The local Joneses: Household consumption and income inequality in large metropolitan areas[☆]

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Abstract

Do household consumption practices depend upon local standards of decency or distinction? This article explores effects of local income structure on household consumption across 18 large U.S. metropolitan statistical areas (MSAs). Results show greater overall spending in high-inequality MSAs. But contrary to conventional depictions of "conspicuous consumption," the additional spending goes mostly toward shelter and food, not more visible purchases of jewelry, vehicles, apparel, and entertainment. High median income, by contrast, *is* associated with greater spending in two visible goods categories (apparel and entertainment), but only among low-income households. Results support depictions of expenditure cascades, where spending by those better off ratchets up local standards of "normal" and socially acceptable living. Some unfortunate consequences include decreased investment in health care and heightened competition for access to quality public schooling. In this sense, growing economic inequality and positional consumption may be self-reinforcing processes.
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Depictions of consumption as a socially embedded rather than a narrowly individualistic phenomenon date back to the nineteenth century. Karl Marx's "fetishism of commodities" and Max Weber's analysis of status-based consumption presented early alternatives to classical economic accounts, which conceptualized acquisition as motivated by individuals' intrinsic "utility" functions. Writing around the turn of the twentieth century, Thorstein Veblen and Georg Simmel pointed to the importance of emulation and exclusion in motivating ownership. Veblen's *Theory of the Leisure Class* articulates a sociological understanding of consumption as contextually contingent and rooted in social comparison:

> For the great body of the people in any modern community, the proximate ground of expenditure in excess of what is required for physical comfort is not a conscious effort to excel in the expensiveness of their visible consumption, so much as it is a desire to live up to the conventional standard of decency

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in the amount and grade of goods consumed. (2007 [1899]:70)

In the one hundred plus years since Veblen wrote these words, scores of sociologists and economists have considered the causes, social meanings, and social effects of consumer tastes and practices.[1] Outside of the academy, the economic and cultural roots of invidious consumption and unsustainable debt have been the topic of much vociferous debate and soul-searching, particularly in the wake of a financial meltdown that nearly crippled the U.S. and world economies. But while the theoretical and policy significance of these issues is undisputed, few attempts have been made to identify contextual influences on consumer behavior.

The most well-known contemporary sociological analyses of consumption have focused on its stratifying effects and cultural meanings. The writings of Pierre Bourdieu (1984) and Michèle Lamont (1992), for example, reveal how cultural tastes and consumption practices become embodied and then reinforce inequality by drawing symbolic – and even moral – boundaries between categories of persons (see also DiMaggio & Ostrower, 1990; Peterson & Kern, 1996; Slater, 1997). Others have documented efforts to erase or blur such boundaries. By these accounts, persons and households may consume goods and services at levels that exceed their financial capacities in order to gain membership in a prized social or economic group or to defend against their exclusion from the broader communities in which they live (Adorno & Horkheimer, 2002; Frank, 2007; Pellerin & Stearns, 2001; Pugh, 2009; Warren & Tyagi, 2004; Zukin, 2004).

While we have compelling evidence that consumption practices are sociocultural phenomena, little is known about how household consumption varies across macro-level social contexts. The few previous survey-based studies have measured consumer behavior at the aggregate level, usually by comparing overall spending or debt levels across countries or historical periods with different income structures. Christen and Morgan (2005), for example, document a positive relationship between income inequality and consumer debt in the United States using quarterly data for the period 1980–2003. They attribute the observed positive correlation to higher costs of socially acceptable housing, schools, clothing, and transportation in contexts where others spend more

on these items. Bowles and Park (2005) likewise find that persons work longer hours in countries and historical periods characterized by greater income inequality, presumably because more work hours are necessary for sustaining high levels of consumer spending. These results suggest a positional "arms race," as effects of high-end consumption trickle down to the less well-off.

The present study expands upon previous work by modeling directly the relationship between aggregate-level income structures and micro-level consumption behavior from 2006 to 2011. Our focal contextual variables (income inequality, average income) are measured at the level of the metropolitan statistical area ("MSA" hereafter), while indicators of consumer spending are measured at the household level. This two-level design allows effects of MSA income structure to be assessed net of household characteristics that are likely to be correlated with consumption behavior. These characteristics include, among other things, household size and structure, and members' age, sex, education, income, and race. As discussed below, the MSAs are ideal comparative units for examining social effects on consumption, because they define units within which significant interpersonal exchange occurs among socioeconomically heterogeneous persons.

A central premise in the literature on social consumption is that exposure to high-income persons and lifestyles (i.e., living in a high-income or a high-inequality context) raises the cost of socially acceptable living for elite and nonelite households. As suggested by Veblen's quote, economic context may influence spending decisions in at least two ways. First, consumption patterns may reflect what is considered "normal" or average in the local context. Net of household income, an effect of *average MSA income level* on household consumption would support arguments by Veblen about adapting to local "standards of decency" (2007 [1899]), by Leibenstein about "bandwagon effects" (1950), and by Pugh about the ratcheting up of standards of "acceptable childhood" (2009). Second, consumption by best-off members of a community may influence spending patterns of the rest. An effect of *MSA income inequality* on household consumption would be consistent with arguments by Robert Frank and others about "expenditure cascades." By these accounts, lavish spending at the top causes unsustainably high consumption standards to trickle down the economic ladder. The increased spending may motivated by efforts to gain status distinction or simply to fit in with perceived socioeconomic peers (Ordabayeva & Chandon, 2010). The income and inequality effects are not mutually exclusive, and we in fact find both.

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[1] E.g.: Leibenstein (1950), Simmel (1957) [1904]; Bourdieu (1984), DiMaggio (1987), Ritzer (1996), Frank (1997, 1999), Baudrillard [1970] 1998, Erickson (1996), Fischer and Hout (2006), Sullivan (2009), and Zelizer (2005).

Beyond these macro-level processes, some analysts have suggested *racial* subcultures of consumption. For example, popular stereotypes depict Blacks as conspicuous consumers who spend disproportionately on visible status items such as designer clothing and shoes, gold jewelry, and automobiles. The scholarly literature provides mixed evidence on the existence of racial gaps in status spending. Scholars often have interpreted any such differences as efforts by socially marginalized people to distance themselves from negative stereotypes (Charles, Hurst, & Roussanov, 2009; Lamont & Molnár, 2001). Pellerin and Stearns argue, for example, that threats to status honor can increase valuation of material capital thought to convey general respectability (2001). Our data allow us to assess racial differences in consumption within large U.S. metropolitan areas.

Neoclassical economic theory treats consumption as the product of individual preferences or "utility functions." Our primary interest is in how such utility functions vary by socioeconomic context. Results reveal clear effects of MSA income structure (income inequality and income level) on household expenditures that are consistent with depictions of consumption as a socially embedded phenomenon. Although our data do not allow us to draw conclusions about the *reasons* for any differences across MSAs in household spending, we can draw plausible inferences based on the observed pattern of effects. In-depth interviews or ethnographic case studies would provide more direct evidence about motivations, specifically about the relative importance of spending for status enhancement and spending to avoid exclusion in high-income and high-inequality MSAs (see also Han, Nunes, & Drèze, 2010 on diverse motivations for luxury spending).

1. Why compare metropolitan areas?

Classical and contemporary social theorists have suggested that regular exposure to high-income persons (at work, school or church) inflates standards of socially acceptable housing and consumer goods, and increases costs of goods required for status enhancement or maintenance. The economic aspirations and spending decisions of American households are shaped by forces operating at diverse levels of aggregation, from media depictions at the national level (Chao & Schor, 1998; Pugh, 2009) to peer influences at the neighborhood level (Luttmer, 2005; Banerjee & Duflo, 2007; Grinblatt, Keloharju, & Ikäheimo, 2008). Metropolitan statistical areas (MSAs) are especially well suited for studying effects of income structure because they are more socioeconomically heterogeneous than

typical residential neighborhoods but still define areas within which significant spatial mobility – and therefore interpersonal exchange – occurs. *Commuting patterns* are the primarily criterion used by the Census Bureau to define MSAs. Since workplace contacts often span socioeconomic categories, jobs are an important conduit for cross-class diffusion of consumption practices within regional labor markets (Schor, 1998).

We do our best to rule out alternative explanations for observed effects of income structure on household consumption by introducing MSA-level controls, representing, for example, median housing prices, occupational structure, population size, and average educational attainment.

2. Data and methods

Detailed data on expenditures, income, and household characteristics are taken from the quarterly interview portion of the Bureau of Labor Statistics' Consumer Expenditure Survey (CES). The CES provides detailed information on "consumer units," which include families, unmarried persons living alone or with financially independent others, and co-residing persons who pool resources. For convenience, we refer to these units as "households," although multiple consumer units may in theory live in a single physical household.

The CES Interview Survey is a panel rotation. Each sampled household provides information on expenditures every three months for four consecutive quarters; it is then replaced by another household. Baseline information on household demographics and economic circumstances are collected three months prior to collection of the first wave of expenditure data. We derive annual estimates by aggregating information across interviews into a single household record. Passage of time is measured using an indicator for quarter of first expenditure interview, which ranges from quarter 1 of 2006 to quarter 2 of 2010 ($N = 18$ start quarters).

Since 2006, the public-use micro data set has included geographic identifiers for households located in one of 21 "A-sized primary sampling units," defined as metropolitan statistical areas (MSAs) with populations greater than 1.5 million. Our sample is restricted to persons living in one of these large MSAs. Information on the specific geographic location of households located in smaller metropolitan and nonmetropolitan areas is not publicly available.

To assess effects of income structure, we supplement the household-level CES data with MSA-level statistics taken from the U.S. Census Bureau's American Community Survey (ACS). Unfortunately, an exact geographic matching of the ACS to the CES classification could not be achieved for all 21 MSAs. In order to achieve comparability, three CES-identified "primary sampling units" for the New York metropolitan area were collapsed into a single category (which includes parts of Connecticut and New Jersey). We also eliminated some distant Los Angeles suburbs, so our Los Angeles MSA includes households located in the Los Angeles and Orange County areas, but not Riverside or Ventura Counties. The result is the 18-MSA classification shown in Appendix 1. County-level definitions of these geographic units are available upon request. Our conclusions are robust to alternative definitions; focal effects change little even if we eliminate the large New York and Los Angeles metropolitan areas entirely.

Because arguments about pecuniary emulation pertain to persons with some discretionary income, we focus mostly on nonpoor households, defined as households with income above the federal poverty line that are not receiving food stamps or other public assistance. Analyses run without these exclusions yield very similar results, however. For theoretical reasons, we restrict the sample to households that include at least one active member of the paid labor force. Since cross-class exposure often occurs at work, jobs are an important means by which consumption standards diffuse across socioeconomic boundaries within metropolitan areas. After these selections, the sample includes 6738 households with 18 survey start quarters from 2006 to 2010. Our data cover expenditures through the first quarter of 2011.

We model contextual variability in household consumption patterns using a series of hierarchical linear models, where 6738 households are nested within 324 MSA-waves (18 MSAs × 18 waves). Our objective is to examine effects of MSA-level income structure on household expenditures while holding constant household characteristics that vary across MSAs and are also known to influence consumer behavior. These include annual household income, household size and structure, and the age, educational attainment, and race of the reference person. Multilevel modeling allows us to account for correlated errors and unequal error variances, which often arise with clustered data (Raudenbush & Bryk, 2002). We use restricted maximum likelihood (REML) estimation to fit random intercept models, and we allow slopes of level 1 covariates to vary by MSA when this

improves model fit (according to individual likelihood ratio tests). Continuously scaled covariates are grand-mean centered.

Dependent variables are annual household expenditures. We consider, first, total annual spending, and second, spending on nine specific expenditure categories: housing, food and beverages, health care (including insurance premiums), education (preschool through college), apparel, jewelry and watches, vehicles, other transportation, and entertainment. Although these categories encompass most household expenditures, the list is not exhaustive. Excluded from our second set of models are miscellaneous expenditures, such as for vacations and vacation homes, recreational vehicles and boats, tobacco, life insurance premiums, retirement payments, personal care, reading materials, and cash contributions.

Shelter expenditures are for primary residences and include principle, interest, rent, property taxes, insurance, home repairs, appliances, furnishings, and utilities. Vehicle expenditures include initial outlays, finance charges, principle payments, and registration. All other transportation-related expenditures, including gasoline, auto insurance, auto repair, and public transportation, are included in the "other transportation" category. Separating vehicles from other transportation costs allows us to assess effects of inequality on consumption of cars and trucks, which have been found to be highly visible (Heffetz, 2012; Kuhn, Kooreman, Soetevent, & Kapteyn, 2011). Other visible goods categories considered here are apparel, jewelry and watches, entertainment, and (in supplementary models) restaurant dining (Charles et al., 2009; Heffetz, 2012). Of course, conspicuous consumption can occur within any of these nine expenditure categories, and some spending within the more visible categories is for essential and very *inconspicuous* goods (e.g., basic clothing and undergarments, inexpensive watches, fast-food restaurants). However, we would expect – and past research suggests – that high expenditures (relative to household income) on cars, apparel, watches, jewelry, or restaurant meals are more likely to involve the purchase of visible goods than are high expenditures in other categories (Charles et al., 2009; Heffetz, 2012; Kuhn et al., 2011). In addition, the ubiquitous presence of portable electronic devices (e.g., iPhones) in contemporary interactional settings may mean high average visibility of "entertainment" expenditures.

We measure MSA-level income inequality in three ways: as the ratio of mean annual income to median annual income ("mean-median ratio"), as the absolute difference between mean and median annual income

("absolute dispersion"), and as the share of household incomes above $150,000 ("share above $150k").[2] To assess effects of high incomes net of highly dispersed incomes, we include in our models a measure of median MSA income. Statistics on MSA income and housing prices are taken from the American Community Survey; they are measured in 2005 for CES waves that commence in 2006 or 2007, and in 2007 for CES waves commencing in 2008 or later.

At the household level, covariates include annual income, household size and composition, and the age, race, and educational attainment of the reference person (i.e., the first member mentioned by the respondent when asked to "start with the name of the person or one of the persons who owns or rents the home"). To allow for nonlinear relationships, we include both linear and quadratic terms for age and income. Race of reference person is measured using indicators for Black and Latino. Preliminary analyses showed few differences between households with White and Asian reference persons, so these are combined in our contrast group. Education of the reference person is measured with a dummy variable indicating completion of a Bachelor's degree or higher. To control for possible differences in household composition across MSAs we also include indicators for single-person households and households with children, and for the presence of at least one female in the household.

Household income is defined as the combined before-tax income earned by all members of the consumer unit (here "household") who were 14 years or older during the 12 months preceding the final interview. Included is income from wages and salary, business, social security, unemployment compensation, workmen's compensation, interest, dividends, pensions, roomers or boarders, and other rental income. Because of sample restrictions, public assistance is not a source of household income in most models. Based on previous studies, we chose a log-quadratic specification (natural log of income and natural log of income squared) to model effects of household income on household consumption. The percentage change in consumption associated with a given percentage change in household income is therefore allowed to differ across levels of household income.

We have conducted diverse supplementary analyses to assess the robustness of our findings and to explore alternative interpretations. Two are presented

in tables. First, we allow for the possibility that the determinants of consumption differ for high- and low-income households by estimating separate models for 3533 households with incomes above their MSA means and 3205 households with incomes below their MSA means.[3] In order to assess effects of income structure across the full range of low-income consumers, we include in these split-sample analyses households with incomes below the poverty line (see Banerjee & Duflo, 2007 on conspicuous expenditures by the very poor). Second, we model shelter expenditures separately for renters and homeowners because we expect that very different processes affect spending of these two groups, especially following the recent U.S. housing crisis.

Results of other sensitivity tests are available upon request. To assess robustness of MSA-level income effects, we controlled individually for MSA educational attainment (percent of the population with a college degree), population size (ln), occupational structure (professionals as percentage of the labor force), and property values (median home price), all measured between 2004 and 2007. Introduction of these controls causes few changes in focal effects; exceptions are discussed in the text. We also assessed effects of the Great Recession on consumption by adding a dichotomous variable identifying surveys conducted in 2008 or later, and by allowing effects of income structure to differ before and after 2008. Main and interaction effects of recession were mostly small and insignificant, with exceptions again noted. Overall, our conclusions are highly robust to alternative model specifications and sample modifications.

3. Results

Table 1 shows descriptive statistics for household- and MSA-level variables. To simplify interpretation, we here present the annual expenditure and income values in dollars (rather than log-dollars). Shelter and food/beverage together account for approximately half of all spending for the typical household (whether "typical" is measured using mean or median values). "Other transportation" (i.e., gasoline, insurance, auto repair, public transportation) and entertainment (i.e., charges for tickets, television, electronic equipment) also represent sizeable expenditure categories for the average family during this period. Interestingly, more than half

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[2] The ACS does not provide other standard inequality measures, such as Gini and the 90/10 and 80/20 income ratios.

[3] Conclusions are unchanged if we divide the sample according to MSA median (rather than mean) income.

Table 1
Descriptive statistics.

	Mean	Std. deviation	Median
Household variables (N = 6738)			
Annual expenditures, USD			
Total	65,769.13	44,805.73	55,271.42
Shelter	22,842.16	16,379.19	18,579.75
Food and beverage	9253.02	5421.62	8076.50
Health care	3024.92	3458.03	2031.50
Education	1778.50	6816.03	0.00
Apparel	1120.89	1471.00	730.50
Jewelry	204.06	1740.15	0.00
Vehicle	4220.04	9601.88	41.00
Other transportation	6166.82	4216.38	5291.50
Entertainment	3200.82	4525.76	2064.00
Annual household income, USD	97,832.79	75,066.46	76,123.80
Age of reference person	46.69	12.60	47.00
Reference person has bachelor's degree (1 = yes)	0.50	0.50	1.00
Reference person is Black (1 = yes)	0.10	0.30	0.00
Reference person is Latino/a (1 = yes)	0.15	0.36	0.00
# of persons in household	2.76	1.47	2.00
Single person household	0.21	0.41	0.00
Child(ren) in household (1 = yes)	0.28	0.45	0.00
Female in household (1 = yes)	0.82	0.38	1.00
Level 2 variables (N = 324 MSA-waves)			
Income inequality			
Mean-to-median ratio	1.37	0.06	1.35
Income dispersion (mean–median, in $1000s)	21.44	3.88	20.73
Share above $150 K, in %	11.33	3.41	10.69
Median income, in $1000s	58.61	7.78	58.05
Median housing price, in $100,000s	3.58	1.71	4.00
Survey wave (start quarters 1–18)	9.37	5.23	9.00

Note: Data are from the Consumer Expenditure Surveys (2006–2010) and the American Community Surveys (2005–2007). Figures pertain to nonpoor households with at least one employed member and are located in a large metropolitan statistical area (MSA).

of households make no vehicle payments (either because they own no vehicle or because their vehicle was a gift or was paid for prior to the first survey quarter). Extreme upward skew of the expenditure and income variables is evident in the differences between their mean and median values and in their large standard deviations. For our regression models, we transform these variables logarithmically (ln) to normalize their distributions and reduce the leverage of extreme values. Zeros were replaced by a small constant (.5) to allow logarithmic transformation.

The average household in our sample has two or three members and is headed by a reference person in his or her mid-forties. The median annual household income value for these households ($76,124) is high by national standards. This reflects our focus on gainfully employed, nonpoor households in large metropolitan areas. Median income measured at the MSA level (approximately $58,000) is substantially lower, but it does correspond closely to the household median when poor and nonemployed households are included in the CES sample.

Appendix 1 shows MSA income and inequality values measured in 2005. Consistent with rising inequality overall, later values (not shown) are generally higher.[4]

We present two series of multilevel models, exploring predictors first of total household spending (Table 2) and then of specific expenditure types (Table 3). For selected models, we then break our sample down by household income level and homeowner status.

3.1. Total expenditures

Table 2 shows results of three models predicting the natural logarithm of total household expenditures, each using a different inequality measure. We find that income inequality, however measured, is positively related to total household spending. This supports arguments

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[4] For example, the average mean-to-median ratio across MSAs increased from 1.34 in 2005 to 1.35 in 2007; average mean-median dispersion increased from $18,555 to $21,145.

Table 2

Parameter estimates and fit statistics for multilevel models predicting total annual household expenditures (ln) in large metropolitan statistical areas (MSAs), 2006–2011.

	1	2	3
Fixed effects			
Household effects ($N = 6738$)			
Annual household income (ln USD)	.509 (.009)***	.509 (.009)***	.509 (.009)***
Annual household income (ln USD)^2	.033 (.008)***	.033 (.008)***	.033 (.008)***
Ref person: age[a]	.130 (.042)**	.131 (.042)**	.130 (.042)**
Age squared[a]	−.009 (.002)***	−.009 (.002)***	−.009 (.002)***
Ref person: BA/BS (1 = yes)	.119 (.010)***	.119 (.010) ***	.119 (.010) ***
Ref person: Black (1 = yes)	−.136 (.015)***	−.135 (.015)***	−.136 (.015)***
Ref person: Latino (1 = yes)	−.046 (.014)***	−.045 (.014)***	−.046 (.014)***
# of persons in household	.029 (.004)***	.029 (.004)***	.029 (.004)***
Single person household	−.122 (.015)***	−.122 (.015)***	−.122 (.015)***
Children in household (1 = yes)	.055 (.011)***	.055 (.011)***	.055 (.011)***
Female in household (1 = yes)	.031 (.013)*	.031 (.013)*	.031 (.013)*
MSA-wave effects ($N = 324$)			
Income inequality			
Mean–median ratio	.281 (.088)**		
Absolute mean–median dispersion		.005 (.001)**	
Households earning $150k+, in %			.012 (.004)**
Median income, in $1000s	.003 (.001)***	.001 (.001)	−.002 (.002)
Survey wave (start quarters 1–18)[a]	−.045 (.100)	−.050 (.010)	−.021 (.098)
Intercept	10.919 (.007)***	10.919 (.007)***	10.919 (.007)***
Random effects			
Std. deviation of intercept	.013 (.021)	.013 (.021)	.012 (.022)
Std. deviation of level-1 residuals	.353 (.003)	.353 (.003)	.353 (.003)
Log restricted likelihood	−2680.771***	−2680.897***	−2680.457***

Note: Standard errors are in parentheses. Sample includes nonpoor households with at least one employed member.

[a] For age and wave variables, coefficients and standard errors are multiplied by 100.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

suggesting a trickle-down effect of high expenditures by households at the top of the economic hierarchy. The effects of median income vary across models. The latter coefficient is significant and positive in Model 1 but not in Model 2 or 3, where the effect is absorbed by the inequality variables. This change is not surprising; the mean-to-median ratio is less dependent upon absolute income levels (and therefore provides a purer measure of inequality effects) than the other two measures.[5] Models run separately by income group, discussed further on, show that the positive effects of income inequality and income level on total consumption hold for both high- and low-income households.

Total household consumption shows no significant change over the 18 quarters. Similar results were obtained when we replaced the "survey wave" variable by a dummy indicator coded "1" for households with survey start dates after the onset of the Great Recession in early 2008. We also find no significant difference in effects of income on total consumption before and after 2008.

Household-level effects on total consumption are largely as expected, and few differences are found across the three models. Not surprisingly, income has a strong effect. Positive linear and square terms indicate an increasingly positive relationship; in other words, the percentage change in consumption associated with a percentage change in household income increases with household income, perhaps because income cannot be leveraged into loans for consumer goods and homes at very low income levels. Indeed, split-sample

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[5] When median incomes are high (e.g., Washington, DC, San Francisco Bay Area), the absolute differences between the mean and median will tend to be larger and the mean-to-median ratio will tend to be smaller. Zero-order correlations of median MSA income with the three income inequality measures are as follows: -0.25 in Model 1, 0.45 in Model 2, and 0.91 in Model 3. The very large correlation with "income share above $150k" suggests that level 2 estimates in Model 3 may be unreliable.

Table 3

Parameter estimates and fit statistics for multilevel models predicting annual household expenditures (ln) on specific goods, 2006–2011 in large MSAs.

	Shelter	Food and beverage	Education	Health	Apparel	Jewelry	Vehicle	Other transport.	Entertainment
Fixed effects									
Household effects ($N = 6738$)									
Household income (ln USD)	.402 (.011)***	.319 (.010)***	.613 (.076)***	.768 (.052)***	.741 (.038)***	.837 (.060)***	1.285 (.091)***	.450 (.021)***	.779 (.030)***
Household income (ln USD)^2	.044 (.009)***	.039 (.009)***	.374 (.066)***	−.357 (.049)***	−.051 (.037)	.148 (.052)**	−.192 (.080)*	−.070 (.019)***	−.077 (.028)**
Ref person: age[a]	−.262 (.050)***	.111 (.048)*	−.015 (.374)	3.963 (.278)***	−1.452 (.205)***	−.382 (.294)	−2.540 (.450)***	.272 (.106)*	−.055 (.146)
Age squared[a]	−.006 (.003)	−.006 (.003)*	−.169 (.022)***	.016 (.015)	−.009 (.013)	−.013 (.017)	−.024 (.026)	−.022 (.007)**	−.020 (.009)*
Ref person: BA/BS (1 = yes)	.159 (.012)***	.076 (.011)***	.695 (.098)***	.209 (.065)***	.229 (.048)***	.186 (.077)*	−.637 (.118)***	.083 (.025)***	.124 (.034)***
Ref person: Black (1 = yes)	−.028 (.019)	−.217 (.017)***	−.310 (.146)*	−.738 (.112)***	−.160 (.080)*	−.529 (.115)***	−.340 (.176)	−.207 (.048)***	−.567 (.075)***
Ref person: Latino (1 = yes)	.024 (.017)	−.027 (.015)	−.271 (.133)*	−.860 (.110)***	.040 (.070)	−.408 (.105)***	−.283 (.159)	−.039 (.038)	−.388 (.052)***
# of persons in household	.025 (.005)***	.070 (.005)***	.630 (.041)***	−.020 (.027)	.044 (.020)*	−.117 (.032)***	.102 (.049)*	.052 (.010)***	.007 (.014)
Single person household	−.034 (.019)	−.217 (.017)***	−.239 (.145)	−.293 (.106)**	−.018 (.071)	−.081 (.114)	−.881 (.175)***	−.291 (.039)***	−.123 (.054)*
Children in HH (1 = yes)	.155 (.014)***	.030 (.013)*	.557 (.111)***	.177 (.073)*	.263 (.054)***	.094 (.087)	.014 (.144)	.066 (.028)*	.230 (.039)***
Female in HH (1 = yes)	.064 (.017)***	−.079 (.016)***	.079 (.129)	.807 (.104)***	.637 (.071)***	.690 (.102)***	.356 (.155)*	.090 (.044)*	.169 (.053)***
MSA-wave effects ($N = 324$)									
Income inequality[b]	1.151 (.112)***	.655 (.109)***	−2.220 (.879)*	−2.476 (.694)***	.022 (.439)	−1.574 (.706)*	−6.366 (.957)***	−.185 (.233)	−.828 (.332)[b]
Median income, in $1000s	009 (001)***	.002 (.001)	−.003 (.007)	.008 (.005)	.007 (.003)*	−.010 (.005)	−.058 (.008)***	−.001 (.002)	.004 (.003)
Survey wave (1–18)	−.005 (.001)***	.006 (.001)***	.002 (.010)	.011 (.008)	−.032 (.005)***	−.006 (.008)	−.0001 (.0110)	−.001 (.002)	.005 (.004)
Intercept	9.840 (.008)***	8.974 (.008)***	2.293 (.067)***	6.954 (.048)***	6.207 (.032)***	1.287 (.053)***	3.771 (.078)***	8.528 (.017)***	7.535 (.023)***
Random effects									
Std. deviation of intercept	.029 (.016)	.039 (.011)	.336 (.079)	.346 (.053)	.086 (.088)	.286 (.063)	.205 (.161)	.057 (.031)	.094 (.041)
Std. deviation of level-1 residuals	.442 (.004)	.394 (.004)	3.491 (.031)	2.232 (.022)	1.664 (.016)	2.751 (.024)	4.202 (.037)	.854 (.008)	1.182 (.012)
Log restricted likelihood	−4164.671***	−3479.253***	−18,012.762***	−15,274.865***	−13,203.521***	−16,411.145***	−19,267.124***	−8843.494***	−11,022.294***

Note: Standard errors are in parentheses. Sample is restricted to nonpoor households with at least one working member.

[a] For age variables, coefficients and standard errors are multiplied by 100.

[b] Measured as mean-to-median ratio.

* $p < .05$.
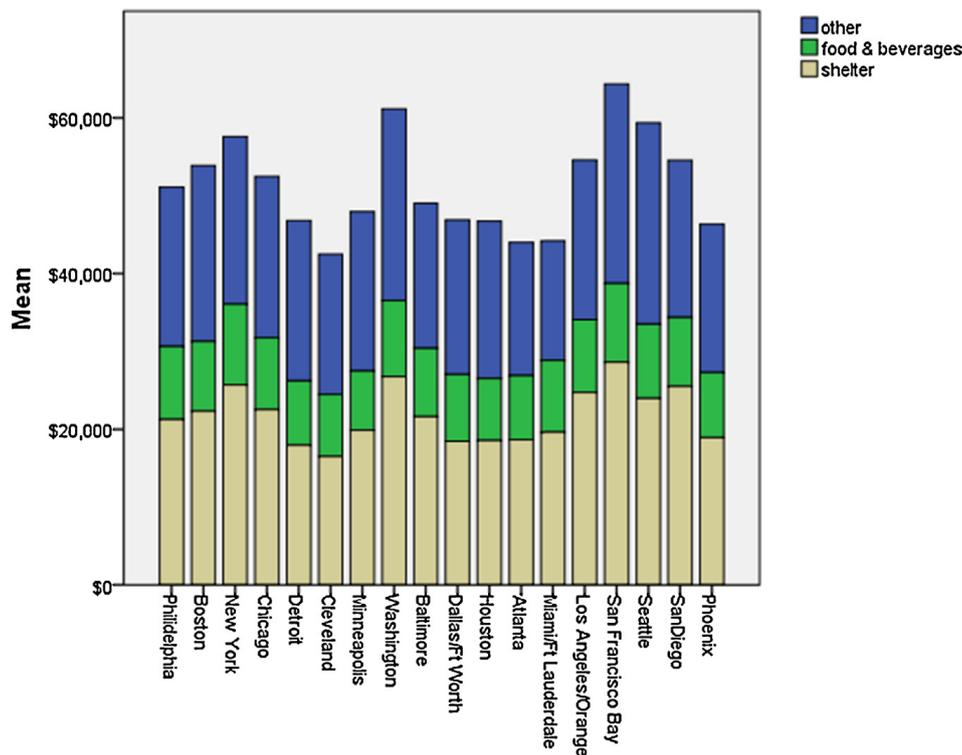
** $p < .01$.

*** $p < .001$.

Fig. 1. Mean annual household expenditures, 2006–2010. *Note*: "Other" expenditures are calculated as: total expenditures − (shelter + food and beverage expenditures).

analyses show that this nonlinearity holds for the low-income subsample only; for high-income households the relationship between logged income and logged consumption is linear. (Coefficients available on request.)

We also consider the relationships between expenditures and characteristics of household members, using the reference person as proxy. We find that consumption increases with age of reference person, then decreases starting at about age 54, presumably because expenses (e.g., for college and childrearing) taper off and incomes increase more rapidly after that. The effect of a college-educated reference person on spending is positive, likely reflecting higher anticipated lifetime earnings in these households. Households with more members and households with children spend more, but models run separately by income group show that the latter result holds only for high-income households – perhaps due to lesser financial investments by lower-income families in the "concerted cultivation" of their children (Lareau, 2003). Households with women (as opposed to male-only households) spend more overall, but this is true for high-income households only. The specific expenditure categories accounting for the observed gender gap are discussed below. Total expenditures are lower, net of income, for households with Black or Latino reference persons, which likely reflects their lower wealth and lesser access to consumer credit than White and

Asian households (Oliver & Shapiro, 1995; Shapiro, 2004).

Our second set of models examines determinants of spending on specific goods and services. We are particularly interested in identifying the types of spending that account for the positive effects of MSA income structure on total household spending revealed in Table 2. We present results for models using the "mean-to-median" measure of inequality only, but our conclusions are unchanged using the income dispersion measure.[6]

3.2. Specific expenditure categories

Fig. 1 displays mean household spending on the largest categories (shelter, food, other) for each of our 18 metropolitan areas. Most striking here are the sizeable differences in housing expenditures across metropolitan areas. A similar pattern is evident in the MSA-level statistics presented in Appendix 1: Respondents living in East and West Coast metropolitan areas spend considerably more on shelter than those in other parts of the country. They also earn considerably higher incomes.

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[6] Because of concerns about multicollinearity with median income, we did not run these models using the "share above $150k" inequality measure.

Table 4

Metropolitan area (MSA) income effects on consumption, by household income level.

	High-income households		Low-income households	
	MSA income inequality	Median MSA income	MSA income inequality	Median MSA income
Total	++	++	+++	+++
Shelter	+++	+++	+++	+++
Food and beverage	+++	0	+++	++
Groceries	+++	+++	+++	0
Restaurants	–––	0	0	++
Education	––	0	0	0
Health	––	0	––	0
Apparel	0	0	0	+++
Jewelry	–	0	0	0
Vehicle	–––	–––	–––	––
Other transportation	0	0	0	0
Entertainment	––	0	0	+++

Note: Models include all covariates shown in Tables 2 and 3. Low-income households are those with annual incomes less than or equal to the sample MSA mean ($N = 3978$); high-income households are those with annual incomes greater than the sample MSA mean ($N = 3253$). Households with no employed members are excluded. Income inequality is measured as the mean-to-median ratio. Positive effects: +, $p < .05$; ++, $p < .01$; +++, $p < .001$; negative effects: –, $p < .05$; ––, $p < .01$; –––, $p < .001$; 0 = no significant effect.

One way that concentrations of high-income households in a community affect local consumption patterns is by driving up prices. We include in some models, therefore, a measure of median MSA housing prices, along with a control for homeownership.

Table 3 shows models predicting spending on specific goods categories. Since some focal coefficients were found to differ by household income, we also present in Table 4 a summary of MSA income effects from models run separately for high- and low-income households. As mentioned above, households with incomes below the poverty line are included for these split-sample analyses. Results, shown in Table 4, reveal some significant differences across income groups in the effects of median MSA income.

Level-2 effects in Table 3 can be summarized as follows: Households in high-inequality MSAs spend more on shelter and food and less on most other things, net of household income. MSA income level (i.e., median income) has fewer significant effects on spending. The strongest are higher expenditures on shelter (owned and rented dwellings) and lower expenditures on vehicles in high-income metropolitan areas. As for trends, we find tendencies for spending on food to increase and spending on shelter and apparel to decrease between 2006 and 2011. Closer analysis of the food expenditures reveals that the upward trend is attributable to spending on food and drink consumed at home (i.e., groceries), rather than restaurant meals.

In supplementary analyses (available on request), we assess effects of the Great Recession on spending patterns by adding a dummy indictor for surveys conducted in 2008 or later. This "recession" variable shows few significant effects and its addition causes few changes to wave effects. One exception is for shelter expenditures, which are significantly lower after 2008. Given the large wave of foreclosures in 2008 and 2009 and the sudden drop in home values, it is not surprising that declining housing expenditures are better represented as a discrete than a continuous function during this period. We also find significantly larger expenditures on healthcare after the Recession's onset (see also Petev, Pistaferi, & Saporta-Eksten, 2011). This may be attributable to the loss of employer-provided healthcare by the newly unemployed. It is consistent with arguments by Kamakura and Du (2011) that relative expenditures on less visible essential goods increase during economic downturns.

Before looking more closely at the macro-level effects on consumption, it is useful to examine spending differences by household type. Contrary to popular stereotypes and some previous research, we find in Table 3 no evidence that Black and Latino households spend more in the visible-goods categories most often associated with conspicuous status spending. Both Blacks and Hispanics in fact spend significantly *less*, net of income, on apparel and entertainment than do their White and Asian counterparts. In supplementary analyses (available on request), we find that these negative effects are even stronger when we include poor and nonemployed households in our sample. Previous evidence showing higher expenditures in these categories may reflect the concentration of Blacks and Hispanics in large metropolitan areas, where average clothing and entertainment expenditures tend

to be higher.[7] Although status threat may lead members of marginalized groups to value conspicuous goods more (Lamont & Molnár, 2001; Pellerin & Stearns, 2001), our results suggest that heightened material aspirations do not necessarily translate into higher household expenditures in these categories – at least not in large metropolitan areas.

Household income shows two patterns of effect on consumption: Expenditures on shelter, food/beverage, education, and jewelry (and total expenditures) rise at an increasing rate with household income, and expenditures in nearly all other categories show curvilinear relationships, first increasing and then decreasing with income. Age effects vary substantially by category. Household expenditures on shelter decrease with age of reference person. This is probably a period effect, reflecting the increased housing prices facing younger households. Not surprisingly, health spending increases linearly with age. Apparel and vehicles, by contrast, appear to be more "youthful" expenditures. Net of income, households with college-educated reference persons spend significantly more for all goods but vehicles, for which they spend less. Predictably, single-person households spend less, and larger households and households with children spend more in most categories. Compared to male-only households, the presence of at least one female household member is associated with lower spending on food and beverages and higher spending on everything else.

In the following paragraphs, we take a closer look at the level-2 effects on specific expenditure categories for the sample as a whole, and broken down by income group and homeowner status.

Shelter – Households spend considerably more on shelter in high-inequality and high-income MSAs. Although these effects hold for both the higher- and lower-income subsamples, it is likely that the meanings of high housing expenditures (and their underlying motivations) vary by household income. Whereas higher-income households may have the economic capacity to gain social distinction through their housing expenditures, large housing expenditures in high-inequality areas may represent defensive efforts for those further down. For example, they may be aimed at maintaining a respectable middle-class lifestyle or living

in a school district that will equip children for economic success.

Household-level results suggest that the cost of home-ownership varies by race, and that it is more costly, relative to household income, for Latinos than for other racial groups. This may be attributable to a combination of predatory lending practices and higher home prices in Latino than Black neighborhoods.

We suspect that high inequality and high median income affect shelter expenditures in large part by driving up local housing and rental prices. To partial out this effect, we computed supplementary models with controls for median housing price at the MSA level and homeownership status at the household level. The first column of Table 5 shows that taking homeownership and median housing prices into account results in strong attenuation, but continued significance, of MSA income effects. Striking differences by ownership status are evident in the second and third columns, however. Renters' shelter expenditures are influenced by home prices, but *not* local income structure. For homeowners, however, income level and income inequality appear to influence shelter expenditures above and beyond any upward pressure on median home prices. Households may spend more in high-inequality and high-income MSAs because housing prices are more variable in the top half of the market (i.e., the gap between average and good homes is larger), or because households intentionally spend more in order to acquire higher-grade, conspicuous homes in these contexts. Access to easy credit from the 1980s until the mid-2000s likely allowed for conspicuous, status-seeking consumption by home buyers that would be unsustainable for renters with the same incomes. Teasing out the causal mechanisms at play will require more detailed information on local price structures, housing stock, and consumer motivations.

Whatever the precise mechanisms, the relationships revealed here are in line with prominent theories of social consumption. The effect of median income on shelter expenditures is consistent with the notion that housing standards considered average in a particular context influence local "standards of decency" for (aspiring) middle-class households (Leibenstein, 1950; Pugh, 2009; Veblen, 2007 [1899]). And the effect of MSA inequality is consistent with the notion of "expenditure cascades," meaning that high housing expenditures near the top trickle down the local economic ladder (Dwyer, 2009b; Fligstein & Goldstein, 2012; Frank, 2007; Leicht & Fitzgerald, 2007).

Table 5 points to another complexity, namely that shelter expenditures increased over the 2006–2011 period for renters but decreased for homeowners. Falling

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[7] Charles et al. (2009) control for state, not metropolitan, context. They find that Blacks and Hispanics spend more in visible goods categories, but that this is largely due to differences in the spending capacities of their within-state racial reference groups. Although we do not account for racial differences in spending capacity, our multi-level models do control for median incomes at the MSA level.

Table 5
Expanded models predicting annual household expenditures (ln) on shelter, by home-ownership group, 2006–2011.

	All	Owners	Nonowners
Fixed effects			
Household effects			
Annual household income (ln USD)	.385 (.010)***	.397 (.013)***	.327 (.020)***
Annual household income (ln USD)^2	.048 (.009)***	.044 (.011)***	.021 (.016)
Ref person: Age[a]	−.322 (.049)***	−.457 (.066)***	−.089 (.073)
Age squared[a]	−.004 (.003)	.002 (.004)	−.009 (.004)*
Ref person: BA/BS (1 = yes)	.155 (.012)***	.173 (.015)***	.111 (.021)***
Ref person: Black (1 = yes)	−.004 (.019)	−.015 (.025)	−.022 (.025)
Ref person: Latino (1 = yes)	.023 (.017)	.066 (.022)**	−.055 (.024)*
# of persons in household	.022 (.005)***	.015 (.006)*	.037 (.009)***
Single person household	−.033 (.019)	−.030 (.024)	−.053 (.028)
Children in household (1 = yes)	.153 (.014)***	.165 (.017)***	.080 (.024)***
Female in household (1 = yes)	.060 (.017)***	.054 (.023)*	.076 (.021)***
Home owner (1 = yes)	.087 (.015)***		
MSA-wave effects			
Income inequality	.692 (.139)***	.872 (.174)***	.248 (.204)
Median income, in $1000s	.004 (.001)***	.005 (.002)***	.002 (.002)
Survey wave (start quarters 1–18)	−.003 (.001)	−.006 (.002)***	.004 (.002)*
Median housing price, in $100,000s	.035 (.005)***	.030 (.007)***	.043 (.008)***
Intercept	9.834 (.008)***	9.851 (.010)***	9.794 (.015)***
Random effects			
Std. deviation of Intercept	.035 (.012)	.049 (.013)	.007 (.113)
Std. deviation of level-1 residuals	.446 (.004)	.469 (.005)	.364 (.007)
Log likelihood	−4142.425***	−3319.578***	−710.065***

Note: Standard errors are in parentheses. See Table 3 for sample characteristics. Level 1: $N = 6738$ households (4999 owners, 1739 nonowners); level 2: $N = 324$ (18 MSAs, 18 start quarters). Income inequality is measured as mean–median ratio.
  [a] For age variables, coefficients and standard errors are multiplied by 100.
  * $p < .05$.
  ** $p < .01$.
  *** $p < .001$.

interest rates and falling home prices during the recession moderated expenses for those who managed to stay in their homes. But rental expenditures have been taking up a larger share of household budgets due to declining wages, increased demand for rental properties, and decreased supply of rental stock in the wake of the foreclosure crisis (Joint Center for Housing Studies at Harvard, 2011). The same results are obtained if the "wave" variable is replaced with a dummy "recession" variable indicating surveys conducted in 2008 or later.

Food and beverages – Returning to Table 3, we see that spending in the second major nondiscretionary category is likewise higher in more unequal MSAs. Table 4 shows that this inequality effect holds for both high- and low-income households and that it reflects high spending on groceries (not restaurant meals) in high-inequality contexts. Again, the mechanisms require further study. It may be that the presence of upscale grocery chains and specialty markets in exclusive enclaves has trickle-down effects that inflate food prices and influence food tastes elsewhere in the metropolitan area. Or the mix of

retail food stores represented may differ depending on MSA income structure. We find no evidence of extravagant restaurant dining in high-inequality contexts. In fact, upper-income households tend to spend *less* eating out in these MSAs, perhaps as compensation for very high shelter and grocery costs.

Effects of median MSA income on food/beverage expenditures differ by household income group. High-income families spend more on groceries in high-income MSAs, whereas low-income families spend more on restaurant meals. This difference is partly due to the inclusion of poor families and food stamp recipients for the split-sample analyses in Table 4. Because food stamps can be used to cover groceries but not hot food, poor households may spend a greater proportional share of their incomes on restaurant meals.[8]

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[8] If we eliminate food stamp recipients, the positive effect of median income on restaurant expenditures attenuates but remains significant for low-income households.

Price inflation for food between 2006 and 2011 (Bureau of Labor Statistics, 2010) is reflected in the positive coefficient for "survey wave" in Table 3.

Education – Given the strong positive effects of income inequality on basic food and shelter expenditures, it is not surprising that inequality coefficients in the remaining columns of Table 3 are either negative or non-significant. Particularly noteworthy is the negative effect of inequality on education spending, which may be attributable to the greater variability in public-school quality across neighborhoods in high-inequality MSAs. In these contexts, elite parents may be able to secure excellent public educations for their children (and avoid private-school tuition) by moving to neighborhoods with good schools or by pursuing opportunities for inter-district or inter-school transfer. Consistent with this interpretation, Table 4 shows that the negative inequality effect holds only for high-income households. Few low- and medium-income parents can afford private schools in any context, so their expenditures for primary and secondary education are largely unaffected by MSA income structure. Not surprisingly, the inequality effect on education holds only for households with minor children (results available on request).[9]

Health – Household expenditures on health are negatively related to MSA income inequality for both high- and low-income households (Table 4). Supplementary analyses reveal that this negative effect is restricted to the recession and post-recession years (2008–2011). Efforts to cover housing and food costs in high-inequality areas have likely led some struggling households to skip routine examinations and elective medical procedures or to scale back on insurance coverage and prescription drugs. Table 3 shows no statistically significant change in health expenditures, despite rising medical costs during the period covered by our surveys. This again suggests a tendency for households to delay or forgo non-urgent health services to pay for food and stay current on essential fixed expenses during tough economic times.

Apparel, jewelry, vehicles and entertainment – Coefficients in the fifth, sixth, seventh, and ninth columns of Table 3 provide no evidence that households "keep up with the Joneses" in high-inequality MSAs through higher expenditures in visible goods categories. In fact, inequality effects on jewelry, vehicles and entertainment

are *negative*.[10] Table 4 shows negative or insignificant inequality effects in visible-goods categories for both high and low-income households.

Income level (median MSA income) is likewise negatively related or unrelated to overall expenditures in most visible goods categories. But effects vary by income group; for low-income households only, we higher spending on apparel and entertainment in high-income MSAs. Although the underlying motivations and the specific expenditures require further study, these positive effects are consistent with "bandwagon" effects described by Leibenstein and others. They may reflect efforts by members of lower-income households to conform to standards of more educated, white-collar workforces in high-income metropolitan areas.[11]

4. Conclusion

Our multilevel analyses offer strong evidence that household spending patterns are affected by the socio-economic context in which members live and work. We explored effects of two dimensions of income structure – income inequality and income level – and find clear and consistent effects of inequality on household spending. The relationships we document for large U.S. metropolitan areas are consistent with the notion that consumption practices of the highest-income households have trickle-down effects, causing those further down to engage in unsustainably high levels of consumption (Frank, 2007; Schor, 1998).

But while *overall* spending is higher in high-inequality metropolitan areas, the categories that account for the additional spending are not those typically discussed by scholars of conspicuous consumption. We find little evidence that consumers emulate those at the top of their local economic ladders through large expenditures in highly visible goods categories such as jewelry, vehicles, clothing, and entertainment; households generally spend *less* on these in high-inequality contexts. The increased spending is mostly for shelter and groceries. Some of this undoubtedly goes toward status-enhancing "McMansions" and high-end wines. But large outlays in basic goods categories also reflect efforts to provide children with competitive public educations, healthy foods,

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[9] Negative inequality effects on educational expenditures are not solely attributable to differences in housing costs. The negative effect remains for high-income households even with controls for MSA housing costs or household shelter expenditures.

[10] The negative inequality effect on entertainment spending holds only during the recession and post-recession years. High food and shelter costs in high-inequality MSAs may have forced households to cut back on entertainment spending during the economic downturn.

[11] The positive effect of MSA income level is eliminated if we control for percentage of the population working in professional occupations (or percentage with a university degree).

and safe neighborhood environments (Dwyer, 2009a, 2009b; Leicht & Fitzgerald, 2007; Treas, 2010; Warren, 2007). Unfortunately, increases in these expenditures coincide with decreased investments in education and health, which may have long-term implications for families at all income levels.

MSA income *level* (median income) shows generally weaker effects on consumption patterns, with effects varying by household income. For high-income households, we find positive associations in the shelter and grocery categories only. For low-income households, shelter expenditures increase, but so do those for apparel and entertainment. These positive effects of MSA income level are consistent with arguments linking conspicuous consumption to status threat and efforts to conform (Leibenstein, 1950; Pellerin & Stearns, 2001; Pugh, 2009; Veblen, 2007 [1899]). In higher-income metropolitan areas, the costs of an average lifestyle and a "normal" childhood are much higher, sometimes requiring expensive cell phones and name-brand apparel, for example. Since effects of MSA income level are concentrated at the bottom of the socioeconomic ladder, we suspect that they reflect defensive efforts to "fit in" and adapt to local standards of decency, more than efforts to gain status distinction in the broader community (Pugh, 2009). It is possible, however, that status is garnered within households' specific socioeconomic reference groups and that this interpersonal distinction is an important motivator (Ordabayeva & Chandon, 2010).

Significant work remains in identifying the specific mechanisms that drive the macro-level relationships documented here. Effects of income structure on household consumption may be attributable to inflationary price spirals caused by high spending at the top, efforts to maintain a socially acceptable lifestyle in the local context, taken-for-granted consumption habits, or intentional bids to enhance status. The process is most certainly multi-causal. In-depth interviews and ethnographic fieldwork could help illuminate subjective consumer motivations and more clearly identify the salient reference groups (e.g., Hanser, 2010).

Whatever the underlying motivations, the present results provide strong evidence that local income structures matter. Among other things, they suggest that households located in high-inequality areas devote larger income shares to immediate necessities (shelter and food) and less to longer-term investments in education and health. Such a reallocation of household resources is likely to have important consequences that may exacerbate the trend toward growing economic inequality.

At the household level, we find no evidence to support stereotypes that present Blacks and Latinos as more status-oriented consumers. We find that their households consume less, net of income, than do their White and Asian counterparts, and they do not spend more on jewelry, apparel, vehicles, or entertainment. This is true for both high- and low-income households. In fact, low-income Blacks and Hispanics spend *less*, net of income, in all categories considered here. It is possible that racial differences exist with respect to very specific consumer items (e.g., sport shoes, jeans, or iPhones), but our results show no tendency for marginalized racial/ethnic minorities to spend disproportionately in the goods categories typically associated with conspicuous consumption – at least not in large metropolitan areas.

Effects of local income structure on consumption point to a possible self-reinforcing cycle of class and race-based inequality. In highly unequal societies and communities, efforts to belong put financial and emotional strain on poor and middle-class families as members incur debt and work longer hours to afford a socially acceptable level of consumption for themselves and their children (Bowles & Park, 2005; Pugh, 2009; Warren & Tyagi, 2004; Williams, 2006; Zukin, 2004). Given the catalytic roles of consumer spending and household debt in the current economic crisis, understanding the contextual underpinnings of household spending should be of interest to academics and policymakers alike.

Appendix A. Descriptive statistics by metropolitan area, 2005

	Median annual income (in $1000s)	Mean-to-median income ratio (in $1000s)	Income dispersion (mean–median in $1000s)	Households earning above $150k (in %)	Median housing price (in $100,000s)
Atlanta	54.07	1.32	17.18	8.41	2
Baltimore	57.45	1.29	16.56	9.11	2
Boston	62.07	1.32	19.86	11.63	4
Chicago	54.71	1.33	18.15	8.59	2
Cleveland	44.28	1.32	14.29	5.01	1
Dallas/Ft. Worth	49.74	1.35	17.68	7.55	1
Detroit	50.79	1.3	15.13	6.83	2
Houston	46.71	1.41	19.10	7.46	1
Los Angeles/Orange	51.82	1.44	22.71	9.87	5
Miami/Ft. Lauderdale	43.09	1.44	18.86	6.53	3
Minneapolis/St. Paul	59.69	1.26	15.47	8.40	2
New York City & suburbs	56.12	1.44	24.61	11.72	4
Philadelphia	53.56	1.32	17.27	8.59	2
Phoenix	48.12	1.33	15.74	6.30	2
San Diego	56.34	1.33	18.73	9.42	6
San Francisco Bay Area	65.38	1.37	24.39	14.89	7
Seattle	54.96	1.32	17.86	8.54	3
Washington, DC	74.71	1.27	20.50	16.22	4
Metropolitan Area Mean	54.65	1.34	18.56	9.17	2.94

Note: Data are from the American Community Surveys. Values are those used for the initial survey waves.

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