Measuring Social and Cultural Integration in Canada: The Creation and Application of an Index

Lloyd L. Wong
Department of Sociology
University of Calgary, Canada

Presentation at:

Prairie Metropolis Centre
Saskatoon Research Symposium
November 19th, 2010

Measuring Immigrant Integration - Literature

- United States – Immigrant integration (assimilation) has recently been measured by an *Index of Immigrant Assimilation* developed by Manhattan Institute for Policy Research (2008).

- Index has three component indexes: 1) economic assimilation; 2) cultural assimilation; and 3) civic assimilation.

- Examples of measures: 1) earnings; 2) labor force participation; 3) ability to speak English: 4) inter-marriage; and 3) naturalization.

Measuring Immigrant Integration – Literature (cont'd)

- Europe – Peter Reinsch (2001) *Measuring Immigrant Integration: Diversity in a European City*.

- Integration Index consists of five variables:
  1) income;
  2) usage of local services;
  3) perception of educational and employment opportunity;
  4) local satisfaction; and
  5) participation in cultural activities & use of public space.

- Points out that surveys are just one tool that can be used to measure immigrant integration.

The Creation of a Canadian Integration Index

1. Selected potential variables in the Ethnic Diversity Survey (Statistics Canada, 2002) based on relevance to the citizenship and social, cultural and civic integration domain.

   - Total of 19 variables identified.

   - 5 general variables related to civic participation:
     (volunteering, membership and participation in civic organizations & clubs)

   - 3 variables related to political participation:
     (voting in elections - federal, provincial, municipal)

Creation of Canadian Integration Index – cont'd

- 7 general variables related to comfort, trust, and belonging to Canada:

(sense of comfort based on ethnicity, culture, race, skin color, language, accent, region)

(sense and extensiveness of trust in people, in the neighborhood, co-workers, school mates)

(sense of belonging to municipality, province, Canada)

- 4 general variables related to discrimination:

(experience, frequency, reason, and place, of discrimination or unfair treatment because of ethnicity, culture, race, skin color, language, accent, religion)

Creation of Canadian Integration Index – cont'd

2. All 19 variables were standardized to make them comparable.

3. Statistical technique called factor analysis used to reduce the number of variables to end up with a reliable index.

4. Series of factor analysis that included: a) Unrotated factor analysis, b) Rotated Solution – varimax, and c) Rotated Solution – promax.

Creation of Canadian Integration Index – cont'd

5. Result - from 19 variables we ended up with 8 variables for the social and cultural integration index:

1) voted in federal election
2) voted in provincial election
3) voted in municipal election
4) trust in neighbors
5) trust in colleagues
6) sense of belonging to municipality
7) sense of belonging to province
8) sense of belonging to Canada

Creation of Canadian Integration Index – cont'd

6. Reliability Analysis - Cronbach's Alpha of 0.7542

   - With 8 items and average inter-item correlation of 0.2773 - alpha should be between 0.666 and 0.774 so index is reliable.

7. Last step - the sub-index was finalized by adding all 8 variables and using their factor loadings as weights – provides the relative importance of each variable in the formula:

   Integration index = (0.8434*stvotefed) + (0.8508*stvoteprov) + (0.8279*stvotemun) + (0.3838*sttrustnei) + (0.3348*sttrustcol) + (0.3999*stsobmun) + 0.4142*stsobprov) + (0.3901*stsobcan)

Creation of Canadian Integration Index – cont'd

Notes:

Coding of political participation variables:

For the 3 voting variables there were 5 possible answers:

Did you vote in the last _____ election?

1) Yes

2) No

3) Was not eligible to vote

4) Refused

5) Don't know

For each of these 3 variables a new variable was created in its place where the categories were 1) Yes, 2) No, and 3) n/a = not eligible to vote, refused, and don't know. This was done so that we would not have any missing values which would have prevented us from including the variable in the factor analysis.

Reporting of index values: The range of index values for all variables reported in the output had a minimum and maximum that ranged from approximately -9.8 to 3.9. For the reported values in the tables to be presented later a constant of 9.8 was added to transpose the minimum and maximum values to 0 and 12.7.

Findings–Applying the Integration Index to Various Groups

- Immigrants vs. Canadian Born (nativity) – by gender
- Recent immigrants, earlier immigrants, 2nd generation, and 3rd generation – by gender

  -straight-line theory predicts that the degree of integration increases with each successive generation
- Race (visible minority vs. non-visible minority) – by gender
- Selected visible minorities
- Nativity and visible minorities status
- Generational status and visible minority status

Immigrants vs. Canadian Born

Table 1: Integration Index by Nativity

	Integration Index Mean (0 – 12.7)	Mean Difference	t
Nativity			
Foreign Born – Immigrant	8.98	1.08	28.90***
Canadian Born	10.06		

*** Significant at p<0.001

Foreign Born: n=6690

Canadian Born: n=25460

Immigrants vs. Canadian Born by Gender

Table 1a: Integration Index* by Nativity by Gender

	Female	Male	Total
Nativity			
Foreign Born – Immigrant	8.93	9.03	8.98
Canadian Born	10.18	9.94	10.06
Difference	1.25	0.91	1.08

* Index score ranges from 0 – 12.7

Recent Immigrants, Earlier Immigrants, 2nd, & 3rd Generation

Table 2: Integration Index* by Generational Status

	Integration Index Mean***
Generational Status	
Recent Immigrants (1992 to 2002)	6.63
Earlier Immigrants (1991 and before)	9.92
Second Generation	9.96
Third Generation	10.14

*Index score ranges from 0 – 12.7

***ANOVA indicates that there is a significant effect of generational status on the integration index scores at the p<.001 level for the four status levels [F (3, 32366) = 1050.78, p = 0.0000].

Recent Immigrants: n=1890; Earlier Immigrants: n=4770; Second Generation: n=5380; Third Generation: n=18770.

Recent Immigrants, Earlier Immigrants, 2nd, & 3rd Generation

- Post-hoc test for making pair-wise comparisons among means

- (HSD Tukey)

Table 2a: Differences Among Integration Index Means for Generational Status

	Recent Immigrants Mean=6.63	Earlier Immigrants Mean=9.92	Second Generation Mean=9.96	Third Generation Mean=10.14
Recent Immigrants Mean=6.63		3.29***	3.33***	3.51***
Earlier Immigrants Mean=9.92			0.04	0.22***
Second Generation Mean=9.96				0.18***
Third Generation Mean=10.14				

* significant at p<0.05
** significant at p<0.01
*** significant at p<0.001

Recent Immigrants, Earlier Immigrants, 2nd, & 3rd Generation by Gender

Table 2b: Integration Index* by Generational Status by Gender

	Female	Male	Total
Generational Status			
Recent Immigrants (1992 to 2002)	6.63	6.63	6.63
Earlier Immigrants (1991 and before)	9.86	9.98	9.92
Second Generation	10.06	9.87	9.96
Third Generation	10.27	10.01	10.14

* Index score ranges from 0 – 12.7

Visible Minority Status

Table 3: Integration Index by Visible Minority Status

	Integration Index Mean (0 – 12.7)	Mean Difference	t
Visible Minority Status			
Visible Minorities	8.51	1.54	35.14***
Non-Visible Minorities	10.05		

*** Significant at p<0.001

Visible Minorities: n=4360

Non-Visible Minorities: n=27620

Visible Minority Status by Gender

Table 3a: Integration Index* by Visible Minority Status by Gender

	Female	Male	Total
Visible Minority Status			
Visible Minorities	8.45	8.56	8.51
Non-Visible Minorities	10.17	9.94	10.05
Difference	1.72	1.38	1.54

* Index score ranges from 0 – 12.7

Selected Visible Minorities

Table 4: Integration Index by Selected Visible Minorities

	Integration Index Mean***
Visible Minority*	
Filipino	9.00
Arab	8.90
South Asian	8.87
Chinese	8.58
Japanese	8.58
South East Asian	8.33
Black	8.18
Latin American	8.01
West Asian	7.89
Korean	6.75

* 2 groups are not reported and include “other” visible minority and “multiple” visible minority

***ANOVA indicates that there is a significant effect of visible minority status on the integration index scores at the p<.001 level for the 12 status levels [F (11, 7358) = 13.35, p = 0.0000]. South Asian: n=970; Black: n=680; Chinese: n=1100; Japanese: n=90; South East Asian: n=200; Latin American: n=260; West Asian: n=120; Filipino: n=390; Arab: n=220; Korean: n= 130.

Selected Visible Minorities

Table 4a : Differences Among Integration Index Means for Selected Visible Minorities

	Filipino X=9.00	Arab X=8.90	South Asian X=8.87	Chinese X=8.58	Japanese X=8.58	SE Asian X=8.33	Black X=8.18	Latin Amer. X=8.01	W. Asian X=7.89	Korean X=6.75
Filipino X=9.00		0.10	0.13	0.42	0.42	0.67	0.82**	0.99**	1.11*	2.25***
Arab X=8.90			0.03	0.32	0.32	0.57	0.72	0.89	1.01	2.15***
South Asian X=8.87				0.29	0.29	0.54	0.69***	0.86**	0.98*	2.12***
Chinese X=8.58					0.00	0.25	0.40	0.57	0.69	1.83***
Japanese X=8.58						0.25	0.40	0.57	0.69	1.83***
SE Asian X=8.33							0.15	0.32**	0.44	1.58***
Black X=8.18								0.17	0.29	1.43***
Latin Amer. X=8.01									0.12	1.26**
W. Asian X=7.89										1.14
Korean X=6.75										

* significant at p<0.05
** significant at p<0.01
*** significant at p<0.001

Selected Visible Minorities –Mean Differences Summarized

- West Asians are significantly different from two other VM groups
  - less integrated than Filipinos and South Asians

- Blacks are significantly different from three other VM groups
  - less integrated than Filipinos and South Asians
  - more integrated than Koreans

- Latin Americans are significantly different from four other VM groups
  - less integrated than Filipinos, South Asians, and S.E. Asians
  - more integrated than Koreans

- Koreans are significantly different from eight other VM groups
  - less integrated than all except one group – West Asians (no difference)

Nativity and Visible Minorities Status

Table 5: Integration Index* by Nativity by Visible Minority Status

	Integration Index Mean***
Nativity	
Foreign Born – Immigrant	
Visible Minorities	8.61
Non-Visible Minorities	9.42
Canadian Born	
Visible Minorities	8.08
Non-Visible Minorities	10.13

* Index scores range from 0-12.7

***ANOVA indicates that there is a significant effect of nativity and visible minority status on the integration index scores at the p<.001 level for the four status levels [F (3, 33080) = 488, p = 0.0000]. Immigrant VM: n=3750; Immigrant non-VM: n=3980; Canadian Born VM: n=3620; Canadian Born non-VM: n=21730.

All of the differences among these means are statistically signficant.

Generational Status and Visible Minority Status

Table 6: Integration Index: Generational Status by Visible Minority Status

Generational Status	Non-Visible Minority	Visible Minority
Recent Immigrants (1992 to 2002)	6.48	6.69
Earlier Immigrants (1991 and before)	9.98	9.85
Second Generation	10.27	8.00
Third Generation	10.15	8.70

***ANOVA indicates that there is a significant effect of generational status and visible minority status on the integration index scores at the p<.001 level for the 8 status levels [F (7, 32175) = 527.29, p = 0.0000]. Recent VM Immigrants: n=1340; Recent non-VM Immigrants: n=590; Earlier VM Immigrants: n=2380; Earlier non-VM Immigrants: n=3370; Second Generation VM: n=3220; Second Generation non-VM: n=9260; Third Generation VM: n=370; Third Generation non-VM: n=11660. All differences among these means are statistically significant.

Summary of Findings

- Immigrants less integrated than Canadian born – however, small difference in index score.

  Gender is important: female immigrants are the least integrated, followed by male immigrants, then male Canadian born and female Canadian born are the most integrated.

- Straight-line theory appears to hold – recent immigrants are the least integrated and 3rd generation are the most integrated. (Noted that small non-significant difference between earlier immigrants and 2nd generation)

  Gender continues to be important for most generations except for more recent immigrants.

- Race matters: visible minorities are not as integrated as non-visible minorities.

  Gender is important:

  For visible minorities: females are less integrated than males.

  For non-visible minorities: females are more integrated than males.

Summary of Findings

- Non-visible minority immigrants are more integrated than Canadian-born visible minorities.

- While straight-line theory basically holds for non-visible minorities it definitely does not apply to visible minorities. **Visible minority immigrants are more integrated than visible minorities who are Canadian born.**

- Some differentiation amongst visible minorities: South Asians most integrated and Koreans are the least integrated.

Implications of Findings for Future Research

- Why are 2nd and 3rd generation visible minorities not as integrated as earlier immigrant visible minorities?

- Why are Koreans, compared to other visible minority groups, the least integrated?