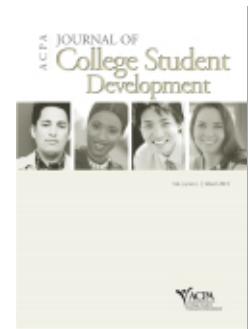




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Rural Compared to Urban Home Community Settings as Predictors of First-Year Students' Adjustment to University

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Undergraduates (N = 2,823) at 6 universities were surveyed longitudinally to examine the relevance of student home setting on the transition to university. Preliminary results indicated that rural students seem less likely to attend large, ethnically diverse universities. Hierarchical linear models revealed that "proximal rural" students reported better social adjustment than did urban students in November; however, this relationship was accounted for by living in residence. Similar results were found in March but not mediated by residence. Proximal rural students also reported greater institutional attachment than did urban students in November. The findings highlight important research issues pertaining to students' adjustment to university.

Entering university is a major life transition that can be challenging for some students (Pascarella & Terenzini, 1991). Factors identified as important to the transition include student characteristics, residence

status, and parental relationships (Astin, 1984/1999; Wintre & Yaffe, 2000). However, few studies have considered whether the transition may vary depending on the size of the student's home community setting or the process of adjustment over the course of the first year. Rural students are not only less likely to attend postsecondary studies but also are more likely to drop out than are urban students (Herzog & Pittman, 1995; Statistics Canada, 2005), which may be due to "culture shock" or a mismatch of community and university size (cf. Wintre et al., 2008). It has been noted that rural students, particularly females, experience more stress related to academic preparedness and opportunities, amount of faculty contact, and social-personal alienation than do urban students (Ginsberg, 1980; Murphy, 1984). Previous research on the topic has been limited in their methodologies (i.e., typically only involving one university site, one data collection, and a

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global measure of adjustment). It is important to measure adjustment at different time points, as adjustment may fluctuate overtime, as well as specific aspects of adjustment and to survey multiple sites, increasing the generalizability of the findings.

The present study provides a more comprehensive investigation of the transition to university for rural and urban Canadian students using six university sites varying in size of host city, size of student population, and ethnic composition. It also considered progressive adjustment over the first year by using a longitudinal design and examined four different aspects of university adjustment: academic, social, personal-emotional, and institutional attachment (Baker & Siryk, 1984, 1989). Possible confounding variables, such as gender, living in residence, and socioeconomic status (SES), also were examined.

METHOD

Participants

First-year students ($N = 2,823$; 55.2% male) from six Canadian universities participated in the study (see Table 1 for demographic information and Table 2 for university characteristics; note that universities in Canada are equivalent to 4-year state universities in the United States; living in residence is optional for all students; and the present university sample is representative of Canadian universities, except perhaps for those in Quebec). Data were collected in August prior to school attendance, in November (T1; $n = 1,743$) for early transition effects, and again in March (T2; $n = 1,475$) for second term adjustment. Regarding the attrition rates (52.2%), more females persisted in the study than did males, $\chi^2(1) = 33.19$, $p < .001$.

Students reported the size of their home community as hamlet/outport ($n = 186$), small town ($n = 701$), moderate city ($n = 1,184$),

TABLE 1.
Demographic Characteristics of
the Sample ($N = 2,823$)

Demographic Variable	<i>n</i>	%
Age	<i>M</i> (<i>SD</i>)	17.93 (0.75) 100.0
<i>Gender</i>		
Male	1,255	44.5
Female	1,547	54.8
<i>Community Classifications</i>		
Urban ^a	1,906	67.5
Proximal Rural ^b	432	15.3
Distal Rural ^c	304	10.8
<i>Student Reported Family Income</i>		
Below Average	333	11.8
Average	1,608	57.0
Above Average	846	30.0
<i>Canadian Generational Status</i>		
Immigrant	566	20.0
1st Generation Canadian	433	15.3
2nd + Generation Canadian	1,757	62.2
<i>Ethnicity/Race</i>		
Non-Hispanic White	1,941	68.8
Black / African Canadian	87	3.1
Asian / Pacific Islander	509	18.0
Hispanic	77	2.7
Mixed	88	3.1
Other	86	3.0

Note. Frequencies may not equal 2,823 and total percentages may not equal 100% due to missing data.

^a Moderate city or metropolitan area.

^b Hamlet/outport or small town or < 80 km away from a large city.

^c Hamlet/outport or small town > 80 km away from a large city.

TABLE 2.

Description of the Six University Settings and Student Population

University Characteristic	University A	University B	University C	University D	University E	University F
Student Population ^a	50,871	50,691	18,689	13,086	9,669	17,600
Population Of Host Community ^b	2,503,281	2,503,281	114,943	97,475	668,549	100,646
<i>Community Group^c</i>						
Urban	93.9	91.8	61.1	68.7	91.5	39.1
Proximal Rural	4.2	7.2	27.4	23.6	7.2	21.6
Distal Rural	1.9	1.1	11.5	7.7	1.3	39.3
<i>Residence Status^c</i>						
Living In Residence	21.2	13.6	87.6	85.2	12.5	45.5
Commuter	78.8	86.4	12.4	14.8	87.5	54.5
<i>Socioeconomic Status^c</i>						
Below Average	19.0	17.9	9.6	7.9	14.1	6.7
Average	53.2	55.8	57.5	52.5	60.9	66.4
Above Average	27.8	26.3	33.0	39.6	25.0	26.9
<i>Canadian Generational Status^c</i>						
Immigrant	41.5	33.9	10.0	10.9	39.7	1.4
1st Generation	25.8	27.5	10.9	9.2	30.4	0.6
2nd + Generation	32.7	38.6	79.1	80.0	29.8	98.0
<i>Ethnicity/Race^c</i>						
Non-Hispanic White	40.6	51.5	84.2	82.8	39.2	97.6
Black / African Canadian	3.3	6.5	1.9	2.8	5.7	0.0
Asian / Pacific Islander	44.4	26.1	7.5	9.0	36.9	0.8
Hispanic	2.3	5.5	2.1	1.3	7.3	5.5
Mixed	4.3	3.8	3.2	2.2	6.1	1.0
Other	5.1	6.7	1.1	1.8	4.8	0.4

Note. Demographic information is based on percentages and may not equal 100% due to rounding.

^a cf. Wintre, 2008.

^b Based on 2006 census data (Statistics Canada, 2010).

^c Percentages within the university are taken from the current 2004/2005 sample ($N = 2,823$).

or large metropolitan ($n = 722$). They also classified the proximity of their community to a city (population of $\geq 100,000$) as < 40 km ($n = 452$), 40 to 80 km ($n = 240$), or > 80 km ($n = 322$). Students were categorized into one of three groups (Stanley, Comello, Edwards, & Marquart, 2008): (a) “urban” ($n = 1,906$) students from a moderate to large city, (b) “proximal rural” ($n = 432$) students from a hamlet/outport/small town located < 80 km from a large city, or (c) “distal rural” ($n = 304$) students from a hamlet/outport/small town > 80 km from a large city.

Measure

The Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1984, 1989), completed at T1 and T2 to assess student adjustment, is a 67-item measure that uses a 9-point Likert-type scale ranging from 1 (*doesn't apply to me at all*) to 9 (*applies very closely to me*). The SACQ has four subscales: Academic (24 items; $\alpha = .89$ and $.90$; e.g., “I enjoy writing papers for courses”), Social (20 items, $\alpha = .98$ and $.90$; e.g., “I have been feeling lonely a lot at university lately”), Personal–Emotional (15 items, $\alpha = .89$ and $.90$; e.g., “I haven’t been sleeping well lately”), and Institutional Attachment (15 items, $\alpha = .87$ and $.88$; e.g., “I wish I were at another university”).

Data Analyses

Preliminary analyses indicated that students from both rural backgrounds were unlikely to attend large, ethnically diverse universities, $\chi^2(10) = 714.72$, $p < .001$ (Table 2). Thus, hierarchical linear modelling (HLM) was used, with “university” as the level 2 predictor. Altogether, eight models were tested, one for each SACQ subscale at each time point. Total SACQ scores were also modeled, but not reported here. (For the results and further details please contact the authors.) Also note

that the model for the personal-emotional subscale at T2 did not converge, so is not reported. High school average, gender, and two SES dummy codes were used as covariates. T1 subscale scores were used as covariates in T2 models to examine adjustment progress across the first year.

RESULTS

The size of community groups differed in terms of SES, $\chi^2(4) = 17.20$, $p < .01$, such that students from both rural groups are more likely to report “average” than “above average” SES. Rural students were more likely to be at least second-generation Canadians, $\chi^2(4) = 329.68$, $p < .001$; whereas urban students were more likely to be immigrants or first-generation Canadians. As expected, rural students were more likely than were urban students to live in residence, $\chi^2(4) = 318.91$, $p < .001$. No group differences existed regarding incoming high school average or gender.

At T1 (Table 3), size of community predicted social adjustment for proximal rural versus urban students, $\beta = 4.65$, $SE = 2.37$, $p = .04$, with better social adjustment for students from proximal rural communities. However, when residence versus commuter was included in the model, $\beta = 6.37$, $SE = 1.85$, $p = .001$, residence fully mediated the relationship such that, for social adjustment, living in residence was more advantageous than was commuting. Size of community also was significant for institutional attachment, $\beta = 3.84$, $SE = 1.77$, $p = .030$. Students from proximal rural areas reported higher levels of institutional attachment than did those from urban areas, but in contrast to social adjustment, residence did not mediate this relationship. Finally, high school average, gender, and below average versus average SES were consistently significant for the four T1 models (see Table 3). Students with

TABLE 3.

Hierarchical Linear Model Results of Student Adjustment to University in November Based on the Predictors

Level 1 Predictors	Parameter	Academic Adjustment		Social Adjustment		Personal-Emotional Adjustment		Institutional Attachment	
		β	SE	β	SE	β	SE	β	SE
Intercept	γ_{00}	57.28***	10.05	95.10***	9.77	44.60**	7.92	79.94****	7.38
High School Average	γ_{10}	0.89****	0.86	0.24**	0.12	0.43****	.09	0.20**	0.09
Gender	γ_{20}	-2.24	1.44	-4.66***	1.39	-9.38****	1.14	-2.41**	1.06
Below vs. Average	γ_{30}	-6.53***	2.30	-6.60***	2.22	-6.41***	1.82	-3.88**	1.70
Average vs. Above	γ_{40}	3.10*	1.58	1.45	1.51	1.94	1.25	0.81	1.16
Proximal vs. Urban	γ_{50}	2.24	2.43	4.65**	2.37	0.45	1.91	3.84**	1.77
Distal vs. Urban	γ_{60}	0.09	1.97	3.50†	1.90	0.90	1.54	2.60†	1.44
<i>Variance Components</i>									
Level 1 variance	σ^2	733.82***	26.93	681.23***	24.92	459.69***	16.89	396.80****	14.58
Level 2 variance	T_{00}	7.67	7.25	16.97†	12.66	2.62	3.10	2.93	3.00

* $p < .1$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

higher high school averages and those with average SES (versus below average) had better adjustment across domains ($p < .05$). Although males and females reported similar academic adjustment, males reported higher levels of social and personal-emotional adjustment and institutional attachment than did females.

In contrast to T1 findings, size of community was significant only for social adjustment, $\beta = 4.55$, $SE = 1.82$, $p = .013$, such that students from proximal rural areas continued to improve socially more than did those from urban areas; however, residence no longer mediated this relationship. For T2 models in general (Table 4), T1 scores were significant covariates, suggesting that higher levels of early adjustment predict better adjustment in March. Again, higher high school averages were associated with better adjustment across

domains; however, SES and gender were no longer significant covariates.

DISCUSSION

The present results suggest that students from rural backgrounds choose to attend smaller universities, a choice that seems appropriate and beneficial. Proximal rural students report better social adjustment and institutional attachment in the first term than do urban students. It also appears that living in residence during the first term fosters social adjustment for proximal rural students, findings consistent with previous studies that emphasized the importance of residence life (Astin, 1984/1999). At the end of first year, although proximal rural students continue to experience better social adjustment, urban students "catch-up" to the rural students

TABLE 4.

Hierarchical Linear Model Results of Student Adjustment to University in March
Based on the Predictors

Level 1 Predictor	Parameter	Academic Adjustment		Social Adjustment		Institutional Attachment	
		β	SE	β	SE	β	SE
Intercept	γ_{00}	15.89	8.59	10.43	7.77	11.99	6.32
November Adjustment	γ_{10}	0.70****	0.02	0.75****	0.02	0.73****	0.02
High School Average	γ_{20}	0.36****	0.10	0.28****	0.09	0.23***	0.07
Gender	γ_{30}	-2.07*	1.23	-1.08	1.09	-1.38	0.88
Below vs. Average	γ_{40}	-0.61	1.92	-3.16*	1.71	-2.56*	1.37
Average vs. Above	γ_{50}	1.49	1.34	-0.19	1.18	0.10	0.96
Proximal vs. Urban	γ_{60}	1.43	2.04	4.55**	1.82	1.45	1.46
Distal vs. Urban	γ_{70}	2.34	1.66	2.38	1.47	1.06	1.19
<i>Variance Components</i>							
Level 1 variance	σ^2	366.33****	15.97	288.29****	12.54	186.23****	8.16
Level 2 variance	τ_{00}	8.66	6.95	7.26	5.90	3.52	3.06

* $p < .1$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

with regard to their sense of institutional attachment. Finally, when gender and SES are controlled for, there appear to be no differences between rural and urban students regarding academic adjustment. These findings are encouraging, as they suggest that rural students are adjusting as well, if not better, than urban students are, inconsistent with previous research (Ginsberg, 1980; Murphy 1984), which were limited in their methodologies (e.g., cross-sectional research designs with general/overall adjustment measures).

The strengths of the present study are important to discuss and contribute to the fidelity of the results. Of note, by using HLM and including important covariates (e.g., SES, T1 data), the present findings are not contaminated by confounding variables and address the inherent complexities of comparing rural and urban university students. The diversity and number of universities sampled also increase the generalizability of the findings to students across Canada and the United States alike. Furthermore, initial adjustment (T1) is a significant covariate across all the second term models, indicating that earlier adjustment enhances later adjustment. Results from T1 and T2 also varied, emphasizing that the transition continues over time and that results from research will depend on the time of year data are collected. Finally, employing

the four subscales of university adjustment allowed the researchers to specify areas of adjustment that are most salient for rural and urban students (e.g., social adjustment and institutional attachment).

As with any research endeavour, there were limitations of the present study. For example, it is unknown whether the students who did not complete T2 data dropped out of university, which may have resulted in a response bias. Future multisite research may address the limited number of rural students attending larger universities as well as different aspects of community contexts (e.g., high school characteristics, etc.) to gain more information about which aspects of community-related context influence student adjustment.

This study addressed many of the complexities of studying rural versus urban students' transition to university by employing sophisticated data analyses that controlled for choice of university and university characteristics and included important covariates (e.g., gender, high school average, SES), multiple time points during the first year, and multiple outcome variables.

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