# Predictors of mental health among Angolan migrants living in Portugal

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**Abstract**

**Purpose** – *The purpose of this paper is to examine the determinants of mental health among Angolan migrants living in Portugal. Three research questions guided this work: What is the influence of demographic factors on the mental health of Angolan migrants? What is the influence of acculturation factors on their mental health? What is the influence of adaptation factors on their mental health?*

**Design/methodology/approach** – *The sample consisted of 252 Angolan migrants living in Portugal (50.8 percent females) with a mean age of 36 years. The mean duration of stay in Portugal was 21 years.*

**Findings** – *The predictive factors – demographic, acculturation and adaptation factors – were significantly associated with Angolan migrants' mental health. However, acculturation and adaptation factors accounted for a larger proportion of the explained variance in mental health problems than demographic factors. The major predictors of mental health problems were sociocultural adaptation, perceived discrimination and loneliness. Implications of the findings for future research and psychosocial interventions are discussed.*

**Originality/value** – *This study shed some light on the predictive factors of mental health problems among adult Angolan immigrants in Portugal, a previously neglected group of migrants in the research literature. Adding to existing knowledge on the mental health outcomes of migration, the findings suggest that, for this group, sociocultural adaptation, perceived discrimination and loneliness were the main predictors of psychological problems, rather than demographic factors. This evidence may be useful in the development of psychosocial interventions and policy to support Angolan migrants in their adaptation to Portuguese culture.*

**Keywords** *Portugal, Adaptation, Mental health, 3A acculturation, Angolan migrants*

**Paper type** *Research paper*

## 1. Introduction

The mental health of migrants represents a complex and multifaceted phenomenon (Bhugra, 2004; Koneru *et al.*, 2007). While recent research (Castañeda *et al.*, 2015) suggested that migration directly affects health and well-being in general, research examining specific relationships between migration and mental health has been contradictory. The majority of findings indicated that migrants are at higher risk for developing psychological maladjustment than mainstream populations (Bhugra, 2004; Goodman *et al.*, 2008; Mirsky, 2009). Notwithstanding, the prevalence of mental illness among migrants, in general, is not consistently high (Knipscher and Kleber, 2007). Additionally, some studies reported lower levels of psychological maladjustment among migrants than among people of the society of settlement. For instance, adolescents from immigrant families living in Portugal reported fewer mental health problems than Portuguese adolescents who had never migrated (Neto, 2009) and Portuguese adolescents from returned families showed lower mental health problems than the natives (Neto, 2010a). Other studies failed to find significant differences in mental health between immigrants and natives (Oppedal and Roysamb, 2004). Further, young people who returned to Portugal from France with their families showed similar levels of mental health problems in comparison to peers that had never migrated (Neto, 2010b).

Diverse reasons may explain the contradictory findings in the field of migration and mental health, including inconsistencies in measuring aspects of acculturation (Koneru *et al.*, 2007) or specifying aspects of psychological adaptation (Berry and Sabatier, 2011). Further, it may be due to differences

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in the immigrant groups examined, factors specific to the country of settlement or the specific generation being investigated (Rucci *et al.*, 2015). Whatever the reasons, what is clear is that mental health problems linked to migration may vary according to factors such as sociocultural contexts, demographic, acculturation and adaptation factors. This research specifically examines the mental health of Angolan migrants living in Portugal, an ethnocultural group that has been relatively neglected in migration research (Neto, 2002b; Possidónio, 2006). Specifically, this study aims to identify demographic, acculturation and adaptation factors contributing to mental health problems.

Researchers have identified depression, anxiety and psychosomatic symptoms as the most common mental health consequences of acculturation (Berry, 1997; Neto and Neto, 2017). Therefore, in this study, we considered depression, anxiety, and psychosomatic problems, collectively reported as mental health problems.

### *1.1 Angolan migrants in Portugal*

Emigration has an old tradition in Portugal (Godinho, 1978). From the twentieth century, the country has shown a mixed migratory pattern. In particular, the increasing flow of migrants in the 1970s was largely linked to the post-colonial and post-independence period of previous Portuguese colonies in Africa. According to the 2011 Census (INE, 2012), 394,496 foreign citizens lived in Portugal, corresponding to 3.7 percent of the total population. The figures show about a 400 percent increase in the last two decades. The majority were Brazilian immigrants (28 percent), with Cape Verdeans (10 percent) occupying the second place, followed by Ukrainians (9 percent) and Angolans (6.8 percent).

At the time of this study, there were 26,954 Angolan migrants living legally in Portugal. The majority were women (53 percent) and single (70 percent). More than half were located in the metropolitan region of Lisbon. Regarding economic activity, 60 percent of the Angolan migrant population was economically active, compared to 47 percent of the Portuguese population. Most of the migrants aged between 15 and 64 (71 percent) did not complete secondary education, 21.6 percent obtained secondary education and 7.4 percent tertiary education. The majority were employed in services and construction sectors. It is important to point out that the Angolan community in Portugal cannot be confined only to the number of Angolan citizens legally registered, as it also includes an unspecified number of Angolans of Portuguese birth or naturalized citizens, as well as illegal individuals (Possidónio, 2006).

In order to deal with this new Portuguese migratory reality, the government's policies on immigration have undergone significant changes, specifically in terms of integration. Whereas a pro-assimilationist approach was favored in the past, the new political agenda on migration values multiculturalism and pluralism. The MIPEX (2015) measures policies that promote integration into 38 societies and provides data on the extent to which immigrants feel secure, confident and welcome in their new country of residence. According to MIPEX (2015), Portugal has the second most favorable integration policies in the developed world.

According to Fonseca *et al.* (2009), little is known about the mental health of immigrants in Portugal. From 2004 to 2007, the Hospital Miguel Bombarda in Lisbon, provided a service for migrants, ethnic minorities and refugees (Ferreira, 2009). During the few years in which it operated, all patients displayed psychological problems related to the fear and anxiety associated with the process of acculturation. Some also evidenced psychopathology.

In a study conducted by Godinho *et al.* (2008), 31 percent of the participants suffered from psychological problems. When comparing Africans and Brazilians, the latter showed a higher propensity to suffer from psychological problems. This study also concluded that among the risk factors are the age of arrival (the older the higher the risk), the legal status (higher risk related to illegal immigrants) and duration of residence (higher duration of residence constitutes lower risk). Several studies indicated that immigrants did not show more mental health problems than peers who have never migrated (Neto, 2009, 2010a, b). These figures point out to Berry's conclusion that the majority of immigrants adapt very well to their new societies, despite difficulties of living in two cultures. However, Almeida *et al.* (2016) examined the influence of immigration on the psychological health of women after childbirth. They showed that immigrants had an increased risk of postpartum depression and lower satisfaction with social support.

### 1.2 The present study

The purpose of the present study is three-fold. The first aim is to examine the relationships between demographic factors and mental health problems. Demographic factors, such as age, gender, level of education, marital status and length of residence are viewed as core variables in comprehending the migration experience (Sam *et al.*, 2016; Ward *et al.*, 2001). Nevertheless, previous studies examining the relationship between demographic factors and mental health problems yielded conflicting findings. For instance, although it has been reported that migrant women show a higher risk of mental illness (Beiser *et al.*, 1988), research on gender differences about this issue has shown discrepant findings (Abebe *et al.*, 2014; Ward *et al.*, 2001). For example, Portuguese adolescents returning with their families from North America did not show significant gender differences in psychological maladjustment (Neto, 2010a). Previous research examining the relationship between age and adaptation is also inconsistent (Church, 1982).

In similar vein, existing research showed that demographic factors predicted a low variance in mental health maladjustment. For example, demographic factors predicted only 7 percent of the variance in mental health problems scores among Portuguese adolescents returning with their families (Neto, 2010a). In another study, demographic factors (ethnocultural groups, age, gender, duration of residence and neighborhood) predicted only 3 percent of the variance in mental health among youths from immigrant backgrounds (Neto, 2009). We may suspect that the discrepancies between demographic factors and mental health problems result from weak effects and that this acculturation outcome is influenced by other factors, in particular, psychosocial ones (Ouarasse and Van de Vijver, 2005). Therefore, we will consider various psychosocial factors, namely acculturation and adaptation factors in this study.

Social scientists have conceptualized the processes and outcomes of intercultural contact under the field of acculturation (Redfield *et al.*, 1936; Sam and Berry, 2016). Acculturation is multifaceted and uniquely experienced. Diverse reviews (e.g. Knipscher and Kleber, 2007; Koneru *et al.*, 2007; Ward *et al.*, 2001) have identified several *acculturation* factors related to immigrants' mental health. In this study, cultural identity, language proficiency, and perceived discrimination are explored.

Cultural identity represents one domain of acculturation that focuses on migrants' sense of self, including both ethnic identity and national identity. Ethnic identity concerns their sense of belonging to the migrant ethnic group and national identity concerns their sense of belonging to the new society of settlement (Berry *et al.*, 2006). Through intercultural experiences in a new society of settlement, migrants construct their own sense of ethnic identity in relation to their sense of national identity drawn from the new society. Together, these two components of cultural identity contribute to their ongoing construction of the self. The majority of studies on migration have considered only ethnic identity; however, for migrants, both ethnic identity, and national identity are relevant (Fleischmann and Verkuyten, 2016; Phinney, 2003). A strong ethnic identity as well as national identity provides a sense of emotional stability, personal security and contributes to a good self-concept for migrants (Phinney *et al.*, 2001).

Cultural identity may play an important role in mental health. Research has evidenced a positive relationship between cultural identity and adaptation. For example, ethnic identity and national identity were positively associated with psychological adaptation in a large international study from 13 countries, including Portugal (Berry *et al.*, 2006). In a meta-analysis including only populations of the USA and Canada, ethnic identity was negatively related to scores on measures of mental health symptoms (Smith and Silva, 2011). In contrast to the majority of research on ethnic identity which focused on the experiences of high school and college students (Smith and Silva, 2011), the current study focused on adults.

Proficiency in the ethnic and national language is generally considered a core indicator of acculturation (Phinney, 2003). Specifically, proficiency in the majority language may open doors of opportunities and promotes cultural understanding. Conversely, language and communication problems can be barriers to health care, including mental health care (Li and Browne, 2000). Greater familiarity with the national language can buffer these negative consequences on mental health (Ortiz and Arce, 1984). Maintaining the native language among migrants and its effects on health has been less studied (Schachter *et al.*, 2012) and may be

important to understanding mental health specifically. For Mexican immigrants to the USA, retaining traditional cultural practices, such as speaking Spanish, was positive for their mental health (Escobar, 1998). Adolescents from Latin American and Asian immigrant backgrounds, living in the USA, also experienced better parent-child relationships and developmental adjustment when they retained proficiency in their ethnic language (Oh and Fuligni, 2010). It therefore seems that both national and ethnic language proficiency may be important to immigrants' mental health.

Besides cultural identity and language proficiency, this study will also explore whether perceived discrimination predicts mental health problems. Perceived discrimination represents one of the most harmful aspects in migration adaptation. For example, a meta-analysis including over 100 studies of ethnic or racial discrimination against Latina/os in the USA showed that mental health indicators such as acculturative stress were most strongly linked to discrimination (Lee and Ahn, 2011). The subjective interpretation of events as discriminatory may, therefore, be positively related to psychological maladjustment.

In exploring the mental health of migrants, it is further important to consider the notion of adaptation. Adaptation is the outcome of the process of acculturation and includes changes individuals have to make in response to demands in the environment (Berry, 1997). Adaptation can be conceptualized in two related domains: sociocultural adaptation and psychological adaptation (Ward *et al.*, 2001). The former concerns "doing well" in the activities of daily intercultural living. The latter is concerned with "feeling well." In this study, we will consider the relationship of both sociocultural adaptation and two measures of psychological adaptation (loneliness and self-esteem) with mental health problems.

Sociocultural adaptation concerns "intercultural competence with emphasis on behavioral domains" (Ward and Kennedy, 1999, p. 662). It represents a migrant's acquisition of culturally adequate skills and ability to negotiate interactive features in a new society of settlement. Past investigation has shown that greater adaptation difficulties among migrants were associated with lower psychological adaptation (Wilson *et al.*, 2013).

Experiencing loneliness and low self-esteem are common problems among migrants (Neto, 2016; Vanhalst *et al*., 2013). Loneliness is defined as "the cognitive awareness of a deficiency in one's social and personal relationships, and ensuring affective reactions of sadness, emptiness, or longing" (Ascher and Paquette, 2003, p. 75) while global self-esteem is an "individual's positive or negative attitudes toward the self as a totality" (Rosenberg *et al.*, 1995, p. 141). Both loneliness and low self-esteem are associated with lower well-being. For instance, past research showed that loneliness was linked to physical illness and mental health problems (Cacioppo *et al.*, 2015; Cornwell and Waite, 2009; Heinrich and Gullone, 2006). Similarly, low self-esteem has been associated with a number of emotional and behavioral problems (Leary *et al.*, 1995).

In sum, based on the preceding review of the literature, we formulated three hypotheses related to mental health problems of Angolan migrants in Portugal:

*H1.* Acculturation factors (cultural identity, language proficiency, and perceived discrimination) will predict mental health problems.

*H2.* We expected that adaptation factors (sociocultural adaptation, loneliness, and self-esteem) will predict mental health problems.

*H3.* We hypothesized that acculturation and adaptation factors will account for a larger proportion of the explained variance in mental health problems than will demographic factors.

## 2. Method

### *2.1 Participants*

The participants were 252 Angolan migrants (124 men and 128 women) whose ages ranged from 19 to 65 years ($M = 35.92$; $SD = 10.51$). The mean length of residence in Portugal was 21 years (SD = 9.20). Participants who were married constituted 48.4 percent of the sample,

single 50.0 percent, and 1.6 percent declined to answer. Concerning employment, the modal category was skilled work (30 percent). In terms of education, 33.7 percent had not concluded secondary education, 21 percent had concluded secondary education, and 45 percent attended tertiary education. Regarding religious affiliation, 80 percent were Roman Catholics, as reflected in Table I.

### *2.2 Measures*

For this study, we used the following measures.

*2.2.1 Mental health problems*. This measure included 15 items and was designed to measure depression, anxiety and psychosomatic symptoms. Five items measured each of the three areas (Berry *et al.*, 2006; Neto, 2009). Participants responded on a five-point scale ranging from "not at all" (1) to "very often" (5). Sample items included "I feel tired"; "I feel tense and anxious" and "I feel lonely even if I am with people" corresponding to psychosomatic complaints, anxiety, and depression, respectively. A factor analysis indicated that the 15 items constitute one factor. The 15-item scale had an internal consistency of 0.81.

*2.2.2 Cultural identity*. Cultural identity was assessed with a tool originally developed by Phinney (1992). Angolan identity was measured with four items ($\alpha = 0.93$). A sample item is: "I feel that I am part of Angolan culture." Another scale (four items) measured Portuguese identity (Cronbach's $\alpha$, 0.94). A sample item is "I am happy that I am Portuguese." Response options ranged from "strongly disagree" (1) to "strongly agree" (5).

*2.2.3 Language proficiency*. Four items evaluated the migrants' self-assessed proficiency in speaking, reading, writing and understanding of the Portuguese language (Portuguese language proficiency) and the ethnic language (Ethnic language proficiency) (Berry *et al.*, 2006; Neto, 2002a). A sample question is: "How well do you speak the Portuguese language?" Response options ranged scale from 1 (not at all) to 5 (very well). Cronbach's $\alpha$ coefficients were 0.97 and 0.96, respectively.

**Table I** Socio-demographic characteristics of the Angolan immigrants

| *Variables* | *Participants (N = 252)* |
|---|---|
| Mean age (SD) | 35.92 (10.74) |
| *Gender* | |
| Male | 124 (49.2%) |
| Female | 128 (50.8%) |
| Mean years in Portugal (SD) | 21.13 (9.20) |
| *Marital status* | |
| Married | 122(48.4%) |
| Not Married | 126 (50.0%) |
| Not answered | 4 (1.6%) |
| *Level of education* | |
| Less than secondary school | 85 (33.7%) |
| Secondary school | 53 (21.0%) |
| Tertiary education | 113 (44.8%) |
| Not answered | 1 (0.4%) |
| *Work* | |
| Unskilled work | 43 (17.1%) |
| Skilled work | 76 (30.2%) |
| Managerial work | 26 (10.3%) |
| Professional work | 55 (21.8%) |
| Without work | 52 (20.1%) |
| *Religion* | |
| No religion | 34 (13.5%) |
| Roman Catholic | 202 (80.2%) |
| Protestant | 7 (2.8%) |
| Other | 9 (3.5%) |

2.2.4 *Perceived discrimination*. This scale includes five items (Berry *et al.*, 2006; Neto, 2006) evaluating the direct experience of discrimination – negative or unfair treatment from others (e.g. "I have been teased or insulted because of my Angolan background"). Each item was rated on a five-point scale from 1 (strongly disagree) to 5 (strongly agree). Cronbach's $\alpha$ for the present study was 0.81.

2.2.5 *Sociocultural adaptation*. Sociocultural adaptation was measured with the Sociocultural Adaptation Scale (Ward and Kennedy, 1999). Migrants indicated how much difficulty (ranging from 1, no difficulty to 5, extreme difficulty) they experienced while living in Portugal in 20 social situations (e.g. obtaining accommodation, dealing with public transportation). Items were recoded so that higher scores denoted a lower amount of difficulty. Cronbach's $\alpha$ for the present study was 0.90.

2.2.6 *Loneliness*. The brief Portuguese version (Neto, 1992, 2014) of the revised UCLA Loneliness Scale (Russell *et al.*, 1980) was used. This is a six-item scale (ULS-6). One sample item reads: "People are around me but not with me." Migrants were asked to indicate how often they experienced loneliness as described with each item on a four-point scale ranging from 1 (never) to 4 (often). Internal consistency of the scale in this study was very good ($\alpha = 0.82$).

2.2.7 *Self-esteem*. Self-esteem was evaluated using Rosenberg's (1965) ten-item inventory. Sample items are "On the whole I am satisfied with myself" and "I have a positive attitude toward myself." Each statement was rated on a five-point scale from 1 (totally disagree) to 5 (totally agree). The scale was previously adapted into Portuguese (Neto, 1996) and showed acceptable internal consistency in this study ($\alpha = 0.72$).

2.2.8 *Demographic information*. Eight questions were used to obtain demographic information on age, gender, place of birth, age at arrival in Portugal, marital status (married vs all others), level of education, occupation, and religion.

### 2.3 Procedure

Participants were recruited in the Lisbon metropolitan area. The questionnaire was administered by a trained research assistant. The migrants were approached in places where they meet: communities, clubs, and parishes. In addition, participants were recruited using the snowball method (family member or friends of the migrants). Response rates were approximately 80 percent. The sample was constituted by legally registered migrants. All questionnaires were administered in Portuguese and took approximately 25 minutes to complete.

In terms of ethical considerations, the study was conducted in accordance with the current legal and ethical norms in Portugal. Participation was voluntary, participants were informed about the purposes and procedures of the research, and they provided informed consent. Responses were anonymous and no remuneration was given to any of the participants.

### 2.4 Data analysis

First, reliability analyses were performed for all measures used in this investigation in order to make sure of their adequate internal reliability. Then analysis of variance was utilized to analyze demographic effects. Next, a Pearson product-moment correlational analysis was conducted to establish the relationships between mental health problems and acculturation and adaptation factors. Finally, we conducted hierarchical multiple regression analyses to test *H1–H3*. IBM SPSS statistical software (version 24.0) and a significance level ($p$) of less than 0.05 were used for all of the statistical analyses.

## 3. Results

Before testing the hypotheses, we performed descriptive statistics for all variables and examined relationships between demographic factors and mental health problems (Table II). One-sample $t$-tests indicated that the mean score of Angolan migrants on mental health problems ($M = 2.56$, $SD = 0.74$) was significantly below the scale midpoint of 3 ($p < 0.001$). In fact, 74 percent of the participants were located below that value. So, globally, the Angolan migrant sample presented with few psychological problems. A further one-sample $t$-test showed that the mean score of

**Table II** Descriptive statistics of the psychometric instruments used and intercorrelations of acculturation and adaptation variables

| | *M* | *SD* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Mental health problems | 2.56 | 0.59 | (0.81) | | | | | | | | |
| 2. Ethnic identity | 4.27 | 0.97 | −0.13* | (0.93) | | | | | | | |
| 3. National identity | 2.80 | 1.33 | 0.28*** | −0.57*** | (0.94) | | | | | | |
| 4. Ethnic language proficiency | 1.74 | 1.09 | −0.30*** | −0.03 | −0.07 | (0.96) | | | | | |
| 5. National language proficiency | 4.57 | 0.55 | 0.18** | −0.21** | 0.35*** | −0.07 | (0.97) | | | | |
| 6. Perceived discrimination | 1.52 | 0.63 | 0.41*** | 0.05 | −0.12 | −0.17** | 0.04 | (0.81) | | | |
| 7. Sociocultural adaptation | 3.75 | 0.74 | −0.48** | −0.15* | 0.09 | 0.47*** | −0.00 | −0.25*** | (0.90) | | |
| 8. Loneliness | 1.89 | 0.65 | 0.51*** | −0.08 | 0.15* | −0.18** | 0.10 | 0.34*** | −0.38*** | (0.82) | |
| 9. Self-esteem | 3.77 | 0.65 | −0.34*** | 0.25*** | −0.28*** | 0.01 | −0.10 | −0.05 | 0.07 | −0.37*** | (0.72) |

Notes: $\alpha$ coefficients are in the diagonal in parentheses. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

ethnic identity ($M = 4.27$, SD = 0.97) was significantly higher than the mean score of national identity ($M = 2.80$, SD = 1.33). This suggests that ethnic identity was more valued than national identity. Regarding language proficiency, the mean score of national language proficiency ($M = 4.57$, SD = 0.55) was significantly higher than the mean score of ethnic language proficiency ($M = 1.74$, SD = 1.09). Additionally, the average mean scores of perceived discrimination ($M = 1.52$, SD = 0.63) and loneliness ($M = 1.89$, SD = 0.65) were significantly below the midpoint of the scale, respectively 3 and 2.5 ($p < 0.001$). These results suggest that migrants experienced a relatively low level of perceived discrimination and loneliness. Finally, the mean scores of sociocultural adaptation and self-esteem were significantly above the midpoint (3) of the scales ($p < 0.001$). The results indicate a slight level of sociocultural adaptation and self-esteem.

Regarding the relationship of mental health problems with demographic variables such as age, gender, level of education, marital status and length of residence, there were several statistically significant findings.

### 3.1 Age

We divided the sample into two age groups: young adults, ranging from 19 to 34, and middle-aged adults (35–65 year olds). There were no significant age differences, [$F(1, 241) = 0.27$, $p > 0.05$, $\eta^{2=}0.001$] on mental health problems between the two groups.

### 3.2 Gender

There were no significant differences between males ($M = 2.53$, SD = 0.56) and females ($M = 2.59$, SD = 0.61), [$F(1, 241) = 0.77$, $p > 0.05$, $\eta^2 = 0.003$] ] on mental health problems.

### 3.3 Level of education

There were statistically significant differences in the level of education, [$F(1, 240) = 11.31$, $p < 0.001$, $\eta^2 = 0.045$]. Migrants who have not completed secondary education ($M = 2.73$, SD = 0.56) showed more mental health problems than those who completed secondary schooling or tertiary education ($M = 2.47$, SD = 0.59).

### 3.4 Marital status

There were marginally significant differences between married ($M = 2.62$, SD = 0.59) and single migrants ($M = 2.48$, SD = 0.57), [$F(1, 240) = 3.61$, $p = 0.06$, $\eta^2 = 0.015$] on mental health problems.

### 3.5 Length of residence

Participants were divided into two groups: those with ten years or less of residence in Portugal and those with more than ten years. There were statistically significant differences between

participants with a shorter length of residence ($M = 2.80$, SD = 0.56) and those with a longer length of residence ($M = 2.53$, SD = 0.58), [$F(1, 241) = 5.25$, $p < 0.05$, $\eta^2 = 0.021$] on mental health problems.

A Pearson product-moment correlation analysis was conducted that included all the acculturation (ethnic identity, national identity, ethnic language proficiency, national language proficiency and perceived discrimination) and adaptation variables (sociocultural adaptation, loneliness, and self-esteem). As indicated by the correlation matrix in Table II, there were significant positive correlations between national identity, national language proficiency, perceived discrimination and loneliness, and mental health problems. There also were significant negative correlations between ethnic identity, ethnic language proficiency, sociocultural adaptation and self-esteem, and mental health problems. All these correlations were as expected, except for those concerning national identity and national language proficiency.

As a means of examining the relative strength of various demographic, acculturation and adaptation variables in the prediction of mental health problems, hierarchical multiple regression analyses were conducted. Predictors were entered in three steps. At step 1, demographic variables (i.e. age, gender, level of education, marital status and length of residence) were entered. At step 2, acculturation variables (i.e. ethnic identity, national identity, ethnic language proficiency, national language proficiency and perceived discrimination) were added. At step 3, adaptation variables (sociocultural adaptation, loneliness and self-esteem) were added. The aim was to examine whether acculturation variables were associated with mental health problems after some demographic factors were accounted for. Adaptation factors were entered last to analyze whether the relation between acculturation and mental health problems would change after adaptation factors were introduced into the model. This model is grounded on the International Comparative Study of Ethnocultural Youth model which suggests that "adaptation can be seen as the final outcome in the model containing or reflecting the psychological consequences of the acculturation experiences" (Berry *et al.*, 2006, p. 157).

The correlation matrix of the predictor variables showed that there were no correlations higher than 0.57, which is less than 0.80, the heuristics figure indicating possible multicollinearity (Myers *et al.*, 2006). The variance inflation factor values were all well below 10 and the tolerance statistics all well above 0.2. Therefore, we can assume that there is no collinearity within our sets of possible predictors.

Table III presents the results of the regression model. The first set of demographic factors predicted only 7 percent of the variance in mental health problems scores. The significant predictors were level of education and marital status. Mental health problems increased when the level of education was lower and were more marked in the migrants who were not married. By adding acculturation factors, the results showed that in addition to the demographic factor level of education, national identity, ethnic language proficiency and perceived discrimination emerged as significant predictors of mental health problems. Greater national identity and perceived discrimination and lower ethnic language proficiency predicted mental health problems. These factors predicted 33 percent of the variance in mental health problems, and the variance increased 26 percent. By adding adaptation variables no demographic predictor remained in the model. However, two acculturation factors, national identity, and perceived discrimination remained in the model, and the three adaptation factors appeared as significant predictors. Mental health problems were predicted by lower sociocultural adaptation and self-esteem, and higher loneliness. These factors predicted 46 percent of the variance in mental health problems, and the variance increased 13 percent.

## 4. Discussion

This research examined three sets of variables that might predict the presence of mental health problems among Angolan migrants living in Portugal. The three hypotheses of our study were supported. Mental illness was predicted by multiple factors. The findings displayed that, within the three sets of factors (demographic, acculturation and adaptation factors) significant predictors of mental health problems emerged. Among the *demographic factors*, the level of education and marital status significantly predicted mental health problems. Better educated

**Table III** Hierarchical regression models of demographic and intercultural contact factors predicting mental health problems among Angolan migrants

| *Variables* | *Block 1, β* | *Block 2, β* | *Block 2, β* |
|---|---|---|---|
| *Demographic factors* | | | |
| Age | 0.09 | 0.12 | 0.10 |
| Gender | 0.08 | 0.03 | 0.02 |
| Level of education | –0.20** | –0.14* | –0.05 |
| Marital status | –0.16* | –0.11 | 0.05 |
| Length of residence | –0.07 | –0.09 | 0.06 |
| *Acculturation factors* | | | |
| Ethnic identity | | –0.02 | –0.06 |
| National identity | | 0.15* | 0.15* |
| Ethnic language proficiency | | *t*-0.23*** | –0.05 |
| National language proficiency | | 0.08 | 0.06 |
| Perceived discrimination | | 0.33*** | 0.25*** |
| *Adaptation factors* | | | |
| Sociocultural adaptation | | | –0.34*** |
| Loneliness | | | 0.20** |
| Self-esteem | | | –0.12* |
| $R^2$ | 0.07 | 0.33 | 0.46 |
| Adjusted $R^2$ | 0.05 | 0.30 | 0.43 |
| *F* change | 3.72* | 16.55*** | 20.16*** |

Notes: $^*p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$

migrants reported less psychological maladjustment than those less educated. This may be due to their resourceful cultural learning (Jayasuriya *et al.*, 1992) and because the lack of education may put migrants in a lower socio-economic position, contributing to mental health problems (Butler *et al.*, 2015). Married migrants also reported fewer psychological mental health problems than single individuals. This finding is similar to previous studies suggesting that social support provided by the family can exert a role in protecting migrants against psychosocial vulnerability (Mirsky, 2009) and acculturative stress (Jibeen, 2011).

The results pertaining to acculturation factors indicated that ethnic identity did not significantly predict mental health problems. This is in contrast with existing literature which documented ethnic identity as a positive personal disposition (Smith and Silva, 2011), which therefore may protect against mental illness. However, national identity positively predicted mental health problems for the Angolan migrants. Moreover, a negative correlation was found between ethnic identity and national identity. This implies that Angolan migrants identify with only one culture. Further, it suggests that, for this sample, identification with their ethnocultural group is incompatible with identifying with the society of settlement. It may be that mental health problems reflect the incompatibility between, and possibly, some tension regarding, behaviors, attitudes, and values of the two cultures. A review by Butler *et al.* (2015), similarly found that conflicting experiences of the culture of the host nation and original nation may have a negative impact on mental health. On the other hand, some research suggests that developing a new national identity in addition to an existing strong ethnic identity may be conducive to well-being (Fleischmann and Verkuyten, 2016). It is clear that more research is needed on the development of dual ethnic identities and the mental health of Angolan migrants.

Overall, Angolan migrants reported being highly proficient in the national language and somewhat less proficient in the ethnic language. This was previously found across countries and ethnocultural groups (Berry *et al.*, 2006). When acculturation factors were added to demographic factors in the hierarchical multiple regression analyses, national language proficiency did not appear as a significant predictor of mental health problems, but ethnic language emerged as a significant predictor. More specifically, ethnic language proficiency seems to protect against developing mental health problems among Angolan migrants. A recent study among Spanish adolescents found that those who were fully bilingual, thus maintaining ethnic language proficiency, showed higher educational attainment that monolingual adolescents

(Medvedeva and Portes, 2017). As education level is also associated with mental health (Butler *et al.*, 2015), this may be one of the mechanisms through which ethnic language proficiency contribute to better mental health among the Angolan migrants in our study. Our results lend further support to Schachter *et al.*'s (2012) study, who reported that maintaining proficiency in the heritage language was associated with better mental health.

Although the level of perceived discrimination among the participants was not high, the results showed that perceived discrimination was positively associated with mental health problems. Experiencing unequal treatment because of membership of an ethnic group was associated with the experience of higher levels of psychological maladjustment for the Angolan migrants in this study. Among the set of acculturation factors, perceived discrimination was the strongest predictor of mental health problems. This finding supports previous research indicating that discrimination experienced by migrants are linked to diminished psychological well-being (Pascoe and Smart Richman, 2009; Sanchez and Awad, 2016; Schmitt *et al.*, 2014; Vukojević *et al*., 2016).

The three adaptation factors, sociocultural adaptation, loneliness, and self-esteem, significantly predicted mental health problems. In particular, better sociocultural adaptation seems to protect against mental health problems. The relation between behavioral intercultural competency and mental health problems was consonant with existing research suggesting a link between sociocultural adaptation and psychological adaptation (Kraeh *et al.*, 2016; Ward *et al.*, 2001).

Loneliness also positively predicted mental health problems. The more loneliness the migrants experienced, the greater were their mental health problems. This is consistent with the literature depicting lonely people as having a lower quality of life (Neto, 2016) and lowered mental health (Heinrich and Gullone, 2006). Our findings also support Petrelli *et al*.'s (2015) study that immigrants who experienced more loneliness were more likely to perceive their mental health as poor. It is evident that addressing loneliness is a key factor in enhancing the psychological well-being of this migrant group.

Mental health problems among the Angolan migrants were also predicted by the third adaptation factor, self-esteem. The more self-esteem the migrants evidenced, the lower their mental health problems. Findings are consonant with previous research showing that high self-esteem predicts a person's success and well-being in a range of life domains such as mental health (Orth and Robins, 2014). Similarly, higher levels of self-esteem have been associated with better mental health and higher levels of life satisfaction among Serbian immigrants to Canada (Vukojević *et al*., 2016).

The explained variance of demographic factors on mental health problems was relatively low (7 percent), and when acculturation and adaptation variables were introduced in the model no demographic factor emerged as significant. These findings supported our third hypothesis, that is, acculturation and adaptation predictors accounted for a larger proportion of the explained variance in mental health problems than demographic predictors. Clearly, acculturation and adaptation predictors were more strongly related to mental health problems than demographic factors.

Although our study yielded interesting results it should be considered in light of several limitations. First, the sample was recruited through snowball sampling. The extent to which the sample represented Angolan migrants in Portugal is not exactly known. Second, data were collected through self-report measures. This does not allow checking whether the participants correctly understood the questions and estimated their answers. Third, this work was based on a cross-sectional design and our results cannot imply causality between the measures. For example, does national identity increase mental health problems, or do migrants with high levels of mental health problems value national identity? Hence longitudinal research with a more representative sample including observer ratings and/or behavioral assessments should be conducted in a future work. Future research could also focus on the dynamics of national identity, ethnic identity, and ethnic language proficiency, and their role in maintaining optimum levels of mental health, for Angolan migrants living in Portugal.

Notwithstanding the aforementioned limitations, the findings have some implications for interventions aimed at supporting migrants' mental health in Portugal. First, interventions aimed at increasing their intercultural competency may contribute to reduced psychological maladjustment, since developing skills relevant to the host culture could assist migrants to fit it with the new environment and support psychological adjustment (Wilson *et al*., 2013). Second, as perceived discrimination was another important predictor of psychological maladjustment, mental health

professionals could facilitate open discussions of discriminatory experiences and coping strategies. Policy makers interested in mental health of migrants should also address their efforts on decreasing institutional and societal discrimination. Third, assisting migrants to develop strategies to decrease loneliness could possibly prevent the development of mental health problems. This is particularly important as loneliness associated with immigration can extend, and even increase, into late adulthood (Wu and Penning, 2015). Counselors can support the mental health of Angolan migrants by encouraging them in efforts to maintain their ethnic language proficiency and attain full bilingualism. Since sociocultural adaptation, perceived discrimination and loneliness emerged as the main predictors of migrants' mental health problems, future research should focus on exploring the role of migrant grassroots organizations in improving these factors (Paloma *et al*., 2010). Also, given the current refugee crisis, future research on how the legal status of immigrants (e.g. refugee, asylum seekers, undocumented) affect their mental health could yield important information.

## 5. Conclusion

This study shed some light on the predictive factors of mental health problems among adult Angolan immigrants in Portugal, a previously neglected group of migrants in the research literature. Adding to existing knowledge on the mental health outcomes of migration, the findings suggest that, for this group, sociocultural adaptation, perceived discrimination and loneliness were the main predictors of psychological problems, rather than demographic factors. This evidence may be useful in the development of psychosocial interventions and policy to support Angolan migrants in their adaptation to Portuguese culture.

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