set of ANOVAS were performed to examine eventual relationships between demographics and loneliness. Table 2 lists the descriptive statistics of the measures used. One-sample *t*-test revealed that the mean score of loneliness (M = 1.99; SD = 0.68) was significantly below the scale midpoint of 2.50 ($p < 0.001$). In fact, 71% of migrants reported a score below the scale midpoint. Moreover, on average, the sample experienced a slightly low level of loneliness. The average score of perceived discrimination (M = 2.02; SD = 1.04) was significantly below the scale midpoint of 3 ($p < 0.001$). The average scores of ethnic social contacts (M = 3.45; SD = 0.87), national social contacts (M = 3.71; SD = 0.78), ethnic identity (M = 4.19; SD = 0.99), Portuguese language proficiency (M = 4.28; SD = 0.78), tolerance (M = 3.67; SD = 0.61), and sociocultural adaptation (M = 3.59; SD = 0.82) were also significantly greater than the midpoint (3) of the scales ($p < 0.001$). Therefore, this sample of African migrants reported a positive portray of their acculturation process and outcomes.

Table 2 Descriptive statistics of the psychometric instruments used and their intercorrelations (N = 759).

	M	SD	1	2	3	4	5	6	7	8	9
1 – Loneliness	1.99	0.68	-0.77								
2 – Ethnic social contacts	3.45	0.87	-0.20***	-0.73							
3 – National social contacts	3.71	0.78	-0.23***	0.38***	-0.69						
4 – Ethnic identity	4.12	0.99	-0.22***	0.46***	0.15***	-0.91					
5 – National language proficiency	4.27	0.78	-0.13***	0.23***	0.37***	0.06	-0.94				
6 – Perceived discrimination	2.02	1.04	0.38***	-0.02	-0.15***	-0.14***	-0.07	-0.91			
7 – Tolerance	3.67	0.61	-0.34***	0.24***	0.15***	0.23***	0.19***	-0.26***	-0.7		
8 – Sociocultural adaptation	3.59	0.82	-0.38***	0.16***	0.20***	0.04	0.10**	-0.37***	0.29***	-0.91	
9 – Psychological adaptation	3.08	0.45	-0.44***	0.28***	0.21***	0.33***	0.20***	-0.28***	0.33***	0.32***	

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

Subsequently, we analyzed the relationship between loneliness and demographic variables.

Age. The sample was categorized into two groups: young adults (18–35 year-olds) and middle-aged adults (36–64 year-olds). No significant difference in loneliness was observed (F [1, 757] = 0.09; $p > 0.05$; $\eta^2 = 0.000$) between the two groups.

Gender. No significant difference in loneliness was observed between men ($M = 2.00$; $SD = 0.67$) and women ($M = 1.99$; $SD = 0.69$; F [1, 758] = 0.07; $p > 0.05$; $\eta^2 = 0.000$).

Education level. Significant difference in loneliness was observed among migrants with varying education levels (F [2, 721] = 7.94; $p < 0.001$; $\eta^2 = 0.022$). Migrants who did not complete secondary education ($M = 2.10$, $SD = 0.68$) were lonelier than those who completed secondary schooling (M = 1.91, SD = 0.67) or tertiary education ($M = 1.90$, $SD = 0.68$).

Marital status. No significant difference in loneliness was evidenced between married ($M = 1.98$, $SD = 0.67$) and unmarried participants ($M = 1.98$; $SD = 0.68$; F [1, 736] = 0.00; $p > 0.05$; $\eta^2 = 0.000$).

Length of residence. Respondents were categorized into two groups: those with 15 years or less length of stay and those with more than 15 years length of stay. No significant difference in loneliness (F [1, 755] = 1.49; p > 0.05; $= \eta^2 = 0.002$) was observed between migrants who stayed for a shorter time ($M = 2.04$; $SD = 0.66$) and those who stayed for a longer time ($M = 1.97$; $SD = 0.69$).

Ethnocultural groups. A statistically significant difference in loneliness was observed among the ethnocultural groups (F [3, 758] = 7.41; $p < 0.001$; $\eta^2 = 0.029$). Scheffe tests indicated that Guinean migrants ($M = 2.13$, SD = 0.76) reported more loneliness than Angolan ($M = 1.87$; $SD = 0.65$; $p < 0.001$; 95% CI [0.07, 0.44]) or Mozambican ($M = 1.87$; $SD = 0.55$; $p < 0.05$; 95% CI [0.04, 0.48]) migrants. Cape Verdean migrants' loneliness ($M = 2.06$, $SD = 0.66$) did not exhibit significant differences among the ethnocultural groups.

Table 2 presents the correlation matrix of the acculturation and adaptation factors. Significant negative correlations were identified between ethnic social contacts, national social contacts, and loneliness, thereby supporting our first hypothesis. Significant negative correlations were also identified between ethnic identity, Portuguese language proficiency, and loneliness, thereby supporting our second hypothesis. A significant positive association was evidenced between perceived discrimination and loneliness; this finding supports the third hypothesis. Therefore, all correlations between acculturation factors and loneliness were as expected.

To test whether adaptation factors predicted loneliness beyond acculturation factors, hierarchical multiple regressions were performed. Before performing regressions, collinearity diagnostics were explored to guarantee that the variance inflation factor did not surpass 10 and the tolerance statistics were above 0.2 [59]. The analyses did not suggest problems with collinearity. Demographics were considered as control variables in the first block. Dummy variables were created for gender, marital status, and ethnocultural groups, with Angolans as the reference group. Acculturation factors were added in the second block. Finally, adaptation factors were added in the third block.

In the first block, the results indicated that only 2% of total variance in loneliness was explained by demographic factors (F [8, 611] = 1.69, $p = 0.10$). Cape Verdeans ($\beta = 0.12$, $p < 0.05$) emerged as a significant demographic predictor (see Table 3). In the second block, the results demonstrated that 21% of total variance in loneliness was explained by independent variables (F [13, 611] = 12.46, $p < 0.001$). Among demographic variables, loneliness was predicted by Mozambicans ($\beta = -0.14$, $p < 0.01$). Among acculturation factors, loneliness was predicted by lower national contacts ($\beta = -0.15$, $p < 0.001$), lower ethnic identity ($\beta = -0.16$, $p < 0.001$), and greater perceived discrimination ($\beta =$

0.35, $p < 0.001$). In the third block, these three acculturation factors remained in the model, and all adaptation factors significantly predicted loneliness. Loneliness was predicted by lower sociocultural ($\beta = -0.15$, $p < 0.001$), psychological ($\beta = -0.28$, $p < 0.001$), and intercultural adaptations ($\beta = -0.10$, $p < 0.01$). In this block, the results demonstrated that 33% of total variance in loneliness was explained by independent variables (F [16, 611] = 18.27, $p < 0.001$), thereby supporting the fourth and fifth hypotheses.

Table 3 Hierarchical regression models of demographic, acculturation, and adaptation factors predicting loneliness among African migrants.

Variables	Block 1, β	95% CI	Block 2, β	95% CI	Block 3, β	95%CI
Demographic factors						
Age	0	[-0.01, 0.01]	-0.04	[-0.01, 0.00]	-0.05	[-0.01, 0.00]
Gender	0.01	[-0.10, 0.12]	0.02	[-0.07, 0.12]	0	[-0.09, 0.09]
Marital status	0.02	[-0.10, 0.15]	0.03	[-0.08, 0.15]	0.01	[-0.09, 0.12]
Level of education	-0.07	[-0.13, 0.01]	-0.04	[-0.09, 0.04]	0	[-0.06, 0.06]
Length of residence	-0.02	[-0.01, 0.01]	0.01	[-0.01, 0.01]	0	[-0.01, 0.01]
Cape Verdeans[a]	0.12*	[0.03, 0.31]	0.03	[-0.10, 0.18]	0.03	[-0.09, 0.17]
Guineans[a]	0.07	[-0.05, 0.27]	-0.03	[-0.20, 0.10]	-0.04	[-0.21, 0.08]
Mozambicans[a]	0.02	[-0.14, 0.21]	-0.14**	[-0.47, -0.08]	-0.06	[-0.28, 0.05]
Acculturation factors						
Ethnic contacts			-0.03	[-0.11, 0.05]	0.04	[-0.04, 0.10]
National contacts			-0.15***	[-0.21, -0.06]	-0.12**	[-0.18, -0.04]
Language proficiency			-0.02	[-0.09, 0.06]	0.03	[-0.04, 0.10]
Ethnic identity			-0.16***	[-0.18, -0.05]	-0.12**	[-0.14, -0.03]
Perceived discrimination			0.35***	[0.18, 0.29]	0.21***	[0.09, 0.19]
Adaptation factors						
Sociocultural adaptation					-0.15***	[-0.19, -0.06]
Psychological adaptation					-0.28***	[-0.53, -0.30]
Intercultural adaptation					-0.10**	[-0.21, -0.03]
R^2	0.02		0.21		0.33	
Adjusted R^2	0.01		0.2		0.31	
R^2 change and significance	0.02		0.19***		0.12***	

Note. Beta coefficients are reported here.

[a] The reference group is Angolans.

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

4. Discussion

Results from this study provided insight into the contributions of psychosocial resources to our understanding of loneliness; this study focused on African migrants living in Portugal, who represent four ethnocultural groups that have rarely been studied in the context of acculturation and adaptation. The five hypotheses were supported by the results. In fact, loneliness was related to multiple factors.

A striking feature of our findings was the relatively low scores of loneliness. Past research reported mixed results on loneliness among migrants. A previous study highlighted that migrants are prone to loneliness because they may face discrimination [60]. For instance, African international students in Portugal were lonelier than native students [61]. Similarly, migrants from Poland reported more loneliness than Dutch natives [62]. Turkish–Dutch and Moroccan–Dutch older adults were lonelier than native Dutch older adults [63]. However, few studies have reported no differences in loneliness between migrants and natives [21, 34]. In this study, we did not compare African migrants' loneliness with that of natives. Moreover, our participants experienced slightly low loneliness (M = 1.99), which was significantly lower than that obtained, for instance, in preceding research on Chinese migrants residing in Portugal (M = 2.63) [5]. This finding, along with the results of the acculturation and adaptation factors, suggested that our sample was a "healthy" sample.

Guineans reported higher loneliness than Angolan and Mozambican migrants, while Cape Verdean migrants did not differ significantly from the other three African groups in loneliness. One important aspect of Guinea–Bissau is its diversity. "Particularly in terms of ethnic differentiation, it comprises a remarkable variety of languages, cultural practices, and forms of social organization" ([64], p. 263). One possible explanation for the highest loneliness score among Guineans could be that these migrants are more diverse in their ethnic identity. However, further research should clarify this aspect.

Lower contacts with nationals and co-ethnic migrants were related to more loneliness. These results supported the first hypothesis. Migrants who have more contact with natives and co-ethnic migrants face less loneliness. In contrast to the current findings, the positive effect of having native friends on loneliness was not observed among European migrants in Belgium [65].

The second and third hypotheses were also supported by the finding that language proficiency and ethnic identity were significantly related to loneliness. The findings reflected that higher proficiency in the host country's language is related to a decrease in loneliness. This is consistent with the findings of previous investigations that have reported a link between increased national language proficiency and diminished loneliness [32-34]. Therefore, interventions at this level may reduce migrants' loneliness. Ethnic identity negatively correlated with loneliness, a finding that is consistent with those studies highlighting that ethnic identity is a positive personal resource [36, 37]. Moreover, its maintenance is a key factor in alleviating loneliness.

Our findings demonstrated that greater perceived discrimination was significantly related to higher levels of loneliness. This is consistent with the findings of a previous investigation reporting that perceived discrimination was linked to decreased psychosocial well-being [38, 41]. Despite low levels of perceived discrimination reported by African migrants in Portugal, it plays an essential role in their experience of loneliness.

The finding of adaptation factors negatively predicting loneliness beyond acculturation factors supported the fourth hypothesis. As expected, psychological adjustment emerged as a significant predictor of loneliness. Lesser was the psychological adaptation; the lonelier were the migrants. This is consistent with literature demonstrating that people with superior mental health exhibit lower loneliness [10, 61].

Sociocultural adaptation also significantly predicted loneliness. Greater intercultural competency protects against loneliness. Previous studies have suggested that greater adaptation difficulties were related to lower psychological adjustment [5, 66].

Although ethnic contacts and language proficiency appeared to have significant effects on loneliness at a bivariate level, they did not emerge as independent predictors of loneliness in multivariate regression analysis. This suggests that some variables, such as national contacts, ethnic identity, and perceived discrimination, altered the effects of ethnic contacts and language proficiency on loneliness.

Current research expanded the relationship between "relating well" and "feeling lonely", as tolerance significantly predicted loneliness. Greater tolerance also seemed to protect against loneliness. This finding opens a novel window because intercultural adaptation has only recently been included in the acculturation literature [9].

This research identified several determinants of loneliness. However, acculturation and adaptation factors accounted for a larger proportion of the explained variance in loneliness than the demographic factors, thereby supporting our fifth hypothesis. ANOVA and regression analyses demonstrated that demographics do not contribute prominently to the migrants' loneliness. This weak effect of demographic variables (2%) is in line with the findings of past research on mental health problems [42] and loneliness [5, 21]. Nevertheless, the inclusion of demographics allowed us to control their effect in the regression models.

The study has a few limitations. First, the design was cross-sectional; therefore, the findings cannot imply causality between acculturation and adaptation factors and loneliness. Second, this study was based on self-reported questionnaires. Therefore, future investigations should include objective measures. Third, the recruitment of the sample was accomplished through the snowball method, leading to a limitation in sample representativeness. Additionally, our data were collected from the urban area. Future research should collect data from the rural area also to compare the levels of loneliness between the two areas.

Notwithstanding these limitations, the findings replicated earlier results and demonstrated a part of the large web of psychosocial factors in which loneliness is embedded. The research highlighted the importance of psychological factors in health service allocation and, hence, provided implications for interventions for migrants of African background. For instance, concerning the connection between loneliness and policy, it is more relevant to accomplish interventions designed to reduce loneliness by targeting psychological factors that are easier to modify than targeting demographic factors that are difficult to modify. For example, interventions can not only be directed at stimulating migrants' participation in the new cultural context (more native friends, high language proficiency, and low perceived discrimination) but also at aspects like their ethnic bond (more co-ethnic friends and strong ethnic identity with the home country).

Author Contributions

Félix Neto and Maria Pinto conceived the study design. Maria Pinto was responsible for data collection. Félix Neto performed the data analysis, and wrote the first draft of the manuscript. Both authors supervised the work development and interpretation of results, contributed to manuscript revision, and read and approved the submitted version.

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Competing Interests

The authors have declared that no competing interests exist.

References

1. Sam DL, Berry JW. The Cambridge handbook of acculturation psychology. Cambridge: Cambridge University Press; 2016.
2. Ward C, Bochner S, Furnham A. The psychology of culture shock. 2nd ed. Hove: Routledge; 2001.
3. Neto J, Oliveira EN, Neto F. Acculturation, adaptation, and loneliness among Brazilian migrants living in Portugal. In: People's movements in the 21st century: Risks, challenges and benefits. Rijeka: Intech; 2017. pp.169-185.
4. Rich Madsen K, Trab Damsgaard M, Smith Jervelund S, Christensen U, Stevens GG, Walsh S, et al. Loneliness, immigration background and self-identified ethnicity: A nationally representative study of adolescents in Denmark. J Ethn Migr Stud. 2016; 42: 1977-1995.
5. Neto F, da Conceição Pinto M. Loneliness among Chinese migrants in Portugal. J Chinese Overseas. 2021; 17: 196-213.
6. Peng R, Zhu C, Wu W. Visualizing the emerging trends of acculturation research: A bibliometric analysis from 2000 to 2020. J Cross Cult Psychol. 2021; 52: 794-800.
7. Schwartz SJ, Unger JB, Zamboanga BL, Szapocznik J. Rethinking the concept of acculturation: Implications for theory and research. Am Psychol. 2010; 65: 237-251.
8. Herskovits M, Linton R, Redfield R. Memorandum on the study of acculturation. Am Anthropol. 1936; 38: 1149-1152.
9. Berry J. Mutual intercultural relations. Cambridge: Cambridge University Press; 2017.
10. Bzdok D, Dunbar RI. The neurobiology of social distance. Trends Cogn Sci. 2020; 24: 717-733.
11. Cacioppo S, Grippo AJ, London S, Goossens L, Cacioppo JT. Loneliness: Clinical import and interventions. Perspect Psychol Sci. 2015; 10: 238-249.
12. Heinrich LM, Gullone E. The clinical significance of loneliness: A literature review. Clin Psychol Rev. 2006; 26: 695-718.
13. Buecker S, Maes M, Denissen JJ, Luhmann M. Loneliness and the big five personality traits: A meta-analysis. Eur J Pers. 2020; 34: 8-28.
14. Henning G, Segel-Karpas D, Bjälkebring P, Berg AI. Autonomy and loneliness-longitudinal within- and between-person associations among Swedish older adults. Aging Ment Health. 2021. Doi: 10.1080/13607863.2021.2000937.
15. Rokach A. Loneliness updated: An introduction. J Psychol. 2012; 146: 1-6.
16. Perlman D. European and Canadian studies of loneliness among seniors. Can J Aging. 2004; 23: 181-188.
17. Rokach A, Neto F. Age, culture, and the antecedents of loneliness. Soc Behav Pers. 2005; 33: 477-494.
18. Perlman D, Peplau LA. Chapter 2: Loneliness research: A survey of empirical findings. In: Preventing the harmful consequences of severe and loneliness. Washington: National Institute of Mental Health. U.S. Government Printing Office; 1984. pp.13-45.

19. Palgi Y, Shrira A, Ring L, Bodner E, Avidor S, Bergman Y, et al. The loneliness pandemic: Loneliness and other concomitants of depression, anxiety and their comorbidity during the COVID-19 outbreak. J Affect Disord. 2020; 275: 109-111.

20. Holt-Lunstad J, Smith TB, Baker M, Harris T, Stephenson D. Loneliness and social isolation as risk factors for mortality: A meta-analytic review. Perspect Psychol Sci. 2015; 10: 227-237.

21. Neto F. Loneliness and acculturation among adolescents from immigrant families in Portugal[1]. J Appl Soc Psychol. 2002; 32: 630-647.

22. Serviço de Estrangeiros e Fronteiras. Relatório de Imigração, Fronteira e Asilo 2019 [Internet]. Lisboa: SEF; 2020. Available from: https://sefstat.sef.pt/Docs/Rifa2019.pdf.

23. Batalha L. The Cape Verdean diaspora in Portugal: Colonial subjects in a postcolonial world. Lanham: Lexington Books; 2004.

24. Mourato I. A política de cooperação portuguesa com os PALOPs: Contributos do ensino superior politécnico. Lisbon: Universidade Lusófona; 2011.

25. Fikes K. Managing African Portugal: The citizen-migrant distinction. London: Duke University Press; 2009.

26. Wilks DC, Neto F. Exploring the adaptation experiences of Cape Verdean students in Portugal. Int J Educ Res. 2016; 76: 66-75.

27. Neto F, Neto J. Intercultural relations in Portugal. In: Mutual intercultural relations. Cambridge: Cambridge University Press; 2017. pp.249-266.

28. MIPEX. Migrant integration policy index [Internet]. Brussels: Migration Policy Group; 2020. Available from:https://www.mipex.eu/.

29. Ponizovsky AM, Ritsner MS. Patterns of loneliness in an immigrant population. Compr Psychiatry. 2004; 45: 408-414.

30. Djundeva M, Ellwardt L. Social support networks and loneliness of Polish migrants in the Netherlands. J Ethn Migr Stud. 2020; 46: 1281-1300.

31. Phinney J. Ethnic identity and acculturation. In: Acculturation: Advances in theory, measurement, and applied research. Washington: American Psychological Association; 2003. pp.63-81.

32. King R, Cela E, Fokkema T, Vullnetari J. The migration and well-being of the zero generation: Transgenerational care, grandparenting, and loneliness amongst Albanian older people. Popul Space Place. 2014; 20: 728-738.

33. Klok J, van Tilburg TG, Suanet B, Fokkema T, Huisman M. National and transnational belonging among Turkish and Moroccan older migrants in the Netherlands: Protective against loneliness? Eur J Ageing. 2017; 14: 341-351.

34. Neto F, Barros J. Predictors of loneliness among adolescents from Portuguese immigrant families in Switzerland. Soc Behav Pers. 2000; 28: 193-205.

35. Phinney J, Horencjyk G, Liebkind K, Vedder P. Ethnic identity, immigration, and well-being: An interactional perspective. J Soc Issues. 2001; 57: 493-510.

36. Berry JW, Phinney JS, Sam DL, Vedder PE. Immigrant youth in cultural transition: Acculturation, identity, and adaptation across national contexts. Mahwah: Lawrence Erlbaum Associates Publishers; 2006.

37. Smith TB, Silva L. Ethnic identity and personal well-being of people of color: A meta-analysis. J Couns Psychol. 2011; 58: 42-60.

38. Carter RT, Johnson VE, Kirkinis K, Roberson K, Muchow C, Galgay C. A meta-analytic review of racial discrimination: Relationships to health and culture. Race Soc Probl. 2019; 11: 15-32.

39. Berry JW, Hou F. Acculturation, discrimination and wellbeing among second generation of immigrants in Canada. Int J Intercult Relat. 2017; 61: 29-39.

40. Liu D, Yu X, Wang Y, Zhang H, Ren G. The impact of perception of discrimination and sense of belonging on the loneliness of the children of Chinese migrant workers: A structural equation modeling analysis. Int J Ment Health Syst. 2014; 8: 52.

41. Maleku A, Kim YK, Kirsch J, Um MY, Haran H, Yu M, et al. The hidden minority: Discrimination and mental health among international students in the US during the COVID-19 pandemic. Health Soc Care Community. 2021. Doi: 10.1111/hsc.13683.

42. Neto F. Predictors of mental health among adolescents from immigrant families in Portugal. J Fam Psychol. 2009; 23: 375-385.

43. Ward C, Kennedy A. The measurement of sociocultural adaptation. Int J Intercult Relat. 1999; 23: 659-677.

44. DiTommaso E, Brannen-McNulty C, Ross L, Burgess M. Attachment styles, social skills and loneliness in young adults. Pers Individ Differ. 2003; 35: 303-312.

45. Neto F. Intercultural relations among Cape Verdean immigrants living in Portugal. J Int Migr Integr. 2020; 21: 765-780.

46. Neto F. Psycho-social predictors of perceived discrimination among adolescents of immigrant background: A Portuguese study. J Ethn Migr Stud. 2006; 32: 89-109.

47. Diener ED, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. J Pers Assess. 1985; 49: 71-75.

48. Neto F. The satisfaction with life scale: Psychometrics properties in an adolescent sample. J Youth Adolesc. 1993; 22: 125-134.

49. Neto F. Predictors of satisfaction with life among second generation migrants. Soc Indic Res. 1995; 35: 93-116.

50. Rosenberg M. Society and the adolescent self-image. Princeton: Princeton University Press; 1965.

51. Neto F. Correlates of social blushing. Pers Individ Differ. 1996; 20: 365-373.

52. Hui BP, Chen SX, Leung CM, Berry JW. Facilitating adaptation and intercultural contact: The role of integration and multicultural ideology in dominant and non-dominant groups. Int J Intercult Relat. 2015; 45: 70-84.

53. Neto F. Re-acculturation and adaptation among adolescents from returned Portuguese immigrant families. J Appl Soc Psychol. 2012; 42: 133-150.

54. Sequeira Neto J. Cultural competence among Ukrainian economic immigrants living in Portugal. Porto: Universidade do Porto; 2014.

55. Berry JW, Kalin R. Multicultural and ethnic attitudes in Canada: An overview of the 1991 national survey. Can J Behav Sci. 1995; 27: 301-320.

56. Neto F. Are attitudes of young portuguese towards immigration also hardening? A comparison between 1999 and 2006. In: Quod Erat Demonstrandum: From Herodotus' ethnographic journeys to cross-cultural research. Athens: Pedio Books Publishing; 2009. pp.255-264.

57. Russell D, Peplau LA, Cutrona CE. The revised UCLA loneliness scale: Concurrent and discriminant validity evidence. J Pers Soc Psychol. 1980; 39: 472-480.

58. Neto F. Psychometric analysis of the short-form UCLA Loneliness Scale (ULS-6) in older adults. Eur J Ageing. 2014; 11: 313-319.

59. Field A. Discovering statistics using IBM SPSS statistics. 5th ed. England: SAGE; 2017.

60. King CA, Merchant CR. Social and interpersonal factors relating to adolescent suicidality: A review of the literature. Arch Suicide Res. 2008; 12: 181-196.

61. Neto F. Loneliness among African international students at Portuguese universities. J Int Students. 2021; 11: 397-416.

62. van den Broek T, Grundy E. Loneliness among Polish migrants in the Netherlands: The impact of presence and location of partners and offspring. Demogr Res. 2017; 37: 727-742.

63. van Tilburg TG, Fokkema T. Stronger feelings of loneliness among Moroccan and Turkish older adults in the Netherlands: In search for an explanation. Eur J Ageing. 2021; 18: 311-322.

64. Abranches M. Remitting wealth, reciprocating health? The "travel" of the land from Guinea-Bissau to Portugal. Am Ethnol. 2014; 41: 261-275.

65. Koelet S, de Valk HA. Social networks and feelings of social loneliness after migration: The case of European migrants with a native partner in Belgium. Ethnicities. 2016; 16: 610-630.

66. Pernice R, Trlin A, Henderson A, North N. Employment and mental health of three groups of immigrants to New Zealand. NZ J Psychol. 2000; 29: 24-29.

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