

Insufficient Physical Activity and Excessive Television Viewing Among US High School Students, 1999-2005

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Background

- ▲ Benefits of physical activity
 - Physical health
 - Mental health
- ▲ National Health Objectives for Year 2010, for adolescents
 - Obj. 22-7: Vigorous physical activity (20 min, 3+ days/wk)
 - Baseline: 65% Target: 85%
 - Obj. 22-6: Moderate physical activity (30 min, 5+ days/wk)
 - Baseline: 27% Target: 35%
 - Obj. 22-11: TV viewing time (2 or fewer hrs on a school day)
 - Baseline: 57% Target: 75%

Background

- ▲ Demographic patterns of PA (moderate to vigorous)
 - Sex (male > female)
 - Race/ethnicity (white > black & Hispanic)
 - Age (younger > older)
- ▲ Demographic patterns of TV viewing time
 - Sex (male > female)
 - Race/ethnicity (black & Hispanic > white)
 - Age (younger > older)
- ▲ Secular trends in PA and TV viewing time
 - One recent study (MTF 1993-2003)



Objectives

- ▲ Analyze demographic distribution and secular trends among US high school students from 1999 to 2005:
 - Vigorous PA (20 min, 3+ days/wk)
 - Moderate PA (30 min, 5+ days/wk)
 - Insufficient PA (fail to meet vigorous & moderate PA)
 - Excessive TV viewing time (>2 hours/day)
- ▲ Compare trends among demographic subgroups
 - Gender (female, male)
 - Race/ethnicity (black, Hispanic, white)

Methods

- ▲ National YRBS (1999, 2001, 2003, 2005)
 - Nationally representative samples, grades 9-12
 - Three-stage cluster sample design
 - Sample sizes – 13,601 to 15,349
 - Overall response rates – 63% to 67%
- ▲ Data analysis: SUDAAN software
 - Secular trends (Linear, Quadratic)
 - Logistic regression models
 - L (linear change)
 - Q (nonlinear variation with no overall change)

Prevalence & adjusted odds ratios for participation in vigorous & moderate PA, and TV viewing >2 hrs/day among US high school students, 1999-2005

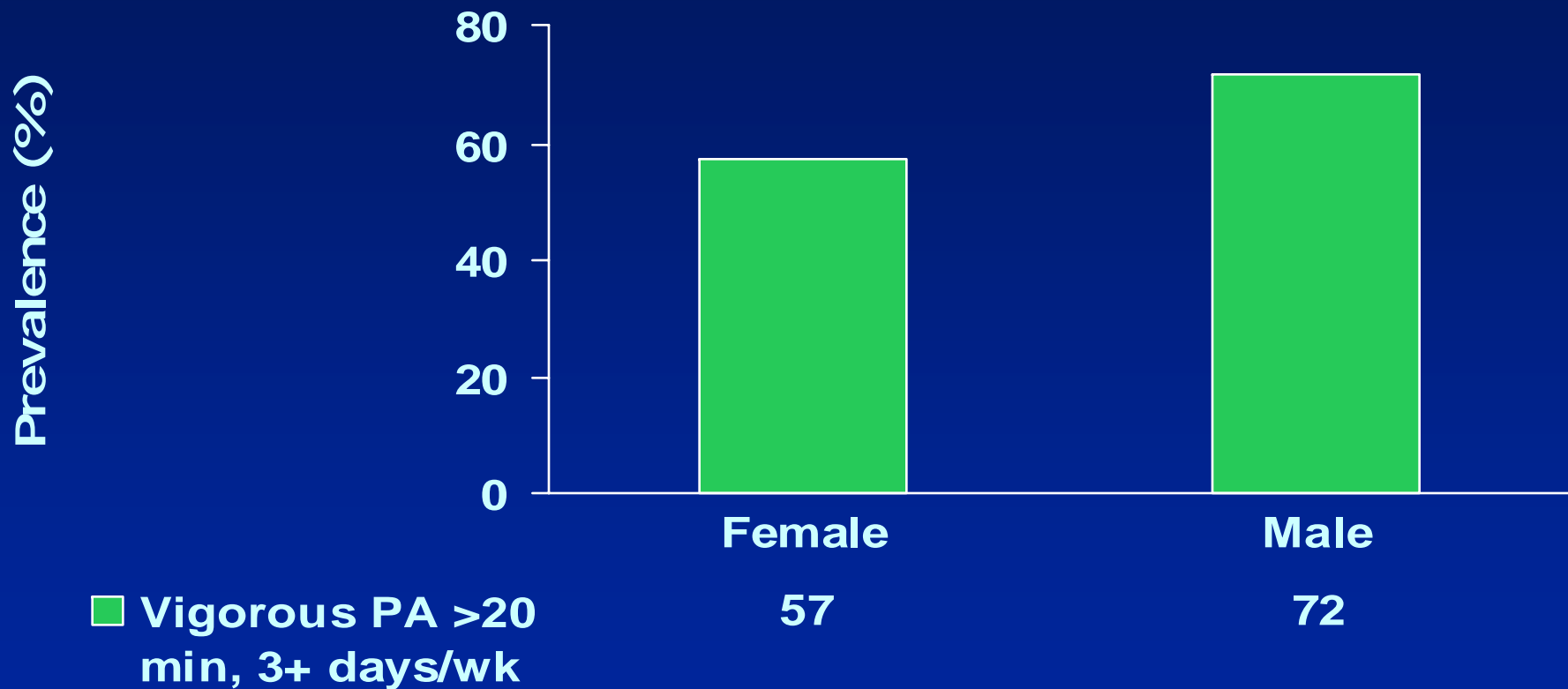
Independent Variables	Vigorous PA		Moderate PA		Insufficient PA		TV Viewing	
	%	OR	%	OR	%	OR	%	OR
Male	72	(ref)	28	(ref)	25	(ref)	41	(ref)
Female	56	0.50*	23	0.77*	38	1.93*	37	0.84*
White	66	(ref)	28	(ref)	30	(ref)	28	(ref)
Black	57	0.65*	21	0.68*	39	1.58*	70	4.85*
Hispanic	62	0.79*	23	0.77*	34	1.29*	47	1.98*
Other	63	0.87*	26	0.92	31	1.05	38	1.46*
9th	71	(ref)	26	(ref)	25	(ref)	46	(ref)
10th	66	0.78*	26	0.97	30	1.29*	42	0.87*
11th	60	0.62*	26	0.95	35	1.65*	35	0.66*
12th	57	0.54*	25	0.90*	37	1.82*	32	0.57*

Note: Odds ratios adjusted for demographics

* p<0.05



Vigorous physical activity among US high school students, 1999: by gender



Vigorous physical activity >20 min, 3+ days/wk among US high school students, 1999-2005: by gender and survey year



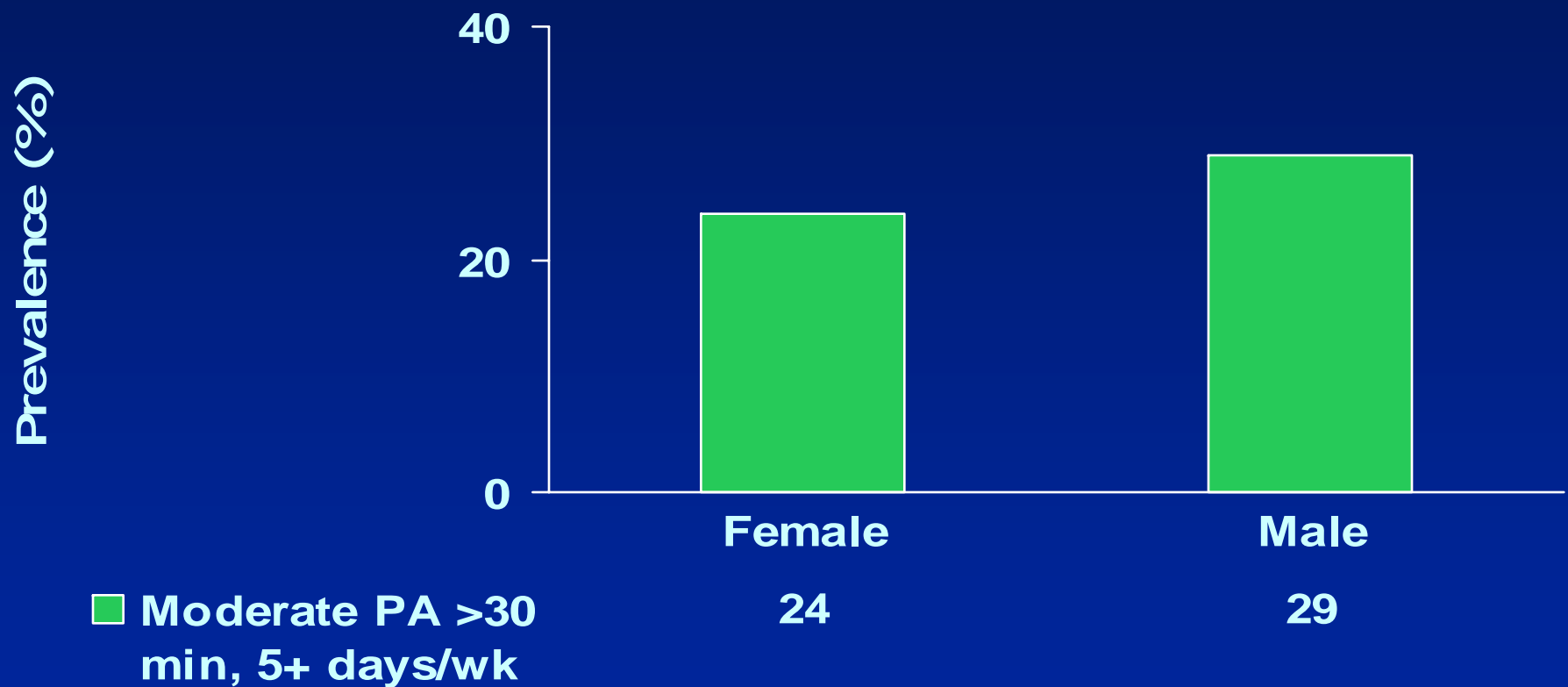
Vigorous physical activity >20 min, 3+ days/wk among US high school students, 1999-2005: females, by race/ethnicity and survey year



Vigorous physical activity >20 min, 3+ days/wk among US high school students, 1999-2005: males, by race/ethnicity and survey year



Moderate physical activity among US high school students, 1999: by gender



Moderate physical activity >30 min, 5+ days/wk among US high school students, 1999-2005: by gender and survey year



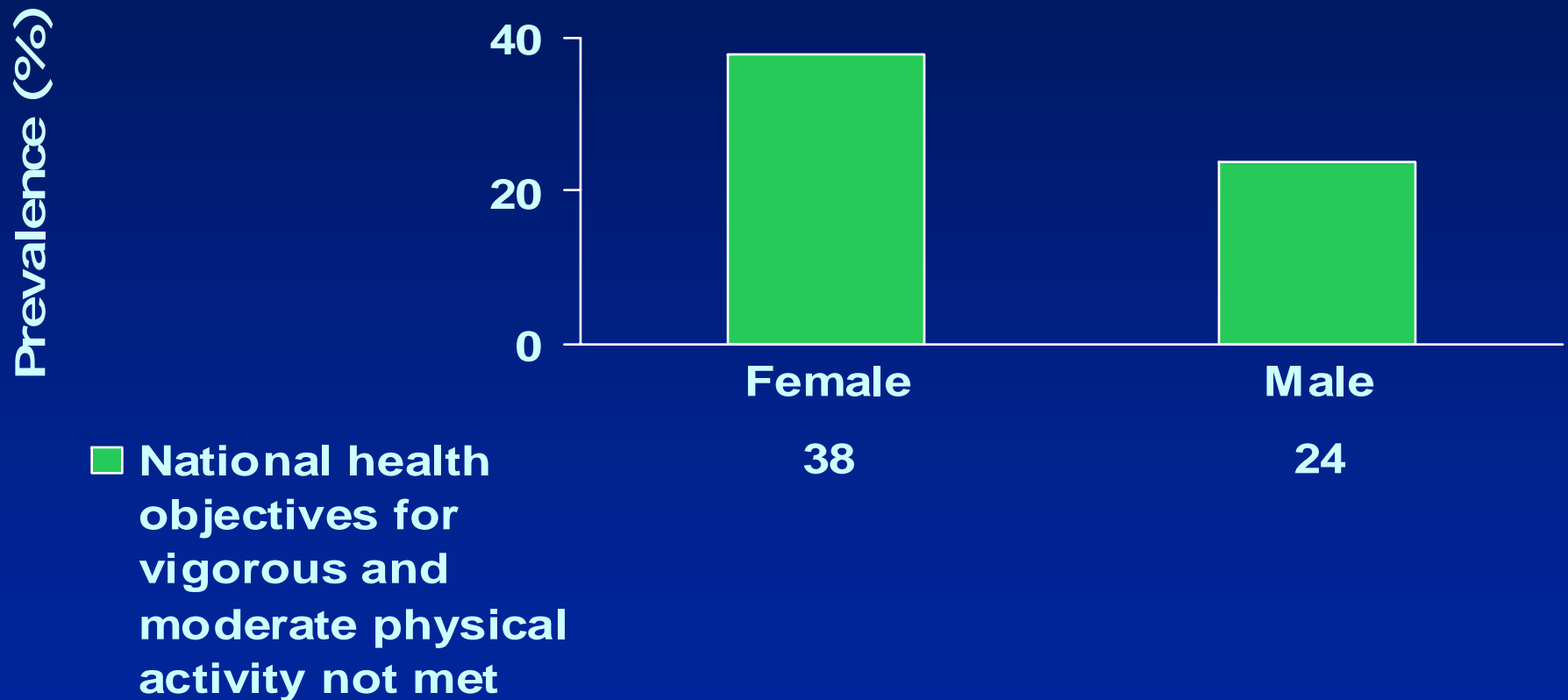
Moderate physical activity >30 min, 5+ days/wk among US high school students, 1999-2005: females, by race/ethnicity and survey year



Moderate physical activity >30 min, 5+ days/wk among US high school students, 1999-2005: males, by race/ethnicity and survey year



Insufficient physical activity among US high school students, 1999: by gender



Insufficient physical activity among US high school students, 1999-2005: by gender and survey year



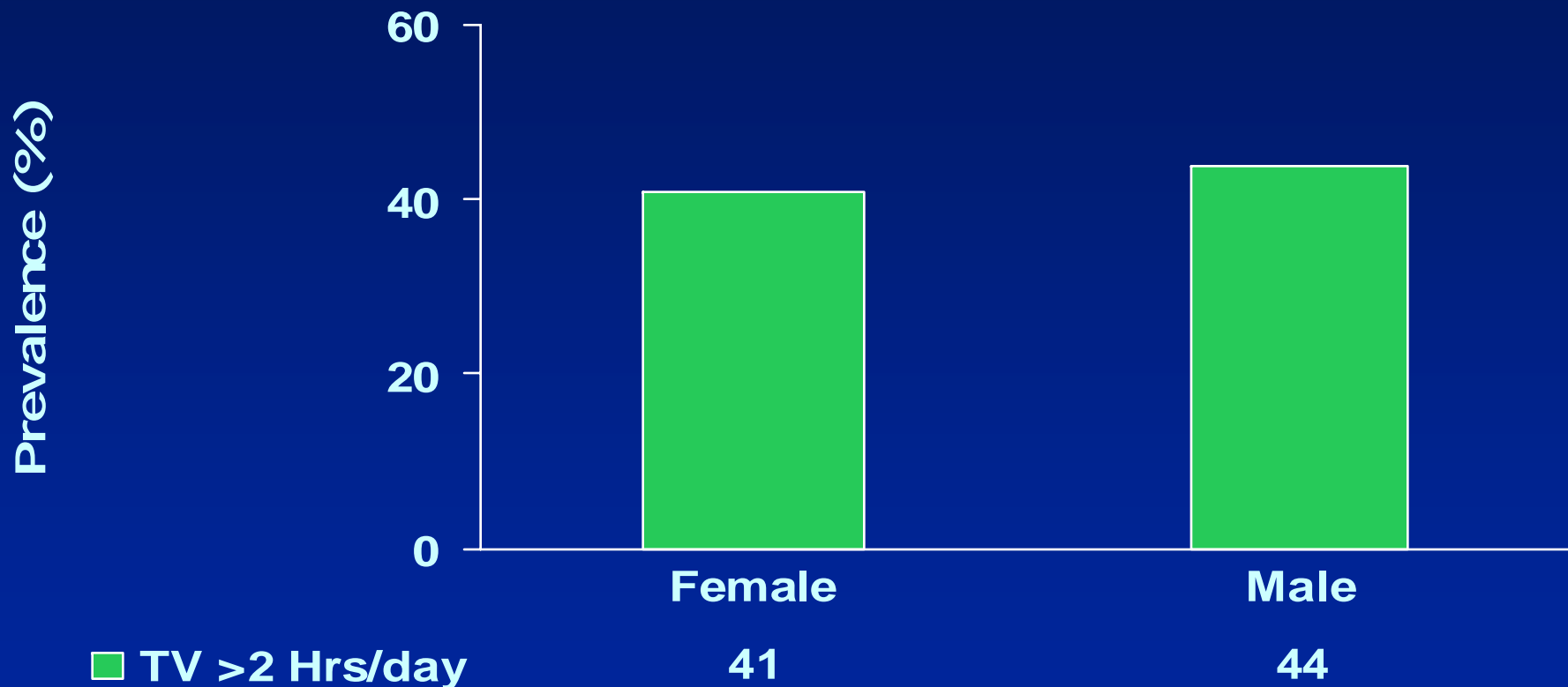
Insufficient physical activity among US high school students, 1999-2005: females, by race/ethnicity and survey year



Insufficient physical activity among US high school students, 1999-2005: males, by race/ethnicity and survey year



Excessive TV viewing among US high school students, 1999: by gender



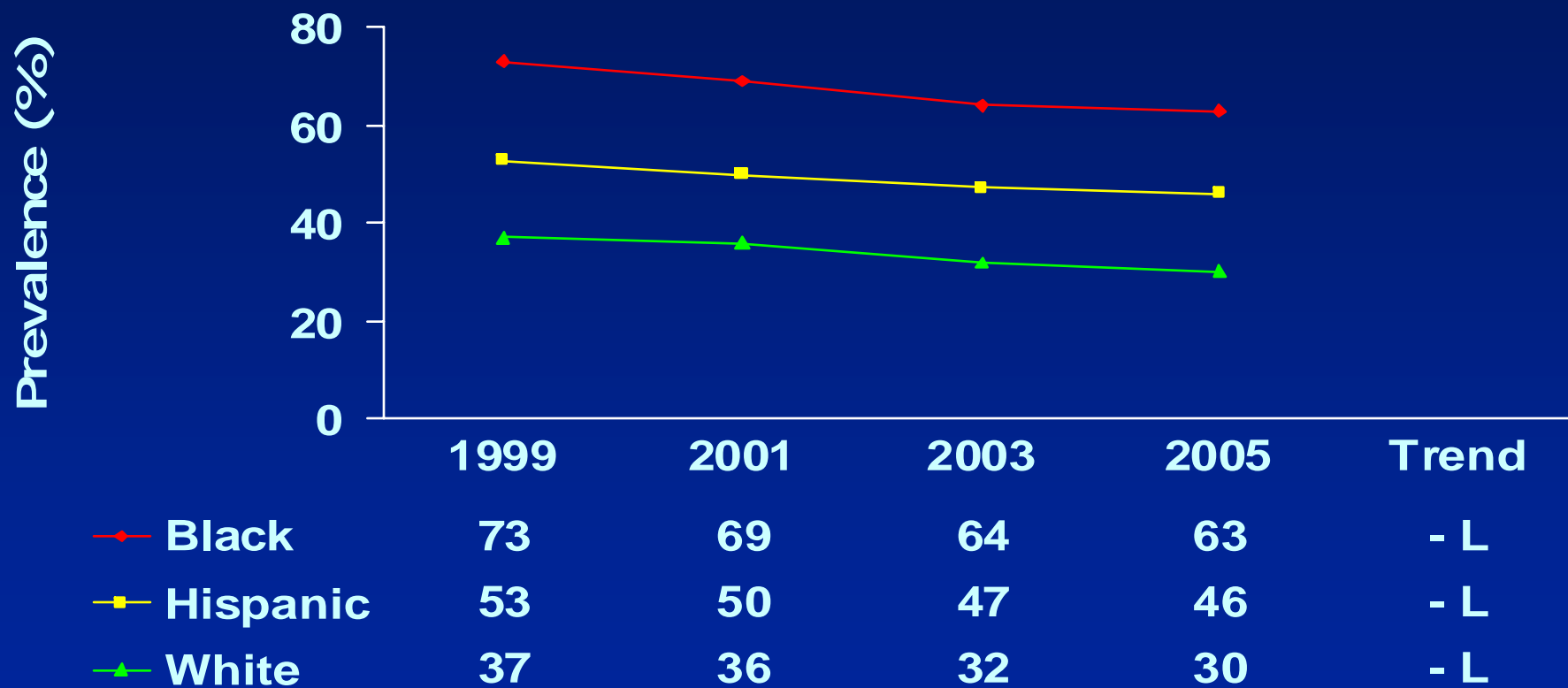
Excessive TV viewing among US high school students, 1999-2005: by gender and survey year



Excessive TV viewing among US high school students, 1999-2005: females, by race/ethnicity and survey year



Excessive TV viewing among US high school students, 1999-2005: males, by race/ethnicity and survey year



Summary of linear trends among US high school students, 1999-2005: by gender and race/ethnicity

Group	Vig PA	Mod PA	Insuff PA	Excess TV
Female	ns	ns	ns	-
Black	ns	ns	ns	-
Hispanic	+	+	-	-
White	ns	ns	ns	ns
Male	ns	ns	ns	-
Black	ns	ns	ns	-
Hispanic	ns	ns	ns	-
White	ns	ns	ns	-



Study Limitations

- ▲ Measurement of PA and Inactivity
- ▲ Self-report data
- ▲ Missing information
 - Determinants of PA
 - Total screen time

Conclusions

- ▲ Meeting year 2010 recommendations
 - Vigorous PA
 - Moderate PA
 - TV viewing time
- ▲ Current PA recommendations
- ▲ Future research

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