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For whom are cities good places to live?

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Abstract:
We use survey data to examine whether there are some sociodemographic groups that particularly value the amenities that cities provide. We find that young, single and childless persons and young men with tertiary education are relatively more satisfied with urban areas as place of residence. Being single is more important for women's appraisal of places, while having children matters more for men's preferences. There is a high degree of agreement between sociodemographic groups on whether a particular amenity represents an urban amenity or an urban disamenity. Higher education, public transportation, culture, leisure activities and shopping opportunities are urban amenities, whereas other public services, safety, living conditions for children and outdoor recreation are urban disamenities.

Keywords: Place satisfaction, amenities, population size, sociodemographic groups

JEL classification: J10, R22, R23

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Sammendrag

En stor forskningslitteratur undersøker om livet er bedre i by eller bygd. En svakhet ved denne litteraturen er at den ikke åpner for at lykke og tilfredshet med bosted i by kan variere med sosioøkonomiske karakteristikker. Dette til tross for at mange forskere argumenterer for at byer er spesielt attraktive for unge, utdannede og single personer, mens gifte og personer med barn foretrekker rurale strøk.

Et første skritt i denne retningen ble tatt i en studie av Dalmazzo og de Blasio (2011), som finner at tilfredsheten med ulike by-karakteristikker øker med utdanningsnivå. Med spørreundersøkelsesdata fra Norge kan vi gå lengre ved å se på flere sosioøkonomiske kjennetegn, som kjønn, alder, sivil- og foreldrestatus. Dette muliggjør en mer helhetlig vurdering av hvilke befolkningsgrupper som foretrekker bylivet og hvilke kjennetegn ved byer disse gruppene typisk verdsetter.

Vi finner at unge, single og barnløse personer, samt unge menn med høy utdannelse, er mest tilfredse med å bo i urbane strøk. Single kvinner er relativt mer tilfredse med å bo i by enn single menn, og menn uten barn er relativt mer tilfredse med bylivet enn kvinner uten barn. Det er stor enighet mellom sosioøkonomiske grupper om hva som er tiltalende kjennetegn ved urbane og rurale strøk. Tilfredshet med tilbudet av høyere utdanning, offentlig transport, fritids- og kulturaktiviteter og shopping er bedre i byer, mens tilfredshet med offentlige tjenester, opplevd trygghet, oppvekstsvilkår for barn og rekreasjonsmuligheter i naturen er bedre i rurale strøk.

1 Introduction

Over the past decade a voluminous literature has studied whether happiness and satisfaction with life/place are highest in urban or rural areas, a review is given by Wang and Wang (2016). Cities typically provide a variety of goods and services, low transportation costs and cultural vitality, which increase quality of life and make urban areas pleasant places to live (Glaeser et al., 2001; Glaeser and Shapiro, 2003). On the other hand, cities often come with disamenities such as social isolation and lack of cohesion, segregation and poverty, crime, pollution, crowding and noise (Berry and Okulicz-Kozaryn, 2009; Okulicz-Kozaryn, 2017; Okulicz-Kozaryn and Mazelis, 2018; Okulicz-Kozaryn and Valente, 2018).

Whether urban amenities outweigh urban disamenities cannot be determined a priori, but must be empirically examined. Most studies using data from developing countries find higher satisfaction/happiness in cities (Requena, 2016; Wang and Wang, 2016), whereas the majority of studies from developed countries finds that satisfaction/happiness is higher in rural areas and towns (Berry and Okulicz-Kozaryn, 2011; Piper, 2015; Sørensen, 2016; European Commission, 2016; Requena, 2016; Okulicz-Kozaryn, 2017; Winters and Li, 2017; Lenzi and Perucca, 2018; Okulicz-Kozaryn and Mazelis, 2018). There are however some studies from developed countries that do not find urban-rural differences (Shucksmith et al., 2009; Easterlin et al., 2011; Glaeser et al., 2016).

A shortcoming of the literature is a lack of focus on heterogeneity in the evaluation of local amenities. The estimated empirical specifications typically do not allow the effect of urban scale on satisfaction/happiness to vary across sociodemographic groups. Demographic and socioeconomic variables are included as controls, but interactions between these variables and measures of urban scale are not considered.

Many scholars argue that urban areas are particularly attractive for young, educated and single people, whereas married people with children often prefer less populous areas (Costa and Kahn, 2000; Clark et al., 2002; Florida, 2002, 2017; Glaeser et al., 2001;

Moos, 2016; Okulicz-Kozaryn and Valente, 2019). Possible reasons are that the former is attracted by the lifestyle, entertainment opportunities and marriage markets in urban areas, while the latter prefers to avoid cities in order to consume more space and isolate children from undesirable social contacts. A logical consequence of these arguments is that the estimated empirical specifications should allow the effect of urban scale on satisfaction/happiness to vary between sociodemographic groups.

The study by Dalmazzo and de Blasio (2011) represents a first step in this direction. Using survey data in which respondents evaluate area-specific amenities, the authors estimate regressions explaining reported satisfaction with an amenity as a function of city size, allowing the effect of size to vary with the education level of the respondent. The authors find that - for several amenities - the estimated effect of size on satisfaction increases with education level and conclude that amenities of big cities are particularly valuable for highly educated persons. We extend their approach by interacting population size with other respondent characteristics in addition to education level. This allows us to explore in more detail for whom cities are good places to live. We can test, for instance, whether young, single and educated people value urban amenities higher than other population groups and whether the presence of children in the household changes the evaluation of urban amenities. We can also determine whether the quality of any particular amenity is higher in urban or in rural areas and to which extent the different sociodemographic groups agree in this regard. Our analysis is based on a large Norwegian survey data set in which respondents report their general satisfaction with the resident municipality as a place to live as well as satisfaction with individual local amenities.

Our main conclusion is that young, single and childless persons and young men with tertiary education are most satisfied in populous areas. Being single is more important for women's appraisal of places, while having children matter more for men's preferences: single women are relatively more satisfied in urban areas than single men, and men without children are relatively more satisfied in urban areas than women without children. Sociodemographic groups agree that the supply of higher education, public

transportation, the level of leisure and cultural activities and shopping opportunities are urban amenities, whereas other public services, safety, living conditions for children and outdoor recreation are urban disamenities.

The next section describes Norwegian regions. The survey data set is presented in Section 3. Empirical specification and results are presented in Section 4. We first analyze interaction effects of urban scale and sociodemographic variables for the population as a whole. Next, we conduct separate analyses for men and women. Section 5 offers concluding remarks.

2 Norwegian regions

Statistics Norway has divided Norway into 90 travel-to-work areas, denoted economic regions, based on information about commuting flows between municipalities. Inter-regional variation in population size is substantial: in 2012 the most populous region counted 613,285 inhabitants, while the smallest region had 5229 inhabitants. There were 12 urban regions with 100,000 or more inhabitants and altogether 53% of the country's population, whereas the four largest regions, with 200,000 or more inhabitants, comprised 30% of the population. In our analyses we will use regional population sizes rather than density as indicators of urban scale. Since Norwegian cities are small by international comparison and most regions have large unpopulated areas, population size better reflects the urban scale of the region. Table 1 presents the four categories of regional population size that we use in the analysis.

Table 1: Norwegian population in regions of different population sizes, 2012

Population size	N	Percentage
$<$ 100,000	2,321,119	46.55
100,000-200,000	1,148,322	23.03
200,000-400,000	498,636	10.00
$>$ 400,000	1,017,793	20.41
	4,985,870	100

3 Survey dataset

Our dataset is a large national survey conducted annually by TNS Gallup during 1994-2000 and again in 2003 and 2005. Each year, 30-40,000 persons were asked to rate different aspects of their resident municipality on a discrete scale from 1 to 6, where 6 is 'very satisfied' and 1 is 'very dissatisfied'. About 50% returned the questionnaire. The surveys also included questions about age, gender, marital status, presence of children in the household and whether the respondent has college/university education.

We pool the surveys, producing altogether 158,230 respondents. We omit 15,440 respondents that did not supply complete information about sociodemographic variables, as well as 3,758 respondents below 20 years of age, leaving 139,032 respondents for the analysis.

From the survey questionnaire, we selected 12 questions about local amenities.[1] One question asks about overall satisfaction:

"All things considered, how satisfied or dissatisfied are you with your municipality as a place to live?"

We will refer to the answer to this question as 'general place satisfaction'. The other questions cover several domains of local amenities, including public services[2], secondary and higher education, public transportation, leisure activities, shopping opportunities, safety[3], living conditions for children and outdoor recreation.

Table 2 lists means and standard deviations for sociodemographic variables, and for general and domain place satisfaction. Respondents seem to be most satisfied with safety and outdoor recreation and least satisfied with public services, particularly transportation. The question about general place satisfaction has the highest response rate (98.2%). The lowest response rate has the questions about safety in the municipal center (85.6%)

[1] TNS Gallup demands a substantial charge per question/year. The charge limited the number of amenities that could be studied.

[2] In Norway, primary schools are part of public services.

[3] Questions about safety were not asked in 1994.

and leisure activities (87.4%).

Table 2: Sociodemographic variables, general place satisfaction and domain place satisfaction. Summary statistics

	Mean	Std. Dev.	Respondents
Sociodemographic variables:			
Male	0.49	0.50	139,032
Age	48.10	15.68	139,032
Married	0.73	0.45	139,032
Parent	0.35	0.48	139,032
Tertiary education	0.35	0.49	139,032
General place satisfaction	4.52	1.03	136,576
Domain place satisfaction:			
Public services	3.89	1.15	128,802
Secondary and tertiary education	3.88	1.61	124,848
Public transportation within municipality	3.24	1.53	124,924
Public transportation out of municipality	3.74	1.46	123,411
Leisure activities	4.02	1.24	121,533
Cultural activities	4.00	1.20	123,940
Outdoor recreation	5.50	0.86	134,578
Shopping opportunities	4.52	1.39	133,325
Safety in municipal center	4.58	1.27	118,997
Safety in neighborhood	5.25	1.01	123,215
Living conditions for children	4.53	1.10	123,616

4 Empirical specification and results

4.1 Empirical specification

The following OLS regression is estimated for general place satisfaction and satisfaction with each of the local amenities:[4]

$$\begin{aligned} Satisfaction_{irt} = \alpha_{AG} + \alpha_t + \beta_S Size_{rt} + \beta_M Married_{irt} + \beta_P Parent_{irt} \\ + \beta_T TertiaryEducation_{irt} + \beta_{SA} Size_{rt} \times Age_{irt} \\ + \beta_{SM} Size_{rt} \times Married_{irt} + \beta_{SP} Size_{rt} \times Parent_{irt} \\ + \beta_{ST} Size_{rt} \times TertiaryEducation_{irt} + \epsilon_{irt} \end{aligned} \quad (1)$$

where $Satisfaction_{irt}$ is the level of satisfaction reported by respondent i in region r and year t, α_{AG} are separate age fixed effects for men and women, α_t are year fixed effects, and $Size_{rt}$ is a vector of regional population size dummies registered at the beginning of year t. Age_{irt}, $Married_{irt}$, $Parent_{irt}$ and $TertiaryEducation_{irt}$ are, respectively, the respondent's age in years, the respondents marital status (1=Married, in civil partnership or cohabiting), a dummy for the presence of children below 17 in the household and a dummy for tertiary education (1=Respondent reported that educational level was 'college/university'), and ϵ_{irt} is the error term. Our main interest is the estimated effects of interactions between regional population size and the four respondent characteristics: age, marital status, parental status and tertiary education. Estimated standard errors are clustered at the regional level.

[4]Since answers to survey questions are discrete, regressions reported here were also estimated using ordered probit models, and the results were very similar.

4.2 General place satisfaction

Table 3 presents the results for general place satisfaction. Starting with the most populous areas (with more than 400,000 inhabitants), we see that satisfaction with these areas relative to satisfaction with the smallest areas is highest for young, single, childless respondents with tertiary education. The estimated effects of the population size dummy and the interactions between size and respondent characteristics imply that, relative to the least populous areas (the omitted size category), single, childless persons with tertiary education are more satisfied with the most populous areas until they are 54 years of age. A married person with children but without tertiary education is more satisfied with the largest areas only until 28 years of age.

For areas with medium sized populations (with 200,000-400,000 or 100,000-200,000 inhabitants), coefficients have the same signs as for the most populous areas, but absolute values are smaller and the interaction effects with parental status and tertiary education are not statistically significant. The estimates imply that – relative to the least populous areas – a single, childless person with tertiary education prefers the second most populous areas until the age of 76 and the third most populous areas until the age of 87. The corresponding threshold ages for a married person with children and no tertiary education are lower (47 for the second most populous and 36 for the third most populous areas).

Table 3: Association between general place satisfaction with resident municipality, regional population size and respondent characteristics

Dependent variable:	General place satisfaction	
	Coefficient	t-statistic
Population > 400,000	0.411***	12.08
Population > 400,000 × Age	-0.008***	-17.75
Population > 400,000 × Married	-0.086***	-6.69
Population > 400,000 × Parent	-0.091***	-6.49
Population > 400,000 × Tertiary education	0.035***	3.35
Population 200,000-400,000	0.282**	2.21
Population 200,000-400,000 × Age	-0.004***	-7.93
Population 200,000-400,000 × Married	-0.051**	-2.19
Population 200,000-400,000 × Parent	-0.040	-1.57
Population 200,000-400,000 × Tertiary education	0.027	0.61
Population 100,000-200,000	0.102**	2.21
Population 100,000-200,000 × Age	-0.002*	-1.94
Population 100,000-200,000 × Married	-0.040*	-1.96
Population 100,000-200,000 × Parent	-0.007	-0.27
Population 100,000-200,000 × Tertiary education	0.032	0.77
Adjusted R-squared	0.035	
N	136,576	

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005. Estimator: OLS. Resident municipality is ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied". Fixed effects for year and gender × age, and indicators for married, parent and tertiary education are included as covariates.

Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

4.3 Domain place satisfaction

In this section we examine the relationship between satisfaction with local amenities, respondent characteristics and urban scale. Tables 4-6 present regression results based on equation (1) collected under three headings: services (public services, supply of secondary and higher education services, public transportation), activities (leisure and cultural activities, outdoor recreation, shopping) and security/children (security in the municipal center, security in the neighborhood, living conditions for children).

We note first that the estimated effects of population size and of interactions between size and respondent characteristics imply that there is a high degree of agreement about whether an amenity is an urban amenity or disamenity. In virtually every sociodemographic group, respondents in the most populous areas are more satisfied with secondary and higher education services, public transportation, leisure and cultural activities and shopping opportunities, whereas respondents in scarcely populated areas are more satisfied with public services, outdoor recreation, safety and living conditions for children.[5]

Consider next the most populous areas. For three amenities - leisure, culture and security in the center – the coefficients of all four respondent characteristics have the same signs as in the regression for general satisfaction. Hence, to a greater extent than other demographic groups, young, single, childless persons with tertiary education are relatively more satisfied with leisure and cultural activities and security in the most populous areas. Young persons with tertiary education are also relatively more satisfied with supply of secondary and tertiary educational services and shopping opportunities in the most populous areas, whereas young, single, childless persons are relatively more satisfied with public services and public transportation, and people with tertiary education are more satisfied with security in the neighborhood. Thus, most amenities we consider may potentially explain all or some of the demographic preference differences we found for general

[5]The reader is perhaps surprised that satisfaction with public services is negatively associated with population size. However, in Norway, the municipalities provide a large share of public services, and per capita income is highest in small municipalities due to generous central transfers to municipalities in rural areas.

Table 4: Association between place satisfaction with services, regional population size and respondent characteristics

Dependent variable:	Satisfaction with services			
	Public services	Secondary & tertiary education	Public transportation within municipality	Public transportation out of municipality
Population > 400,000	0.356***	1.956***	1.680***	1.269***
	(10.60)	(17.11)	(26.36)	(24.11)
Population > 400,000 × Age	-0.010***	-0.013***	-0.010***	-0.010***
	(-16.73)	(-9.95)	(-15.22)	(-13.56)
Population > 400,000 × Married	-0.044***	0.048*	-0.059***	-0.071***
	(-3.49)	(1.89)	(-3.85)	(-4.89)
Population > 400,000 × Parent	-0.091***	0.222***	-0.028	-0.002
	(-6.51)	(4.50)	(-1.29)	(-0.09)
Population > 400,000 × Tertiary education	-0.078***	0.277***	-0.234***	-0.148***
	(-6.45)	(5.75)	(-10.24)	(-6.18)
Population 200,000-400,000	0.160	0.911***	0.714***	0.395**
	(1.30)	(6.26)	(2.78)	(2.12)
Population 200,000-400,000 × Age	-0.005***	-0.004**	-0.006***	-0.003**
	(-6.34)	(-2.09)	(-3.78)	(-2.15)
Population 200,000-400,000 × Married	-0.005	-0.091	-0.025	-0.026
	(-0.40)	(-1.12)	(-0.37)	(-0.40)
Population 200,000-400,000 × Parent	-0.062	0.047	-0.066	-0.033
	(-1.53)	(0.98)	(-0.85)	(0.422)
Population 200,000-400,000 × Tertiary education	0.021	0.358**	-0.077	0.014
	(0.65)	(2.31)	(-0.71)	(0.13)
Population 100,000-200,000	0.084	0.540	0.800***	0.407***
	(1.35)	(1.55)	(8.29)	(3.36)
Population 100,000-200,000 × Age	-0.003**	-0.002	-0.006***	-0.003**
	(-2.47)	(-0.36)	(-4.37)	(-2.08)
Population 100,000-200,000 × Married	-0.042**	-0.075	-0.082*	-0.083***
	(-2.20)	(-1.40)	(-1.88)	(-3.80)
Population 100,000-200,000 × Parent	-0.019	0.031	-0.056*	-0.043
	(-0.76)	(0.49)	(-1.69)	(-1.18)
Population 100,000-200,000 × Tertiary education	0.015	0.038	-0.070	0.022
	(0.31)	(0.39)	(-1.37)	(0.58)
Adjusted R-squared	0.041	0.099	0.108	0.073
N	128,802	124,848	124,924	123,411

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005.. Estimator: OLS. Services are ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied".

Fixed effects for year and gender × age, and indicators for married, parent and tertiary education are included as covariates. Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Association between satisfaction with activities, regional population size and respondent characteristics

Dependent variable:	Satisfaction with activities			
	Leisure activities	Cultural activities	Outdoor recreation	Shopping opportunities
Population > 400,000	1.075***	1.508***	-0.618***	1.721***
	(26.08)	(37.66)	(-11.98)	(21.68)
Population > 400,000 × Age	-0.014***	-0.014***	0.011***	-0.017***
	(-24.85)	(-29.46)	(16.54)	(-20.40)
Population > 400,000 × Married	-0.111***	-0.058***	0.013	0.037**
	(-7.36)	(-4.12)	(1.05)	(2.14)
Population > 400,000 × Parent	-0.217***	-0.132***	0.006	0.159***
	(-14.06)	(-7.96)	(0.18)	(6.92)
Population > 400,000 × Tertiary education	0.064***	0.313***	-0.001	0.223***
	(4.23)	(15.12)	(-0.03)	(9.74)
Population 200,000-400,000	0.447***	0.566***	-0.398***	0.980***
	(3.86)	(6.79)	(-6.11)	(4.87)
Population 200,000-400,000 × Age	-0.006***	-0.005***	0.005***	-0.008***
	(-9.00)	(-7.32)	(5.24)	(-6.37)
Population 200,000-400,000 × Married	-0.115***	-0.093***	0.031*	-0.041
	(-6.04)	(-4.94)	(1.90)	(-0.66)
Population 200,000-400,000 × Parent	-0.099***	-0.130***	-0.009	0.025
	(-5.58)	(-3.94)	(-0.21)	(0.66)
Population 200,000-400,000 × Tertiary education	0.077	0.249**	-0.077	0.200*
	(0.94)	(2.27)	(-1.38)	(1.98)
Population 100,000-200,000	0.316***	0.308**	-0.230***	0.740***
	(5.44)	(2.22)	(-3.24)	(4.56)
Population 100,000-200,000 × Age	-0.004***	-0.002	0.003***	-0.007***
	(-3.36)	(-1.15)	(3.39)	(-4.22)
Population 100,000-200,000 × Married	-0.085***	-0.074**	-0.001	-0.034
	(-2.93)	(0.013)	(-0.03)	(-0.51)
Population 100,000-200,000 × Parent	-0.050*	-0.031	-0.042	0.005
	(-1.84)	(-0.98)	(-1.00)	(0.09)
Population 100,000-200,000 × Tertiary education	0.029	0.053	-0.034	0.105
	(0.56)	(0.99)	(-1.19)	(1.16)
Adjusted R-squared	0.055	0.078	0.030	0.086
N	121,533	123,940	134,578	133,325

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005. Estimator: OLS. Activities are ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied".

Fixed effects for year and gender × age, and indicators for married, parent and tertiary education are included as covariates.

Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

satisfaction. Only two of the amenities, outdoor recreation and living conditions for children, cannot explain these differences.

For areas with medium population size, the coefficients of respondent characteristics have generally the same signs as for the most populous areas, but the estimated effects are weaker and some coefficients are statistically insignificant. Sociodemographic differences in preferences for areas with medium population size are thus weaker than for the most populous areas. Compared to older people, young people are relatively more satisfied with services, leisure and cultural activities and shopping opportunities in areas with medium population size. Single and childless persons are relatively more satisfied with public transportation and leisure and cultural activities, whereas people with tertiary education are relatively more satisfied with educational services, culture and shopping opportunities in the second most populated areas but do not seem to distinguish between the third most populous areas and least populated areas.

Table 6: Association between satisfaction with safety and living conditions for children, regional population size and respondent characteristics

Dependent variable:	Satisfaction with safety/living conditions for children		
	Safety in municipal center	Safety in neighborhood	Living conditions for children
Population > 400,000	-1.463***	-1.168***	-1.653***
	(-23.79)	(-29.38)	(-32.46)
Population > 400,000 × age	-0.006***	0.005***	0.014***
	(-7.83)	(13.26)	(23.52)
Population > 400,000 × Married	-0.187***	0.010	-0.003
	(-11.60)	(0.90)	(-0.19)
Population > 400,000 × Parent	-0.142***	0.068***	0.249***
	(-10.76)	(6.93)	(12.08)
Population > 400,000 × Tertiary education	0.252***	0.117***	-0.117***
	(11.17)	(9.63)	(-8.19)
Population 200,000-400,000	-0.404***	-0.487***	-0.398***
	(-5.54)	(-11.77)	(-5.90)
Population 200,000-400,000 × Age	-0.002	0.003***	0.003***
	(-1.10)	(3.88)	(3.39)
Population 200,000-400,000 × Married	0.052	0.110***	0.056***
	(1.10)	(6.09)	(2.67)
Population 200,000-400,000 × Parent	0.021	0.040	0.071
	(0.84)	(1.18)	(1.17)
Population 200,000-400,000 × Tertiary education	-0.073	-0.074***	-0.134***
	(-1.05)	(-3.15)	(-3.83)
Population 100,000-200,000	-0.422***	-0.383***	-0.392***
	(-3.58)	(-5.14)	(-4.33)
Population 100,000-200,000 × Age	-0.003**	0.002**	0.003***
	(-2.19)	(2.21)	(3.05)
Population 100,000-200,000 × Married	0.026	0.038*	0.007
	(0.68)	(1.89)	(0.32)
Population 100,000-200,000 × Parent	-0.008	0.028	0.087**
	(-0.24)	(1.30)	(2.58)
Population 100,000-200,000 × Tertiary education	0.051	0.008	-0.027
	(1.27)	(0.40)	(-0.64)
Adjusted R-squared	0.110	0.056	0.058
N	118,997	123,215	123,616

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005. Estimator: OLS. Safety and living conditions are ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied".

Fixed effects for year and gender × age, and indicators for married, parent and tertiary education are included as covariates. Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 7: General place satisfaction. Separate estimates for men and women

Dependent variable:	General place satisfaction			
	Men		Women	
	Coefficient	t-statistic	Coefficient	t-statistic
Population > 400,000	0.429***	12.32	0.395***	9.96
Population > 400,000 × Age	-0.009***	-17.95	-0.008***	-13.30
Population > 400,000 × Married	-0.052***	-2.80	-0.109***	-7.80
Population > 400,000 × Parent	-0.144***	-8.22	-0.050***	-3.01
Population > 400,000 × Tertiary education	0.084***	6.50	-0.001	-0.08
Population 200,000-400,000	0.308**	2.36	0.257*	1.97
Population 200,000-400,000 × Age	-0.004***	-8.21	-0.004***	-5.87
Population 200,000-400,000 × Married	-0.045	-1.49	-0.059*	-1.88
Population 200,000-400,000 × Parent	-0.073***	-2.69	-0.006	-0.22
Population 200,000-400,000 × Tertiary education	0.028	0.77	0.025	0.46
Population 100,000-200,000	0.066	1.44	0.140**	2.45
Population 100,000-200,000 × Age	-0.001	-0.93	-0.002**	-2.22
Population 100,000-200,000 × Married	-0.053**	-2.28	-0.038	-1.58
Population 100,000-200,000 × Parent	-0.019	-0.67	0.006	0.22
Population 100,000-200,000 × Tertiary education	0.047	0.95	0.014	0.39
Adjusted R-squared	0.033		0.032	
N	67,493		69,083	

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005. Estimator: OLS. General place satisfaction is ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied".

Fixed effects for year and age, and indicators for married, parent and tertiary education are included as covariates.

Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

4.4 Gender differences

In this section, we repeat the analyses presented in Tables 3-6 for men and women separately. Table 7 presents the results for general place satisfaction. Starting with the most populous areas, we see that the effect of age is quite similar for men and women. For the other three characteristics, we find gender differences. Marital status is more important for women's preferences: compared to married women, single women report higher general place satisfaction with the most populous areas. Single men are also more attracted to these areas than married men, but the difference is smaller than for women. For parental status and tertiary education, we find the opposite: the effects of these characteristics on place preferences are stronger for men. Childless men report higher general place satisfaction with the most populous areas than men with children, and the difference is larger than for women. Men with tertiary education report higher general place satisfaction with the most populous areas than men without tertiary education; for women, tertiary education does not affect general place satisfaction with the most populous areas.

Table 8: Association between satisfaction with services, regional population size and demographic characteristics. Separate estimates for men and women

Dependent variable:	Public services		Secondary and tertiary education		Public transportation within municipality		Public transportation out of municipality	
	Men	Women	Men	Women	Men	Women	Men	Women
Population≥ 400,000	0.322***	0.419***	2.071***	1.782***	1.583***	1.739***	1.193***	1.322***
	(9.13)	(9.78)	(19.10)	(13.26)	(24.26)	(22.59)	(20.12)	(21.33)
Population≥ 400,000 × Age	-0.010***	-0.010***	-0.016***	-0.010***	-0.009***	-0.010***	-0.010***	-0.011***
	(-16.67)	(-13.56)	(-12.36)	(-6.00)	(-11.30)	(-11.17)	(-10.77)	(-11.79)
Population≥ 400,000 × Married	0.018	-0.100***	0.049*	0.090**	-0.013	-0.078***	-0.019	-0.097***
	(1.01)	(-5.70)	(1.74)	(2.57)	(-0.62)	(-3.34)	(-0.81)	(-4.60)
Population≥ 400,000 × Parent	-0.127***	-0.071***	0.178***	0.252***	-0.015	-0.056**	-0.060**	0.024
	(-6.29)	(-4.30)	(3.91)	(4.36)	(-0.59)	(-2.16)	(-2.33)	(0.80)
Population≥ 400,000 × Tertiary educated	-0.025	-0.119***	0.222***	0.335***	-0.251***	-0.208***	-0.153***	-0.135***
	(-1.65)	(-7.14)	(4.09)	(7.08)	(-9.74)	(-7.46)	(-5.50)	(-4.97)
Population 200,00-400,000	0.157	0.201	1.013***	0.789***	0.754***	0.658**	0.416*	0.378**
	(1.40)	(1.30)	(7.02)	(4.97)	(2.93)	(2.52)	(1.90)	(2.60)
Population 200,00-400,000 × Age	-0.004***	-0.100***	-0.006***	-0.002	-0.007***	-0.004***	-0.004*	-0.003**
	(-6.03)	(-4.67)	(-2.79)	(-1.00)	(-4.23)	(-2.77)	(-1.91)	(-2.59)
Population 200,00-400,000 × Married	0.033	-0.056*	-0.014	-0.124	0.023	-0.044	0.043	-0.073
	(1.07)	(-1.85)	(-0.26)	(-1.16)	(0.31)	(-0.67)	(0.52)	(-1.08)
Population 200,00-400,000 × Parent	-0.103**	-0.025	0.023	0.062	-0.110*	-0.035	-0.101***	0.021
	(-2.39)	(-0.67)	(0.53)	(1.01)	(-1.75)	(-0.39)	(-3.15)	(0.32)
Population 200,00-400,000 × Tertiary educated	0.005	0.032	0.247*	0.466***	-0.118	-0.034	0.007	0.021
	(0.32)	(0.54)	(1.75)	(2.74)	(-1.29)	(-0.27)	(0.06)	(0.22)
Population100,000-200,000	0.051	0.147**	0.630*	0.412	0.749***	0.849***	0.386**	0.450***
	(0.68)	(2.24)	(1.81)	(1.14)	(7.16)	(7.64)	(2.64)	(4.15)
Population100,000-200,000 × Age	-0.002*	-0.004***	-0.002	-0.000	-0.005***	-0.006***	-0.003	-0.003**
	(-1.71)	(-3.06)	(-0.42)	(-0.09)	(-3.11)	(-4.11)	(-1.63)	(-2.45)
Population100,000-200,000 × Married	-0.040*	-0.064***	-0.139**	-0.018	-0.080***	-0.083	-0.064*	-0.103**
	(-1.68)	(-2.82)	(-2.37)	(-0.29)	(-2.69)	(-1.33)	(-1.99)	(-2.48)
Population100,000-200,000 × Parent	-0.019	-0.018	0.013	0.063	-0.019	-0.096*	-0.014	-0.072
	(-0.70)	(-0.59)	(0.19)	(0.89)	(-0.43)	(-1.85)	(-0.29)	(-1.33)
Population100,000-200,000 × Tertiary educated	0.020	0.006	-0.015	0.091	-0.070	-0.070	0.032	0.010
	(0.37)	(0.14)	(-0.13)	(1.03)	(-1.29)	(-1.26)	(0.76)	(0.22)
Adjusted R-squared	0.048	0.034	0.097	0.102	0.116	0.101	0.068	0.078
N	64,534	64,268	62,422	62,426	61,996	62,928	61,675	61,736

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005. Estimator: OLS. Services are ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied".

Fixed effects for year and age, and indicators for married, parent and tertiary education are included as covariates.

Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Which amenities may potentially explain gender differences in general place satisfaction with the most populous areas? Tables 8-10 present gender-specific results for the individual local amenities. We see that for public services, public transportation, and leisure and cultural activities, single women are relatively more satisfied with the most populous areas than married women, whereas there are no significant differences between single and married men. The effect of marital status on satisfaction with safety in the center is also larger for women. The presence of children has a stronger negative effect on satisfaction with public services and leisure activities for men than for women. For safety in the municipality center, the opposite is the case: the presence of children makes women relatively more dissatisfied with the most populous areas. The positive effects of tertiary education on satisfaction with the most populous areas are higher among men than among women for leisure and cultural activities, whereas the negative effect of tertiary education on satisfaction with living conditions for children is smallest for men. Hence, our finding that most amenities may explain demographic differences in preferences for more versus less populous areas seems to carry over to gender-specific analyses.

Table 9: Association between satisfaction with activities, regional population size and demographic characteristics. Separate estimates for men and women

Dependent variable:	Leisure activities		Cultural activities		Outdoor recreation		Shopping opportunities	
	Men	Women	Men	Women	Men	Women	Men	Women
Population > 400,000	1.043***	1.079***	1.534***	1.472***	-0.691***	-0550***	1.620***	1.758***
	(22.08)	(20.64)	(38.68)	(27.84)	(-11.13)	(-10.68)	(21.89)	(17.50
Population > 400,000 × Age	-0.015***	-0.013***	-0.017***	-0.013***	0.012***	0.010***	-0.015***	-0.017***
	(-20.49)	(-16.57)	(-26.46)	(-19.57)	(13.04)	(15.59)	(-19.49)	(-14.21
Population > 400,000 × Married	-0.025	-0.148***	0.009	-0.087***	0.045***	-0.010	0.024	0.076***
	(-1.14)	(-6.89)	(0.49)	(-4.48)	(2.92)	(-0.82)	(1.04)	(2.94)
Population > 400,000 × Parent	-0.282***	-0.184***	-0.133***	-0.142***	-0.040	0.032	0.144***	0.156***
	(-13.92)	(-7.47)	(-6.82)	(-6.33)	(-1.05)	(0.95)	(5.76)	(5.28)
Population > 400,000 × Tertiary education	0.090***	0.041**	0.339***	0.292***	0.030	-0.031	0.197***	0.244***
	(4.50)	(2.31)	(13.87)	(13.77)	(0.82)	(-1.27)	(7.13)	(10.16)
Population 200,00-400,000	0.514***	0.355*	0.648***	0.482***	-0.412***	-0.401***	0.975***	0.973***
	(7.81)	(1.78)	(14.88)	(3.48)	(-4.09)	(-8.17)	(5.71)	(4.33)
Population 200,00-400,000 × Age	-0.007***	-0.004***	-0.007***	-0.004***	0.004***	0.005***	-0.009***	-0.008***
	(-7.31)	(-2.70)	(-4.29)	(-3.43)	(3.51)	(8.58)	(-9.15)	(-4.49)
Population 200,00-400,000 × Married	-0.097***	-0.112***	-0.027	-0.130***	0.058	0.028	0.042	-0.086
	(-3.32)	(-4.15)	(-1.02)	(-5.11)	(0.77)	(0.82)	(0.82)	(-1.06)
Population 200,00-400,000 × Parent	-0.145***	-0.058**	-0.167***	-0.102***	-0.017	-0.013	-0.012	0.042
	(-4.68)	(-2.01)	(-3.90)	(-3.53)	(-0.26)	(-0.37)	(-0.38)	(0.87)
Population 200,00-400,000 × Tertiary education	0.058	0.097	0.194	0.303***	-0.060	-0.092*	0.149*	0.247**
	(0.99)	(0.87)	(1.64)	(2.89)	(-0.93)	(-1.80)	(1.74)	(2.08)
Population 100,000-200,000	0.352***	0.270***	0.264*	0.348**	-0.304***	-0.157**	0.589***	0.856***
	(4.17)	(4.32)	(1.85)	(2.43)	(-3.52)	(-2.28)	(3.86)	(4.80)
Population 100,000-200,000 × Age	-0.004***	-0.003**	-0.002	-0.002	0.004***	0.002**	-0.005***	-0.008***
	(-3.89)	(-1.99)	(-1.05)	(-1.15)	(3.22)	(2.32)	(-3.50)	(-3.91)
Population 100,000-200,000 × Married	-0.087***	-0.080*	-0.044	-0.093**	0.019	-0.017	-0.025	-0.030
	(-3.00)	(-1.88)	(-1.51)	(-2.44)	(0.59)	(-0.65)	(-0.41)	(-0.38)
Population 100,000-200,000 × Parent	-0.071***	-0.028	-0.026	-0.042	-0.043	-0.049	0.005	-0.010
	(-2.75)	(-0.70)	(-0.78)	(-1.07)	(-0.86)	(-1.24)	(0.09)	(-0.15)
Population 100,000-200,000 × Tertiary education	0.013	0.045	0.039	0.067	-0.019	-0.049	0.116	0.096
	(0.20)	(0.96)	(0.66)	(1.28)	(-0.62)	(-1.66)	(1.28)	(1.00)
Adjusted R-squared	0.054	0.054	0.071	0.076	0.028	0.030	0.076	0.093
N	60,891	60,642	61,498	62,442	66,732	67,846	65,913	67,412

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005. Estimator: OLS. Activities are ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied".

Fixed effects for year and age, and indicators for married, parent and tertiary education are included as covariates.

Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 10: Association between satisfaction with safety and living conditions for children, regional population size and demographic characteristics. Separate estimates for men and women

Dependent variable:	Safety in municipal center		Safety in neighborhood		Living conditions for children	
	Men	Women	Men	Women	Men	Women
Population > 400,000	-1.340***	-1.513***	-0.976***	-1.301***	-1.684***	-1.620***
	(-22.67)	(-20.84)	(-26.74)	(-25.65)	(-35.38)	(-24.01)
Population > 400,000 × Age	-0.010***	-0.003***	0.003***	0.007***	0.013***	0.015***
	(-12.49)	(-3.45)	(5.32)	(13.02)	(19.16)	(18.75)
Population > 400,000 × Married	-0.125***	-0.235***	-0.025	0.020	0.039*	-0.023
	(-4.89)	(-11.35)	(-1.59)	(1.01)	(1.80)	(-1.23)
Population > 400,000 × Parent	0.055***	-0.284***	0.085***	0.080***	0.229***	0.251***
	(2.91)	(-16.55)	(6.63)	(4.83)	(10.80)	(9.83)
Population > 400,000 × Tertiary education	0.231***	0.256***	0.135***	0.099***	-0.025	-0.194***
	(10.28)	(9.75)	(10.20)	(6.65)	(-1.38)	(-10.99)
Population 200,00-400,000	-0.401***	-0.368**	-0.332***	-0.621***	-0.358***	-0.430***
	(-4.82)	(-2.54)	(-4.95)	(-6.07)	(-6.97)	(-3.56)
Population 200,00-400,000 × Age	-0.001	-0.003	0.002***	0.005**	0.003***	0.003*
	(-1.46)	(-0.85)	(3.40)	(2.15)	(4.24)	(1.72)
Population 200,00-400,000 × Married	0.009	0.057	0.065*	0.128***	0.064	0.043
	(0.20)	(0.73)	(1.99)	(5.39)	(1.25)	(1.18)
Population 200,00-400,000 × Parent	0.045	0.012	-0.014	0.114**	0.014	0.129*
	(1.22)	(0.48)	(-0.45)	(2.49)	(0.27)	(1.72)
Population 200,00-400,000 × Tertiary education	-0.012	-0.131*	-0.017	-0.124***	-0.135***	-0.134**
	(-0.19)	(-1.78)	(-0.82)	(-4.78)	(-4.48)	(-3.12)
Population 100,000-200,000	-0.428***	-0.371***	-0.314***	-0.428***	-0.407***	-0.357***
	(-3.88)	(-2.82)	(-4.53)	(-4.55)	(-4.40)	(-3.28)
Population 100,000-200,000 × Age	-0.002*	-0.005**	0.001	0.002**	0.003**	0.003**
	(-1.74)	(-2.47)	(1.16)	(2.27)	(2.64)	(2.29)
Population 100,000-200,000 × Married	0.002	0.011	0.019	0.042	0.034	-0.020
	(0.05)	(0.26)	(1.03)	(1.24)	(1.05)	(-0.78)
Population 100,000-200,000 × Parent	-0.002	-0.004	0.032	0.035	0.066*	0.102**
	(-0.05)	(-0.10)	(1.48)	(1.05)	(1.92)	(2.46)
Population 100,000-200,000 × Tertiary education	0.053	0.045	0.019	-0.003	0.001	-0.057
	(1.40)	(0.97)	(0.81)	(-0.13)	(0.03)	(-1.41)
Adjusted R-squared	0.101	0.114	0.039	0.055	0.055	0.061
N	58,147	59,850	60,962	62,253	61,799	61,817

Pooled sample of 10 surveys from 1993-2000, 2003, and 2005. Estimator: OLS. Safety and living conditions are ranked by respondents on a scale from 1 to 6, where 6 is "Very satisfied" and 1 is "Very dissatisfied".

Fixed effects for year and age, and indicators for married, parent and tertiary education are included as covariates.

Robust t-statistics are clustered on region. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

As for the most populous areas, the effect of age on general place satisfaction with areas with medium population size is quite similar for men and women. Gender differences are also small for tertiary education and marital status. For the second most populous areas, the effect of children on general place satisfaction is negative and significant for men, but small and insignificant for women. From Tables 8-10, we see that the presence of children generally has a stronger negative effect on satisfaction with services and activities in the second most populous areas for men than for women, whereas the effect on satisfaction with safety in the neighborhood and living conditions for children in the second most populous areas is positive and significant only for women. Thus, these amenities may potentially explain why the presence of children reduces men's general place satisfaction with the second most populous areas but does not affect women's general place satisfaction with these areas.

5 Concluding remarks

The main contribution of this study is to demonstrate heterogeneity in evaluation of urban amenities. Typically, the literature does not make distinctions between sociodemographic groups when comparing satisfaction/happiness with rural and urban areas. A first step was made in the study by Dalmazzo and de Blasio (2011), which separates between education groups. We go further by allowing the effect of urban scale on place satisfaction to vary across a range of respondent characteristics — age, education level, marital status, the presence of children and gender — and find substantial differences between sociodemographic groups.

Young, single and childless persons and young men with tertiary education are relatively more satisfied in urban areas. Being single is more important for women's appraisal of places, while having children matters more for men's preferences: single women are relatively more satisfied in urban areas than single men, and men without children are relatively more satisfied in urban areas than women without children. Overall, our results support the claims made by scholars that urban areas are particularly attractive for young, educated and single people, whereas married people with children prefer less populous areas (Costa and Kahn, 2000; Clark et al., 2002; Florida, 2002, 2017; Glaeser et al., 2001; Moos, 2016; Okulicz-Kozaryn and Valente, 2019).

Studies from developed countries generally find either that satisfaction/happiness is higher in rural areas and towns or no urban-rural difference. Our results provide a possible explanation for why the empirical evidence is mixed, as the samples' sociodemographic composition may vary across studies.

A second contribution of the paper is to explore how evaluation of specific local amenities varies across areas of different sizes and across socioeconomic groups. This analysis throws light on why some groups are happier with life in cities than others. For most amenities we consider, including services, leisure and cultural activities and shopping opportunities, young people are relatively more satisfied with urban areas. Furthermore, safety in the

center is considered an urban disamenity by all groups, but less so by the young. Single women independent of age basically share the views of young people (shopping is an exception), whereas single men are largely indifferent (relative to other men) between areas. An amenity which is not covered by the survey questionnaire, but which obviously matters for single people, is the opportunity to meet potential partners. Here urban areas probably score higher than less populated areas.

Parents, and particularly male parents, are less negative than people without children to leisure and cultural activities and more positive to public services in less populated areas. Men with tertiary education mostly share the views of young people. Women with tertiary education share some of the men's views but are more negative to living conditions for children in urban areas and less negative to leisure activities in less populated areas. The overall picture is that most amenities we consider may potentially explain sociodemographic differences in preferences for living in urban areas.

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