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Katie Lazarevski

University of Wollongong, katie_lazarevski@uow.edu.au

Bettina Grun

Johannes Kepler University, bettina.gruen@jku.at

Simon Ville

University of Wollongong, sville@uow.edu.au

Sara Dolnicar

University of Queensland, s.dolnicar@uq.edu.au

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Keywords

framework, conceptual, female, retention, migrant, skilled

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A conceptual framework of skilled female migrant retention

Katie Cliff¹, Bettina Grün², Simon Ville^{*1} and Sara Dolnicar^{*3}

¹ Faculty of Law, Humanities and the Arts, University of Wollongong, Wollongong, NSW, 2522, Australia

² Department of Applied Statistics, Johannes Kepler University Linz, 4040 Linz, Austria

³ UQ Business School, The University of Queensland, Brisbane, Queensland, 4072, Australia

^{*} Corresponding Authors (s.dolnicar@uq.edu.au, simon_ville@uow.edu.au)

Abstract

Women make an increasingly important contribution to the skilled workforce. Nations like Australia that suffer skill shortages need to attract, but also retain, more skilled female migrants. The latter has become an important policy issue in Australia because of modest retention rates. While much of the relevant literature focuses upon migrant attraction, we address the retention decision. We derive and empirically test a framework incorporating the key explanatory factors in the decision of skilled female migrants whether to remain in Australia. Our results have important implications for current policy directions.

Keywords: Skilled migrants, Migrant policy, Female migrants, Migration model

1. Introduction

Governments seek to attract highly skilled workers because their rich human capital skills contribute to raising productivity and rates of economic growth (Collett & Zuleeg, 2008). Australia is an important example of a nation that has historically drawn heavily upon migrants to fill shortfalls in the domestic supply of skilled and unskilled labour (Kelley, 1965; Taylor, 1994). Government policy has focused on attracting increased migration in periods of high economic growth to meet heightened labour demand (Hatton & Withers, 2015). In addition, policy has targeted the skill needs of particular occupations and industries. Less attention has been paid, though, to *retaining* migrants.

Today, migration continues to make a major contribution to the Australian labour market, especially by those migrants with the high level skills required in an information and service rich economic environment. Whereas in the past most migrants made the long journey from Britain and settled permanently in Australia, today migrant workers come from most parts of the world and international travel is much simpler and quicker. Retention, as well as the attraction of labour, particularly skilled labour, has thus become a significant policy concern since many skilled migrants soon depart again either as sojourners on their way to a preferred location or to return to their homeland. With 46 percent of all permanent departures from Australia being skilled (managers and professionals) and many of these leaving within five years of their arrival, the retention of skilled migrants is a serious problem in terms of both the loss of skilled labour, the so-called ‘brain drain’, and the wasted resources expended initially attracting them here (Department of Immigration & Citizenship (DIAC), 2011a).

Women constitute a significant and rising proportion of the labour force in most nations and fill shortages in some key skilled occupations. Several studies have suggested that skilled females have recently become more migratory than males or unskilled females, thus emphasising the brain drain problem (Dumont *et al.*, 2007; Docquier, 2009, pp. 297-8). Female migrants have often been ignored, assumed to be of secondary importance since more accompany principal migrant males than vice versa (Docquier *et al.*, 2012; Kofman, 2000).

Female migrants to Australia fill shortages in occupations such as nursing and hospitality. 252,000 overseas born women arrived in Australia as part of the skilled settler migration category during the decade 2000/1–2009/10. Twenty-three per cent came from the United Kingdom, 13 per cent from India, 11 per cent from China, and eight per cent from South

Africa. The remaining 45 per cent arrived from a further 199 countries (DIAC, 2011).¹ Of the 18,618 skilled migrants to depart Australia permanently in 2009/10, 38 per cent were female (DIMIA, 2009–10). Table 1 provides data by actual employment category for women in the workforce. In particular, it shows that, in the first decade of the twenty-first century, the inflow of foreign-born skilled female migrants was offset by a substantial outflow, a figure as high as 84 per cent of arrivals in the case of managers.

<PLEASE INSERT TABLE 1 HERE>

There is a limited literature on the retention of skilled female migrants. Work on migrant departures, in general, rarely distinguishes skill and gender closely (Gmelch, 1980; Khoo, 2003). Exceptions tend to focus on a specific female-dominated occupation, such as the retention of migrant nurses in Ireland (Humphries *et al.*, 2009), the United Kingdom (Hardill & MacDonald, 2000), or Australia (Boese *et al.*, 2013). A significant literature deals with attracting and retaining skilled migrants to remote and regional areas in Australia and overseas where labour shortages frequently exist, although most papers lack a female skilled focus (Krahn *et al.*, 2005; Wickramarachchi & Butt, 2014; Han & Humphreys, 2006; Wulff & Dharmalingam, 2008). Taylor *et al.* (2014) find that two government schemes are having positive effects in attracting and retaining skilled migrants to regional Australia and highlight the particular policy challenge in relation to encouraging women to stay. Garnett *et al.* (2008) detail the challenges of both attracting and retaining nurses to the remote locations of the Northern Territory but, like many of this genre, are focused on internal migration with only 23 per cent of their sample being overseas migrants.

Models developed to explain the experiences of overseas migrants focus on their integration into society (Ager & Strang, 2008). There is much debate about the concept of migrant integration – its definition, theory and modeling remain highly contested issues (Castles *et al.*, 2001; Phillips, 2010; Heisler, 1992). The assimilation and adaption of immigrants into their new environment has generated a broad literature that includes the different models of immigrant incorporation over time (Heisler, 1992), models of adaption (Ager & Strang, 2008; Goldlust & Richmond, 1974), and of assimilation (Gordon, 1964). These models describe the process of migration and settlement but do not look beyond this into the specific reasons behind a migrant's intention to remain in the country. While a substantial amount of work has been undertaken to better understand skilled migration, less has been written about the problem of retention of skilled migrants.

The Department of Immigration and Multicultural Affairs (2006, p. 5) has identified the key challenges facing new arrivals (called 'settlement needs') including "language barriers, cultural differences, unfamiliarity with the Australian service environment, and the loss of support from leaving family, friends and community in their home country". Despite the acknowledgement that new migrants face serious challenges, few studies have investigated their settlement experiences to identify the drivers of retention. Notable contributions to the retention question have addressed the significance of specific factors: language skills (Chiswick *et al.*, 2006), the role of existing migrant communities (Hatton & Leigh, 2011; Matinovic *et al.*, 2009), and the effects of social and communication barriers to worker productivity (Grafton *et al.*, 2007); and the effects of differences between sender and receiver countries on migrant employment (van Tubergen *et al.*, 2004).

¹ A spouse or child of the primary migrant is counted in the same ('skilled') category.

There are a range of reasons, we believe, why it might be appropriate to design a retention framework specifically for women. These include different gender attitudes towards the family, the more frequent experience of skilled women not being the primary migrant, and a migrant labour market that can be quite gender-segmented.

The present study contributes to filling these two lacunae. Specifically, we develop and empirically test a conceptual framework of skilled female migrant retention. The framework contributes to theoretical understanding of retaining skilled female migrants and provides policy advice about possible strategies to improve retention rates. Second, as far as we are aware, it represents the first attempt to investigate a wide range of factors simultaneously, thus providing insights into the relative importance of factors playing a role in skilled female migrant retention.

2. Methodology

The study was conducted in two stages: a qualitative, exploratory phase and a quantitative, confirmatory stage. The exploratory phase was aimed at identifying key factors influencing skilled female migrant retention. Interviews were conducted with skilled migrant females in Australia; theoretical saturation (Glaser & Strauss, 1967) was reached after 20 interviews. Theoretical saturation is reached when additional interviews do not lead to any new insights. Participants were initially recruited through government organisations, tertiary institutions and women's groups; snowball sampling was used to recruit additional skilled female migrants. No filters were applied. The final sample consisted of women from India, Hong Kong, Poland, United Kingdom, Thailand, Fiji, Germany, New Zealand, Kenya, Japan, Malaysia, Philippines, Vietnam, Bangladesh, and Singapore. Sample descriptives reveal that they had lived in Australia for at least seven months; 13 were full time and seven part-time employed (as academics, teachers, accountants, nurses, architects, information technology managers, and social workers). Eight participants migrated alone, 12 had immediate family in Australia.

Study participants were asked about their background, their perceived standard of living in Australia, barriers and challenges they faced, coping strategies, community connectedness, and whether they intended to remain in Australia. Interviews were recorded, transcribed, and analyzed using content analysis.

Insights gained from the exploratory study phase were used to develop a conceptual framework of female skilled migrant retention and as the basis for developing the questionnaire used in the online survey study at the confirmatory stage. Note that the conceptual framework is based on the qualitative research phase only.

In total, 1001 respondents participated in the survey study. It was very difficult to access skilled female migrants and we had to rely on associations representing migrants as well as professional associations to send out invitations to participate. As a consequence, the sample is not representative of the Australian skilled migrant women population and it is not possible to make statements about which proportion of skilled female migrants are affected by each of the factors in the conceptual framework.

Survey questions covered all areas postulated in the conceptual framework to affect skilled female migrant retention. The dependent variable used to measure retention likelihood was determined as follows: respondents were asked what the chances were that they would return to live in their former home country on a scale from zero to ten and what the chances were that they would move to live in a different country, also on a scale from zero to ten. We classified the retention likelihood to be high for respondents who used the answer options

zero to four for both questions and we classified it to be low for respondents who responded with a five or above on at least one of those two questions.

We computed a binary logit model to assess the influence of the factors on the retention likelihood. Due to the large number of potential predictors, in a pre-processing step, variable selection was performed using the LASSO procedure (least absolute shrinkage and selection operator, Friedman *et al.*, 2010). As pointed out by Hastie *et al.* (2009, p. 57) the LASSO is preferable to stepwise variable selection procedures due to the lower variance in the estimates. Belloni *et al.* (2014) also indicate that the LASSO has good estimation properties and that the reduction to a relatively small set of variables which is examined further is an important aspect and common in economics. A post-LASSO analysis (Belloni *et al.*, 2012) using a binary logit model was then performed including only the selected predictors to obtain unbiased coefficient estimates with their standard errors. The importance of each of the key factors influencing retention was assessed using deviance (i.e., the change in twice the log-likelihood corresponding to a change in model fit) as criterion and tested using a chi-square test comparing the full model with the model where all variables associated with this factor were omitted.

The LASSO aims at finding a compromise between in-sample model fit (as measured by the log-likelihood value) and model complexity as measured by the length of the coefficients and determines the optimal solution given a fixed penalty weight for the model complexity. The optimal penalty weight is determined based on the out-of-sample model fit which is approximated using ten-fold cross-validation (i.e., the data is split into ten parts and for each part the model is fitted to the data excluding this part and the model fit evaluated on this part) and the optimal value is selected according to the one standard-error rule (Friedman *et al.*, 2010). For more details on this method we refer the interested reader to James *et al.* (2013, pp. 219–228 and pp. 251–255).

Omitted variable bias due to the variable selection procedure was assessed by comparing the estimated coefficients on the reduced model with the distribution of the same coefficients estimated in the full model.

3. A Conceptual Framework of Skilled Female Migrant Retention

A conceptual framework of skilled female migrant retention was developed on the basis of the interviews (see Figure 1). It postulates that two groups of factors affect the retention of skilled female migrants: factors intrinsic to the migrant and factors extrinsic to the migrant which offer intervention opportunities for public policy makers.

Three intrinsic factors emerged: whether people migrate alone or with their social network (as suggested by Boyd, 1989; Khoo, 2003); the degree to which they perceive the culture in Australia to be different from their home culture (Schmitz, 2001; Ward & Kennedy, 1992); and personal characteristics, including their ability to adapt to new life circumstances (Berry *et al.*, 1977; Berry *et al.*, 1992, Moghaddam *et al.*, 1990), their locus of control (Berry, 1997; Kirkcaldy *et al.*, 2007; Ward & Kennedy, 1992; Young, 2001) and risk propensity.

In addition to these intrinsic factors, five factors external to the skilled female migrant emerged: employment (as suggested previously as a key factor by Agar & Strang, 2008; Bevelander, 2005; Evans, 1996; Kler, 2006; McKenzie *et al.*, 2007; and acknowledged as critical by government: DIMIA, 2006); community connectedness (Ager & Strang, 2008; Brandon, 2008; Wulff & Dharmalingam, 2008); availability of information (Philips, 2010; Simich, 2003); the fulfillment of pre-arrival expectations (Diener & Diener, 1995; Papadopoulou-Kourkoulou, 2008; Rousseau *et al.*, 1997); and having a local social network other than their family (Granovetter, 1973; Hagan, 1998; Searle & Ward, 1990)

<PLEASE INSERT FIGURE 1 HERE>

The conceptual framework was tested using survey data. Respondents were recruited through a permission based online panel and had to be female, undergone additional training and not been born in Australia. In addition, a minimum quota was set for the dependent variable in the regression. In total, complete surveys were obtained from 946 respondents (i.e., 55 respondents corresponding to 5.5% were omitted due to missing values) on 23 explanatory variables with 390 (41%) indicating a high likelihood of leaving. Using the LASSO approach 16 out of the 23 variables were retained and the results of the post-LASSO binary logit model are provided in Table 2. The omitted variable check indicated no significant differences in the estimated coefficients of the reduced model compared to the full model (all p -values between 0.76 and 1.00).

As can be seen, for each of the eight postulated factors, at least one variable is included in the regression model. The factor which, if omitted, leads to the strongest decrease in deviance is cultural distance followed by personal characteristics and the imported social network. By contrast, omitting all variables for employment, community connectedness or information does not lead to a significant decrease in model fit.

As can be seen, the probability of leaving Australia is reduced significantly if migrants have children, if they identify more with the Australian than their own culture, and if, in their own eyes, they have a high competency in learning new behaviours necessary for settling in Australia. Our more detailed survey questions enabled us to unpack key elements of this adaptability which included: building and maintaining relationships, managing work responsibilities and working effectively with colleagues, obtaining necessary community services, reading, speaking and writing English and expressing ideas in a culturally appropriate manner, attending and interacting in community and social activities, and broadly adapting behaviours to suit social norms, rules, attitudes, beliefs and customs in Australia.

<PLEASE INSERT TABLE 2 HERE>

Retention likelihood is also increased by higher satisfaction levels with life in Australia, having relatives in Australia who do not live with the migrant or the migrant's family, a low willingness to take risk and not having friends or relatives in Australia upon arrival. The latter two factors are surprising. It may be, however, that people who are less willing to take risk, arrive in Australia more prepared and with more realistic expectations, thus reducing the level of disappointment and unexpected surprises. A similar mechanism may be underlying the finding of not having friends or relatives in Australia when arriving: it is possible that having an established social network reduced the need to integrate into the local community, thus helping in the short term, but having a counter-productive effect on the long term, because there is less need to adapt to the Australian culture leading, potentially, to a lower identification with the Australian culture as well as lower satisfaction with life in Australia.

4. Discussion and Conclusion

A first comprehensive conceptual framework of skilled female migrant retention was proposed and empirically tested. Eight key factors affecting retention were identified, three of which (imported social network, cultural distance, personal characteristics) are intrinsic to the person and thus not particularly useful as targets for public policy initiatives aimed at increasing the retention rate. Five other identified factors (employment, community connectedness, information about settling, expectation gap, and local social network) are extrinsic by nature, thus offering opportunities for public policy intervention.

The empirical test of the proposed conceptual framework confirmed the association of most of those factors with retention of skilled female migrants as measured by self-assessed probability of departing². Only employment, community connectedness and information about settling did not emerge as statistically significant. This may be due to the fact that facets of these factors are also contained in the indicators of other factors. The policy implications are interesting: while governments seek to attract skilled migrants for their 'employability' it appears that keeping them in the country may have relatively little to do with their employment progress³. At first sight, this seems counter-intuitive until one remembers that skilled workers are in high demand in many countries. If they are well placed to develop their careers in different places, then it may be the living experience that matters most such as the cultural distance and their confidence in their ability to cope.

Also of policy interest is the fact that community connectedness had little bearing on retention. The explanation for this outcome probably lies in the statistically significant self-assessed competence and cultural distance variables. In other words, coping arose from inherent cultural factors rather than through assistance by the community. These results differ from those of Wulff and Dharmalingam's (2008) who advocate interventions among migrant groups with weak social connectedness and are in contrast to the Australian governments having expended much effort addressing the role of social capital in regional communities (BTRE, 2005).

The paper contributes broadly to the international literature and policy on migrants in several important ways. Unlike most previous work, it addresses retention separately from attraction, and additionally looks at multiple factors economy-wide rather than particular areas and occupations (Lehmann *et al.*, 2008; Hawthorn, 2014; Pemberton & Stevens, 2010). What attracts migrants in the first place may not equate to what keeps them there. For skilled female migrants, at least, economic factors were less important than social and cultural considerations in their retention. While some policy writers distinguish retention, there is still a desire to improve the environment through well-intentioned broad social policy measures such as the long lists advocated by the Canadian city of Edmonton and by the World Health Organisation (Derwing & Krahn, 2008; WHO, 2009). Our study suggests that while these policies may help with overall satisfaction levels among migrants, most of the key factors appear to be intrinsic to individuals and their families. This suggests that active retention policy measures for all skilled female migrants do not have a high likelihood of improving retention. Our results point to a potentially new approach, however: that of profiling arriving skilled female migrants, categorising them as being at high or low risk of departing again and,

² Separate analyses were also performed using high likelihood (1) to return to live in their home country or (2) to move to live in a different country as dependent variables. Results indicate that similar conclusions can be drawn, even if in these cases less predictors are retained for the post-LASSO model.

³ We ran the same analysis also on the subset of respondents, who were employed when answering the survey, allowing for the inclusion of more employment-related predictors. Results indicate that these conclusions also apply to this subset.

in reflection of the risk categorization, developing individualised retention measures. The higher cost of such individualised measures could be covered by the cost reduction from fewer untargeted retention measures.

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Conflict of interest statement

None declared.

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TABLES

Table 1: Permanent arrivals and departures of overseas born females in primary skill employment, 2000/1-2009/10

Skill classification	Permanent arrivals	Permanent departures	Departures/ arrivals (%)
Managers	12 700	10 601	84
Professionals	71 796	30 994	43
Technicians, trade workers	10 990	8 852	81
Community, personal service	5 699	2 517	44
Total	101 185	52 964	52

Source: DIAC, 2011.

Table 2: Results of the post-LASSO binary logit model

	Deviance	<i>p</i> -value		Coefficient	Partial effect at average	<i>p</i> -value
Imported social network	20.3	< 0.01	Migrated alone or not	−0.17	−0.04	0.35
			Instigator of migration	0.26	0.06	0.12
			Having children	−0.61	−0.14	< 0.01
Cultural distance	69.3	< 0.01	Perceived degree of cultural difference between own and Australian culture	−0.44	−0.10	0.19
			Identification with Australian culture	−1.61	−0.38	< 0.01
Personal characteristics	30.0	< 0.01	Self-assessed competence in life skills required in Australia	−1.06	−0.25	0.01
			Locus of control	−0.23	−0.05	0.64
			Risk propensity	2.04	0.48	0.00
Employment	1.2	0.27	Unemployed	0.20	0.05	0.28
Community connectedness	4.4	0.11	Social support network	−0.32	−0.08	0.16
			Made to feel welcome in Australia	−0.32	−0.08	0.21
Information about settling	0.2	0.68	Sources used for obtaining information	−0.15	−0.04	0.68
Expectation gap	6.8	0.03	Perceived expectations – experience gap	−0.27	−0.06	0.35
			Overall satisfaction with life in Australia	−0.87	−0.21	0.08
Local social network	10.4	0.01	Relatives living in Australia, but not in own home	−0.36	−0.09	0.04
			Friends already living in Australia when arrived in Australia	0.48	0.11	0.01

Figure 1: Conceptual framework of skilled female migrant retention

