

SSB consumption among adults, teens, and children: California Health Interview Survey 2011-2018

Supplemental Materials

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eTable 1: California Health Interview Survey (CHIS) beverage consumption variable availability (As of 03/30/2020)

Adult Variables								
Beverage	2011	2012	2013	2014	2015	2016	2017	2018
Soda*	ae_soda	ae_soda	ae_soda	ae_soda	ae_soda	ae_soda	ae_soda	NA
Fruit Drink*	NA	NA	ac46	ac46	ac46	NA	ac46	ac46
Water*	NA	NA	ac47_p1	ac47_p1	ac47	NA	ac47	ac47
Milk (non/low-fat)	NA	NA	ac48_p1	ac48_p1	NA	NA	NA	NA

Teen Variables								
Beverage	2011	2012	2013	2014	2015	2016	2017	2018
Soda*	tc28a	tc28a	tc28a_p1	tc28a_p1	tc28a_p1	tc28a_p1	tc28a_p1	NA
Fruit/Sport Drink*	tc28b	tc28b	tc28b_p1	tc28b_p1	tc28b_p1	tc28b_p1	tc28b_p1	tc28b_p1
Water*	NA	tc53	tc53	NA	NA	NA	NA	tc53
Milk (non/low-fat)	NA	NA	tc55_p1	tc55_p1	NA	NA	NA	NA
Coffee/tea with sugar	NA	NA	tc56	tc56	tc56	NA	NA	NA
100% Juice	NA	NA	NA	tc58	tc58	NA	NA	NA

Child Variables								
Beverage	2011	2012	2013	2014	2015	2016	2017	2018
Soda or sweet drink	cc12	cc12	NA	NA	NA	NA	NA	NA
100% Juice	cc10	cc10	cc10	cc10	cc10	NA	NA	NA
Soda*	NA	NA	cc49	cc49	cc49	cc49	cc49	NA
Fruit/Sport Drink*	NA	NA	cc50	cc50	cc50	cc50	cc50	cc50

*Variables included in analyses: to best capture trends from 2011 to 2018, we limited our analyses to beverage questions asked in 2013 or earlier and in 2017 or 2018.

Variable descriptions:

Adult Variables

Variable	Description
ae_soda	# times drinking soda per week
ac46	# times drinking sweet fruit drink in past month
ac47	# glasses of water drank yesterday
ac48	# glasses of non/low fat milk drank yesterday

Teen Variables

Variable	Description
tc28a	# cans of soda with sugar drunk yesterday
tc28b	# cans of sweetened fruit or sport drinks drunk yesterday
tc53	# glasses of water drunk yesterday
tc55	# glasses no/low-fat milk drunk yesterday
tc56	# cups drunk coffee/tea w sugar yesterday
tc58	# servings of 100% juice drunk yesterday

Child Variables

Variable	Description
cc12	# of servings of soda or sweetened drink drunk yesterday
cc10	# servings 100% fruit juice drunk yesterday
cc49	# glasses of soda with sugar drunk yesterday
cc50	# glasses of sweetened fruit drink drunk yesterday

eTable 2: Annual change in proportion of Californians consuming various beverages and the amount consumed, by age group and beverage type

	Adults (18+ years) ^B		Teens (12-17 years) ^B		Children (0-11 years) ^B	
	% Change (95% CI)	<i>Units</i>	% Change (95% CI)	<i>Units</i>	% Change (95% CI)	<i>Units</i>
Soda consumption prevalence	-1.01% (-1.68%, -0.33%)	<i>Last week</i>	-4.24% (-9.20%, 0.98%)	<i>Yesterday</i>	-7.60% (-14.45%, -0.20%)	<i>Yesterday</i>
Soda consumption frequency	-1.24% (-2.56%, +0.08%)	<i>Times/wk</i>	-6.50% (-10.75%, -2.06%)	<i># cans yesterday</i>	-6.21% (-16.25%, +5.05%)	<i># glasses yesterday</i>
Sweetened fruit drink consumption prevalence ^A	+5.03% (+4.27%, +5.80%)	<i>Last week</i>	-2.24% (-4.91%, +0.51%)	<i># cans yesterday</i>	+19.35% (+14.33%, +24.59%)	<i># glasses yesterday</i>
Sweetened fruit drink consumption frequency ^A	+6.98% (+4.59%, +9.44%)	<i>Times/wk</i>	-3.44% (-6.92%, +0.17%)	<i># cans yesterday</i>	+18.67% (+13.02%, +24.60%)	<i># glasses yesterday</i>
Water consumption prevalence	+0.18% (+0.10%, +0.27%)	<i>Yesterday</i>	+0.31% (+0.18%, +0.44%)	<i>Yesterday</i>	Not asked	
Water consumption frequency	+1.42% (+0.44%, +2.41%)	<i># glasses yesterday</i>	+4.02% (-1.09%, +9.4%)	<i># glasses yesterday</i>	Not asked	

^A This question for teens asked about sweetened fruit or sport drinks.

^B Estimates for eTable 2 are obtained from generalized linear models with a linear representation of time.

eTable 3: Proportion of Californians consuming various beverages and the amount consumed, by year, age group, and beverage type

eTable 3 presents results using categorical representations of time

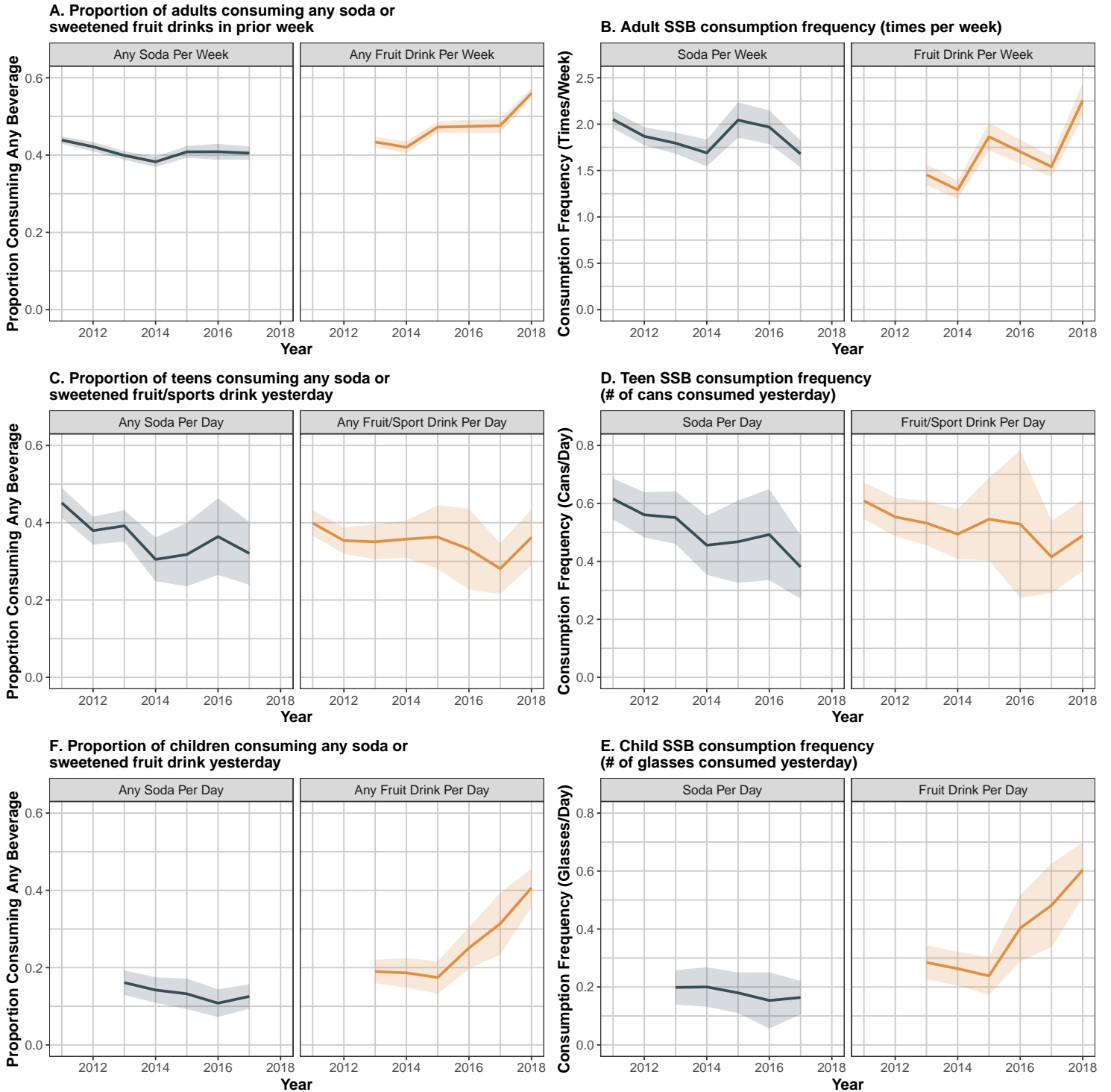
Year	Consumption Prevalence ^B			Consumption Frequency ^C		
	Adults Coef (95% CI)	Teens Coef (95% CI)	Children Coef (95% CI)	Adults Coef (95% CI)	Teens Coef (95% CI)	Children Coef (95% CI)
Regular Soda						
2011	43.9% (42.9, 44.8)	45.1% (41.3, 49.0)		2.05 (1.96, 2.15)	0.62 (0.54, 0.69)	
2012	42.2% (41.0, 43.4)	38.0% (34.4, 41.6)		1.87 (1.77, 1.97)	0.56 (0.48, 0.64)	
2013	39.9% (38.8, 41.0)	39.2% (35.1, 43.3)	16.1% (12.9, 19.3)	1.80 (1.68, 1.91)	0.55 (0.46, 0.64)	0.20 (0.14, 0.26)
2014	38.3% (36.9, 39.6)	30.5% (24.8, 36.2)	14.2% (10.9, 17.5)	1.69 (1.55, 1.83)	0.46 (0.35, 0.56)	0.20 (0.13, 0.27)
2015	40.8% (39.3, 42.4)	31.8% (23.6, 40.0)	13.2% (9.3, 17.2)	2.04 (1.85, 2.23)	0.47 (0.33, 0.61)	0.18 (0.11, 0.25)
2016	40.9% (38.8, 42.9)	36.4% (26.5, 46.3)	10.8% (7.2, 14.4)	1.97 (1.79, 2.15)	0.49 (0.34, 0.65)	0.15 (0.06, 0.25)
2017	40.5% (38.8, 42.2)	32.1% (23.9, 40.2)	12.6% (9.4, 15.7)	1.68 (1.53, 1.82)	0.38 (0.27, 0.49)	0.16 (0.11, 0.22)
Sweetened Fruit Drink^A						
2011		39.9% (36.6, 43.2)			0.61 (0.55, 0.67)	
2012		35.4% (31.9, 38.8)			0.55 (0.49, 0.62)	
2013	43.4% (42.0, 44.7)	35.1% (30.5, 39.6)	19.0% (16.0, 22.0)	1.46 (1.34, 1.57)	0.53 (0.46, 0.61)	0.28 (0.23, 0.34)
2014	42.0% (40.5, 43.5)	35.8% (30.9, 40.6)	18.7% (14.8, 22.5)	1.29 (1.19, 1.39)	0.49 (0.41, 0.58)	0.26 (0.21, 0.32)
2015	47.2% (45.8, 48.7)	36.3% (28.1, 44.5)	17.5% (13.2, 21.7)	1.86 (1.72, 2.01)	0.55 (0.40, 0.69)	0.24 (0.17, 0.30)
2016		33.2% (22.7, 43.7)	25.1% (19.7, 30.4)		0.53 (0.27, 0.78)	0.40 (0.29, 0.52)
2017	47.6% (45.7, 49.5)	28.1% (21.5, 34.7)	31.4% (23.4, 39.4)	1.54 (1.43, 1.65)	0.42 (0.29, 0.54)	0.48 (0.34, 0.63)
2018	56.0% (54.7, 57.3)	36.2% (29.0, 43.4)	40.6% (35.7, 45.6)	2.26 (2.07, 2.44)	0.49 (0.37, 0.61)	0.60 (0.51, 0.70)
Water						
2011						
2012						
2013	98.0% (97.7, 98.4)	97.6% (96.7, 98.5)		6.30 (6.04, 6.56)	4.87 (4.62, 5.13)	
2014	98.2% (97.9, 98.6)	99.1% (98.6, 99.5)		6.26 (6.05, 6.50)	5.16 (4.82, 5.51)	
2015	98.5% (98.2, 98.8)			7.09 (6.76, 7.41)		
2016						
2017	99.0% (98.5, 99.5)			6.76 (6.48, 7.03)		
2018	98.8% (98.5, 99.1)	99.9% (99.5, 100.2)		6.75 (6.47, 7.02)	6.21 (4.52, 7.91)	

^A This question for teens asked about sweetened fruit or sport drinks.

^B Prevalence was defined as the proportion consuming any beverage within the given recall period.

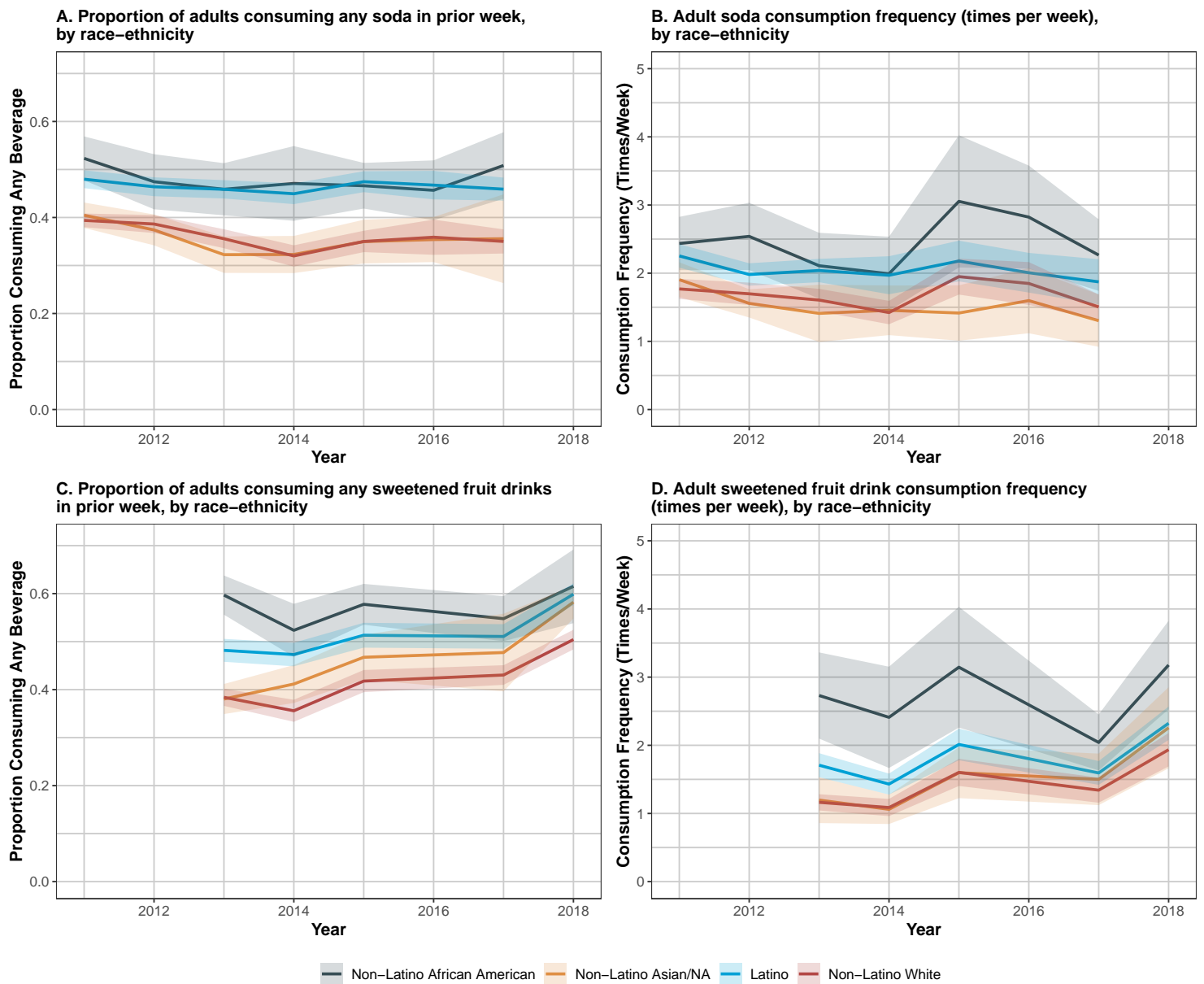
^C Number of servings (times, cans, or glasses) per unit time (week or day).

eFigure 1: Trends in proportion of Californians consuming various beverages and the amount consumed from 2011 to 2018, by age group and beverage type (categorical year)

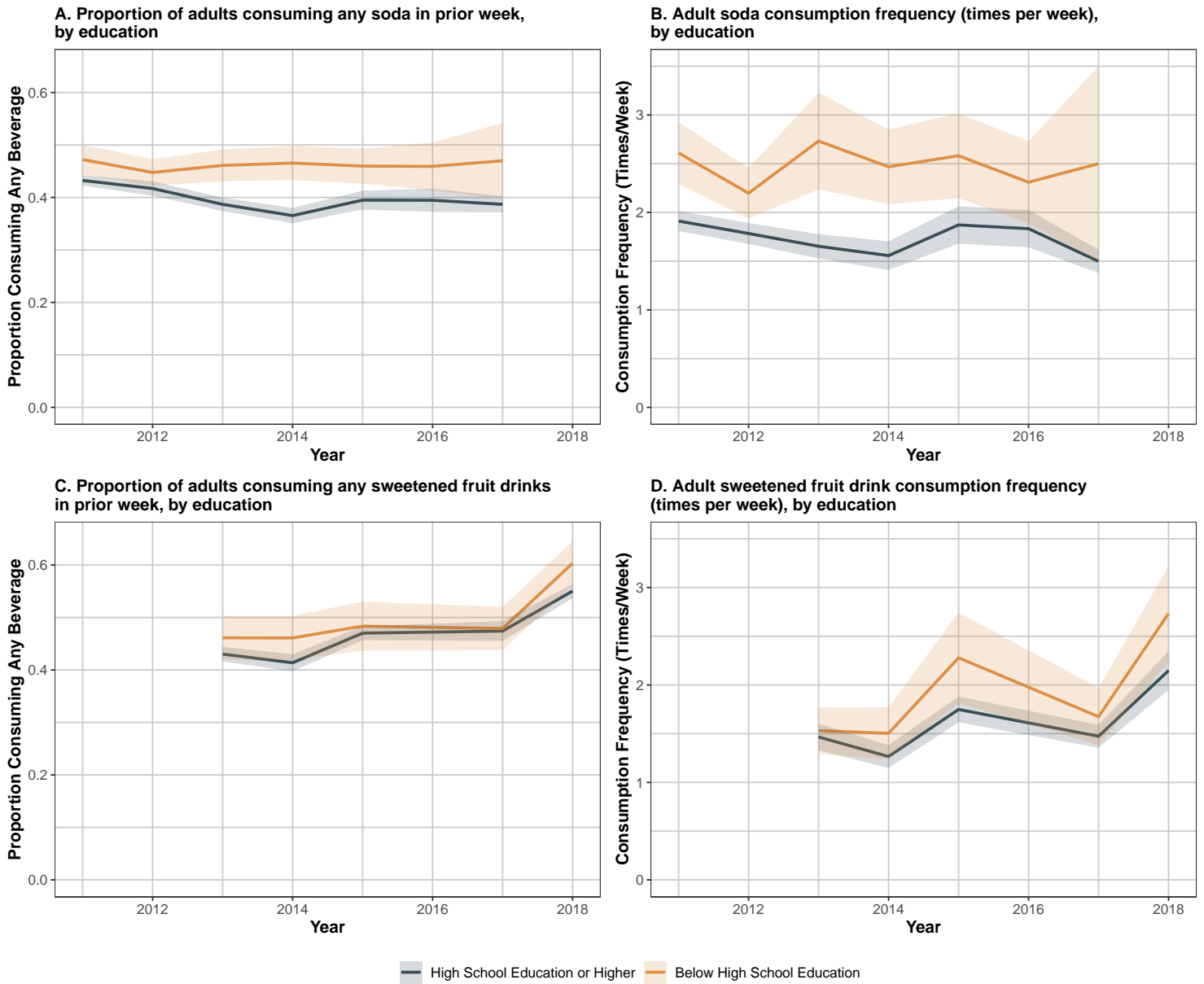


eFigure 2: Trends in proportion of Californians consuming various sugar-sweetened beverages and the amount consumed from 2011 to 2018, by race/ethnicity and education (adults) or family income level (teens and children)

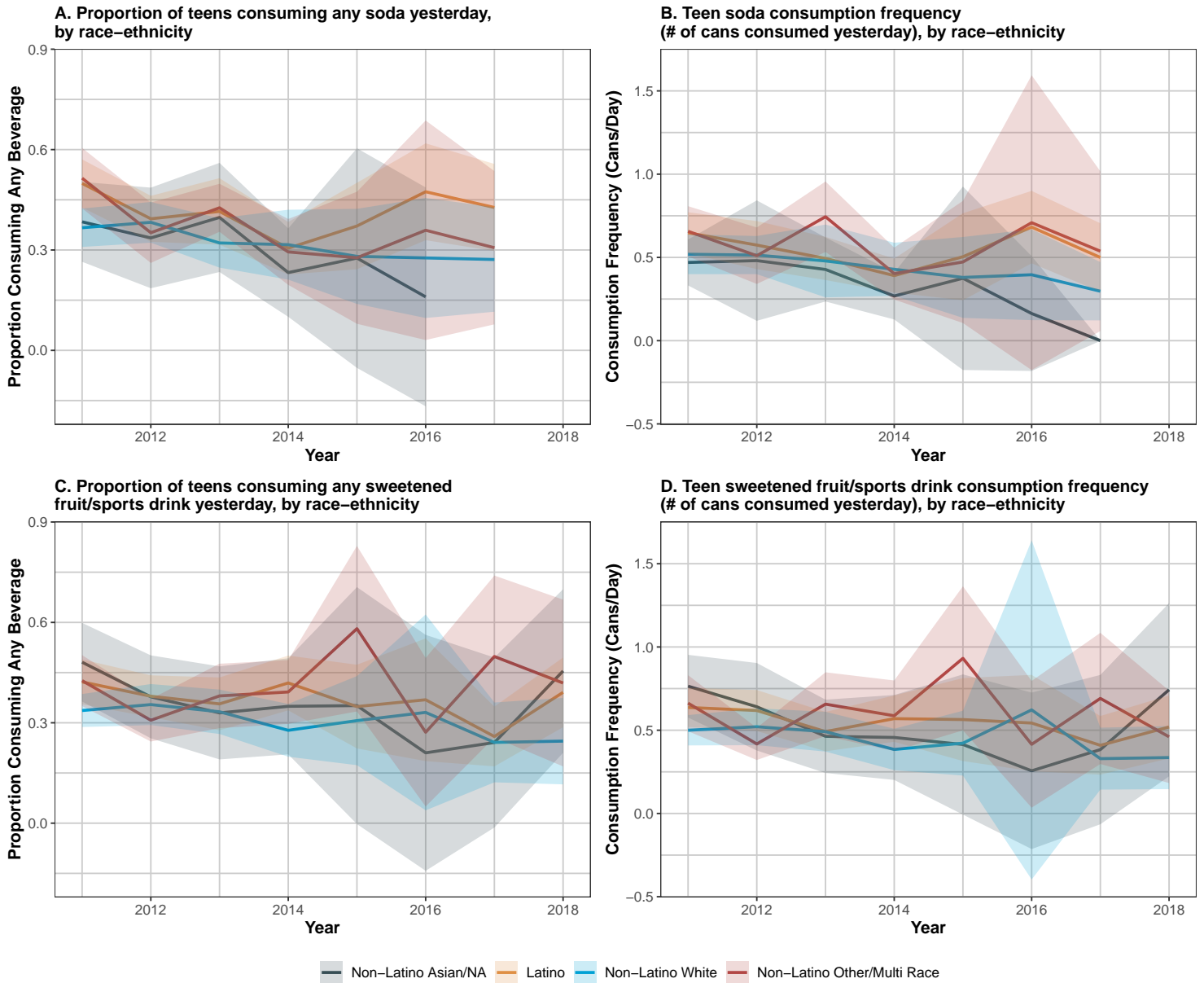
eFigure 2.1.1: Adult consumption by race/ethnicity



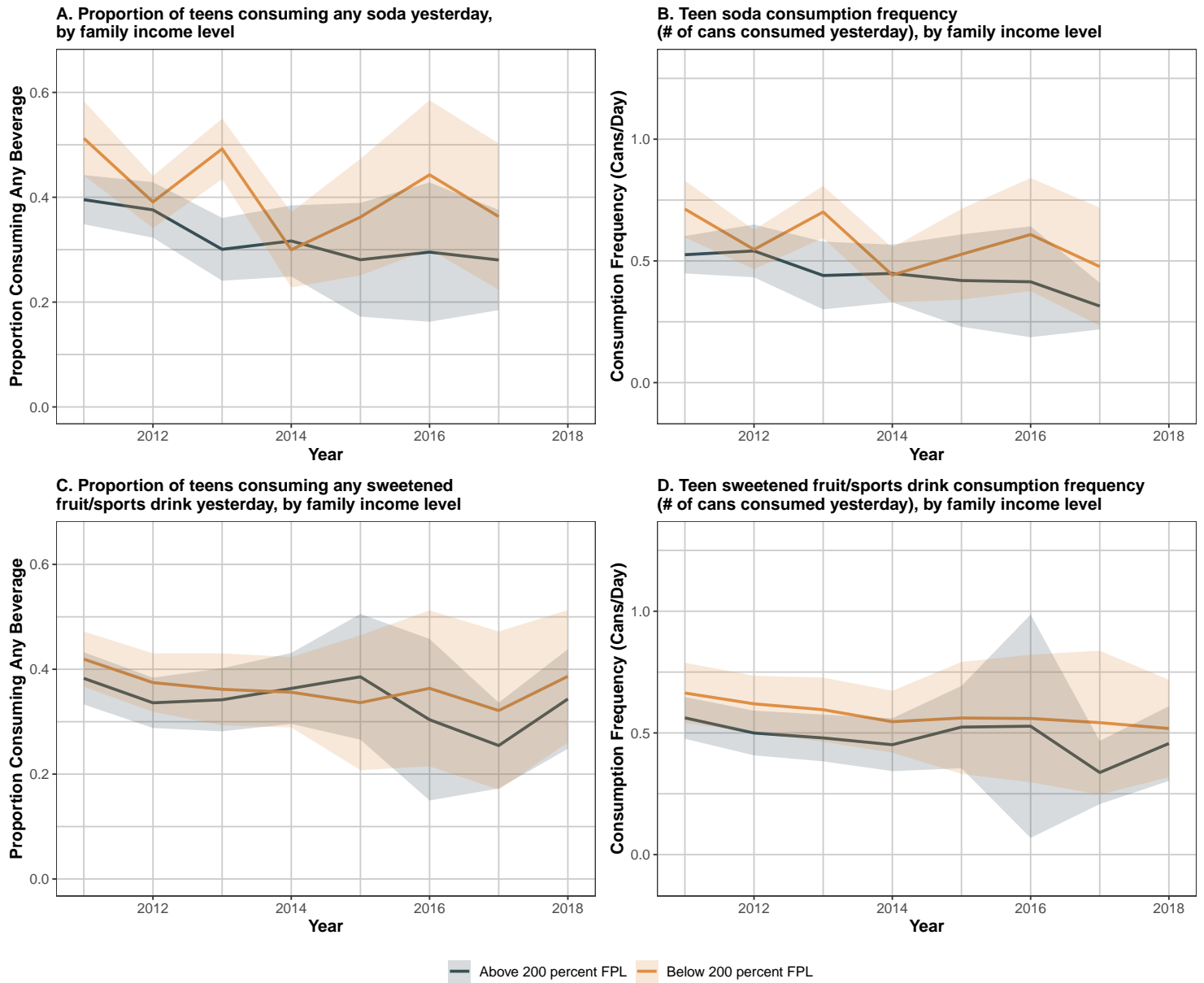
eFigure 2.1.2 : Adult consumption by education



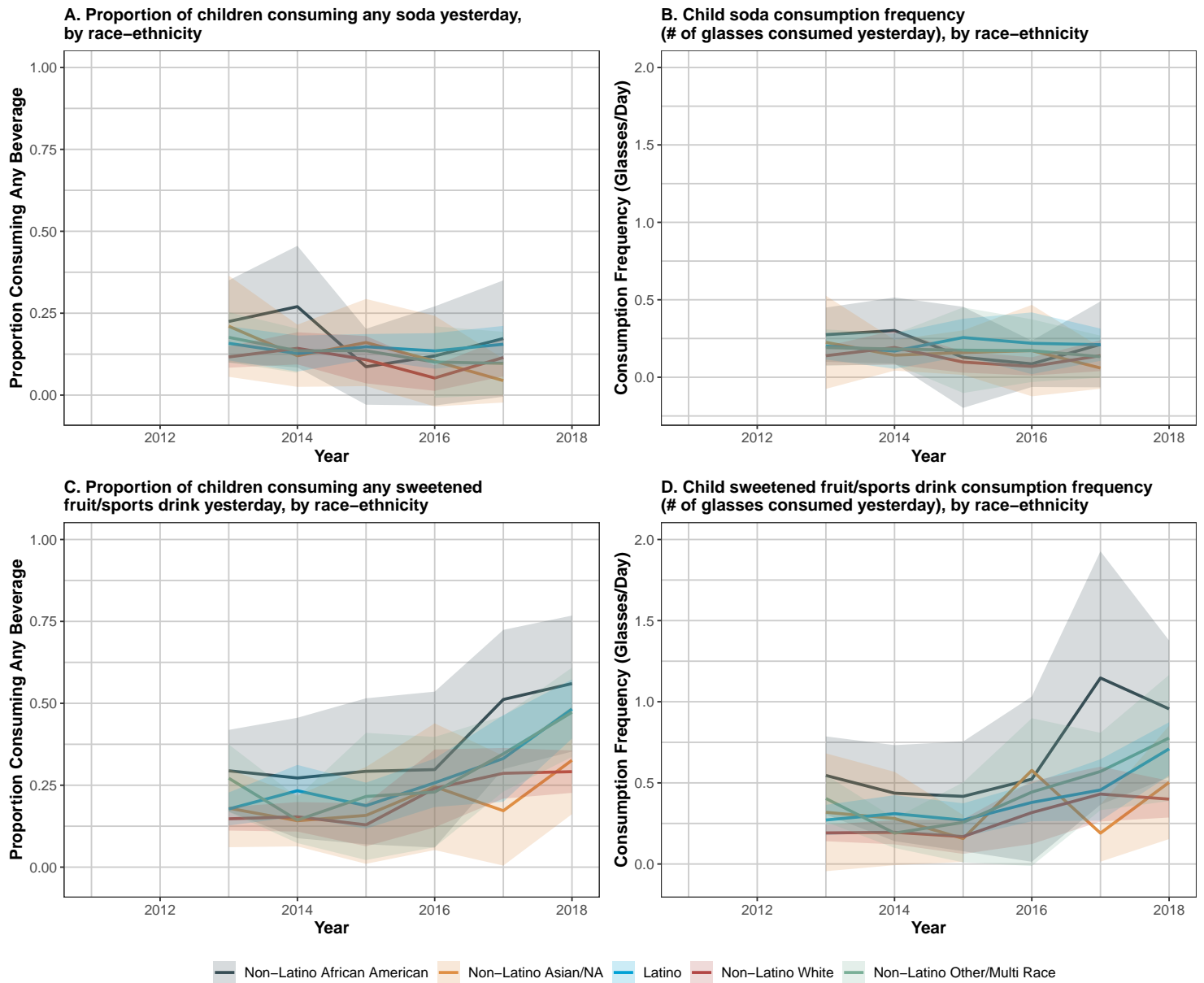
eFigure 2.2.1: Teen consumption by race/ethnicity



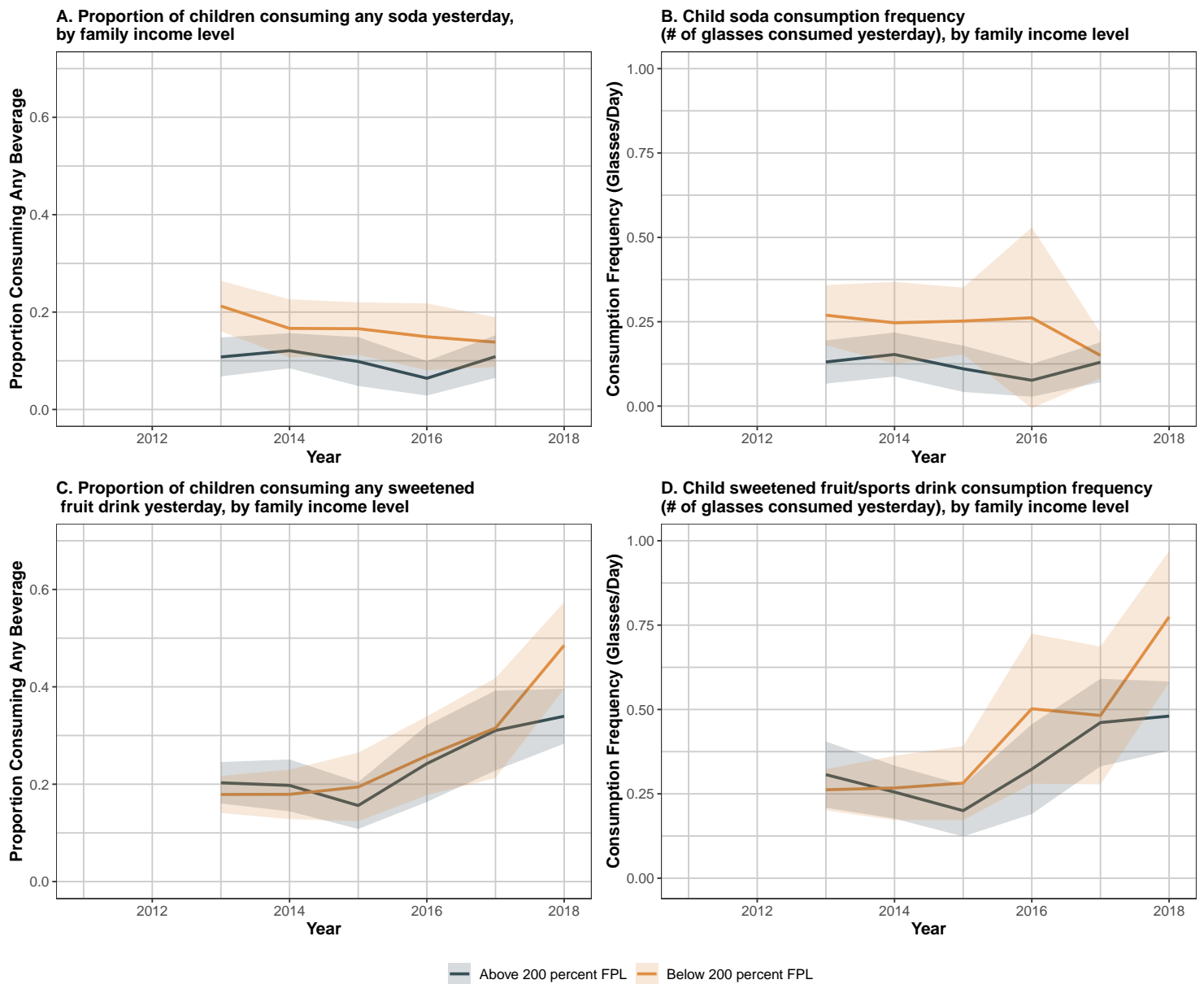
eFigure 2.2.2 : Teen consumption by family income



eFigure 2.3.1: Child consumption by race/ethnicity

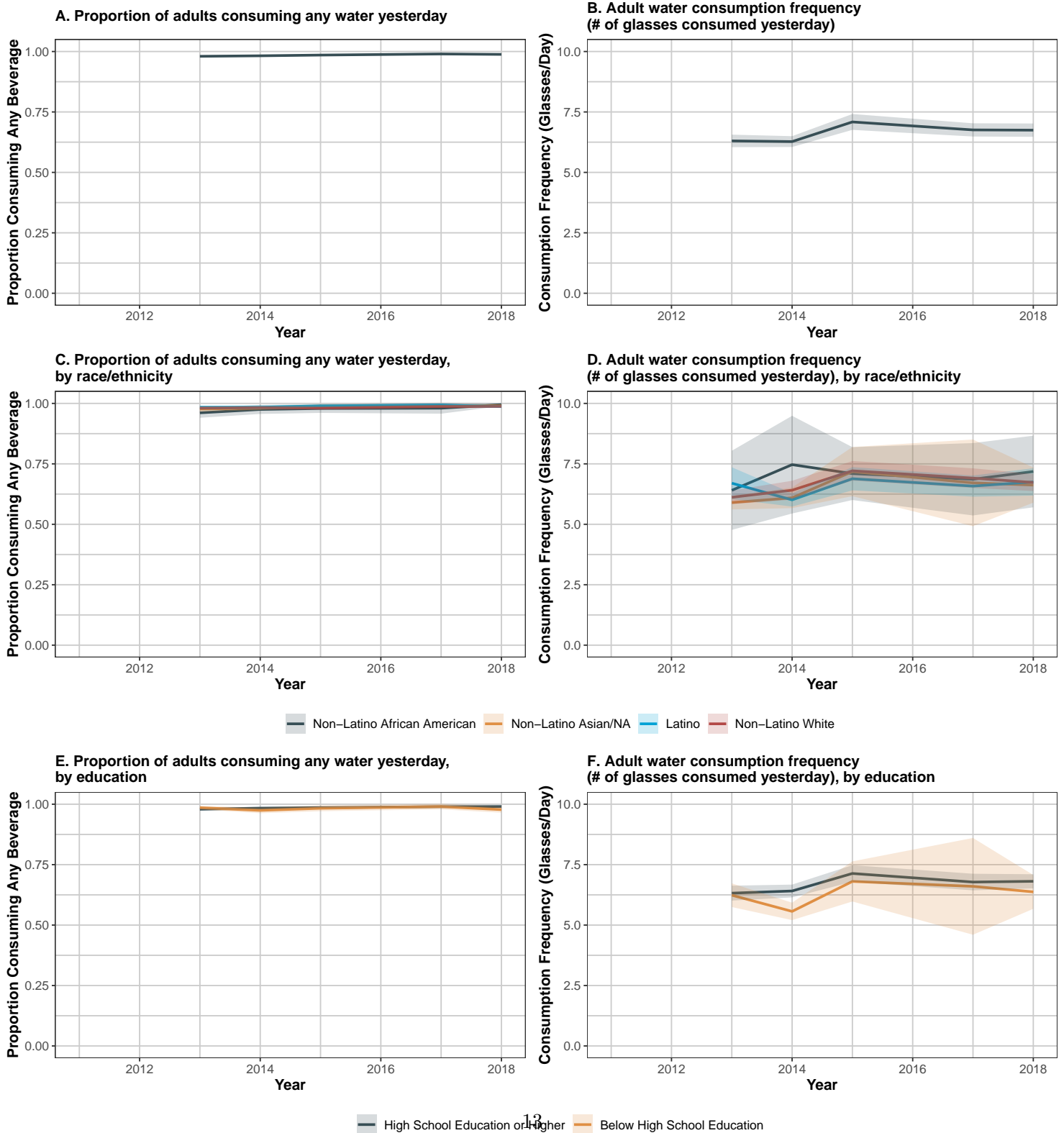


eFigure 2.3.2 : Child consumption by family income



eFigure 3: Trends in proportion of Californians consuming water and the amount consumed from 2011 to 2018, by age group and participant characteristics

eFigure 3.1: Adult consumption



eFigure 3.2: Teen consumption

