

Measuring Integration in Theory

Literature Review: Refugee Urban Integration

A FEINSTEIN INTERNATIONAL CENTER BRIEF 

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This is a section of a broad literature review on refugee urban integration that was conducted by the Refugees in Towns Project at Feinstein International Center, Friedman School of Nutrition Science and Policy at Tufts University beginning in December 2017 and being continually updated with new publications. It was conducted to inform the public, academics, and policymakers about the state of refugee urban integration, and to prepare the RIT project for analysis of original data on refugee integration collected from towns around the world.

All references that are available online have a URL link provided in text. Full citations are in the Works Cited document.

There are no clearly defined measures or indicators for integration.¹ Some domains have better-established measures and indicators, for example economic integration,² while other domains like social and cultural integration lack consistent or well-defined measures or indicators.³

Within the literature, there are two types of measures and indicators that are not clearly disaggregated:

1. Measures and indicators of integration, i.e., how well-connected migrants and hosts are
2. Measures and indicators of **capacity** for integration, i.e., how much potential there is for migrant and host populations to become integrated

To illustrate the difference with an example, a robust local economy with a large demand for workers would be an indicator of a large **capacity** for integration, while the presence of ethnic diversity in workplaces would be an indicator of actual integration. As another example, prosocial behavior would be an indicator for the **capacity** of an individual or a group to be integrated, whereas the presence of bridging social capital or large numbers of inter-ethnic friendships would be an indicator actual integration. A final example could be a city with a large affordable housing stock that would indicate a large **capacity** for integration, while residential census data revealing ethnically diverse neighborhoods would indicate actual integration.

Another major subdivision of measures and indicators are whether they are *objective* or *subjective*.⁴ There has been a growing emphasis on objective indicators at the expense of subjective indicators, “predominantly economic and social ones,” which is problematic because of the fact that “in most developed nations, increases in income, education and health have arguably not produced comparable increases in happiness or life satisfaction.”⁵

Further problematically, various institutions’ choice of which measures and indicators to use is largely arbitrary,⁶ and governments, international non-governmental organizations (INGOs), host populations, and refugees all prioritize different measures.⁷ This is important because different measures in the same context may reveal wildly different pictures of integration. For example, national-level objective quantitative measures of economic self-

¹ [Ager and Strang 2004](#); [UNHCR 2013](#)

² Hoon, Singh and Wanmali 1997; [Livelihoods Centre 2015](#); UNDP 2000

³ [Council of Europe 2000](#)

⁴ [Steuer and Marks 2008](#): 36-37

⁵ [Huppert et al. 2008](#)

⁶ [Atfield, Brahmhatt and O’Toole 2007](#)

⁷ Caselli 2012: 116; [Jacobsen 2017](#); [Phillips 2003](#)

sufficiency of refugees in the U.S. may depict refugees as successfully integrated, whereas local-level subjective qualitative measures may find unsuccessful economic integration “characterized by racialized geographic enclosure, economic displacement and unrelenting poverty, and the criminalization of daily life.”⁸

A final problem with many measures and indicators is the fact that they only reveal the degree to which refugee and host populations are the same or different and do not actually say anything about how integrated these groups are. For example, a measure of employment finding refugees and hosts with the same rates of unemployment does not necessarily suggest these two populations are integrated if refugees are working in completely different places and sectors than the host population.

A List of Measures and Indicators of Integration

In sum, the literature uses the following measures and indicators for assessing both *integration* and *capacity for integration*. Most of the literature does not distinguish between these two categories, but we have grouped them separately. The following charts only list the measures and indicators found in the literature: it does not comment on how practical or effective these measures or indicators may be, although this is a future goal of the RIT project.

⁸ Tang 2015

Measures & Indicators of Integration

Domain	Measures / Indicators	Examples of Sources Using These Indicators
Language	Rates of shared languages between migrants versus hosts	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Bansak et al. 2018 ; Boston Analytics 2017 ; Caselli 2012 ; Connor 2010 ; Immigration, Refugees and Citizenship Canada 2018 ; ORR "Indicators" 2015 ; Stepick and Stepick 1990
Health	Rates of access to healthcare in refugees versus hosts	Ager and Strang 2008 ; Connor 2010 , Fix 2007 ; Immigration, Refugees and Citizenship Canada 2018 ; Huppert et al. 2008 ; Kearns et al. 2016 ; ORR "Indicators" 2015 ; Deardorff-Miller 2018
	Measures of mental health and wellbeing or rates of diseases in refugee versus host populations (see details in matrix by Steuer and Marks 2008 : 24)	Connor 2010 ; Immigration, Refugees and Citizenship Canada 2018 ; Huppert et al. 2008 ; ORR "Indicators" 2015 ; Steuer and Marks 2008 : 24; Deardorff-Miller 2018 ; Shim 2010
Safety & Security	Levels of security risk faced by refugee versus host populations measured either by subjective self-reporting of perceived vulnerability, or objectively by insurance companies' monetary valuation of risk	Jacobsen 2001 ; Sude, Stebbins and Weilant 2015 ; Deardorff-Miller 2018
	Crime rates in migrants and host populations either by comparing ethnic/national groups or by comparing neighborhoods that are strongly ethnically/nationally homogenous	Bell, Fasani and Machin 2013
	Rates of crime committed by migrants versus hosts	Bell, Fasani and Machin 2013
Environment	Presence of natural environmental and resource stress from migration, measured by changes in pollution occurring contemporaneously with large migrations, depletion of natural resources as a result of increased demand from newly arrived populations, changes in rates of environmentally-caused health complications in populations experiencing mobility, or contemporaneous observation of physical environmental changes and migration	Jacobsen 2001 ; Deardorff-Miller 2018
Housing	Degree of access to housing in refugee versus host populations indicated by subjective experiences with discrimination or by measures of ethnic/national spatial	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Bürkin and Chindea 2012 ; Council of Europe

	segregation of residences, businesses, or other places	2000 ; Moser 1998; ORR “Indicators” 2015
Education	Measures of educational attainment levels in refugees versus hosts such as rates of holding formal degrees, literacy rates, or number of years of schooling	Ager and Strang 2008 ; Atfield, Brahmhatt and O’Toole 2007 ; Alink <i>et al.</i> 2013, Bansak <i>et al.</i> 2018; Batsaikhan, Darvas and Raposo 2018 ; Bürkin and Chindea 2012 ; Caselli 2012; Council of Europe 2000 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Huppert et al. 2008 ; Immigration, Refugees and Citizenship Canada 2018 ; Mustafa <i>et al.</i> 2011; OECD 2015 ; ORR “Annual Report” 2015 ; Ott 2013 ; Stepick and Stepick 1990; UNHCR 2012 ; McPherson 2010
	Subjective indicators from observed student interaction between refugee and host populations in schools	Diemer <i>et al.</i> 2014
	Quantitative measures of the number of supportive school relationships held by refugee students	Diemer <i>et al.</i> 2014
Society	Measure of time spent by refugees in a host setting	Stepick and Stepick 1990; Deardorff-Miller 2018
	Shared ranking of cultural values between refugees and hosts	Ager and Strang 2008 : 174; Caselli 2012; Council of Europe 2000 ; Jacobsen 2001 ; Phalet and Swyngedouw 2003; Watzlawik and Bresco de Luna 2017; Zamora-Kapoor, Kovincic and Causey 2015; Zamora-Kapoor, Kovincic and Causey 2015; Deardorff-Miller 2018
	Degree of difference in demographic profiles between host and refugee populations including age, gender, and household composition	ORR “Annual Report” 2015 ; Ott 2013
	Subjective indicators from media portrayals of migration as positive or negative	Bilodeau and Fadol 2011, Goodall 2011
	Measures and indicators of wellbeing in refugees versus hosts (see matrix by Steuer and Marks 2008 : 36-37)	Steuer and Marks 2008 : 36-37, see also Boston Analytics 2017; Chan <i>et al.</i> 2015; Huppert et al. 2008
	Whether or not refugees nationally self-identify with the host country	Caselli 2012; Chan <i>et al.</i> 2015; David 2013; Ott 2013 ; Porter and Haslam 2005; Yoon <i>et al.</i> 2013; Watzlawik and Bresco de Luna 2017
	The number and strength of self-reported or observed social ties between refugee and host populations	Ager and Strang 2008 ; Bürkin and Chindea 2012 ; Boston Analytics 2017; Caselli 2012; Chan <i>et al.</i> 2015; Council of

		Europe 2000 ; de Vroome <i>et al.</i> 2011; Goodall 2011 ; IFRC 2012 ; Immigration, Refugees and Citizenship Canada 2018 ; Moser 1998; OECD 2015 ; Porter and Haslam 2005; Sampson 2010; Souter 2014; Watzlawik and Bresco de Luna 2017
	The number of community experiences participated in collectively by refugees and hosts such as sporting events, holiday celebrations, town hall meetings, or weddings	Ager and Strang 2008 ; Bürkin and Chindea 2012 ; Boston Analytics 2017; Caselli 2012; Chan <i>et al.</i> 2015; Council of Europe 2000 ; de Vroome <i>et al.</i> 2011; Goodall 2011 ; IFRC 2012 ; Immigration, Refugees and Citizenship Canada 2018 ; Moser 1998; OECD 2015 ; Porter and Haslam 2005; Sampson 2010; Souter 2014; Watzlawik and Bresco de Luna 2017
	Self-reported or ethnographically observation of whether refugees are enculturating versus acculturating	Caselli 2012; Chan <i>et al.</i> 2015; David 2013; Ott 2013 ; Porter and Haslam 2005; Yoon <i>et al.</i> 2013; Watzlawik and Bresco de Luna 2017
	The presence or absence of ethnographically observed or self-reported social tensions between migrants and hosts	Ager and Strang 2008 ; IFRC 2012 ; Bürkin and Chindea 2012 ; Chan <i>et al.</i> 2015; Luttrell 2010 ; Mohamed and Saltsman 2017; OECD 2015 ; Sude, Stebbins and Weiland 2015 ; Watzlawik and Bresco de Luna 2017; Deardorff-Miller 2018
	Ethnographically observed or self-reported attitudes and perceptions of “Othering” between migrant and host communities	Atfield, Brahmhatt and O’Toole 2007 ; Caselli 2012; Goodall 2011 ; Ott 2013 ; Watzlawik and Bresco de Luna 2017; McPherson 2010
Information	Indicators of accessibility of information by refugee versus host populations; may also use measures of user rates of informational platforms such as 411 or internet service	Mustafa <i>et al.</i> 2011; Fisher, Durrance, & Hinton, 2004 ; Foth, Brynskov and Ojala 2015; Courtright 2005, Oduntan and Ruthven 2017 ; Silvio 2006; Shoham & Strauss 2008 ; Lloyd, Kennan, Thompson and Qayyum 2013
Space	Spatial proximity of migrants and host private residences and businesses	Abu-Dayyeh 2005 , Bose 2014, Ott 2013 , Xie and Gough 2012
	Similar distance of migrants and hosts to public services (e.g. hospitals, train stations), and amenities (e.g. shops, parks)	Ager and Strang 2008 ; Bose 2014, Ott 2013 , Tang 2015, Xie and Gough 2012 , Yoon <i>et al.</i> 2017; Deardorff-Miller 2018
Economy	Rates of co-ethnic business ownership and patronage	Zolin, Chang, Yang and Yi-Hsuan Ho 2015

Refugee and host competition for the same jobs indicated by ethnic/national breakdowns of job applications, profiling of similar job skills between refugees and hosts, refugee and host employment in the same sectors, and subjective qualitative observation of social tensions in workplaces	Zamora-Kapoor, Kovincic and Causey 2015; Deardorff-Miller 2018; Somerville and Sumption 2009
Measures of training certifications and work experience between refugees versus hosts	Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; ORR “Indicators” 2015
Measure of average income levels in refugees versus hosts	Atfield, Brahmhatt and O’Toole 2007 ; Council of Europe 2000 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Immigration, Refugees and Citizenship Canada 2018 ; Stepick and Stepick 1990; Monras 2015 ; Deardorff-Miller 2018
Measure of rates of use of social services by refugees versus hosts	Immigration, Refugees and Citizenship Canada 2018 ; ORR “Annual Report” 2015
Labor force participation rates of refugees versus hosts	Atfield, Brahmhatt and O’Toole 2007 ; ATHA 2017; Batsaikhan, Darvas and Raposo 2018 ; Boston Analytics 2017; Bürkin and Chindea 2012 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Fix 2007; Hoon, Singh and Wanmali 1997; Huppert et al. 2008 ; Hussein 2002; Immigration, Refugees and Citizenship Canada 2018 ; Jacobsen 2001 ; Livelihoods Centre 2015 ; Mustafa <i>et al.</i> 2011; OECD 2015 ; ORR “Indicators” 2015; UNDP 2000
Indicators of job quality differences between refugees and hosts, with different occupations subjectively categorized as better or worse quality	Atfield, Brahmhatt and O’Toole 2007 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Fix 2007; OECD 2015
Measure of the ratio of dollar value income and expenditures in the informal versus formal economy among refugee and host populations (i.e. whether refugees and hosts participate in the formal economy in the same ways)	ATHA 2017; Hoon, Singh and Wanmali 1997; Huppert et al. 2008 ; Livelihoods Centre 2015 ; Mustafa <i>et al.</i> 2011; UNDP 2000
Measure of income level distributions of refugees and hosts	Alink <i>et al.</i> 2013, Ballard 2002 ; ATHA 2017; Bürkin and Chindea 2012 ; Batsaikhan, Darvas and Raposo 2018 ; Council of Europe 2000 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Fix 2007; Hoon, Singh and Wanmali 1997; Huppert et al. 2008 ; Hussein 2002; Immigration, Refugees and Citizenship Canada 2018 ; Mustafa <i>et al.</i> 2011; Livelihoods Centre

		2015 ; OECD 2015 ; Porter and Haslam 2005; Tang 2015; UNDP 2000
	Measure of economic stability distributions among refugees and hosts as a function of employment and income fluctuation rates	Alink <i>et al.</i> 2013, Ballard 2002 ; ATHA 2017; Bürkin and Chindea 2012 ; Batsaikhan, Darvas and Raposo 2018 ; Council of Europe 2000 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Fix 2007; Hoon, Singh and Wanmali 1997; Huppert et al. 2008 ; Hussein 2002; Immigration, Refugees and Citizenship Canada 2018 ; Mustafa <i>et al.</i> 2011; Livelihoods Centre 2015 ; OECD 2015 ; Porter and Haslam 2005; Tang 2015; UNDP 2000
Politics	Subjective indicators of access to reliable systems of justice for refugees and hosts	Bilodeau and Fadol 2011
	Subjective indicators of awareness of national political events, and participation rates in political events such as elections or demonstrations by refugees versus hosts	Caselli 2012; Council of Europe 2000 ; Givens and Maxwell 2012: 3; Immigration, Refugees and Citizenship Canada 2018 ; OECD 2015 ; UNHabitat 2016; Zamora-Kapoor, Kovincic and Causey 2015
	The number of immigrant politicians, and the length of their careers as a ratio to host politician numbers and average career lengths	Givens and Maxwell 2012: 88
	Ease or difficulty to attain host country citizenship for refugees measured objectively by the anticipated number of years needed to attain citizenship, rates of refugees who attain citizenship per time unit, or subjectively indicated by refugees' perceptions on how difficult it is to become a citizen	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Ballard 2002 ; Bilodeau and Fadol 2011; Caselli 2012; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Fix 2007; Stepick and Stepick 1990

Measures & Indicators of Capacity for Integration

Domain	Indicators & Measures Used	Literature Using These Indicators
Society	Age of migrants at arrival	Boston Analytics 2017
	Time spent awaiting resettlement	Kearns <i>et al.</i> 2016
	Rates of racial/ethnic intermarriage, or subjective indicators through observation of attitudes among refugees and hosts about intermarriage	Caselli 2012
	Subjective indicators in popular media or social media to indicate host and refugee population willingness to undergo integration	Bilodeau and Fadol 2011
	Rates of refugees reporting they intend to raise children in a host country versus abroad	Caselli 2012
	Subjective indicators of social tensions between refugees and hosts through ethnographic observation or interviews	Ager and Strang 2008 ; Caselli 2012; Council of Europe 2000 ; Luttrell 2010 ; Mohamed and Saltsman 2017; OECD 2015 ; Phalet and Swyngedouw 2003; Watzlawik and Bresco de Luna 2017; McPherson 2010
	Subjective indicators in the public reaction to “identity defining events” (e.g. September 11, 2001 or the Charlie Hebdo attack) that encourage or discourage collective identity between refugees and hosts	Watzlawik and Bresco de Luna 2017
	The presence or absence of already-integrated co-ethnic residents measured with census data or by counting numbers of co-ethnics in positions of power such as political office, landlords, or businesspeople	Chan <i>et al.</i> 2015; Fong and Chan 2010; Goodall 2011
	Subjective indicators from migrant and host self-reported expectations of the time refugees are expected to spend in a host country on a spectrum from temporary to permanent	Caselli 2012; Chan <i>et al.</i> 2015; Council of Europe 2000 ; Jacobsen 2001 ; Kalogerakis 2017
Subjective indicators in difference of culture between refugees and hosts including geographic distance, whether or not religious categories are the same or different, whether languages are shared or not, and the presence or absence of collective identity features like ways of dressing, or culinary traditions.	Chan <i>et al.</i> 2015; Kalogerakis 2017; Jacobsen 2001 ; Porter and Haslam 2005; Watzlawik and Bresco de Luna 2017; Zamora-Kapoor, Kovincic and Causey 2015; Shim 2010	

Researchers might also measure the difference of index scores for openness to gender nonconformity between sending and receiving countries.	Caselli 2012; IOM 2015 ; Castles and Miller 2015: 16, Mustafa <i>et al.</i> 2011; Pickering 2011, and Tang 2015: 169
Subjective measures of how visibly identifiable refugees are from hosts such as distinct skin color or ways of dress	Chan <i>et al.</i> 2015; David 2013:148; Goodall 2011 ; Immigration, Refugees and Citizenship Canada 2018 ; Kalogerakis 2017; Ott 2013 ; Porter and Haslam 2005; Watzlawik and Bresco de Luna 2017; McPherson 2010
Social cohesion between refugees and hosts measured using established indices such as the VALCO index (Acket <i>et al.</i> 2011)	Ager and Strang 2008 ; Caselli 2012; Chan <i>et al.</i> 2015; Council of Europe 2000 ; de Vroome <i>et al.</i> 2011; IFRC 2012 ; Moser 1998; Mustafa <i>et al.</i> 2011; OECD 2015 ; Porter and Haslam 2005; Sampson 2010; Souter 2014; Fonseka, M. L., & McGarrigle, J. 2012
Social capital within and between refugee and host populations measured using established social capital indices such as the Social Capital Measurement Tool (Claridge 2017; Siegler 2014)	Ager and Strang 2008 ; Caselli 2012; IFRC 2012 ; Moser 1998; Mustafa <i>et al.</i> 2011
Subjective indicators of shared expectations about social controls, and levels of trust within and between refugees and hosts	Chan <i>et al.</i> 2015; Hula <i>et al.</i> 2017; Sampson 2010; Watzlawik and Bresco de Luna 2017
Absolute numbers of refugee arrivals, and population ratios of refugees to hosts	Sude, Stebbins and Weilant 2015
Rate of migrant arrivals per unit of time	IRC 2018
Subjective ethnographic measures of the number of opportunities for, and the presence of culture that is facilitative of social interactions between refugee and host populations. May also be measured by the number of Community Based and Civil Society Organizations (CBOs & CSOs) involved in social integration, including faith-based organizations	Ager and Strang 2008 ; Caselli 2012; Bilodeau and Fadol 2011; Bürkin and Chindea 2012 ; de Vroome <i>et al.</i> 2011; Goodall 2011 : 7; Jacobsen 2001 ; OECD 2015 ; ORR "Annual Report" 2015 ; Pastore and Ponzio 2016 ; Porter and Haslam 2005; Watzlawik and Bresco de Luna 2017
Family separation rates and numbers of family members cohabitating or in the same neighborhood within refugee populations	Connor 2010; Huppert et al. 2008 ; Miller <i>et al.</i> 2018; ORR "Annual Report" 2015 ;
Shared ranking of cultural values between refugees and hosts	Ager and Strang 2008 : 174; Caselli 2012; Council of Europe 2000 ; Jacobsen 2001 ; Phalet and Swyngedouw 2003; Watzlawik and Bresco de Luna 2017; Zamora-Kapoor, Kovincic and Causey 2015; Zamora-Kapoor, Kovincic and Causey 2015

	Indicators of whether migrants left their country of origin forcibly or by choice such as the presence of displacing events like violent conflict, economic downturn, or natural disaster identified in historical analysis or interviews	Sude, Stebbins and Weiland 2015
	Indication that refugees left of choice of migrants in whether they selected their settlement location	Atfield, Brahmhatt and O'Toole 2007 ; Bose 2014, Fielden 2008 , Kalogerakis 2017; Lyubomirsky and Ross 1999 ; Ruiz and Vargas-Silva 2013; Souter 2014
	Measure of the number and strength of social connections between refugees and hosts	Mustafa <i>et al.</i> 2011; Sude, Stebbins and Weiland 2015
	Indicators of social support from co-nationals in refugee populations	West 2000
	Indicators of knowledge held by refugees and hosts of other national/ethnic groups	Pho, Gerson & Cowan (2008)
	Frequency of interethnic contact in events per unit time	Fonseka, M. L., & McGarrigle, J. 2012
Politics	Freedom of religion in host community measured by subjective ethnographic observation, national indices of religious censorship, or the presence/absence of religious to institutions	Council of Europe 2000 ; West 2000
	The legal ability of migrants to visit countries of origin or not	Kalogerakis 2017
	National background of refugees rated against historical experiences of integration by that nationality in the host country	Bansak <i>et al.</i> 2018
	Subjective indicators of access to reliable systems of justice for refugees and hosts	Bilodeau and Fadol 2011
	Subjective analysis of whether national level immigration policies are supportive or inhibitive of integration at the international, national, regional, and local levels, including border control policy, levels of funding for migrant housing, degree of enforcement of residency laws, laws on migrant rights to work, whether host countries are signatories to international conventions on migration, and the number and categories of migrants covered by temporary protection policies	Ballard 2002 ; Bilodeau and Fadol 2011; De Haas 2010 ; Huddleston and Niessen 2011; Jacobsen 2001 ; Ott 2013 ; Zamora-Kapoor, Kovincic and Causey 2015

Historical analysis of colonial legacies of refugee and host populations as an indicator of political accord/discord	Bilodeau and Fadol 2011; David 2013: 145
Regional capacity to share resources measured by the presence of supranational transportation infrastructures, economic partnerships, and regional governing bodies	Jacobsen 2001
Indication that welfare systems include refugees in social safety nets	Ireland 2004: 5; OECD 2015 ; ORR "Annual Report" 2015
Category of host country as a transit, destination, or country of first asylum	Bürkin and Chindea 2012 ; Fielden 2008
Whether a refugee travelled regularly or irregularly to the host location	Bürkin and Chindea 2012
Whether or not refugees have or lacking documentation	Bürkin and Chindea 2012 ; UNHCR 2012
Documentation status of refugees, including degree of protection under their status and pathways towards permanent residency status	Atfield, Brahmhatt and O'Toole 2007 ; Council of Europe 2000 ; Hilfinger, McEwen and Clark 2015; UNHCR 2012
Presence of clear, attainable, and desired pathways to citizenship for refugees	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Ballard 2002 ; Caselli 2012; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Fix 2007
Awareness of national politics and participation rates in political events including elections by refugees	Ager and Strang 2008 ; Caselli 2012; Council of Europe 2000 ; Givens and Maxwell 2012: 3; Immigration, Refugees and Citizenship Canada 2018 ; OECD 2015 ; UNHabitat 2016; Zamora-Kapoor, Kovincic and Causey 2015
Proactive land use planning at the municipal level indicated by the presence of governing institutions and policies for strategic land use	UNHabitat 2016
Infrastructural capacity in the built environment measured as supply-demand gaps including transportation maximum load versus actual use; water availability versus consumption; cost and accessibility of communications technologies relative to refugee and host incomes; and cost and accessibility of energy relative to refugee and host incomes	Mustafa <i>et al.</i> 2011; NIAC 2009 ; The White House 2013
Subjective measures of municipal and national leadership and inter-jurisdictional coordination	IFRC 2012 ; UNHabitat 2016 Center for Study of Immigrant Integration 2016

Language	Measures of host language ability among refugees	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Bansak <i>et al.</i> 2018, Caselli 2012; Boston Analytics 2017; Connor 2010, Huppert <i>et al.</i> 2008 ; OECD 2015
	Degree of difference between host population language and refugee language, may be measured by number of degrees of separation between languages in a linguistic family tree diagram	Isphording 2015
	Measures of rates of foreign language proficiency in the host population, especially in services sectors like hospitals, schools, and police forces as well as the private sector	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Bansak <i>et al.</i> 2018, Caselli 2012; Boston Analytics 2017; Connor 2010, Huppert <i>et al.</i> 2008 ; OECD 2015
	Number of language instruction institutions in the host community	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Bansak <i>et al.</i> 2018, Caselli 2012; Boston Analytics 2017; Connor 2010, Huppert <i>et al.</i> 2008 ; OECD 2015
	Whether or not learning a host language has economic incentives (e.g. employment opportunities are conditional on host language proficiency)	Isphording 2015
	Age of refugees	Isphording 2015
	Whether refugee residences exist in enclaves or are spatially distributed, indicated with residential data or observation in neighborhoods	Isphording 2015
	Refugee and hosts' individual cognitive ability, measured by general cognitive ability testing	Isphording 2015
	Refugee and host individual personal motivation for learning a language, subjectively indicated	Isphording 2015
Housing	Whether housing or accommodation for refugees is temporary or permanent	Ager and Strang 2008 ; Moser 1998; Mustafa <i>et al.</i> 2011; Porter and Haslam 2005
	Availability of affordable housing in the host community indicated by real estate rental and ownership prices relative to average incomes of refugees and hosts	Ager and Strang 2008 ; UNHCR 2012
Space	Distance of refugee residences to services and amenities as compared to hosts with similar socioeconomic profiles	Bose 2014

	Residential ethnic/national diversity in neighborhoods indicated by ethnographic observation or residential census data	Bose 2014; Fonseka, M. L., & McGarrigle, J. 2012
	Distance of refugee residences to places of employment as compared to hosts with similar socioeconomic profiles	Bose 2014
	Diversity rates in the use of community places e.g. public parks, street markets, and religious centers identified through ethnographic observation	Ager and Strang 2008 ; Caselli 2012; Bürkin and Chindea 2012 ; de Vroome <i>et al.</i> 2011; Goodall 2011 : 7; Jacobsen 2001 ; OECD 2015 ; ORR "Annual Report" 2015 ; Pastore and Ponzio 2016 ; Porter and Haslam 2005; Watzlawik and Bresco de Luna 2017
	Indicators of concentration of new refugee arrivals around other long-standing migrant groups	Brezzi, Dumont, Piacentini and Thoreau 2010
Education	Educational attainment level of refugees versus hosts measured by numbers holding formal degrees	Ager and Strang 2008 ; Alink <i>et al.</i> 2013; Atfield, Brahmhatt and O'Toole 2007 ; Bansak <i>et al.</i> 2018; Boston Analytics 2017; Caselli 2012; Connor 2010; Council of Europe 2000 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Huppert et al. 2008 ; Mustafa <i>et al.</i> 2011; OECD 2015 ; Ott 2013 ; Porter and Haslam 2005; UNHCR 2012
	Whether or not refugees are educated in host country school curricula or origin country school curricula	Caselli 2012
	Whether refugees are educated in the language of the host country or their country of origin	Caselli 2012
	Capacity of schools to educate newly arriving refugee students measured by the number of language instructors per student, number of teachers per student, classroom size in schools, graduation and tertiary education acceptance rates of refugees versus hosts, and the number and rating of schools available to refugees versus hosts	Diemer <i>et al.</i> 2014; West 2000
Safety & Security	The presence or absence of armed groups in the host environment	Sude, Stebbins and Weiland 2015
	The level of risk posed by stressors in a host environment such as political violence, violent crime, natural disasters, and disease	FEMA 2017; Mustafa <i>et al.</i> 2011
	Presence or absence of municipal-level warning systems to stressors	Mustafa <i>et al.</i> 2011
	Level of refugees' experienced risk indicated by landlessness, joblessness,	Cernea 1996

	homelessness, food insecurity (not having regular access to nutritious food to meet a 2,100-calorie daily minimum, also a measure of the health integration domain), loss of property, and morbidity rates	
	Measures of refugees' exposure to state-sponsored risk including number of detentions per person per unit time; length and subjectively measured severity imprisonments; frequency of experiences with harassment; and frequency of physical violence caused by state security actors	Bürkin and Chindea 2012 ; Chan <i>et al.</i> 2015; Dako-Gyeke 2013; Dryden-Peterson 2015 ; Gudino et al. 2011 ; Joly 2002; Landale, Thomas and Van Hook 2011; Mandić and Simpson 2017; Montgomery 2008; Varvin 1998 ; Watzlawik and Bresco de Luna 2017
	Security arrangements in the host environment – specific indicators are not described, but could include the presence or absence of a local police force, subjective perceptions of corruption in security services by hosts and refugees, local criminological clearance rate, self-reporting of whether refugees and hosts willingly approach security services to solve problems	Jacobsen 2001 ; Sude, Stebbins and Weiland 2015
Economy	Indicators of private sector social responsibility for refugees including the presence of refugee jobs programs and private sponsorship in resettlement programs	Goodall 2011
	Number of income earners per household in refugee populations	Huppert et al. 2008 ; Mustafa <i>et al.</i> 2011
	Whether financial capital of refugees is held in a host country bank or abroad	Caselli 2012
	Labor Market Dynamics (LMD) of the host community including measures of job turnover, firm birth/death cycle rate, length of employment, rates of retirement, transition times from full time education to employment, job tenure and security, job creation rate, and individual and household earnings. LMD indices may be used, such as the International Labor Organization's Labour Accounting System (Clayton and Mousa 2004; Ritter 1993; Stibbard 1999)	Bilodeau and Fadol 2011; Boston Analytics 2017; Jacobsen 2001
	Whether or not refugees have the right to work	Ager and Strang 2008 ; Atfield, Brahmhatt and O'Toole 2007 ; Jacobsen 2001 ; OECD 2015 ; Zetter and Ruaudel 2016
	Capacity to generate adequate incomes measured by rates of refugee and host	ATHA 2017; Ballard 2002 ; Council of Europe 2000 ; Di Bartolomeo, Kalantaryan

populations living below the poverty level at purchasing power parity	and Bonfanti 2015 ; Hoon, Singh and Wanmali 1997; Huppert et al. 2008 ; Hussein 2002; Livelihoods Centre 2015 ; OECD 2015 ; Porter and Haslam 2005; UNDP 2000
Urbanization trends including indicators of gentrification, rates of housing cost rise, rates of rural-city movement, and cost of living particularly of food staples	Alix-Garcia Bartlett and Saah 2012
Socioeconomic Status (SES) and Subjective Social Status (SSS) of refugees. Although there is no common index for SES or SSS, these are typically composite measures of education (highest year of school completed), income (family income), occupation (current occupation and length of occupation), and family size and relationships (American Psychological Association 2018)	Atfield, Brahmabhatt and O'Toole 2007 ; ATHA 2017; Council of Europe 2000 ; Di Bartolomeo, Kalantaryan and Bonfanti 2015 ; Hogg et al. 2016; Hoon, Singh and Wanmali 1997; Hussein 2002; Livelihoods Centre 2015 ; OECD 2015 ; ORR "Annual Report" 2015 ; Porter and Haslam 2005; Stepick and Stepick 1990; UNDP 2000
Changes in SES and SSS from pre- and post-displacement of migrants	Porter and Haslam 2005
Amount of development aid at the national and local levels	Jacobsen 2001
Whether urban development policy is aimed at a corporate focus approach or an alternative approach	Pho, Gerson and Cowan 2008
Wages and income	National Academies of Sciences, Engineering, and Medicine 2017
Number of working-age refugees in a population	Huang and Graham 2018
Labor demand curve	Borjas 2003
Health	
Refugees' genders and sexes	Boston Analytics 2017, Porter and Haslam 2005, UNHCR 2012
Prevalence of mental health conditions among refugees measured with behavioral health indices such as the Harvard Trauma Questionnaire	Chan et al. 2015; Connor 2010; Ebert, Gilbert and Wilson 2000 ; ORR "Annual report" 2015 ; Lyubomirsky 2008
Rates of refugee and host food security (i.e. having regular access to nutritious food to meet the 2,100 calories per day minimum requirement)	Green 2000
Whether the time perspective of refugees is nostalgic or present-oriented measured with behavioral health questionnaires, interviews, or observation	Beiser 1987

	Physical health conditions of refugees versus hosts measured by physical health indices such as the World Health Organization (WHO) Urban Health Index	Connor 2010; Huppert et al. 2008 ; Immigration, Refugees and Citizenship Canada 2018 ; ORR "Annual Report" 2015
	Continuity of healthcare from displacement through settlement indicated by the sharing of patient records, and the length of time and frequency of disruptions in access to healthcare or medication by refugees	Lori and Boyle 2015, Toole and Waldman 1993
	Age of refugees	Bansak <i>et al.</i> 2018, Boston Analytics 2017, Dryden-Peterson 2015 , Montgomery 2008, Porter and Haslam 2005, Yoon <i>et al.</i> 2013
	Prosocial behavior and positive mental health versus antisocial behavior and negative mental health of refugees and hosts measured with indices or questionnaires such as the Prosocial Tendencies Measure (Carlo and Randall 2002)	Alink <i>et al.</i> 2013; Chan <i>et al.</i> 2015; Dantzer 2017 ; David 2013; Ebert, Gilbert and Wilson 2000 ; Hogg <i>et al.</i> 2016; Huppert et al. 2008 ; Immigration, Refugees and Citizenship Canada 2018 ; Joshi and Fayyad 2015; Kalogerakis 2017; Lyubomirsky 2008; Mateen <i>et al.</i> 2012; McKenzie <i>et al.</i> 2015; Mustafa <i>et al.</i> 2011; ORR "Annual Report" 2015 ; Porter and Haslam 2005; Wilson and Gilbert 2008; Wong <i>et al.</i> 2017; Yoon <i>et al.</i> 2013
	Rates of traumatic experiences such as detention, persecution, torture, or death among refugees and hosts measured with any number of medical indexes such as the Harvard Trauma Questionnaire	Bürkin and Chindea 2012 ; Chan <i>et al.</i> 2015; Dako-Gyeke 2013; Dryden-Peterson 2015 ; Gudino et al. 2011 ; Joly 2002; Landale, Thomas and Van Hook 2011; Montgomery 2008; Varvin 1998 ; Watzlawik and Bresco de Luna 2017
	Healthcare services capacity of the host community indicated by hospital wait times, insurance costs, number and rating of medical facilities in a geographic space accessible to refugees, doctor to patient ratios, and foreign language abilities of healthcare facilities	Ager and Strang 2008 ; Quesada, Hart and Bourgois 2011
Environment	Presence of natural environmental and resource stress from migration, measured by changes in pollution occurring contemporaneously with large migrations, depletion of natural resources as a result of increased demand from newly arrived populations, changes in rates of environmentally-caused health complications in populations experiencing mobility, or contemporaneous observation of physical environmental changes and migration	Jacobsen 2001

Information

Subjective indicators on how popular media portray and encourage/discourage refugee-host tensions

[Goodall 2011](#)

Indicators of accessibility of information by refugee versus host populations; may also use measures of user rates of informational platforms such as 411 or internet service

Foth, Brynskov and Ojala 2015; Mustafa *et al.* 2011