



MEASURING ETHNIC DIFFERENCES IN TRANSNATIONAL ACTIVITY SPACE WITH MOBILE PHONE DATA

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MOTIVATION

Sedentary views on social processes despite the increase of human spatial mobility (Sheller, Urry 2006, Sheller 2018).

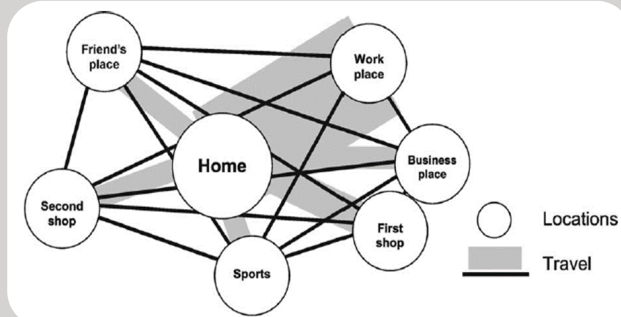
- Ethnic segregation ➡ studied mostly as a process with permanent settlement inside one country (Cachia, Jariego 2018)
- Steadily growing figures of cross-border mobility before COVID-19 (migration, tourism, commuting) ➡ frequent exposure to different cultures and societies

AIM

To ascertain whether there are any differences in cross-border mobility between members of ethnic majority and minority populations in Estonia.

- 1) What ethnic differences occur in cross-border spatial mobility relating to the number and average duration of cross-border trips, number of days spent abroad, and number of countries visited?
- 2) What are the ethnic differences that can be seen in belonging to different visitor groups (tourists, commuters, transnationals, long-term stayers)?

THEORETICAL OUTLINE



Activity
space
segregation

Mobility

Trans-
nationalism



Marginality

- Frequent travelling related to high income and high-end jobs (Delhey et al 2015)
- Opportunity structures



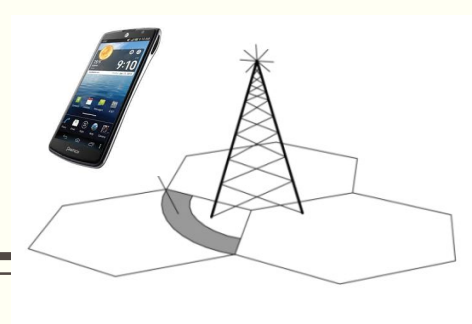
Preferences

- Differences in destinations stem mainly from preferences (Klemm 2002; Hughes, Allen 2010)
- Important destination: country of origin. Sustaining ethnic identity, language.



Social networks

- Social links trigger travel (Carrasco, Miller 2006)
- Travel to one's country of origin is seen to play an important role in refreshing social ties and social capital, discovering one's roots



DATA

Passive mobile positioning data

- Roaming data, call detail records, time and location of a call activity
- Generated trips and visits (Saluveer et al 2020)
- 2014-2016

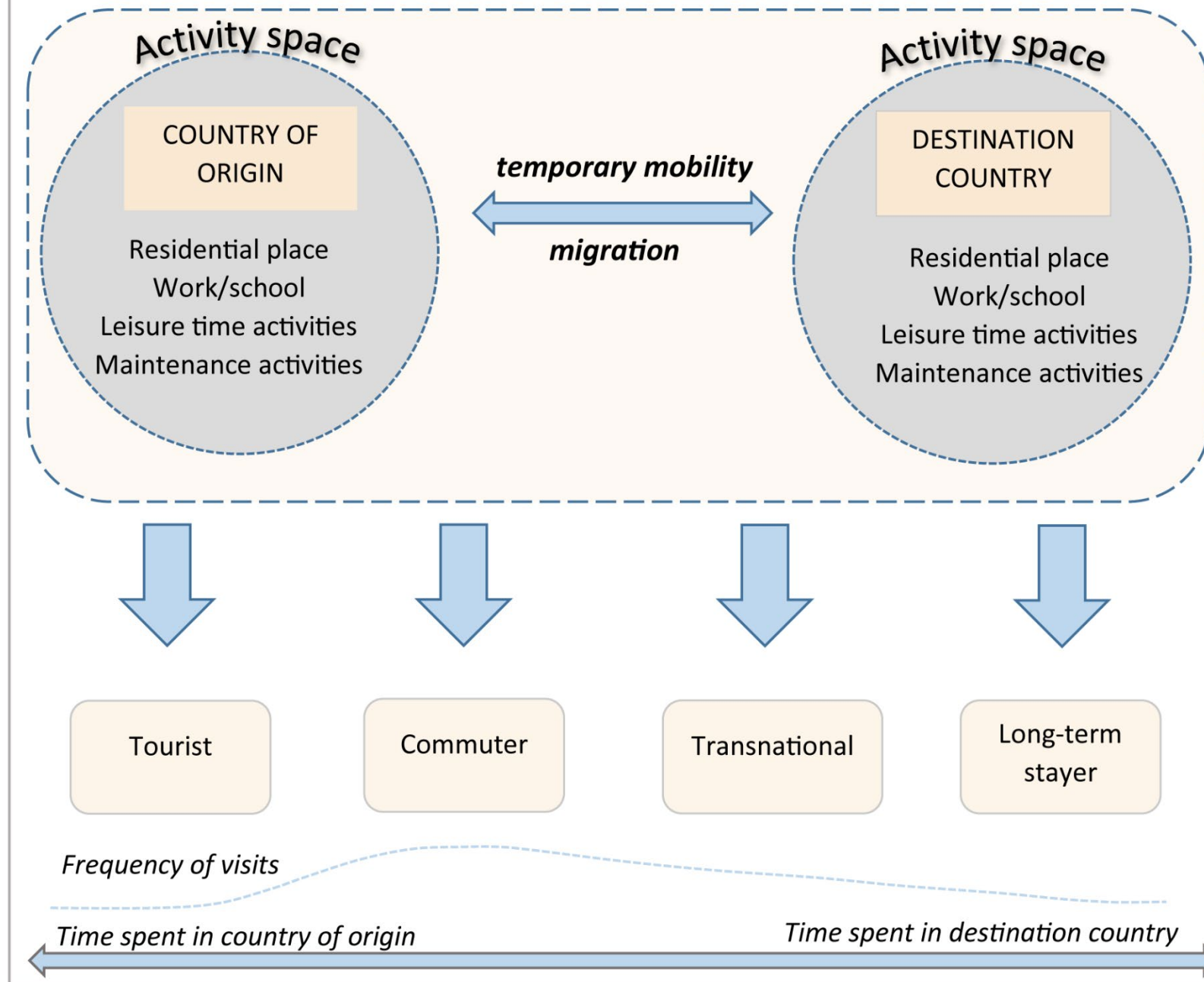
Initial variables

- User ID, trip ID, stay ID, time
- Country (ISO-A2)
- Communication language
- Gender
- Age
- Residential area (Ahas et al 2010)

	pos_usr_id	trip_id	stay_id	iso_a2	first_time	last_time
16	33,216,302,130,201,018	38	86	LT	2016-06-15 19:16:58	2016-06-19 06:12:08
17	35,186,523,887,567,303	1,247	1,974	UA	2014-01-20 13:41:36	2014-01-24 14:41:23
18	35,186,523,887,567,303	1,248	1,975	SE	2014-03-09 10:49:34	2014-03-14 02:35:07
19	35,186,523,887,567,303	1,249	1,976	SE	2014-03-17 02:15:49	2014-03-18 01:45:54
20	35,186,523,887,567,303	1,250	1,977	NO	2014-04-23 08:35:14	2014-04-25 21:18:22
21	35,186,523,887,567,303	1,251	1,978	GB	2014-05-07 11:51:40	2014-05-09 04:08:36
22	35,186,523,887,567,303	1,251	1,979	US	2014-05-09 04:08:36	2014-05-14 01:33:13
23	35,186,523,887,567,303	1,251	1,980	NO	2014-05-14 01:33:13	2014-05-16 11:17:05
24	35,186,523,887,567,303	1,251	1,981	SE	2014-05-16 11:17:05	2014-05-17 00:46:06
25	35,186,523,887,567,303	1,252	1,982	NO	2014-05-19 18:32:52	2014-05-21 09:58:27
26	35,186,523,887,567,303	1,253	1,983	NO	2014-06-19 04:36:56	2014-07-15 19:47:05
27	35,186,523,887,567,303	1,253	1,984	RU	2014-07-15 19:47:05	2014-07-23 15:47:53

75,118 people in the study who had made at least one trip and had all social and residential characteristics

TRANSNATIONAL ACTIVITY SPACE



METHODS

Travel intensity

Negative binomial regression

- Average duration of trips
- Number of days spent abroad

Zero-truncated NB regression

- Number of trips
- Number of distinct countries

Visitor groups

Binary logistic regression

- Long-term stayer
- Transnational
- Commuter
- Tourist

Independent variables: language (EST, RUS), age group, gender, residential area (N-Est, S-Est, E-Est, C-Est, W-Est)

FINDINGS

Travel intensity is higher for the minority group (Russian speakers) when compared with the majority (Estonian speakers):

- 10% more trips
- 14% longer duration
- 17% more days abroad
- 4% fewer countries than Estonians

<i>Median</i>	<i>Estonians</i>	<i>Russian speakers</i>
Number of trips	4	6
Number of visited distinct countries	3	3
Average trip duration (days)	3	4
Number of days spent abroad	15	20

FINDINGS

Gender and age significant predictors: males' travel intensity is higher than females'. The eldest age group travel intensity is lower than of the youngest.

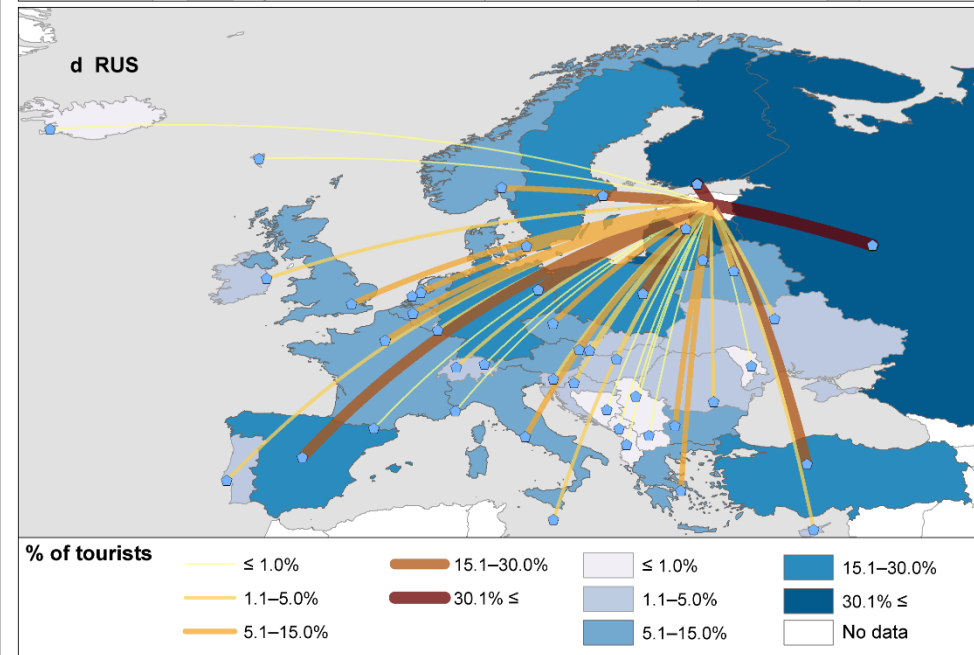
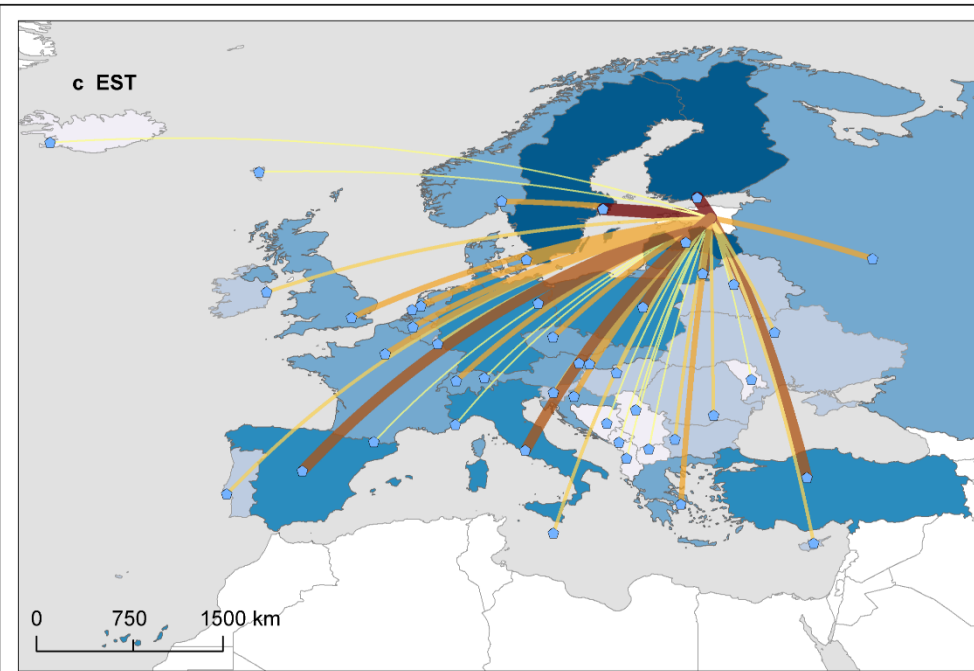
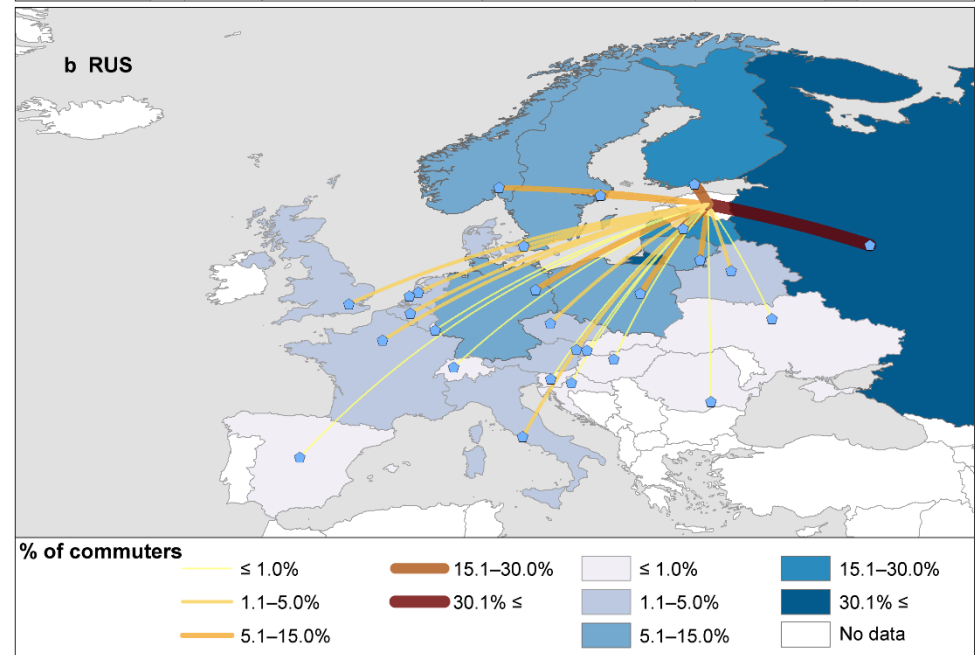
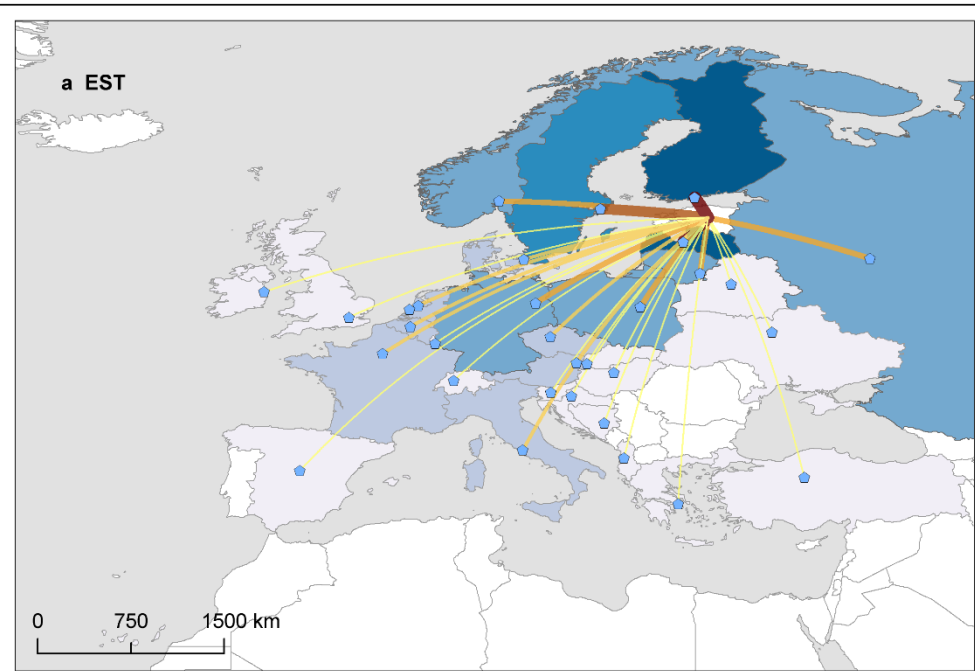
Residential area affects cross-border mobility: people living in East Estonia i.e., in the region where the Russian-speaking national minority forms a regional majority, make fewer trips, their trips are shorter, they visit fewer countries, and they spend fewer days abroad compared to people living in other regions in Estonia

FINDINGS

Ethnic background plays a significant role in explaining the membership for tourist and commuter groups:

- Russian speakers: 20% increase in the odds of belonging to the commuters group than Estonians ($p < 0.05$).
- Russian speakers: 88% increase in the odds of being tourists compared to Estonians ($p < 0.05$).

People living in West Estonia, Central and South Estonia have an elevated probability of belonging to the transnational and long-term stayer groups when compared with East Estonia.



DISCUSSION and CONCLUSIONS

Little evidence supporting marginality approach

- travel intensity of minority group is higher despite the lower income when compared with the majority (Statistics Estonia 2011)

Income alone might not be a good predictor for cross-border mobility intensity, social networks raise *mobility capital*.

- trips to country of ancestry allow budget travelling due to social networks (Delhey et al 2015).
- job-related cross-border commuting might be an exit from a marginal position in the society (Telve 2016)
- buying cheaper goods (Latvia, Russia) can be an incentive for frequent travel (livelihood)

DISCUSSION

Our findings support ancestry approach:

- Connections between social networks (country of ancestry) and cross-border mobility
- Trips to country of ancestry remain frequent over many migrant generations

Ethnic dimension in outbound travel is highly connected with preferences, social networks and ancestry:

- wish to search for one's roots (Duval, 2003; Hughes and Allen, 2010)
- visit relatives and friends (Griffin, 2017)
- to do business or take a holiday (Seetaram, 2012, Dwyer et al., 2014)
- a learned behaviour from family (McKercher and Yankholmes, 2018; Klemm, 2002).

CONCLUSIONS

This study extended the analysis of cross-border mobility into transnational activity space.

- no trip purpose or income variable
- only included the people who had made at least one trip, excluded people who were immobile

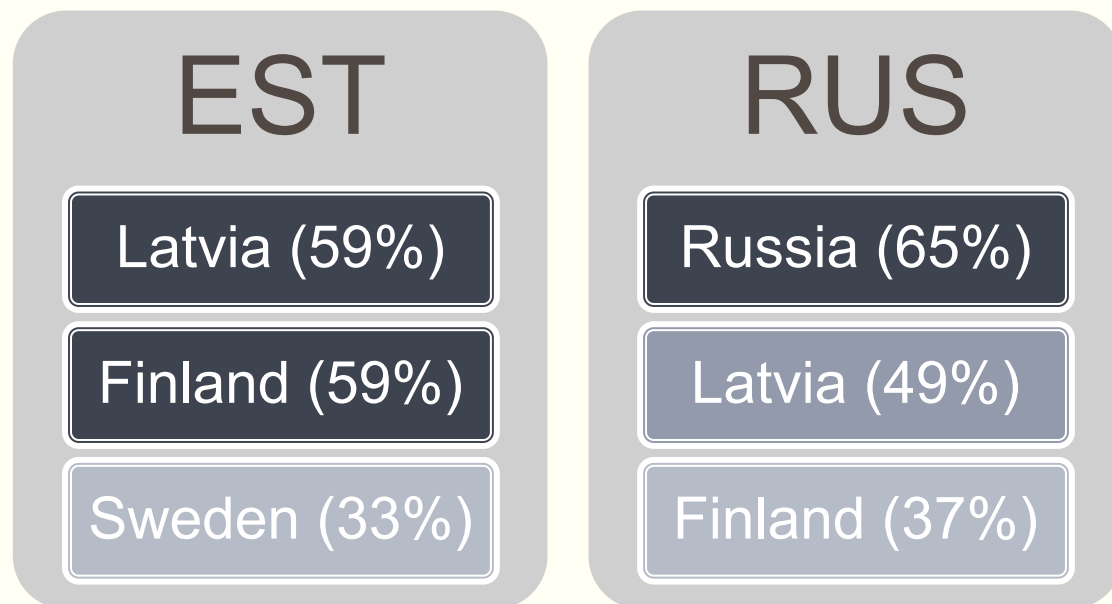
Strong social ties across borders can open up new ways for mobility, self-realization, cultural maintenance, economic success (Portes et al 1999), thereby creating exit points of vicious circles of segregation.



Thank you for the attention!

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FINDINGS



Older Estonians visit predominantly Latvia, while younger people visit predominantly Finland.

For Russian speakers the sequence of countries is the same for all age groups: Russia is one of the most important destinations for all age groups.