

Depression and life satisfaction among youths in Oslo



Roy Lachica
Systems Developer
Oslo, Norway



264,000,000

people in the world 2017 having experienced depression

A world map is shown against a background of a bright blue sky with white clouds and sunbeams. The map is white, and the Nordic region, including Finland, Sweden, Norway, and Iceland, is circled with a red oval.

**Nordic countries most happy in the world.
Yet, also have some of the most unhappy youths.**

World Happiness Report 2019

1. Finland (7.769)
2. Denmark (7.600)
3. Norway (7.554)
4. Iceland (7.494)
5. Netherlands (7.488)
6. Switzerland (7.480)
7. Sweden (7.343)
8. New Zealand (7.307)
9. Canada (7.278)
10. Austria (7.246)



Research problem

Scope

Intra city differences in Oslo Norway.

Aim

Uncover new insight about depression and life satisfaction among the young.

Goals

1. Is income associated with depression and life satisfaction?
2. Is education associated with depression and life satisfaction?
3. Is the social security welfare benefits associated with depression and life satisfaction?
4. Is the number of venues in a borough associated with depression and life satisfaction?
5. Is the share of child protection services cases in a borough associated with depression and life satisfaction?
6. Is nature closeness associated with depression and life satisfaction?

Data sources

1. Foursquare API.
2. Oslo municipality statistics database. →
3. Manually coded nature closeness levels and borough locations.

OSLO KOMMUNE Statistikkbanken

TABELL OM STATISTIKKEN

Oslo kommunes statistikkbank

- Befolkning
 - Folkemengde
 - Folkemengden etter kjønn og alder (B)
 - Folkemengden etter kjønn og alder (G)
 - Folkemengden etter kjønn og alder (D)
 - Folkemengden etter administrativ bydel og alder
 - Folkemengden etter skoleinnskotsområde, kjønn og alder
 - Folkemengden etter prosti, menighet, kjønn og alder
 - Folkemengde, historisk
 - Folkemengde, ti soner
 - Fødsle
 - Fødsle etter mors alder (B)
 - Fødsle etter mors landbakgrunn (B)
 - Fødsle etter paritet og mors alder (B)
 - Samlet fruktbarhetstall, SFT
 - Dødsle
 - Flytting
 - Landbakgrunn
 - Husholdninger
 - Befolkningsdrømskrivninger
 - Inntekt, levekår og sosiale forhold
 - Barneskole, skole og høyere utdanning
 - Oslohelset
 - Samfunnsniv
 - Arbets- og næringsliv
 - Boliger og byggeværkshet
 - Miljø og samferdsel
 - Kommunal økonomi og forvaltning

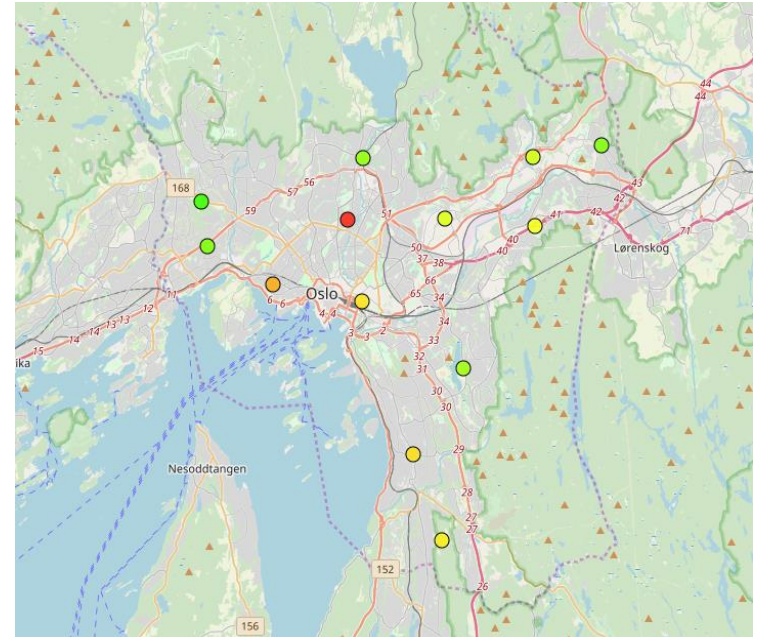
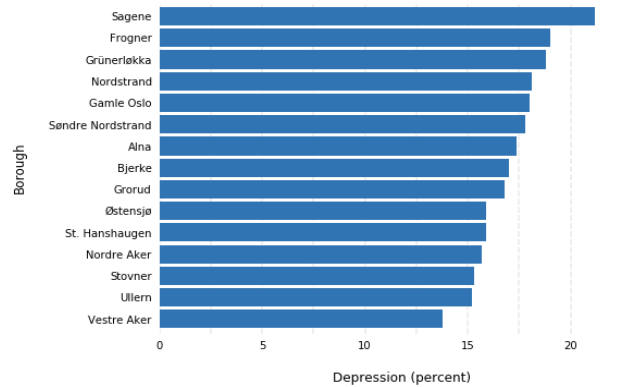
Folkemengden etter kjønn og alder (B) – Begge kjønn, Alder i alt, Antall

Endre utvalg av...

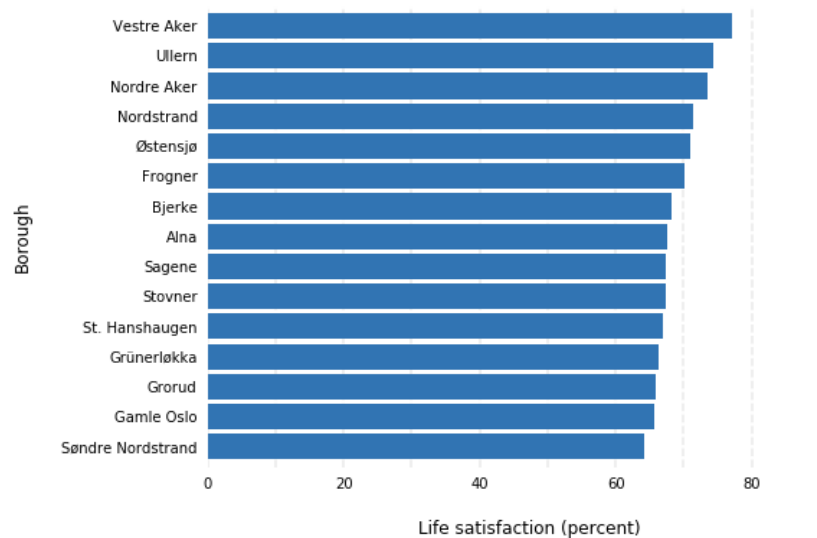
Bydel År Kjønn Alder

År	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Bydel												
Oslo i alt	521 886	529 846	538 411	548 617	560 484	575 475	586 860	599 230	613 285	623 966	634 463	647 676
Bydel Gamle Oslo	34 579	35 431	36 557	37 717	39 500	41 452	42 569	43 770	44 958	46 290	48 417	49 854
Bydel Grønland	36 779	37 774	38 946	40 406	42 129	43 961	45 647	47 256	49 307	50 507	52 198	54 701
Bydel Sagene	28 816	29 654	30 414	31 428	32 394	33 631	34 286	35 115	35 990	37 053	38 637	39 918
Bydel St.Hanshaugen	26 728	27 619	28 287	29 082	30 144	31 550	32 254	33 137	34 109	34 982	35 630	36 218
Bydel Frogner	45 042	45 640	46 047	46 768	47 618	49 058	50 396	51 120	52 531	53 573	54 604	55 965
Bydel Vestre Aker	26 977	27 179	27 599	28 331	28 898	29 839	30 250	30 744	31 275	31 443	31 656	32 124
Bydel Nordre Aker	40 424	40 587	40 878	41 302	42 042	42 756	43 457	44 320	45 186	45 715	46 444	47 024
Bydel Bjørke	24 256	24 448	24 606	25 530	26 229	26 863	27 632	28 226	29 090	29 617	30 327	30 502
Bydel Grorud	24 617	24 729	25 032	25 359	25 461	26 020	26 074	26 777	26 888	27 101	27 283	
Bydel Stovner	28 109	28 445	28 656	28 936	29 351	29 651	29 746	30 178	30 524	30 752	31 240	31 669

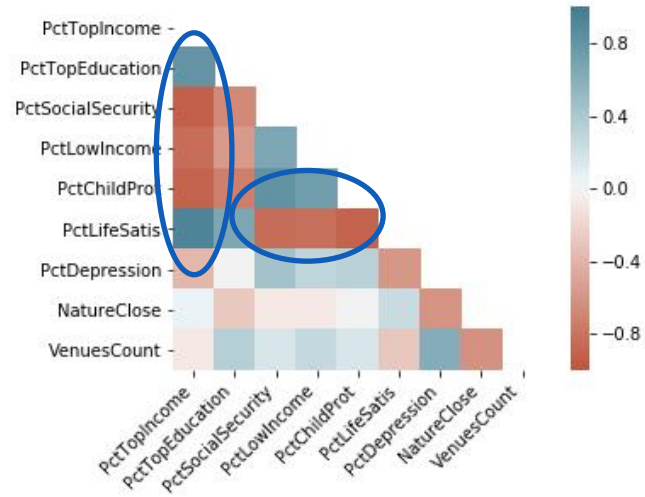
Borough depression levels among young



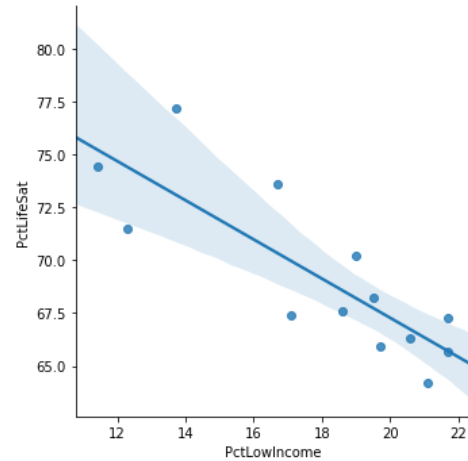
Borough life satisfaction levels among young



Discovering associations



Low income vs life satisfaction



Correlation coefficient -0.827 p-value 0.000484

FINDINGS

Income

High income level very strongly correlated with life satisfaction

(p 0.93, p -value 0.000004)

Education

High education level moderately strong correlated with life satisfaction

(p 0.67, p -value 0.012984)

Social security

Social security welfare benefits ages 50 to 59 strong negative correlation with life satisfaction

(p -0.83, p -value 0.000404)

Venues

Number of venues moderately correlated with depression

(p 0.61 p -value 0.026584)

Child protection services

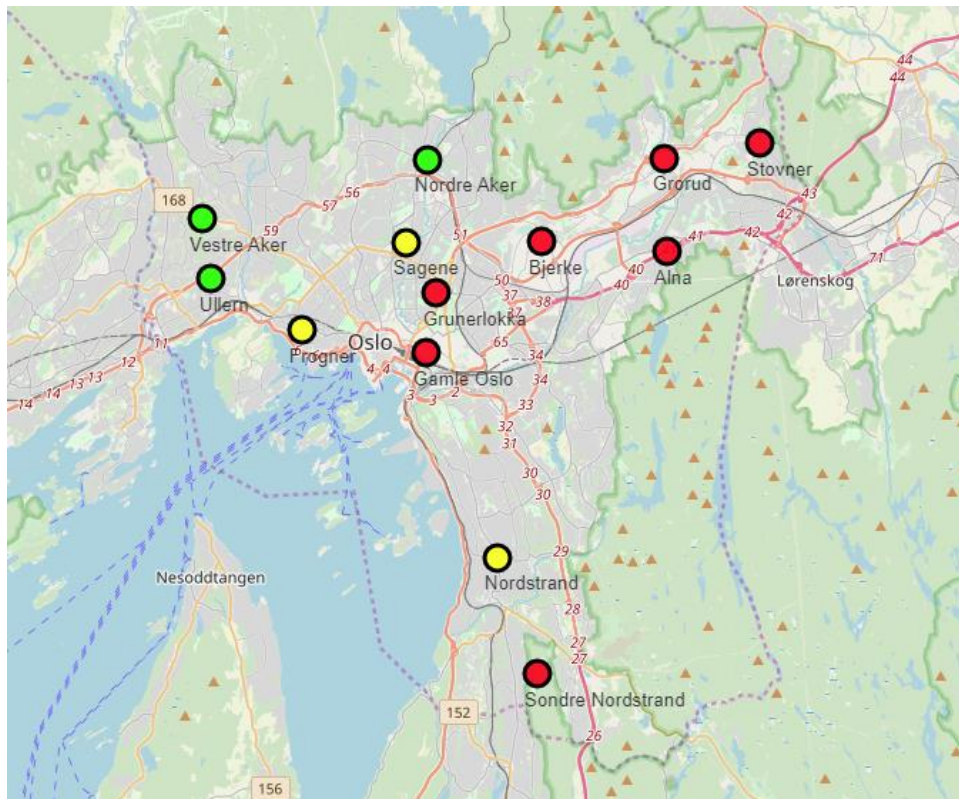
Child protection services cases strong negative correlation with life satisfaction

(p -0.89, p -value 0.000055)

Nature access

Nature closeness moderately negatively correlated with depression

(p 0.60, p -value: 0.029002)



Green: In the clear

Yellow: Keep an eye on

Red: Immediate policy actions recommended


Using *k*-means clustering

RECOMMENDED POLICY ACTIONS

- Stovner
- Grorud
- Alna
- Grunderlokka
- Bjerke
- Gamle Oslo
- Sondre Norstrand



- Low-threshold in neighborhood health services.
- School programs, classes etc. aimed at self worth, stress management, coping skills etc.

A close-up photograph of a young Black woman with curly hair, wearing a light blue long-sleeved shirt. She is smiling and looking down at a large fan of US dollar bills she is holding in her hands. The bills include \$100, \$20, and \$10 denominations. The background is a blurred indoor setting with a bookshelf visible on the right. A small white star icon is positioned above the text box.

Higher income levels make children happier, but living in a high income family will not necessarily save children from depression.



Thank you
Questions?

Connect with me on

<http://www.linkedin.com/in/roylachica>