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PERSONALITY AND THE REALIZATION OF MIGRATION DESIRES

MARKUS JOKELA

Residential mobility and migration patterns are often conceptualized in terms of migration flows between different geographical areas, and the data are aggregated at the level of populations (Greenwood & Hunt, 2003). However, residential mobility is not only a collection of discrete events that take place as people move from one place to another. For the individual who is making the decision, voluntary residential mobility can be seen as a process that transitions through different stages (Kley, 2011). The process initiates with a *desire to move*. Perhaps the person becomes bored with her current neighborhood or would like to live in a bigger house. If the desire is strong enough, it develops into a more committed *intention to move*. The person may start to look for new apartments in the newspapers and begin to evaluate different neighborhoods as potential places to move into. After the person has already made some preparations to move, the intention to move materializes into an *expectation to move*. Finally, the desires, intentions, and expectations of moving are realized as an *actual move* to a new location.

http://dx.doi.org/10.1037/14272-005
Geographical Psychology: Exploring the Interaction of Environment and Behavior, P. J. Rentfrow (Editor)

The psychology of residential mobility thus involves a sequence of preferences, intentions, and decisions. If one is interested in the psychological aspects of migration behavior, it is important to consider all of these steps in detail. The psychological nature of migration behavior was already recognized by Peter H. Rossi (1995) in his classic work on residential mobility titled *Why Families Move: A Study in the Social Psychology of Urban Residential Mobility*. Several demographic studies following the work of Rossi have examined topics such as the influence of housing and neighborhood characteristics on residential satisfaction and how migration desires and intentions predict actual residential mobility (De Groot, Mulder, & Manting, 2011; Lu, 1999). However, the demographic literature has remained largely separated from psychology—or at least the demographic models of migration decisions have not been updated in pace with more recent advances in personality and social psychology (Hobcraft, 2006).

This chapter takes the integration of personality psychology and demographic models one step further by exploring the role of personality in the realization of people's migration desires and expectations. By examining how different stages of migration decisions are related to general personality dispositions, it is possible to better understand the psychological basis of migration behavior and the dynamics of psychological geography. To this end, data from the British Household Panel Survey (BHPS; Research Centre on Micro-Social Change, 2010) are used to examine (a) how personality traits are related to migration desires and expectations and (b) whether personality traits predict residential mobility differently depending on the individual's desire for and expectations of moving in the future. The purpose is to investigate in more detail the potential mechanisms that explain why and how some personality traits are associated with people's propensity to move.

MIGRANT PERSONALITY

Evidence from several countries suggests that personality traits are differently distributed over geographical areas. Large-scale data from the United States have shown consistent differences in personality profiles between regions and individual states (Rentfrow, Gosling, & Potter, 2008). In an Australian study, people residing in remote parts of the country tended to be less open to new experiences and more introverted than those living in more central locations (Murray et al., 2005). In the archipelago of Italy, people living in the islands nearby the mainland were more introverted, conscientious, and emotionally stable, and less open to new experiences than their counterparts living in the mainland (Camperio Ciani & Capiluppi, 2011; Camperio Ciani, Capiluppi, Veronese, & Sartori, 2007).

At least part of the regional personality differences is likely to reflect the consequences of selective migration. Several longitudinal studies have demonstrated associations between personality traits and individual differences in migration patterns. In a prospective study of Finnish twins with a follow-up period spanning from 1975 to 2002, high Extraversion and high Neuroticism at baseline predicted higher probability of emigration from Finland to Sweden, Finland's neighboring country to which many Finns immigrated in the 1970s and 1980s to seek better employment opportunities (Silventoinen et al., 2008). Lower life satisfaction also predicted higher emigration probability. In another prospective Finnish study with a 9-year follow-up (Jokela, Elovainio, Kivimäki, & Keltikangas-Järvinen, 2008), individuals with high sociability were more likely to move from rural to urban areas and more likely to stay put if they were already residing in an urban rather than a rural area. High activity—a tendency to carry out daily activities vigorously and with high tempo—was also associated with higher migration propensity irrespective of urban–rural difference. Negative emotionality, a trait closely related to Neuroticism, was associated with increased migration probability, especially if the person was living in a rural area.

In the representative population-based Midlife in the United States Study (MIDUS), higher Openness to Experience and lower Agreeableness were predictive of residential mobility within and between states over a 7-year follow-up period, whereas higher Extraversion predicted only within-state migration (Jokela, 2009). In a sample of older Americans, symptoms of depression and anxiety and low life satisfaction were associated with higher likelihood of moving to a new location (Colsher & Wallace, 1990). In the Italian study cited earlier, individuals who had left the islands and moved to the mainland were more extroverted and more open to experiences than those who had stayed in the islands (Camperio Ciani et al., 2007; Camperio Ciani & Capiluppi, 2011).

Longitudinal data on the association between personality and residential mobility are still scarce, but the findings reviewed previously suggest some consistent patterns between personality and migration behavior. First, outgoing and sociable dispositions (Extraversion, sociability, activity) and Openness to Experience appear to increase the odds of migration. Perhaps people with these personality characteristics are more spontaneous and active in their decision making, which helps to nudge their migration desires and intentions forward. They may also have a lower threshold for leaving the old neighborhood for new opportunities (Boneva & Frieze, 2001; Camperio Ciani et al., 2007).

Second, Neuroticism and related psychological characteristics, including mental distress and low life satisfaction, also seem to increase migration propensity. This is somewhat surprising given that Neuroticism is associated

with avoidant behavior and heightened stress reactivity in many domains of life. One might therefore expect high Neuroticism to decrease rather than to increase migration propensity. One plausible explanation for the positive association between Neuroticism and mobility is that people with high Neuroticism tend to be dissatisfied with many things, including their neighborhood, housing conditions, and other residential qualities (Jokela, 2009). A heightened level of dissatisfaction with residential qualities may drive these individuals to move more often in the hope of improving their residential conditions. In the MIDUS study cited earlier, high Neuroticism was associated with lower neighborhood satisfaction, but this association did not account for the association between Neuroticism (or any other personality traits) and migration probability (Jokela, 2009). Thus, the mechanisms mediating the association between Neuroticism and increased residential mobility have not been empirically established and remain largely hypothetical.

The evidence for other personality dimensions in predicting migration propensity remains limited. In the United States, agreeable people were shown to be less likely to move than their disagreeable peers (Jokela, 2009). Individuals with high Agreeableness are often described as friendly, helpful, and compassionate. The lower migration propensity associated with high agreeableness might be explained by their tendency to build strong ties with their neighborhood and community and by their unwillingness to break those ties by relocating (Boneva & Frieze, 2001; Frieze, Hansen, & Boneva, 2006). However, data addressing the more detailed mechanisms of agreeableness and migration behavior are lacking. Only a few studies of residential mobility have measured personality traits related to Conscientiousness—a disposition characterized by orderliness, achievement striving, and preference to follow rules and norms. These studies have not found associations between Conscientiousness and migration.

MIGRATION DESIRES AND EXPECTATIONS AS PRECURSORS OF RESIDENTIAL MOBILITY

One influential strand of migration theories has emphasized the importance of sociodemographic transitions as the impetuses for residential mobility (Kley, 2011). Considering migration patterns over the life course, residential moves can be seen as a response to social transitions such as marriage, education, parenthood, employment, and aging (Rossi, 1955). These transitions are often accompanied by new requirements for housing and residential location. Young adults need to move to a new city to pursue an education, parents tend to move to a bigger house and child-friendly neighborhoods as their family size grows, starting a new job may require relocation, and people planning their retirement can move to more rural areas if they so prefer. Changes

in employment status and household income may constrain how people can follow their housing preferences in different phases over the life course.

Another strand of migration theories has emphasized the role of "housing stress" and "place utility" in driving people's migration patterns. The *stress-threshold model* of residential mobility (Wolpert, 1966) postulates that individuals begin to consider moving when their level of dissatisfaction with their current housing conditions and environment do not meet the newly developed requirements. For example, having children often leads to a need for more space, which forces parents to move to a larger apartment or house. Whereas the stress-threshold model emphasizes the negative sides of current location, the *utility perspective* is based on the assumption that people try to locate themselves in residential areas that provide the best possible opportunities and amenities for their needs (Kley & Mulder, 2010). Individuals move to a specific place because they believe they are more likely to achieve important life goals in that place than in their current location. Such a process is in action, for instance, when highly educated individuals migrate to urban areas where there are better employment opportunities for them than in rural areas. Desires and decisions to migrate are thus influenced by pushes determined by the unattractive features of the current location and by pulls of the attractive features of the destination.

On the basis of the associations between personality and migration probability, it is reasonable to assume that personality differences are also involved in the development and realization of migration desires, intentions, and expectations. The BHPS (Research Centre on Micro-Social Change, 2010) offers an opportunity to explore these issues with a large longitudinal data set. The following section addresses three specific research questions: (a) How are personality traits associated with migration desires, migration expectations, and actualized residential mobility? (b) Are the associations between personality traits and residential mobility different depending on whether the individual has desires or expectations to move? In other words, do migration desires and expectations amplify or attenuate the associations between personality and actualized residential mobility? (c) Are personality traits associated with specific reasons for the desire to leave the current residential location (e.g., dissatisfaction with current accommodation or neighborhood)?

PERSONALITY AND MIGRATION BEHAVIOR IN THE BRITISH HOUSEHOLD PANEL SURVEY

The BHPS (Research Centre on Micro-Social Change, 2010) is a longitudinal survey of a nationally representative sample of over 5,000 British households, with annual follow-ups since 1991. The original cohort included

10,264 individuals ages 16 to 97 at baseline ($M = 44.4$, $SD = 18.3$) and was based on a clustered, stratified sample of addresses throughout Great Britain south of the Caledonian Canal (excluding North of Scotland and Northern Ireland). New participants have been included in the sample over the years if they were born to original sample members, if they moved into a household in the original sample, or if a member of the original sample moved into a new household with one or more new people. In addition, the sample was enriched with additional recruitment of participants at Waves 9 and 11, from Scotland and Wales, and from Northern Ireland, respectively, thus extending the sample to cover the whole United Kingdom. The most recent (18th) follow-up of the BHPS was carried out in 2008–2009, after which the cohort became part of the larger Understanding Society Study (http://www.understandingsociety.org.uk/).

In the 15th study wave in 2005–2006, the participants were administered a 15-item version of the Big Five Inventory (BFI; John, Naumann, & Soto, 2008), with three items assessing each personality trait and rated on a 7-point scale: Extraversion (talkative; outgoing and sociable; reserved [R: reverse coded]), Neuroticism (worries a lot; gets nervous easily; relaxed, handles stress well [R]), Agreeableness (sometimes rude to others [R]; has forgiving nature; considerate and kind), Conscientiousness (does a thorough job; tends to be lazy [R]; does things efficiently), and Openness to Experience (original, comes up with ideas; values artistic and aesthetic experiences; has an active imagination).

In each study wave, the participants were asked about their desires to move ("If you could choose, would you stay here in your present home, or would you prefer to move somewhere else?" 0 = *stay*, 1 = *move*, 2 = *don't know*) and whether they expected to move ("Even though you may not want to move, do you expect you will move in the coming year?"). Because only 1% and 4% of participants, respectively, answered, "don't know" to these two questions, these individuals were excluded from the analyses. In addition to reporting their migration expectations, the participants were also queried about the main reason for their desire to move ("What is the main reason why you would prefer to move?") with a question in free response format (i.e., without giving specific items to select). The participants' answers were coded into 28 different categories related to housing, area, and other aspects. Actual residential mobility was assessed by asking whether the participant's current address was the same as on September 1 the previous year (0 = *same address*, 1 = *different address*). Thus, the time interval by which residential mobility was assessed depended on the participant's interview date, and time interval was therefore included as a covariate in models of residential mobility ($M = 12.9$ months, $SD = 1.1$). All the analyses were adjusted for sex, age, study year, race and ethnicity (0 = *White*, 1 = *other*), and subsample group

coded as a set of dummy variables (0 = *original sample*, 1 = *Wales*, 2 = *Scotland*, 3 = *Northern Ireland*). Educational level at the time of personality assessment was included as an additional categorical covariate (0 = *primary*, 1 = *secondary*, 2 = *tertiary education*) to examine the role of socioeconomic status.

The repeated measurements of migration desires, expectations, and actualized mobility over the four measurement times were pooled into a single data set so that baseline personality traits were used to predict migration desires and expectations at the four measurement times and actualized migration behavior between successive study waves. Random-intercept multilevel logistic regression was used to analyze the associations to take into account the nonindependence of repeated measurements within individuals.

For this analysis, all individuals with personality data were included (N = 13,283). The mean age of the participants was 47.3 years (SD = 18.1); 54.9% were women, 85.5% were White, and 55.6% were members of the original sample. Averaged across the four study waves, 30.0% of the participants reported that they would prefer to move, 11.8% expected to move during the next year, but only 8.7% moved between two successive study phases. In total, 23.3% of the participants moved at some point of the follow-up.

Personality and Migration Behavior

High Neuroticism, low Agreeableness, and high Openness to Experience were associated with a higher desire and expectation to move (see Table 4.1, Models 1 and 2). In agreement with these associations, individuals

TABLE 4.1
Associations Between Personality Traits and Migration Desires, Expectations, and Actualized Moves Over a 3-Year Follow-up

	Outcome		
Trait	Model 1: Desire to move	Model 2: Expects to move	Model 3: Actualized moves
Extraversion	1.00 (0.94–1.07)	1.11** (1.05–1.17)	1.03 (0.99–1.09)
Neuroticism	1.41** (1.32–1.49)	1.10** (1.04–1.16)	1.09** (1.04–1.14)
Agreeableness	0.86** (0.81–0.92)	0.94* (0.89–1.00)	0.98 (0.94–1.03)
Conscientiousness	1.03 (0.97–1.10)	0.93* (0.88–0.98)	0.95* (0.90–1.00)
Openness to experience	1.19** (1.12–1.27)	1.24** (1.17–1.31)	1.11** (1.06–1.17)
n (persons; person-observations)	13,814 (49,884)	13,773 (48,431)	13,823 (50,412)

Note. Values are odds ratios (and 95% confidence intervals) for mutually adjusted standardized personality traits (*SD* = 1) of random-intercept multilevel logistic regressions. All models are further adjusted for sex, age, study year, subsample, and race or ethnicity. Data from Research Centre on Micro-Social Change (2010).
*$p < .05$. **$p < .001$.

with high Neuroticism and high Openness to Experience were more likely to change residential location between two successive study waves, whereas Agreeableness was not associated with actualized mobility (see Table 4.1, Model 3). Conscientiousness was not associated with migration desire, but individuals with high Conscientiousness were less likely to move and expect to move than those with low Conscientiousness. Extraversion was associated only with a higher expectation to move. These associations were largely independent of educational level; adjusting for education amplified the association between Openness to Experience and migration desire from odds ratio (*OR*) = 1.19 to *OR* = 1.21, attenuated the association between Neuroticism and migration expectations from *OR* = 1.10 to *OR* = 1.09, and attenuated the association between Conscientiousness and actual moves from *OR* = 0.95 to *OR* = 0.96. Other changes in odds ratios were even smaller than these (data not shown).

Of the participants who reported no desire to move at a given study wave, 4.8% nevertheless moved during the next year. The probability of moving was much higher (16.8%) among those who did prefer to move, although the majority of individuals (83.2%) expressing such a migration desire stayed in their current location over the next year. Migration expectations were more strongly associated with subsequent mobility, with 41.8% of the individuals who expected to move actually moving within the next year, compared with only 3.4% of those with no migration expectations.

Personality and the Realization of Migration Desires and Expectations

To test whether personality traits were associated with differences in the actualization of migration desires and expectations, the odds of moving between two successive study waves were predicted by the interaction effects between personality traits and reported migration desires (see Table 4.2) and migration expectations (see Table 4.3) in the previous study wave.

The association between Conscientiousness and migration probability was dependent on migration desires and expectations in a logical manner (see Tables 4.2 and 4.3, respectively). High Conscientiousness was associated with lower migration probability among those with no migration desires (*OR* = 0.87, $p < .001$) or expectations (*OR* = 0.89, $p < .001$) but with higher migration probability among those with migration desires (*OR* = 1.08, $p = .06$) or expectations (*OR* = 1.16, $p < .001$). Neuroticism showed the opposite interaction effect with migration desire. Compared with individuals with low Neuroticism, individuals with high Neuroticism were more likely to move if they did not have migration desires (*OR* = 1.13, $p < .001$) or expectations (*OR* = 1.14, $p < .001$) but less likely to move if

TABLE 4.2
Associations Between Personality Traits and Migration Probability Over 3-Year Follow-up by Migration Desires in the Previous Year ($n = 13,815$)

Trait	Desired to move in the previous year		p for difference
	No	Yes	
Extraversion	1.04 (0.96–1.13)	1.01 (0.94–1.10)	.59
Neuroticism	1.13** (1.05–1.22)	0.93*** (0.86–1.01)	< .001
Agreeableness	0.98 (0.90–1.06)	1.01 (0.94–1.09)	.49
Conscientiousness	0.87** (0.8–0.94)	1.08*** (1.00–1.17)	< .001
Openness to experience	1.11* (1.02–1.20)	1.05 (0.97–1.14)	.33
n (persons; person-observations)	11,120 (26,308)	5,431 (9.847)	

Note. Values are odds ratios (and 95% confidence intervals) for standardized personality traits ($SD = 1$) calculated from logistic regression models including an interaction effect between personality trait and preference to move in the previous year (0 = *no*, 1 = *yes*), adjusted for all other personality traits, sex, age, study year, subsample, and race or ethnicity. Data from Research Centre on Micro-Social Change (2010). *$p < .05$. **$p < .001$. ***$p < .10$.

they did have migration desires ($OR = 0.93$, $p = .08$) or expectations ($OR = 0.94$, $p = .15$). There were no interaction effects between migration desires and other personality traits in predicting subsequent residential mobility, except that high Extraversion predicted lower migration probability among those with no migration expectations but not among those with migration expectations (see Table 4.3).

TABLE 4.3
Associations Between Personality Traits and Migration Probability Over 3-Year Follow-up by Expectations to Move in the Previous Year ($n = 13,772$)

Trait	Expected to move in the previous year		p for difference
	No	Yes	
Extraversion	1.03 (0.96–1.12)	0.89* (0.81–0.97)	.01
Neuroticism	1.14** (1.06–1.23)	0.94 (0.86–1.02)	< .001
Agreeableness	0.96 (0.89–1.04)	1.02 (0.94–1.12)	.27
Conscientiousness	0.89** (0.82–0.96)	1.16** (1.06–1.27)	< .001
Openness to Experience	1.04 (0.96–1.13)	1.00 (0.91–1.09)	.44
n (persons; person-observations)	12,357 (40,984)	2,982 (4,108)	

Note. Values are odds ratios (and 95% confidence intervals) for standardized personality traits ($SD = 1$) calculated from logistic regression models including an interaction effect between personality trait and migration expectations in the previous year (0 = *no*, 1 = *yes*), adjusted for all other personality traits, sex, age, study year, subsample, and race or ethnicity. Data from Research Centre on Micro-Social Change (2010). *$p < .05$. **$p < .001$.

Personality and Reasons to Move

To determine whether personality differences were associated with specific reasons for why the participants desired to move, five random-intercept multilevel linear regression models were examined (see Table 4.4). The models predicted the standardized personality score of one the five traits with the reason for the desire to move, adjusted for all the other four personality traits and other covariates. For this analysis, only individuals who expressed a desire to move were included and the personality scores were standardized within this group of individuals. This approach of investigating the associations between personality and reasons for the desire to move is not confounded by associations between personality and overall desire to migrate reported in Table 4.1, because only those individuals with a desire to migrate were included.

Health reasons and unspecified reasons had strong correlations with personality traits, but these were based on a small number of participants, so these associations cannot be considered reliable. The lack of safety and unfriendliness of residential areas had the broadest associations with different personality traits, with high Neuroticism, low Extraversion, and low Openness to Experience in particular being associated with these reasons. Most of the associations for Neuroticism were related to negative views of the residential area. Differences in Openness to Experience were associated with a variety of different reasons for migration desires. Individuals with high Openness were more likely to consider occupational reasons, children's education, reducing commuting time, and longing for a more rural environment, whereas individuals with low Openness to Experience viewed their residential area in a more negative light than those with high Openness to Experience. In addition to its associations with area considerations, high Extraversion was related to desires for better and own accommodation and with a desire for a specific place. Agreeableness and Conscientiousness had quite similar associations, with dislike of traffic and wanting larger accommodation being associated with high levels, and feelings of isolation and wanting a change being associated with low levels of these traits.

PERSONALITY AND MIGRATION DECISIONS

The data presented here add insight into the previously reported associations between personality traits and residential mobility. People with high Openness to Experience, high Neuroticism, and low Agreeableness were more eager to move than those with low Openness to Experience, low Neuroticism, and high Agreeableness. These associations with migration desires

TABLE 4.4
Associations Between Personality Traits and Reasons for Desiring to Move
(n = 7,697 persons; 23,370 person-observations)

	Personality trait					
Reason to move	E	N	A	C	O	% (n)
Health reasons	**−35**	—	[−37]	−38	−35	0.4 (91)
Area unsafe	−11	**19**	—	**−9**	**−20**	4.6 (1075)
No reason specified	**54**	—	[−55]	—	—	0.1 (12)
Unfriendly area	−9	10	−8	—	−10	4.8 (1112)
Dislikes traffic	—	—	**17**	**14**	—	1.7 (393)
Own accommodation	9	—	7	**−8**	7	6.2 (1447)
Feels isolated	—	—	−12	**−14**	—	4.0 (936)
Occupational reasons	—	—	—	—	**24**	1.1 (248)
For child's education	—	—	—	[27]	**23**	0.8 (196)
Retirement	—	—	—	22	—	0.2 (49)
Wants a change	—	—	**−10**	**−10**	—	3.9 (902)
Dislikes urban environment	—	—	—	—	18	0.5 (111)
Going to rural environment	—	—	—	**10**	**7**	6.7 (1574)
Larger accommodation	—	−5	**5**	**6**	—	16.2 (3796)
To buy somewhere	—	—	—	**16**	—	1.9 (435)
Dislikes area	—	6	—	—	**−9**	8.3 (1945)
Reduce commuting	—	—	—	—	15	1 (236)
No stairs	—	—	—	—	−13	2.4 (556)
Better accommodation	11	—	—	—	—	1.6 (379)
Another type	—	—	—	—	−9	2.9 (687)
Other housing aspects	—	—	—	—	9	4.3 (998)
Other	[8]	—	—	—	**8**	6.7 (1573)
Wants a specific place	**8**	—	—	—	—	8.0 (1867)
Dislikes accommodation	—	—	—	—	—	0.7 (172)
Dislikes noise	—	—	—	—	—	2.7 (635)
Family reasons	—	—	—	—	—	4.4 (1037)
More privacy	—	—	—	—	—	0.8 (178)
Smaller/cheaper accommodation	—	—	—	—	—	3.1 (730)

Note. E = extraversion; N = neuroticism; A = agreeableness; C = conscientiousness; O = openness to experience. Values are standardized (SD = 100) personality scores associated with different reasons for migration desires calculated from random-intercept multilevel regression models, adjusted for all other personality traits, age, sex, subsample, and race or ethnicity. Only statistically significant scores ($p < .05$) are shown. Scores printed in bold were significant in both prospective and main analysis. Scores in parenthesis were significant only in prospective analysis. The items are presented in the order of largest combined effect sizes with the five personality traits in the main analysis. Data from Research Centre on Micro-Social Change (2010).

and expectations are in agreement with previous studies that have demonstrated corresponding associations between these three personality traits and migration propensity (Camperio Ciani et al., 2007; Jokela, 2009; Jokela et al., 2008; Silventoinen et al., 2008). In this sample, Openness to Experience and Neuroticism, but not Agreeableness, were also associated with higher probability of actually moving.

The main effects of Conscientiousness suggested lower migration expectations and lower overall probability of moving among those with high Conscientiousness. However, more interesting results were revealed by interaction effects of Conscientiousness with migration desires and expectations. Higher Conscientiousness predicted higher migration probability among those who had migration desires or expectations, but lower probability among those with no desires or expectations to move. Thus, migration desires and expectations were more consistently associated with actual mobility among people with high Conscientiousness. These interaction effects fit in well with the research literature of Conscientiousness in other domains of behavior. People with high Conscientiousness are systematic, orderly, planful, and well-organized (John et al., 2008). Conscientious individuals who are planning to move in the near future are more likely to follow that plan through than are those with low Conscientiousness. Conscientious individuals who prefer to stay in their current location, by contrast, are less likely to move spontaneously or unexpectedly than their less conscientious peers. The main effect of higher Conscientiousness being associated with lower probability of moving thus appeared to reflect the fact that most people had no desire to move, in which case high Conscientiousness contributed to lower migration probability.

Interaction effects with migration desires and expectations suggested quite a different role for Neuroticism compared with Conscientiousness. People with high Neuroticism are highly sensitive to negative emotions, and they tend to experience negative feelings more often. Compared to with their emotionally stable counterparts, individuals with high Neuroticism were more likely to have a desire to move. This is in agreement with the hypothesis that Neuroticism increases neighborhood and housing dissatisfaction, which prompts individuals to relocate (Jokela, 2009). However, Neuroticism was associated with higher odds of actualized migration only among those with no desire or expectation to move in the near future, and there was a tendency for high Neuroticism to predict lower odds of moving among those who did have a desire to move. These patterns imply that high Neuroticism interferes with the realization of migration desires and expectations in both directions, increasing the odds of migration among those with no desire or expectation to move and decreasing the odds among those desiring or expecting to move. In other words, Neuroticism appears to contribute to a higher probability of unwanted and unexpected moves.

Many previous studies have demonstrated high Extraversion and sociability to predict more active migration behavior (Jokela, 2009; Jokela et al., 2008; Silventoinen et al., 2008). The lack of associations between Extraversion and migration outcomes in this sample is therefore surprising. The interaction effect with migration expectations was also unexpected and should be interpreted cautiously because of the lack of main effects and interaction

with migration desires. Perhaps this measure of Extraversion did not capture the individual variation that is relevant to migration behavior. Different traits related to Extraversion have been shown to have different effects in other domains of demographic behavior. For example, high Extraversion has been associated with higher probability of having children (Jokela, Alvergne, Pollet, & Lummaa, 2011). The temperament trait "novelty seeking" assessed by the Temperament and Character Inventory (Cloninger, Svrakic, & Przybeck, 1993) correlates positively with Extraversion ($r = 0.38$; Jokela & Keltikangas-Järvinen, 2011), but high novelty seeking has been associated with a lower rather than higher likelihood of having children (Jokela, Hintsa, Hintsanen, & Keltikangas-Järvinen, 2010). Whether similar opposing patterns are present in associations with residential mobility needs to be investigated with alternative measures of Extraversion.

The associations between personality traits and reasons for the desire to migrate suggested that personality differences are associated particularly with neighborhood dissatisfaction such as perceiving the current neighborhood to be unsafe and unfriendly. Openness to Experience, Conscientiousness, and Agreeableness had the most associations with different reasons for migration desires, but the data did not suggest any particularly coherent patterns of reasons for different traits. This analysis was limited by the measurement of the reasons for migration desires, which was not optimal, because the participants were asked only about one main reason for their migration desire. The topic needs to be addressed with a more psychometrically adequate measure of reasons to migrate.

FURTHER DIRECTIONS IN PSYCHODEMOGRAPHY

Migration desires, intentions, and expectations are prominent concepts in most individual-level models of residential mobility. However, several studies have demonstrated that self-reported migration desires, intentions, and expectations are surprisingly weak predictors of actual residential mobility (Colsher & Wallace, 1990; Lu, 1999; Tulloch, Fearon, Fahy, & David, 2010). For example, using the same BHPS data set as used in this analysis, Coulter, van Ham, and Feijten (2010) observed that only 55% of persons who desired and expected to move within the coming year actually moved. This indicates that almost half of the migration plans did not materialize, at least not in the short term. These findings have challenged the simple explanatory models that postulate a direct association between migration intentions and actual residential mobility.

Although various sociodemographic factors (Coulter et al., 2010; Kley & Mulder, 2010) and housing conditions (De Groot et al., 2011) have been

hypothesized to influence how migration plans are actualized, the psychological aspects of these explanatory models have not been examined in detail. The current findings help to fill in this gap by showing that migration desires and expectations are actualized differently in individuals with different personality characteristics. Personality may contribute to other stages of the migration process as well (e.g., how strongly a desire to move becomes materialized as an intention or expectation to move, how persistent migration desires or intentions are over time). Moreover, the social determinants of migration desires may be sensitive to personality differences. For example, people's residential dissatisfaction may be influenced to different degrees by different neighborhood and housing factors, depending on individual personality traits, and personality traits may also influence how strongly residential dissatisfaction leads to a desire to move.

It is also important to consider potential moderator effects. On the broadest level of analysis, cultural and sociodemographic differences between societies may modify the associations between personality and migration behavior. Countries differ in their average migration rates and in more specific migration patterns, such as the degree of rural-to-urban migration. Among countries of the Organisation for Economic Co-operation and Development, within-country residential mobility is most frequent in the Nordic countries, Australia, and the United States, and least frequent in Southern and Eastern Europe (Caldera Sánchez & Andrews, 2011); these differences are partially related to public policies regulating housing markets. Such structural factors might amplify or attenuate how personality differences become expressed in migration decisions.

Twin studies carried out in Australia and the Netherlands illustrated the possibility of cross-national differences in the individual determinants of residential mobility. In the Australian study (Whitfield, Zhu, Heath, & Martin, 2005), the urbanicity of residential location was partly heritable, especially in older participants ($h^2 = 0.40$), whereas in the Dutch study urban or rural location was determined solely by shared and nonshared environmental factors (Willemsen, Posthuma, & Boomsma, 2005). The authors of the Dutch study suggested that this may reflect the fact that the Netherlands is a smaller and much more densely populated country than Australia, and Dutch public policies of governmental housing allocations tend to favor moving near the parental home. These factors may attenuate heritable influences on urbanicity of residential location. With respect to personality, one could hypothesize that personality differences are stronger predictors of residential mobility in regions and socioeconomic conditions that set few constraints and obstacles for relocating; these are the circumstances in which external factors limit the expression of personal dispositions the least.

The psychological study of migration behavior also needs to consider the life-course patterns of migration behavior (Kley, 2011). The effects of personality on residential mobility may be moderated by lower level contextual factors that characterize people's social roles and life stages. Age, employment, marriage, and parenthood are among the most discussed indicators of important social roles affecting migration decisions (Kley, 2011). It is reasonable to expect that the same personality traits may influence the migration decisions differently in, say, unemployed parents with many children compared with single individuals with high income.

Thus, research focusing on the conditional interaction effects between personality traits and social circumstances can provide important insights on the psychological basis of migration behavior and mechanisms of migration decisions. Viewed as a sequential decision-making process that depends on the interplay between individual psychological dispositions and social circumstances, the psychological study of residential mobility can provide a more comprehensive understanding of why, how, and when different individuals move from one place to another.

REFERENCES

Boneva, B. S., & Frieze, I. H. (2001). Toward a concept of a migrant personality. *Journal of Social Issues, 57*, 477–491. doi:10.1111/0022-4537.00224

Caldera Sánchez, A., & Andrews, D. (2011). *To move or not to move: What drives residential mobility rates in the OECD?* (OECD Economic Department Working Papers No. 846) Retrieved from the OECD website: doi:10.1787/5kghtc7kzx21-en

Camperio Ciani, A., & Capiluppi, C. (2011). Gene flow by selective emigration as a possible cause for personality differences between small islands and mainland populations. *European Journal of Personality, 25*(1), 53–64. doi:10.1002/per.774

Camperio Ciani, A. S., Capiluppi, C., Veronese, A., & Sartori, G. (2007). The adaptive value of personality differences revealed by small island population dynamics. *European Journal of Personality, 21*(1), 3–22. doi:10.1002/per.595

Cloninger, C. R., Svrakic, D. M., & Przybeck, T. R. (1993). A psychobiological model of temperament and character. *Archives of General Psychiatry, 50*, 975–990. doi:10.1001/archpsyc.1993.01820240059008

Colsher, P. L., & Wallace, R. B. (1990). Health and social antecedents of relocation in rural elderly persons. *The Journal of Gerontology, 45*(1), S32–S38. doi:10.1093/geronj/45.1.S32

Coulter, R., van Ham, M., & Feijten, P. (2010). A longitudinal analysis of moving desires, expectations and actual moving behaviour. *Environment and Planning, 43*, 2742–2760. doi:10.1068/a44105

De Groot, C., Mulder, C. H., & Manting, D. (2011). Intentions to move and actual moving behaviour in the Netherlands. *Housing Studies, 26*, 307–328. doi:10.1080/02673037.2011.542094

Frieze, I. H., Hansen, S. B., & Boneva, B. (2006). The migrant personality and college students' plans for geographic mobility. *Journal of Environmental Psychology, 26*, 170–177. doi:10.1016/j.jenvp.2006.05.001

Greenwood, M. J., & Hunt, G. L. (2003). The early history of migration research. *International Regional Science Review, 26*(1), 3–37. doi:10.1177/0160017602238983

Hobcraft, J. (2006). The ABC of demographic behavior: How the interplays of alleles, brains, and contexts over the life course should shape research aimed at understanding population processes. *Population Studies, 60*, 153–187. doi:10.1080/00324720600646410

John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big-Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 114–158). New York, NY: Guilford Press.

Jokela, M. (2009). Personality predicts migration within and between U.S. states. *Journal of Research in Personality, 43*(1), 79–83. doi:10.1016/j.jrp.2008.09.005

Jokela, M., Alvergne, A., Pollet, T. V., & Lummaa, V. (2011). Reproductive behavior and personality traits of the Five Factor Model. *European Journal of Personality, 25*, 487–500. doi:10.1002/per.822

Jokela, M., Elovainio, M., Kivimäki, M., & Keltikangas-Järvinen, L. (2008). Temperament and migration patterns in Finland. *Psychological Science, 19*, 831–837. doi:10.1111/j.1467-9280.2008.02164.x

Jokela, M., Hintsa, T., Hintsanen, M., & Keltikangas-Järvinen, L. (2010). Adult temperament and childbearing over the life course. *European Journal of Personality, 24*, 151–166.

Jokela, M., & Keltikangas-Järvinen, L. (2011). The association between low socioeconomic status and depressive symptoms depends on temperament and personality traits. *Personality and Individual Differences, 51*, 302–308. doi:10.1016/j.paid.2010.05.004

Kley, S. (2011). Explaining the stages of migration within a life-course framework. *European Sociological Review, 27*, 469–486. doi:10.1093/esr/jcq020

Kley, S. A., & Mulder, C. H. (2010). Considering, planning, and realizing migration in early adulthood. The influence of life-course events and perceived opportunities on leaving the city in Germany. *Journal of Housing and the Built Environment, 25*(1), 73–94. doi:10.1007/s10901-009-9167-8

Lu, M. (1999). Do people move when they say they will? Inconsistencies in individual migration behavior. *Population and Environment, 20*, 467–488. doi:10.1023/A:1023365119874

Murray, G., Judd, F., Jackson, H., Fraser, C., Komiti, A., Hodgins, G., . . . Robins, G. (2005). The five factor model and accessibility/remoteness: Novel evidence

for person–environment interaction. *Personality and Individual Differences, 39*, 715–725. doi:10.1016/j.paid.2005.02.007

Rentfrow, P. J., Gosling, S. D., & Potter, J. (2008). A theory of the emergence, persistence, and expression of geographic variation in psychological characteristics. *Perspectives on Psychological Science, 3*, 339–369. doi:10.1111/j.1745-6924.2008.00084.x

Research Centre on Micro-Social Change. (2010). *British Household Panel Survey user manual: Vol. A. Introduction, technical report and appendices*. Colchester, England: University of Essex.

Rossi, P. H. (1955). *Why families move: A study in the social psychology of urban residential mobility*. Glencoe, IL: Free Press.

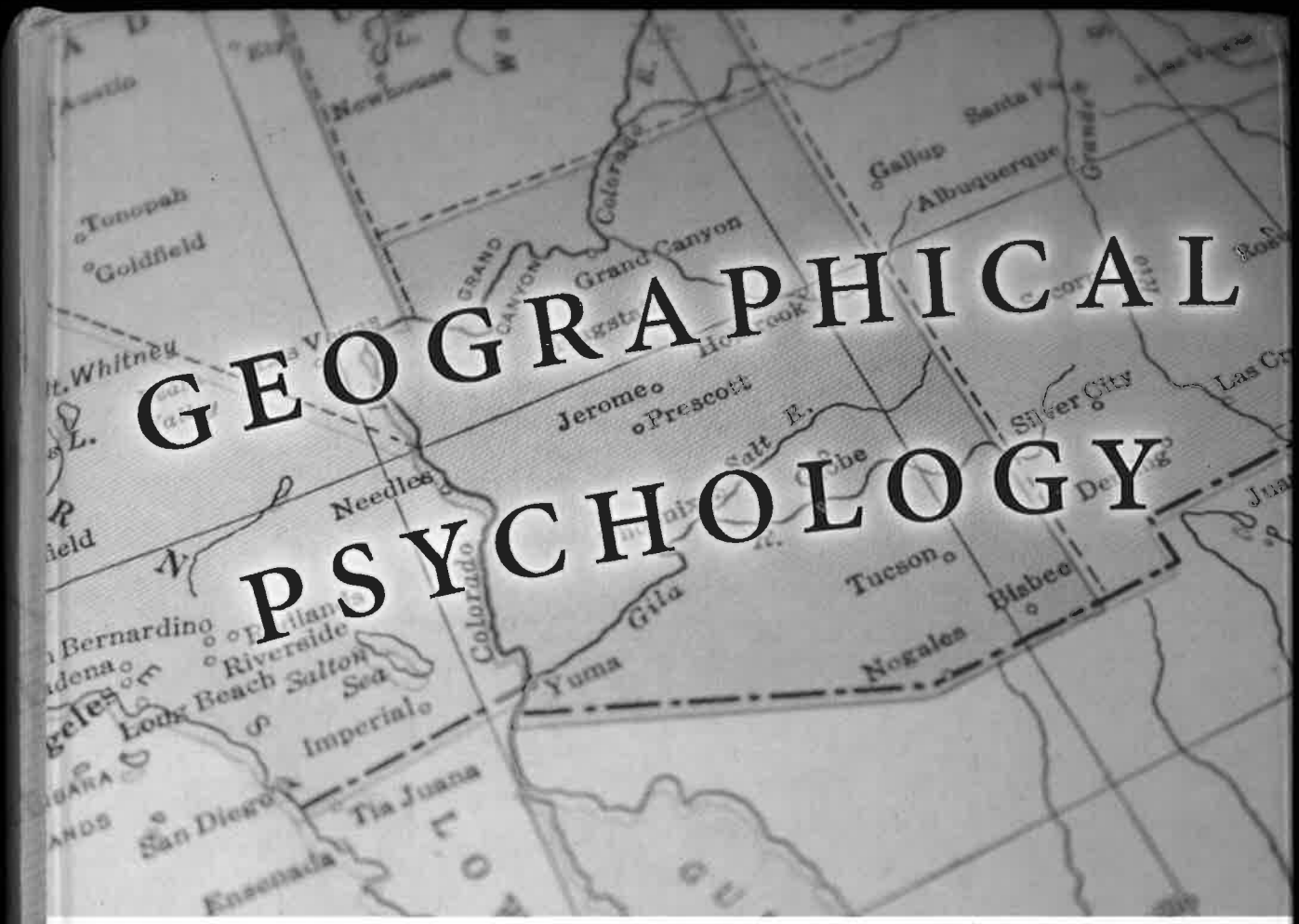
Silventoinen, K., Hammar, N., Hedlund, E., Koskenvuo, M., Ronnemaa, T., & Kaprio, J. (2008). Selective international migration by social position, health behaviour and personality. *European Journal of Public Health, 18*, 150–155. doi:10.1093/eurpub/ckm052

Tulloch, A. D., Fearon, P., Fahy, T., & David, A. (2010). Residential mobility among individuals with severe mental illness: Cohort study of UK700 participants. *Social Psychiatry and Psychiatric Epidemiology, 45*, 767–777. doi:10.1007/s00127-009-0115-4

Whitfield, J. B., Zhu, G., Heath, A. C., & Martin, N. G. (2005). Choice of residential location: Chance, family influences, or genes? *Twin Research and Human Genetics, 8*, 22–26. doi:10.1375/twin.8.1.22

Willemsen, G., Posthuma, D., & Boomsma, D. I. (2005). Environmental factors determine where the Dutch live: Results from the Netherlands twin register. *Twin Research and Human Genetics, 8*, 312–317. doi:10.1375/twin.8.4.312

Wolpert, J. (1966). Migration as an adjustment to environmental stress. *Journal of Social Issues, 22*(4), 92–102. doi:10.1111/j.1540-4560.1966.tb00552.x



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Peter J. Rentfrow