Unraveling the Ethnic Density Effect in Immigrants from the Former Soviet Union

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INTRODUCTION

-**The *ethnic density (ED) effect*** relates to the benefits conferred on those who live in local areas with a greater proportion of individuals from the same ethnic background (Stafford et al., 2009)

-ED has been associated with fewer hospital admissions, psychotic disorders, fewer common mental disorders, depression, and physical symptoms (Becares et al., 2012; Shaw et al., 2012)

-ED can be measured *objectively* (e.g., using census data) as well as *subjectively* (i.e., perceived density) (Stafford et al., 2009)

-Mechanisms of ED remain unclear: studies suggest that ED is associated with discrimination and social support, but more empirical evidence is needed (e.g., Das-Munshi et al., 2012; Jurcik et al, in press)

-***Bidimensional acculturation*** is the degree to which immigrants identify with the behaviour, beliefs, and values of the *heritage* and *mainstream* cultures. While many studies have highlighted the role of heritage and mainstream in predicting mental health outcomes, inconsistencies remain (e.g., Ahmed et al., 2011; Asvat & Malcarne, 2008; Ryder et al., 2000; Rudmin et al., 2009)

-***Ecology-acculturation fit or match.*** Ethnic density may moderate the heritage acculturation-adjustment relation. For instance, heritage acculturation was shown to be be protective in high but not low ED contexts (Jurcik et al., in press; Miller et al., 2009)

-**The *Russian-speaking community*** in Montreal is rapidly growing (approx. 35,000 in 2011), but has received little scholarly attention. In this non-visible minority group, social support has been found to play a large protective role against depression. Russian social support is directive, instrumental and 'in your face' (Chentsova-Dutton & Vaughn, 2011; Jurcik et al., 2013; Mirsky, 2009; Statistics Canada, 2011)

-***Aims:*** The current study replicates and extends the findings from our previous pilot research with multi-ethnic immigrants in a Russian speaking community sample (Jurcik et al., in press)

Research Hypotheses

-*H1:* Perceived ED will be related to objective ED, more social support, less discrimination and less distress
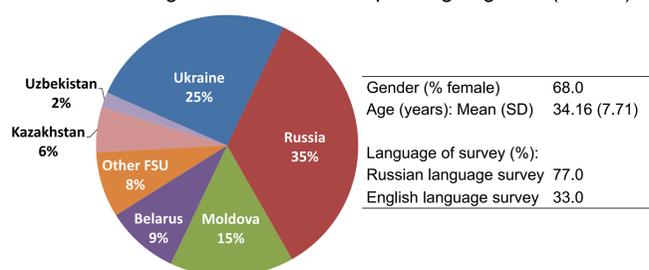
-*H2:* Higher social support and lower discrimination will mediate the relation between perceived ethnic density and psychological distress

-*H3:* The relation between heritage acculturation and distress will depend on levels of perceived ED, consistent with ecology-acculturation match theory. Moderating effects of time spent in neighborhood and ethnic density on the relation between acculturation and distress will be explored in a 3-way interaction

METHOD
Participants
Table 1. First generation Russian-speaking migrants (*N*=269)

Gender (% female)	68.0
Age (years): Mean (SD)	34.16 (7.71)

Language of survey (%):	
Russian language survey	77.0
English language survey	33.0

Note. Immigrants born outside of the FSU were excluded.

Measures

a. Perceived Ethnic Density-Composite (ED; extension of Stafford et al., 2009)
Estimate how many people from your own ethnic group live in your area? Indicate the extent to which you have access to: Your Language, Resources from ethnic group; Specialty products in local area; (*α*=.73) (with Objective Linguistic Density; 2011 Census, *r* = .46, *p*<.001)

b. Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000)
Assesses heritage and mainstream acculturation (Ryder et al., 2000)
-Heritage: *e.g., I often participate in heritage culture traditions* (*α*=.85)
-Mainstream: *e.g., I believe in mainstream [English or French] Canadian values* (*α*=.85)

c. Perceived Discrimination Scale (PERDS; Noh & Kaspar, 2003)
e.g., In Canada, because of discrimination, have you ever been treated unfairly? (*α*=.93)

d. Family Crisis Oriented Personal Scale-Acquiring Social Support (F-COPES; McCubbin et al., 1996)
Assesses effective ways for families to respond to problems
e.g., Asking neighbours for assistance and favours (*α*=.78)

e. General Health Questionnaire (GHQ-12; Goldberg, 1989)
Assesses general psychiatric distress
e.g., worry keeps me up at night (*α*=.78)
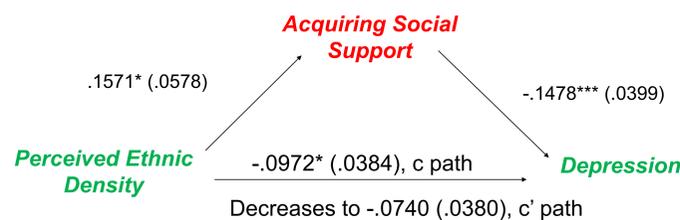
RESULTS

HYPOTHESIS 1

Table 2. Correlation matrix for ethnic density, discrimination, distress, social support, and acculturation

	ED	PERDS	GHQ	F-COPES[1]	VIA-H	VIA-M
ED	------	.08	**-.15**	**.15**	.09	.10
PERDS		------	.08	.02	.07	.06
GHQ			------	*-.24*	-.08	**-.14**
F-COPES[1]				------	**.13**	*.19*
VIA-H					------	*.17*
VIA-M						------

Note. ED = Perceived Ethnic Density, PERDS = Perceived Discrimination, CES-D = Depression, GHQ = Distress, F-COPES[1] = Family-Oriented Personal Evaluation Scale, Acquiring Social Support subscale MSPSS = Social Support, VIA-H = Heritage Acculturation, VIA-M = Mainstream Acculturation (French or English). *N*=262. Significant statistics are bolded (*p*<.05) or italicized (*p*<.01) in green.

HYPOTHESIS 2

Figure 1. The perceived ethnic density and depression relation mediated by acquiring social support, using bootstrapping analysis

Acquiring Social Support

.1571* (.0578)   -.1478*** (.0399)

Perceived Ethnic Density   *Depression*

-.0972* (.0384), c path

Decreases to -.0740 (.0380), c' path

Note. **Indirect effect = -.0232**, *SE*=.0103, Percentile corrected 95% CI (-.0457 to -.0056) . A bootstrap test with 5000 resamples was used (Hayes, 2012). *N* = 266. * *p* < .05; *** *p* < .001

HYPOTHESIS 3

Table 3. Hierarchical multiple regression (bootstrapped) of distress (GHQ-12) on ethnic density, acculturation, years lived in neighbourhood and interactions

| Variables	B	sr	Step 3 95% CI Lower	Upper	p
Main effects (Block 1)					
†Ethnic density (ED)	-.02	-.01	-.17	.12	.83
Time in Neighborhood	.05	.04	-.12	.21	.56
Heritage Acculturation (VIA-H)	.03	.05	-.05	.12	.50
Ethnic Density Interactions (Block 2)					
†ED x VIA-H	-.10	-.11	-.22	.02	.09
†ED x Time (Neighborhood)	-.21	-.12	-.43	.01	.06
†VIA-H x Time (Neighborhood)	-.11	-.11	-.25	.02	.11
Time in Neighborhood Interactions (Block 3)					
†ED x VIA-H x Time (Neighborhood)	.18	.13	.01	-.36	.04
R²		.06			
R² Change		.02			

Note. Final step is presented. Unstandardized beta (B), semi-partial correlations (*sr*), 95% Percentile Confidence Interval (CI) are reported. *N*=265.
†In order to preserve group size in the regression, ethnic density was dichotomized into high (*n*=137) and low (*n*= 128) groups and length of residence (Time) in the neighbourhood was low (less than 2 years, *n*=145) or high (more than 2 years, *n* = 120). Age, gender, and household income did not correlate with depression and were therefore not controlled for. Green indicates significance; blue indicates marginal significance.

Figure 2. Interaction between ethnic density and heritage acculturation for psychological distress (at *less than two years* in neighbourhood)
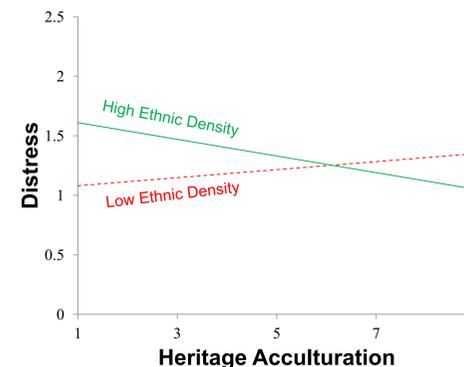
Note. Mean item scores for distress and heritage acculturation are presented without accounting for other variables in the model

Figure 3. Interaction between ethnic density and heritage acculturation for psychological distress (at *more than two years* in neighbourhood)
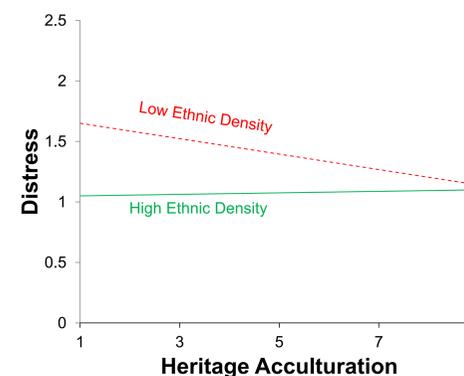
Note. Mean item scores for distress and heritage acculturation are presented without accounting for other variables in the model. The Low ED group was higher on PERDS than the low ED group which had resided less than 2 years in the neighbourhood

SUMMARY

-*H1:* Perceived ED correlated negatively with distress and positively with acquisition of social support, but not negatively with perceived discrimination (Table 2). Perceived ED correlated positively with objective linguistic density.

-*H2:* The negative relation between ED and distress was mediated by social support (Figure 1), but not by perceived discrimination.

-*H3*: Ethnic density together with years of neighbourhood residence moderated the heritage acculturation-distress relation. Consistent with ecology-acculturation match theory, for immigrants who lived in the neighborhood less than 2 years, there was a trend for heritage acculturation to be protective in high ED contexts (Figure 2). Unexpectedly, a reversed trend was observed for low ED for immigrants who lived in the neighborhood for more than 2 years (Figure 3).

DISCUSSION

This is the first study showing a relation between perceived ethnic density and psychological distress being partially mediated by acquiring social support for family problems in the Russian-speaking immigrant community in Montreal. In contrast, our previous study showed reduced discrimination to be a mechanism with visible minority immigrants. ED may thus play a different role with different populations (Jurcik et al., in press)

In addition, the three-way interaction demonstrated the importance of studying acculturation in ecological context, including the length of neighbourhood residence. The cross-over interaction (Figure 2) suggested that a *match* between ethnic density and heritage acculturation (high-high or low-low) may be related to less distress in immigrants who were more recent residents to their neighborhood, as opposed to a mismatch (i.e., low-high). A different mechanism (e.g., cumulative risk) may apply for longstanding resident (see also Asvat & Malcarne, 2008; Birman et al., 2005; Miller et al., 2009).
Clinical implications
ED may play a protective role through different mechanisms depending on the sample, suggesting a tailored rather than "one size fits all" approach to prevention. Assessment of heritage and mainstream acculturation levels may be combined with patient ecology (e.g., local area ethnic density) in order to better contextualize adjustment challenges.
Limitations and future directions
First, we conveniently sampled a heterogeneous Russian-speaking immigrant population through an online survey, potentially excluding a segment of this community. Second, the study was cross-sectional in nature; hence cause-effect relations are difficult to determine. Finally, participants chose to complete the survey in either English or Russian, however the cultural equivalence of the constructs may not have been preserved during the translation process. Future longitudinal research may clarify causal relations and changing associations between ethnic density and acculturation. Clinical studies may evaluate the utility of subjective ED measures in combination with bidimensional acculturation in the assessment of distressed migrants.
Conclusion
The current study found that the ethnic density effect was mediated by acquiring social support in Russian immigrants. Our findings highlight the importance of *match* between acculturation and ecological factors in predicting immigrant mental health outcomes for people who are recent residents to their neighbourhoods. A different mechanism may be operating for Russian immigrants who have resided for longer in their local areas.

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