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**Beyond the prophecy success: How place attachment and future time perspective
shape rural university students intentions of returning to small islands**

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Abstract

Rural areas are struggling with youth mobility to urban centers. We address this challenge by testing the interplay between objective factors underlying mobility, namely socio-economic status indicators, and subjective factors, specifically Place Attachment (PA) and Future Time Perspective (FTP), and how they connect with the returning intentions of university students with a rural background after their graduation. We also explore how the connections between these variables vary across gender.

Our study involved 337 university students ($M = 21.55$; $SD = 2.48$; 63.50% female) enrolled in tertiary education in mainland Portugal. The participants were from The Azores Islands, a remote and mostly rural Portuguese region. Using a Structural Equation Model (SEM) and Multi-Group Analysis (MGA) approach, we found that greater PA significantly improved their prospects of returning, rather than greater expected monthly income 3 years after graduation. However, these trends were only relevant among young women. Our findings indicate the need to strengthen youth civic engagement policies, as well as new youth employment packages that diversify the transition from education to the labor market or better match local resources with more promising and rewarding careers.

Keywords: rural youths; mobility; socio-economic status; place attachment; future time perspective.

Kurt Lewin (1939) defined individual existence as a function of geography, social surroundings and time. Space and time perceptions are, thus, drivers of subjectivity shaping the most significant human decisions. Mobility has been a long standing key decision in life trajectory choices. Migrations are influenced by objective factors, such as socio-economic conditions, as well as by subjective factors, including personal perspectives on space and time (Bourdieu, 1984). In a globalized and densely interconnected society, settling in cities has become an imperative (Farrugia, 2016). This demand is a source of pressure for rural areas, especially for youths with a rural background. In a time of mobility acceleration for people and information, choosing a place to settle is more than a rite of passage that completes an individuation process. For rural youths, it often involves an intricate negotiation between opposite sets of values and lifestyles (Pedersen, 2018).

The complexity of rural youth mobility decision-making has started to be acknowledged, especially among those who are academically-orientated and faced with the pressure to leave (Johnson et al., 2005; Pedersen & Gram, 2018). These efforts have not been paralleled by findings on the intentions of university students to leave/return to rural areas after graduation. This group deals with an outstanding intersection between space and time that challenges decisions about mobility. For them, the negotiation between rural and urban representations overlaps a period of transition between adolescence and young adulthood. A trademark feature of transition is uncertainty, especially in young adulthood (Tanner & Arnett, 2016). University students from rural backgrounds may experience this ambivalence to a greater extent, because they live by permanently commuting between urban centers where they study and rural areas where they come from (Thissen et al., 2010). Thus, for them, choosing a place to settle after graduation is an open-ended question for a long time (Liebert, 2016).

Our work has two purposes. First, we want to understand the interplay between objective factors underlying mobility, namely socio-economic status, and subjective factors, specifically Place Attachment (PA) and Future Time Perspective (FTP), and how they connect with the returning intentions of university students with a rural background after graduation. Second, we aim at understanding how the connections between these variables differ across gender groups. To fully accomplish our research purposes, we involved undergraduate students from a remote Portuguese archipelago, The Azores, in the project. The subjective tensions associated with mobility decision-making are even greater among those coming from remote areas. Our aims foreground a person-centered approach to rural youths' mobility intentions, by emphasizing subjective factors underlying the research topic. This standpoint has started to attract researchers' attention: prior studies (e.g. Haartsen & Pedersen, 2014) have demonstrated that rural youths' returning intentions are shaped by social, family or intimate motives and not only by functional purposes, such as finding a job.

Nevertheless, our stance is unusual, given the dominance of a research agenda that has favored the investigation of objective factors underlying work on rural mobility. The stress put on objective determinants of rural youth mobility has been a response to a dominant aspirational discourse that sees rural areas as hopeless regions for youths. This narrative conveys the message that successful life trajectories depend on a certain number of credentials, such as being well-educated, flexible and efficient (Corbett & Forsey, 2017). To fulfill this success prophecy, youths with a rural background are urged to move to cities. As a consequence, rural areas are faced with brain-draining and the loss of workforce, services, community leaders, and generation renewal potential (Theodori & Theodori, 2015). Moreover, the youths remaining are less skilled and are seen as having failed, because they did not fulfill the success prophecy. As years pass, a cumulative negative representation of rurality has stretched the inequalities between

rural and urban areas, decreasing the flow of youths returning after graduation (Farrugia, 2016). Thissen et al. (2010) have summarized this position that overemphasizes the objective drivers behind rural youth mobility as the regional approach.

The dominant research efforts that underline the regional impacts of rural youth mobility are understandable, given the weight of education and employment in public policy decision-making (Pretty et al., 2006). Nonetheless, this paramount standing has minimized the “human element” of rural mobility (Liebert, 2016), preventing a more individualistic, person-centered approach. This noteworthy gap needs to be filled in, as rural youths’ mobility intentions or enactment are also motivated by the subjective interpretation of social norms and values (Bourdieu, 1984; Pedersen, 2018).

Small, peripheral islands as a case of amplified rurality

Small, peripheral and predominantly rural island distinctiveness stems from geographical precision, often translated into a (unique) sense of place (Baldacchino, 2005). Ambiguity is a commonly used word to describe such islands. Some of these territories have turned into beacons of progress in areas such as environmental management or the development of alternative energies (Hay, 2006). Their remoteness, however, contradicts globalization trends, such as increasing interconnectedness between territories and countries preconized by the dominating capitalism.

Small island features, such as their isolation or remoteness, tend to dominate social representations of these territories. Such characteristics amplify core elements of rurality in many ways. Small islands impose a marked sense of delimitation. Surrounded by the sea, islanders display a more acute notion of boundaries, compared to continental rural populations that acknowledge the contrasts between the countryside and the city (Hernández et al., 2007). More than other rural spaces, small islands’

physical isolation from the exterior often leads to greater connectedness within the community and a stronger sense of permanence (Hay, 2006). Finally, contradictory metaphors about small, peripheral islands, from those depicting them as the last paradise on earth, to negative images presenting them as being marked by uselessness and structural chronic injustice, reproduce the “rural idyll” vs. “rural horror” dichotomy associated with rural spaces (Pedersen, 2018), but with greater intensity. Thus, due to their remoteness and clear delimitation, small islands amplify rural features. It is not, therefore, surprising, that mobility needs in these territories involve greater tensions and risks, especially in transition periods, such as emergent adulthood. The meaning of these choices may justify why mobility seems to matter so much among islanders. For them, and as Tyszka (2017) summarizes, leaving or staying is the only decision that really matters.

Socio-economic status, PA and rural youth mobility intentions

Socio-economic status refers to one's social position within a power hierarchy, based on objective indicators of individuals or households, including wealth, prestige, or access to resources (Diemer et al., 2013). PA is the affective bond that people develop in relation to specific spaces, including their origins (Bernardo & Palma-Oliveira, 2013). This bond may relate to spaces as communities, meaning a sense of belongingness, of being important to each other, and of sharing a common fate (Pretty et al., 2006; Theodori & Theodori, 2015). Other authors (e.g. Farrugia, 2016) have claimed that PA might also include feelings about the physical space or landscape.

Household socio-economic factors are relevant determinants of PA perceptions and subsequent mobility intentions among youths. Parents with more qualified jobs and higher educational levels have greater expectations about their children's academic success and plans for post-secondary education enrollment (Johnson & Reynolds, 2013;

Mello, 2008). This connection becomes more intense in the transition to young adulthood, leading to a greater chance of post-secondary education enrollment (Johnson & Reynolds, 2013). This trend is also evident among rural youths, pressuring them leave the countryside (Agger et al., 2018). Conversely, rural youths coming from families with a lower socio-economic status prefer vocational training to mainstream education and seem more attached to their rural origins (Theodori & Theodori, 2015). Still, rural youths displaying greater academic-orientation and a higher socio-economic status are not less attached to their community. Some studies, in fact, show the opposite (Petrin, Schafft, & Meece, 2014). Moreover, youths with lower education attainment also demonstrate a greater will to move to urban areas (Johnson et al., 2005), but not necessarily to study.

Income also shapes youth mobility intentions. Rural youths are paid less than their urban counterparts (Culliney, 2014), with young rural women earning less than young men (Corbett, 2007; Stockdale, 2004). Moreover, rural youths deal with a greater mismatch between low income and living costs, and with a labor market narrowing their professional alternatives to low-wages and precarious jobs (Culliney, 2014). In turn, well-paid jobs are anticipated in urban areas, further pressing the intention to leave the countryside (Theodori & Theodori, 2015). Low income earners and less educated rural youths may, however, reflect an unexpected PA increase via a reduction of cognitive dissonance. As they have fewer options to move and are, thus, less resourceful, they compensate for self-threatening reasoning by reporting that they feel attached to their region, refusing to move (Anton & Lawrence, 2014).

Socio-economic status, future time perspective and rural youth mobility intentions

Human perception of the future has been examined under the heading of FTP (Husmann & Shell, 2008; Seginer, 2008). A recent meta-analysis (Anton et al., 2018)

has shown the proliferation of FTP definitions. We see FTP as how individuals represent the future, involving four dimensions: (a) *value*: the importance individuals place on goals attainable in the future; (b) *connectedness*: the ability to make connections between present activities and future goals; (c) *distance*: how far ahead a person projects their thoughts; and (d) *speed*: the ability to anticipate and plan the future.

Links between socio-economic status indicators and FTP have drawn only general conclusions showing that individuals with fewer socio-economic resources display a more negative representation of time: the past is more commonly seen as negative and a sense of fatalism pervades the present (Seginer, 2008). When it comes to FTP, at least one seminal study shows that adolescents coming from the middle and upper class voice greater hopes and have more plans for the future (Lamm et al., 1976). Parallel findings show that upper class youths have greater educational expectations (Mello, 2008). To some extent, this result supports the view that greater FTP is a function of a better educational and economic background. Moreover, greater educational aspirations overlap greater inclination to leave the countryside among those youths who have benefitted from a more favorable social position (Farrugia 2016; Leibert 2016).

Rural youths' perceptions of space and time across gender groups

PA and FTP fluctuate across gender groups, including young rural women and men. Gender differences have been detailed regarding the direction and intensity of feelings towards the countryside. Usually, studies report an overrepresentation of girls among those youths that feel less attached and are expecting to leave, not wanting to return or actually leaving rural areas. This gendered-bias regarding bonds with the countryside has led some rural areas to experience a masculinization phenomenon (Leibert, 2016). Some explanations for this trend are the employment structure, offering

male-dominated jobs in agriculture or small industries (Leibert, 2016); women needing to escape narrow traditional roles which dominate rural communities (Farrugia, 2016; Little, 2002); greater female orientation towards education (Leibert, 2016) and more positive representations of rural life among young men (Corbett, 2007). Still, some studies in countries such as Canada, Ireland or the United Kingdom have shown that this might not be a universal trend. Greater proneness to form strong social ties in their communities (Ni Laiore, 2011; Stockdale, 2004) or specific local labor force demands on services instead of agriculture or fishing (Corbett, 2007; Little, 2002) may justify stronger intentions to stay among rural women.

FTP differences across gender groups are inconsistent. While single studies indicated that women reason more about their future (Seginer, 2008), meta-analytical studies have found that FTP is stronger among males (Andre et al., 2018). Uncommon FTP rates favoring men are attributed to methodological limitations (e.g. disproportionate number of males compared to females) but also to greater professional aspirations. Some studies demonstrate, nevertheless, that this trend is not stable across life-span, with women denoting greater aspirations in the transition to adulthood (Johnson & Reynolds, 2013). This developmental feature associated with a feminization of rural youth mobility has been explained by factors which are also involved in women's depreciation of rurality, such as their greater orientation towards educational and professional planning (Leibert, 2016).

The present study

Our study has two purposes. First, we intend to uncover the interactions between objective factors underlying mobility, namely socio-economic status indicators, and space and time subjective representations, in terms of PA and FTP, to see how they connect with the returning intentions of university students with a rural background

after graduation. Second, we aim at understanding how the connections between these variables change across gender.

Socio-economic status is analyzed based on four indicators: parents' professional status; parents' educational level; having been granted a scholarship; and expected monthly income 3 years after graduation. Thus, we try to cover the different dimensions of the construct, as well as distinct time-framed indicators of social position (past and present household conditions; present and future/anticipated income). Moreover, the inclusion of PA and FTP offers the potential to describe mobility decisions according to factors which are relevant in young adulthood (Tanner & Arnett, 2016). We have also selected these factors to foreground a person-centered approach to mobility-related decisions (Theodori & Theodori, 2015).

The study took place in The Azores Islands, a remote and mostly rural Portuguese archipelago made up of nine small islands. The distance and geographical discontinuity regarding the biggest Portuguese urban centers complicates mobility and decision-making regarding future plans about where to settle.

We established two hypotheses. First, we expected that participants coming from households with parents who had less qualified jobs and were less educated, participants who were granted a scholarship, as well as those who anticipated lower monthly income 3 years after graduation would show a greater intention to return to The Azores, as a function of greater PA and lower FTP (Hypothesis 1). Thus, we predicted that PA and FTP would mediate the association between social status indicators with an intention to return, considering that earlier findings show interactions between indicators of professional, educational (Agger et al., 2018; Mello, 2008) and income levels (Culliney, 2014) and subjective representations of space and time in shaping youth mobility intentions. Second, we anticipated that the pattern of connections proposed in Hypothesis 1 would be stronger across young men, compared to young women. We

expected this result, considering that women often show lower PA to the countryside (Leibert, 2016) and higher FTP levels, especially in the transition to adulthood (Johnson & Reynolds, 2013) (Hypothesis 2).

To investigate the first hypothesis, we implemented a Structural Equation Model (SEM) approach, setting up and comparing three models (a fully-mediated model, a partially-mediated model and a non-mediated model) to understand the degree of interactions between factors and their associations with the intention to return. We examined the second hypothesis using a Multi-Group Analysis (MGA) approach.

Method

Participants

Participants were 337 university students from The Azores Islands, 18 to 29 years old ($M = 21.55$; $SD = 2.48$) and enrolled in tertiary education in mainland Portugal. Two-hundred and fourteen (63.50%) were female. One-hundred and forty of them (41.50%) were enrolled in the first and second years of tertiary education; 127 (37.70%) were attending their third to sixth year; 70 were enrolled at master degree level (20.80%).

Two-hundred and thirty participants (68.20%) reported that their parents were, at the most, intermediate workers, while the reminder (31.20%) indicated that at least one of their parents was a specialized worker. One hundred and four (30.90%) of the participants came from a household where both parents had completed primary education, whereas 105 (31.20%) had at least one parent that had completed secondary education; 128 (38.00%) of the participants mentioned that at least one of their parents had completed tertiary education. Two-hundred and fifty-four (75.40%) of these youths were not granted a college scholarship. In terms of expected monthly income 3 years after graduation, 184 (54.60%) anticipated having monthly earnings of between 1000

and 1499 euros; 101 (30.00%) projected earnings of between 1500 and 1999 euros; finally 52 (15.40%) were expecting an income of above 2000 euros.

Site

The Azores is an archipelago of nine islands in the middle of the Atlantic Ocean. It is a two-hour flight from the capital city of Lisbon, and has a population of 247,372 inhabitants.

In 2017, the primary sector (transformation of natural resources, including agriculture, fishing and forestry) represented 10.70% of the region's employment; the secondary sector (manufacturing) covered 15.40%; the tertiary sector (attention, advice, access, experience, and caring labor services) had a quota of 74.00% of the employment (Governo Regional dos Açores, 2018). The region has the highest rate of early school leaving (27.30%), well above the national rate of 12.60%) and the highest youth unemployment rate among youths aged 15-24 (28.50%, above the national average of 23.90%).

The University of The Azores offers 67 courses: 29 undergraduate courses (BScs and advanced vocational training) with the remaining being at an advanced level (masters and doctorates). Similarly to other national higher education institutions, its educational offer is comprehensive, covering natural and social sciences, technologies and humanities. Courses are held on three different islands. Students from The Azores benefit from regional priority for admission, meaning that 50% of the vacancies are set aside for them. The admission grades are, in general, lower for this university compared to those of the universities in the country's biggest urban centers. However, for the past 5 years, with the exception of 2017, there has been a steady increase in the number of youths leaving the region to study on mainland Portugal. Figure 1 displays the numbers

regarding those who have left to attend tertiary education and those that have remained in The Azores to study at the local university.

[Figure 1]

Measures

Objective factors

Participants were characterized regarding gender (0 = male; 1 = female).

The mother and father's professional status was classified separately according to the International Standard Classification of Occupations-08 (International Labor Office, 2012): (a) specialized workers (managers, professionals, and technicians and associate professionals); (b) intermediate workers (clerical support workers, service and sales workers, and plant and machine operators); and (c) non-specialized workers (farmers, fishermen, and elementary occupations). Then, the mother and father's occupational status was grouped and categorized together according to three possible situations: 0 = at least one of the parents was a non-specialized worker; 1 = at least one of the parents was an intermediate worker; and 2 = at least one of the parents was a specialized worker. Given that the number of participants with at least one parent who was a non-specialized worker was very low, only two categories were retained: 0 = parents were non-specialized or intermediate workers; and 1 = at least one of the parents was a specialized worker.

Parents' educational level (0 = both parents completed primary education; 1 = at least one of the parents completed secondary education; 2 = at least one of the parents completed tertiary education), scholarship (0 = was granted a scholarship; 1 = was not granted a scholarship) and expected monthly income 3 years after graduation (0 = between 1000 and 1499 euros; 1 = between 1500 and 1999 euros; and 2 = above 2000 euros) were also characterized.

Subjective factors

Place attachment: PA to The Azores was assessed using the Portuguese version (Marante, 2010) of the Brief Sense of Community Scale (BSCS) (Peterson et al., 2007). This instrument comprises eight items measuring emotional bonds to a given place in terms of belongingness, influence, needs, and shared emotional bonds (sample item: I feel connected to this community). In this study, we slightly reworded the items; references to the community were contextualized in the island of origin to allow specific PA assessments (sample items: I feel I am a member of the community of my island). Ratings range from 1 (totally disagree) to 5 (totally agree). Full-scale results range from 8 to 40 points; higher scores indicate stronger PA. Adequate reliability levels for the full-scale measure have been found for the original English language version ($\alpha = .92$) (Peterson et al. 2007) and for the Portuguese version ($\alpha = .84$) (Marante, 2010) of the BSCS. In this study, the BSCS was shown to be a reliable PA measure ($\alpha = .79$).

Future time perspective: FTP was measured using the Portuguese version (Miguel et al., 2017) of the Future Time Perspective Scale (FTPS) (Husman & Shell, 2008). This instrument comprises 27 items organized according to four dimensions: value, connectedness, distance and speed (sample item: I find it hard to get things done without a deadline). Fourteen of the items were negatively worded and needed to be reversed. Ratings of the FTPS range from 1 (totally disagree) to 5 (totally agree). Full-scale results range from 27 to 135 points; higher scores indicate stronger FTP. Adequate reliability levels for the different subscales of the FTP have been found for both the original English language version ($\alpha > .72$ for all subscales) (Husman & Shell, 2008), as well as for the Portuguese version ($\alpha > .72$ for all subscales) (Miguel et al., 2017) of the FTPS. In this study, full-scale FTP was used, showing adequate reliability ($\alpha = .71$).

Intention to return: To assess the intention to return, we created a four-item measure. Two of the items measured the intention to return to the island of origin (sample item: After graduation, I intend to return to my island of origin); the remaining two assessed the intention to return to the archipelago, in general (sample item: After graduation, I intend to return to The Azores). Ratings ranged from 1 (totally disagree) to 5 (totally agree). Full-scale results range from 4 to 20 points; higher scores indicated stronger intentions to return to the archipelago. A Principal Component Analysis was conducted to assess the factorial structure of the measure. The analysis delivered one underlying component explaining 61.63% of the variance, with items loadings above .73. The measure displayed an adequate reliability score ($\alpha = .79$).

Procedures

Our study is associated with a youth grassroots movement focusing on graduate students returning to The Azores Islands issues. Since 2017, this movement led to two national conventions, local debates, the constitution of a youth association (JAUPA), and a political motion presented to the regional parliament.

In September 2018, we discussed the research protocol and developed it. JAUPA members then developed a chatbot to deliver the questionnaire using Manychat app. A chatbot is a program that simulates a human conversation, based on a previously created database. This database is organized as a flow to orientate interactions based on response patterns (Huang et al., 2015). The development of a chatbot was seen as a participant-friendly approach for this study: youths tend to prefer the use of conversation programs (e.g. Facebook Messenger) to the usual online questionnaire formats sent by email. The created chatbot did not use any artificial intelligence technique; it only delivered the approved study protocol.

We sent the link to the chatbot via Facebook Messenger to 700 students registered in the JAUPA mailing list. Concomitantly, the study was also made available through the JAUPA Facebook page and eight Facebook news groups hosted in The Azores. When clicking the link to fill in the survey, all participants were (re)informed of the study goals and confidentiality terms. They were also made aware that they could stop the chatbot at any time and that their answers would not be available for the research unless they completed all the survey questions. Moreover, they were informed that the chatbot was a simulated conversation and that no one was online while answers were offered. The chatbot created a code for each participant Messenger/Facebook profile; duplicates were overwritten, with the last answer remaining in the dataset. A total of 428 individuals accessed the chatbot; 337 completed it, delivering a drop-down rate of 21.27%. All participants received a virtual coupon for a discount in a tech-store purchase.

Data Analyses

We addressed sample size requirements to ensure statistical power using G Power software. For a regression model with 9 predictors with power set at a cut-off point of .95 (above the standard .80) a minimum of 166 subjects was required.

We performed descriptive and correlational analyses for all participants and by gender groups. Then, we investigated the associations between the variables using a three-step structural equation model (SEM) approach. First, we tested for outliers and multicollinearity by regressing the outcome variable into the other factors, using SPSS 25.0. Outliers analysis was conducted using Cook's *D*: values below 1 indicated the absence of outliers. Multicollinearity was assessed using Variation Inflation Factors (VIF); values below 4 indicated non-overlap between factors (Argyrous, 2011).

Second, we tested Hypothesis 1 by using AMOS 25.0 to follow a SEM approach. We tested three models of direct and indirect paths. A direct path links a predictor with an outcome. An indirect path connects a predictor with an outcome variable, going through an intermediate factor or mediator. Model 1 was a fully mediated model, including only indirect paths from socio-economic status indicators to intention to return, through PA and FTP. Model 2 was a partially mediated model and was identical to Model 1, with the addition of direct paths connecting all objective factors with the intention to return. Model 3 was a non-mediated model comprising direct paths connecting all objective and subjective factors with the intention to return.

To test Hypothesis 2, we used MGA. First, we ran a freely estimated model, by running a fully constrained model, where all paths were constrained to be equal across gender. Afterwards, we checked the Chi square statistic between the freely estimated model and the fully constrained model. Significant differences between the models were an indicator of worsening of fit. We then initiated the iterative process of constraining blocks of model paths and comparing the progressively more constrained models to less restrictive models.

We estimated SEM and MGA models using Maximum Likelihood and bootstrap with 2000 replications and 95% confidence interval (CI). For all models, values above 1 for CMIN/DF and values below .05 for RMSEA and SRMR indicate a good fit, whereas values up to .08 represented acceptable approximation errors. CFI values superior to .95 denoted an optimal fit (Kline, 2011).

The data that support the findings of this study is available in OSF at <https://mfr.osf.io/render?url=https%3A%2F%2Fosf.io%2Frvjem%2Fdownload>, reference number 02-2019.

Results

After correlational and descriptive analysis, we verified the multivariate assumptions to implement SEM. Cook's D was below the cut-off criteria for the regression of intention to return on each of the objective and subjective factors. VIF estimates were below 2.20 (for parents' professional status), inferior to the cut-off criteria value of 4.

[Tables 1 to 3]

SEM analysis did not support the study hypothesis. The non-mediated model (Model 3) presented a better fit, $\chi^2 (18, 10) = 1.58$, TLI = .96, CFI = .98, RMSEA = .041 [90% CI = .00, .08], SRMR = .053, compared to the model testing full indirect associations, $\chi^2 (22, 6) = 3.50$, TLI = .84, CFI = .95, RMSEA = .086 [90% CI = .05, .13], SRMR = .060, and the model which tested partially mediated associations, $\chi^2 (26, 2) = 2.03$; TLI = .93, CFI = .99, RMSEA = .055 [90% CI = .00, .13], SRMR = .026. Covariance paths between latent variables and/or latent change variables are not depicted because they are the same as the latent correlations presented in Table 1.

According to the non-mediated model, depicted in Table 4, we found that participants expecting greater income 3 years after graduation depict a lower intention to return to the region. In turn, PA is associated with a significantly greater intention to return.

MGA testing for gender moderating effects showed a freely estimated model, which resulted in a $\chi^2 (14, n = 333) = 22.48, p < .05$. The change in Chi square statistic between the freely estimated model and the fully constrained model was significant, $\Delta\chi^2 (10, N = 327) = 25.06, p < .01$, signaling that constraining all paths to be equal across gender was associated with a statistically significant worsening of fit. After freeing and constraining sets of parameters, we found a statistically significant worsening of model fit when we constrained the paths from PA to intention to return to

be equal, $\Delta\chi^2 (1, n = 336) = 6.63, p < .01$). In our final model, all paths were constrained to be equal across gender except that one. This model delivered an acceptable to adequate fit, according to different fit indexes, $\chi^2 (31, 25) = 1.81$, TLI = .90, CFI = .96, RMSEA = .038 [90% CI = .00, .06], SRMR = .080. According to standardized estimates of this model presented in Table 5, young women who had greater expectations about future monthly income were less likely to intend to return compared to young men. However, those young women who showed greater levels of PA were also more likely to display a significantly greater intention to return to the region as opposed to young men.

[Tables 4 and 5]

Discussion

Our analyses delivered four main results. First, and contrary to what was expected in Hypothesis 1, indicators of socio-economic status, PA and FTP did not interact in shaping the participants' intentions to return after graduation. Different objective and subjective factors were still associated with the participants' intention to return after graduation. Our general finding extends prior conceptualizations that mobility is affected by distinct factors (Bourdieu, 1984). It also supports the need to emphasize both objective and subjective drivers of rural youth mobility (Theodori & Theodori, 2015; Thissen et al., 2010).

Second, greater participant expectations regarding future income reduces the participants' intention to return to a rural area, after graduation. This result is in line with a prophecy of success situating positive professional trajectories that deliver higher salaries in urban centers. To comply with this narrative, youths with a rural background fulfill an imperative to leave the countryside (Farrugia 2016; Theodori & Theodori, 2015). Lower intention to return to rural origins based on expected income expressed by

the participants is not, however, a mere reaction to a social representation. Average earnings, as well as employment prospects in rural areas are, indeed, worse, compared to those offered in cities (Culliney, 2014). Hence, this result illustrates a structural inequality between rural and urban areas, as rurality still show an occupational structure overly focused on agriculture and small industries rendering lower wages (Liebert, 2016).

Third, participants denoting greater PA also showed a greater intention to return. Interestingly, among all the significant direct associations with the intention to return, PA was the one depicting the strongest estimates. This result shows that although expected income has a connection with these mobility decisions, the affective bond that rural youths nurture in relation to their region is associated with the intention to return after graduation to a far greater extent than objective factors. This finding is even more remarkable, given that the majority of these participants are enrolled in courses at the highest-ranked Portuguese universities, which is a good indicator of high educational aspirations. This finding extends previous ones, depicting that PA is a determinant factor in rural youths' mobility intentions (Pretty et al., 2006; Theodori & Theodori, 2015). It is possible that this finding is also shaped by the location's size and remoteness. Prior studies have found that islanders, particularly those coming from small islands, develop stronger bonds with their place of origin (Hay, 2006; Hernández et al., 2007). In our study, this strong bond may be exacerbated by the mobility conditions in which these students live. For a period of four years or more, they commute between the urban centers where they study and their origins. Due to the remoteness of The Azores, however, they only return home three or four times a year. These conditions may intensify feelings of homesickness and PA with the region.

The previous finding is linked to a fourth one: gender moderates the connections between indicators of socio-economic status or subjective factors and the intention to

return after graduation. Specifically, young women expecting greater monthly income 3 years after graduation had a lower intention to return, as opposed to young men.

However, young women who were more attached to their origins showed a significant intention to return, compared to young men. This is an unexpected finding, which is not in line with Hypothesis 2, as the literature in the field is consistent in indicating that women depict lower PA towards rural areas and greater intentions to leave. They do so because of the need to find a job outside agriculture and small industries, greater orientation to education or in attempting to escape dominant gender-based normative expectations in rural areas (Farrugia, 2016; Liebert, 2016; Little, 2002). While those women denoting greater monthly income expectations may reflect these prior findings, the PA role differentiating young women and young men in our study may be explained by overlapping methodological and contextual features. First, PA measurement focused solely on bonds with place through social connections and sense of belongingness in the community. Women are, in general, more relationship-orientated and value their social connections more, as social sciences literature has abundantly shown (e.g. Ni Laiore, 2011). Second, independent correlations show that compared to young men, these young women have lower expectations regarding future income, indicating that they are, in general, less income-minded, at least in this group. Third, although The Azores rely on the agriculture sector, more than two thirds of the jobs in the region are generated in the services sector. Thus, women's intention to return to rural areas might also include a pragmatic vision that some employment opportunities might be available for them, contrary to other predominantly rural areas, as a few studies have demonstrated (Corbett, 2007).

Finally, we believe some words are warranted regarding the non-significant FTP role in the main model and across gender groups. It may be that FTP is, by nature, less central in decision-taking regarding mobility intentions compared to PA. While PA

represents a tangible and stable reality (at least, more stable in the case of small islands' rurality), FTP is a cumulative representation of the intangible. This contrast is greater among contemporary young adults, given that the sense of uncertainty and justified fears regarding precariousness and unemployment dominate a whole generation in a pervasive way going beyond the protective role of social status (Culliney, 2014). As a consequence, it may be that the already expected levels of uncertainty defining the developmental transition to adulthood (Tanner & Arnett, 2016) have peaked in such a way that planning ahead is far from being a trademark of this generation. Nevertheless, all of these interpretations require further research.

Policy-making implications

The role of PA in improving the intentions to return imply stronger policies to promote formal youth civic engagement, prior to tertiary education enrollment. The Azores struggle with low levels of youth participation in formal civic/community engagement activities (Governo Regional dos Açores, 2018). Strengthening formal youth civic engagement may contribute to actual youth intervention in local/regional decision-making with important side-effects, such as fostering stronger PA feelings from an early age and helping to foster place-based educational and professional aspirations among these youths.

Moreover, higher anticipated future income prevented returning intentions. This may be a double-sided challenge. On one hand, youth employment policies in European peripheral regions have been strongly anchored on broadband policies, such as the Youth Guarantee initiative. This position has led to the generalization of professional internships or stages programs to ease the transition from tertiary education to the labor market. However, side effects are also evident, with an increase of precariousness and low income risks. The Azores have long relied on these first employment schemes

based on low salaries, especially in the public sector, which in turn affect the whole wage structure. Thus, these youths may be realistically anticipating worse career prospects if they return. Furthermore, the participants may be interested in financially rewarding areas which are not aligned with local resources. This may mean that sectors offering potentially rewarding jobs in the region are beyond the scope of these youths. Thus, these results may imply the need for a new policy package for qualified youth employment, one that: (a) diversifies the transition from education to the labor market, beyond professional internship programs; (b) matches local resources with more promising and rewarding careers, through the development of programs aimed at academically-orientated youths enrolled in secondary education; (c) involves the regional university in tailoring the *curriculum* to match regional opportunities with youth interests; and (d) invests in short to mid-term professional advanced training opportunities (e.g. post-graduate courses) that enable specialization or retraining.

Research limitations and implications

PA assessment did not include an examination of PA features associated with the emotional reaction to physical space. Future research efforts must address this, by using PA multidimensional measures. Although the scope of our study is novel, its cross-sectional nature limits generalization. Future studies should implement longitudinal designs. We also used a novel approach to survey the participants: a chatbot. Although this tool is seen as an alternative to traditional online/offline surveys, being more youth-friendly in its use of technology (Huang et al., 2015), it is still uncertain how this approach affects response patterns.

Conclusion

In a period of transition to young adulthood, mobility intentions are affected by various driving forces. Anticipated income thwarts university students' intentions to return to their rural origins after graduation. However, affective bonds are significantly associated with returning intentions after graduation. These trends are only relevant among young women, contradicting a generalized narrative of feminization of rural youths' intentions to leave the countryside.

In general, our findings point out the need to address mobility intentions of university students with a rural background, more recurrently informed by a person-centered approach, focusing on youths' representations of norms and values.

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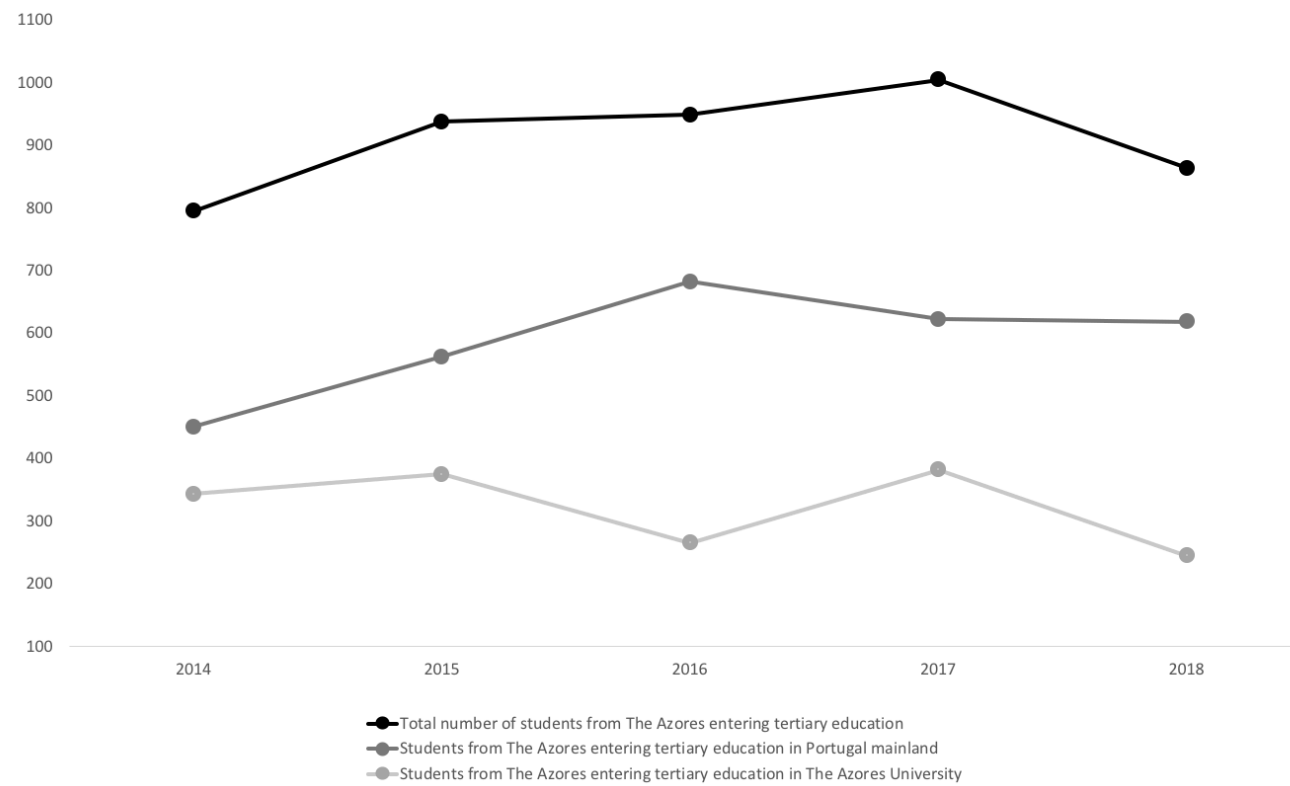


Figure 1. Number of students from The Azores entering tertiary education from 2014 to 2018

Table 1. Descriptive statistics for all participants and by gender

Variables	M (<i>SD</i>)	M (<i>SD</i>)	M (<i>SD</i>)	Range
	Total (<i>n</i> = 337)	Young man (<i>n</i> = 123)	Young women (<i>n</i> = 214)	
1. PA	31.86 (4.57)	32.47 (4.54)	31.51 (4.56)	8-40
2. FTP	96.42 (9.40)	98.03 (9.09)	95.50 (9.47)	37-135
3. Intention to return	12.24 (4.23)	11.82 (4.19)	12.48 (4.24)	5-20

Table 2. Zero-order correlation for all participants

Variables	1.	2.	3.	4.	5.	6.	7.	8.
1. Gender	---							
2. Parents professional status	-.09	---						
3. Parents educational level	-.10	.68**						
4. Scholarship	.10	-.29**	-.37**					
5. Expected income 3 years after graduation	-.32**	.13*	.16**	-.12*	---			
6. PA	-.10	.05	.01	.01	-.05	---		
7. FTP	-.13*	.14*	.16**	-.07	.10	.04	---	
8. Intention to return	.08	-.13*	-.16*	-.11*	-.18**	.33**	-.12*	---

* $p < .05$; ** $p < .01$

Table 3. Zero-order correlation between study variables: man (*women*)

Variables	1.	2.	3.	4.	5.	6.	7.
1. Parents professional status	---						
2. Parents educational level	-.68** (.67**)	---					
3. Scholarship	-.32** (.20*)	-.38** (-.34**)	---				
4. Expected income 3 years after graduation	.16* (-.03)	.23** (-.06)	-.12 (-.02)	---			
5. PA	-.06 (.20*)	-.05 (.08)	-.04 (.13)	-.05 (-.09)	---		
6. FTP	-.19** (.03)	.12 (.19*)	-.06 (-.06)	-.01 (.11)	.07 (-.04)	---	
7. Intention to return	-.11 (-.14)	-.11 (-.19)	.12 (.11)	-.13 (-.05)	.24** (-.09)	-.15* (-.09)	---

* $p < .05$; ** $p < .01$

Table 4. Standardized, estimates and 95% confidence intervals for Model 3

Paths	Standardized estimates	S.E	Standardized 95% CI
Parents professional status → Intention to return	-.07	.06	[-.19; .06]
Parents educational level → Intention to return	-.07	.07	[-.21; .06]
Scholarship → Intention to return	.04	.05	[-.06; .16]
Expected monthly income in 3 years → Intention to return	-.14*	.05	[-.24; -.03]
PA → Intention to return	.33**	.06	[.22; .44]
FTP → Intention to return	-.10	.06	[-.21; .01]

* $p < .05$; ** $p < .01$

Table 5. Standardized, estimates and 95% confidence intervals for young man and young women

Paths	Young man			Young woman		
	Standardized estimates	S.E	Standardized 95% CI	Standardized estimates	S.E.	Standardized 95% CI
Parents professional status → Intention to return	-.09	.12	[-.31; .18]	-.01	.08	[-.14; .16]
Parents educational level → Intention to return	-.07	.13	[-.34; .19]	-.07	.09	[-.24; .08]
Scholarship → Intention to return	.01	.09	[-.16; .20]	.08	.07	[-.06; .21]
Expected monthly income in 3 years → Intention to return	-.11	.09	[-.29; .09]	-.13*	.07	[-.26; -.01]
PA → Intention to return	.18	.11	[-.05; .38]	.43**	.07	[-.33; .53]
FTP → Intention to return	-.08	.11	[-.30; .12]	-.12	.07	[-.25; .01]

* $p < .05$; ** $p < .01$