

# Variability in Caloric Value of Purchases at Five Burger Chains Before the Implementation of Menu Labeling

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# Presenter Disclosures

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No Relationships to Disclose

# Menu Labeling in Oregon

- Menu labeling policy passed in Multnomah County, Oregon in 2008
- Multnomah policy preempted by passage of statewide menu labeling law in 2009
- Federal menu labeling law preempted Oregon law

# Study Design and Methods

- Customer intercept survey and receipt collection at the top 10 fast food chains
- Double pre-test design with data collection in spring (wave 1) and fall 2009 (wave 2)
- Stratified, 2-stage clustered sampling design
  - Establishment is primary sampling unit
  - Customers are secondary sampling unit
- Strata:
  - Low-income/racially diverse vs. other
  - Type of food sold (burger, sandwich, taco, coffee)

# Study Design and Methods

- 50 establishments (25 each socio-stratum)
- 50 adult customers at each sampled establishment
  - Asked about purchases for up to 3 children for each adult
- Target: 2500 respondents per survey collection period
- Customers received \$2 in exchange for their register receipt and completion of a brief survey

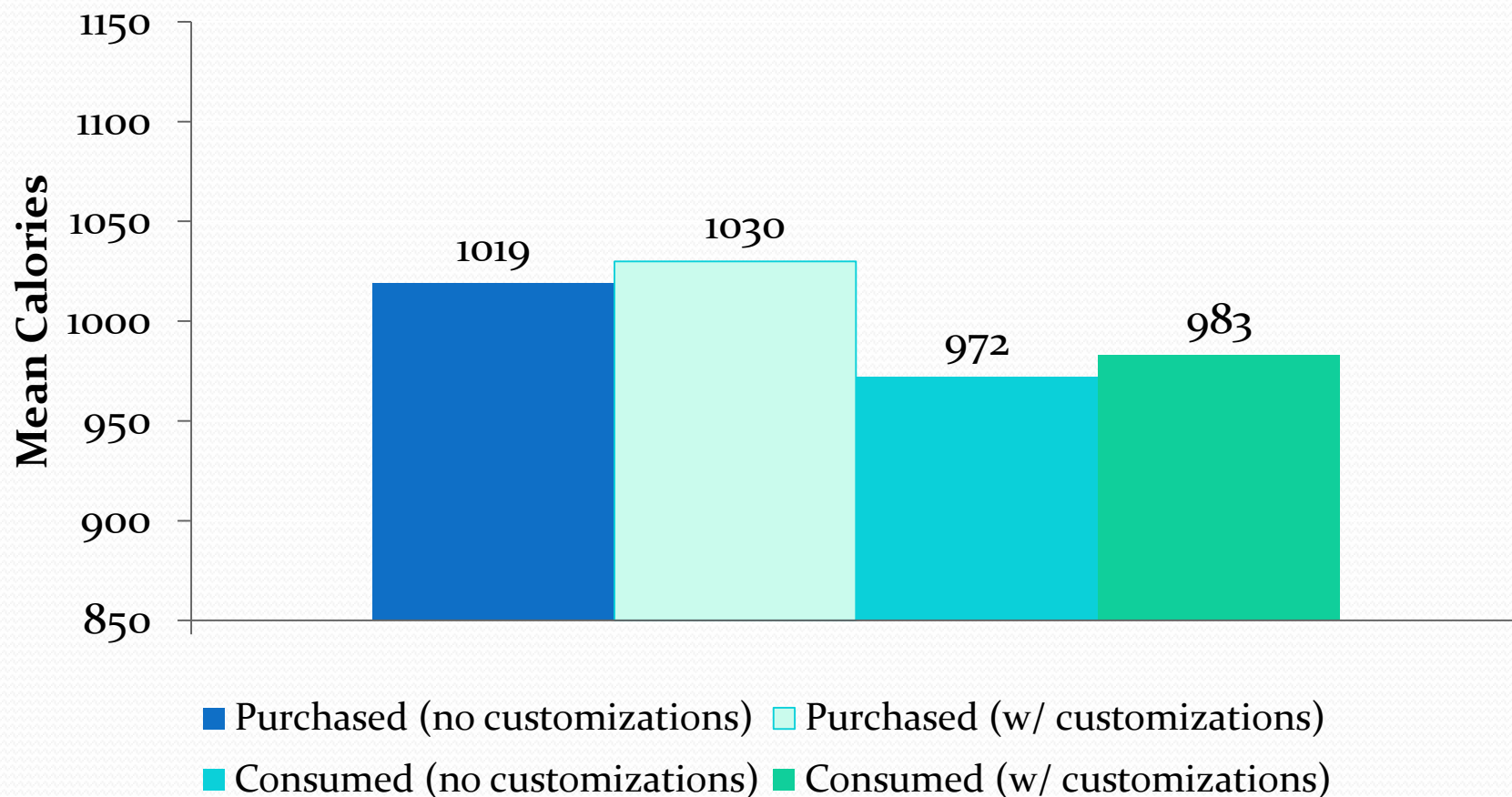
# Analysis

- Today's presentation: burger establishments
- Comparison of mean calories consumed (with customizations) spring 2009 and fall 2009
  - Overall and by burger chain
- Mean calories consumed by subgroups:
  - Saw and used calorie information
  - Gender, age, race
  - Site socioeconomic status
  - Calories important in purchase
  - Snack or meal
  - Diabetes, hypertension
- Analyses weighted, taking into account complex sampling design (Stata v.11)

Study Sample – Burger Establishments	Spring 2009 n (%)	Fall 2009 n (%)
Participants	794	644
Establishments		
McDonald's (5)	249 (41%)	210 (41%)
Burger King (3)	145 (30%)	130 (30%)
Wendy's (2)	100 (8%)	75 (8%)
Burgerville (3)	150 (9%)	110 (9%)
Jack in the Box (3)	150 (12%)	119 (12%)
Gender		
Male	547 (72%)	442 (73%)
Female	247 (28%)	201 (27%)
Age		
< 25	91 (11%)	71 (9%)
25 – 39	256 (34%)	187 (29%)
40-64	378 (45%)	301 (51%)
65 +	60 (10%)	79 (11%)
Race/Ethnicity		
White (non-Hispanic)	599 (72%)	481 (71%)
All Other Races/Ethnicities	185 (28%)	161 (29%)

# Calories Purchased vs. Calories Consumed

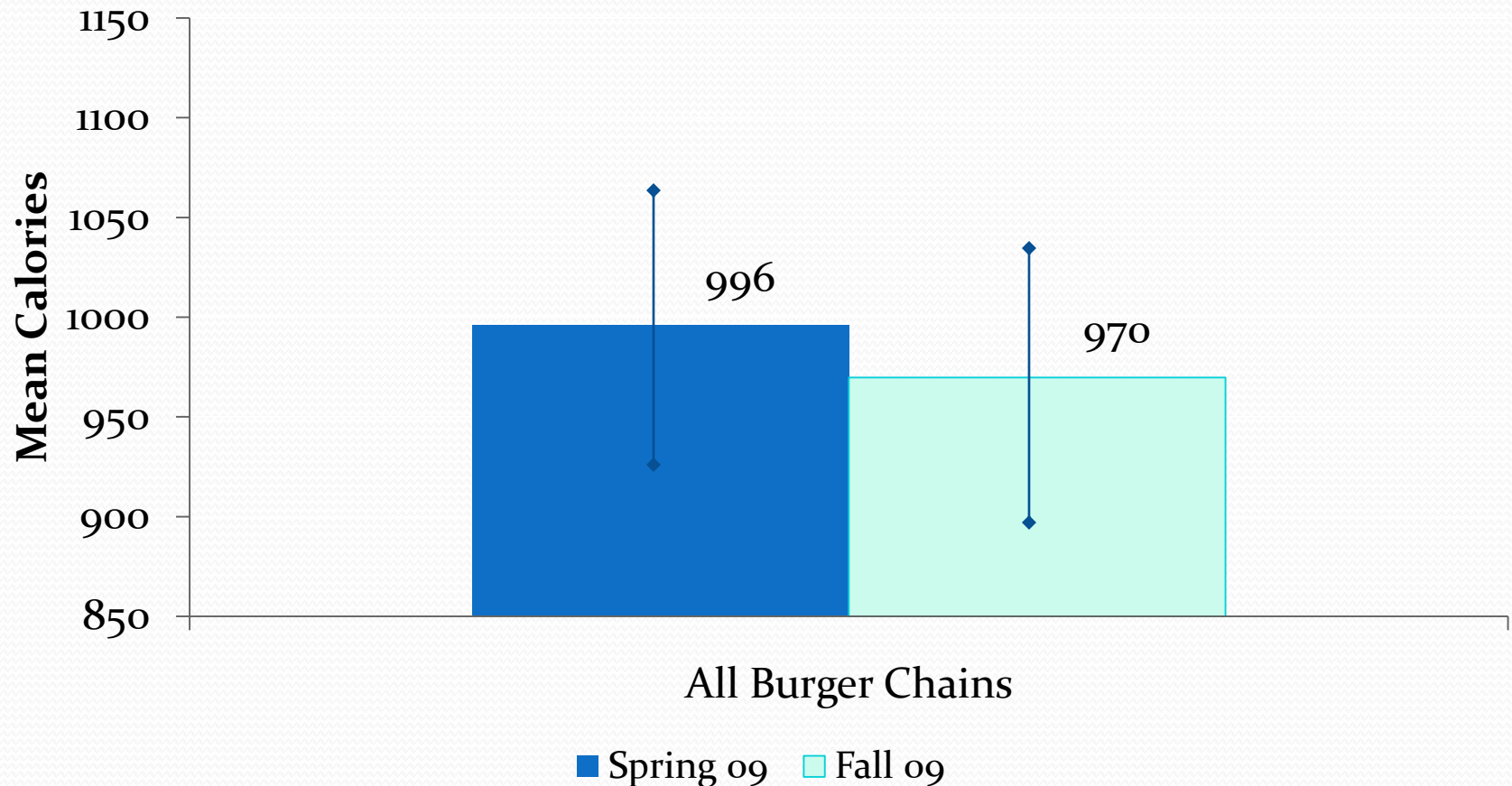
## With and Without Customizations – Spring & Fall Combined (n=1438)





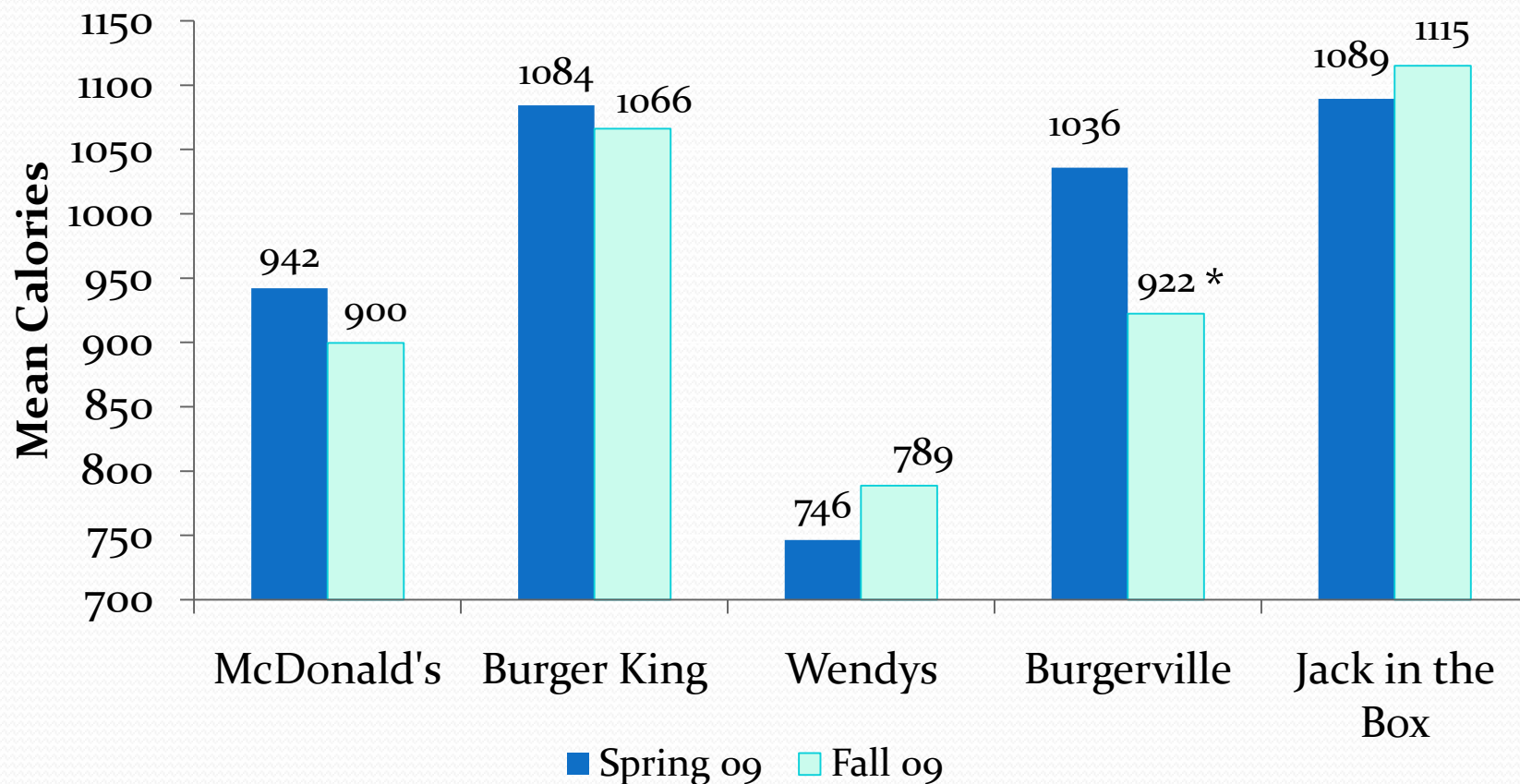
# Calories Consumed – All Burger Chains Combined

Spring (n=794) and Fall (n=644) 2009



# Calories Consumed by Burger Chain

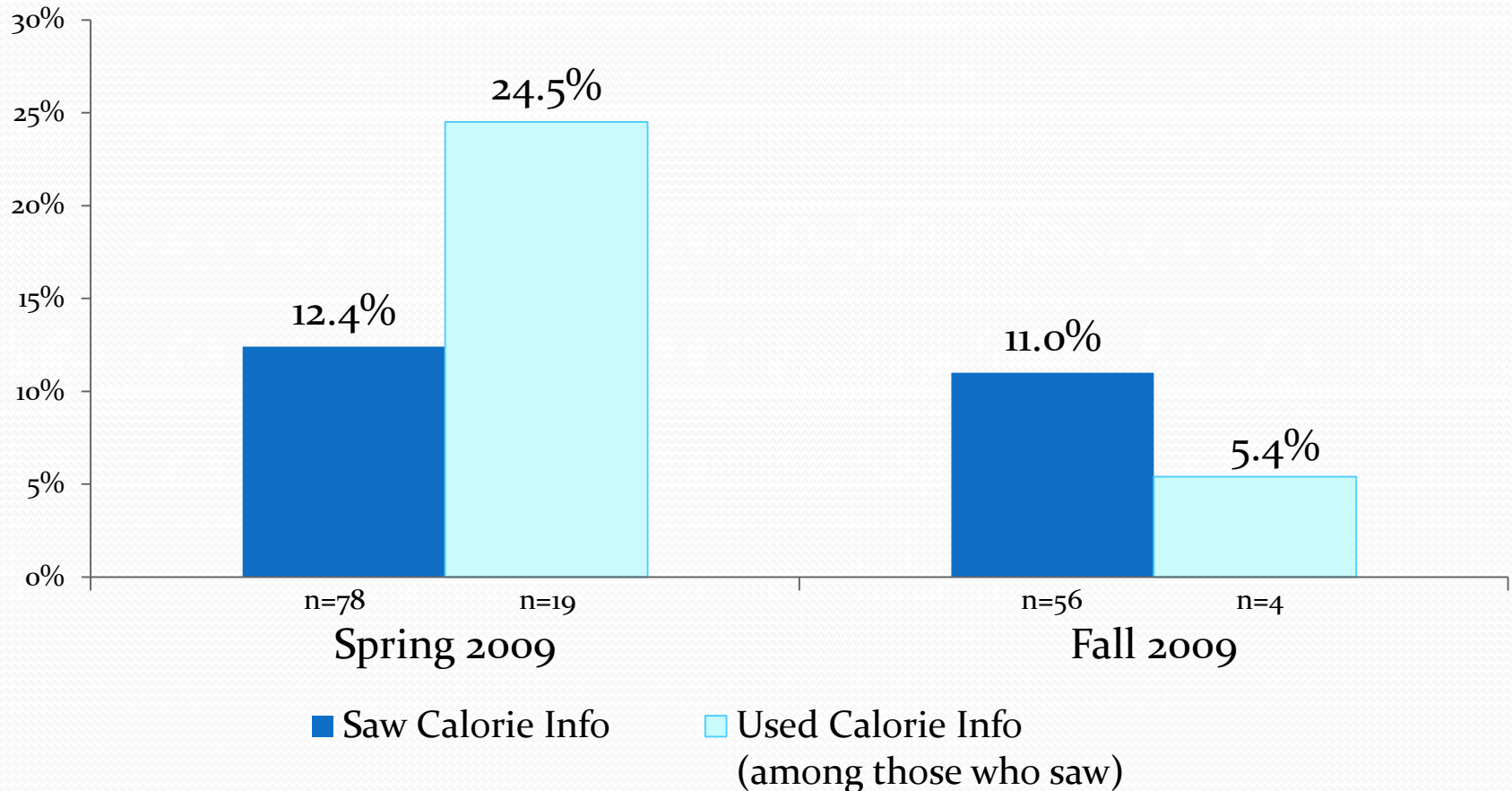
## Spring and Fall 2009



\*Statistically significant difference over time, p-value <0.05

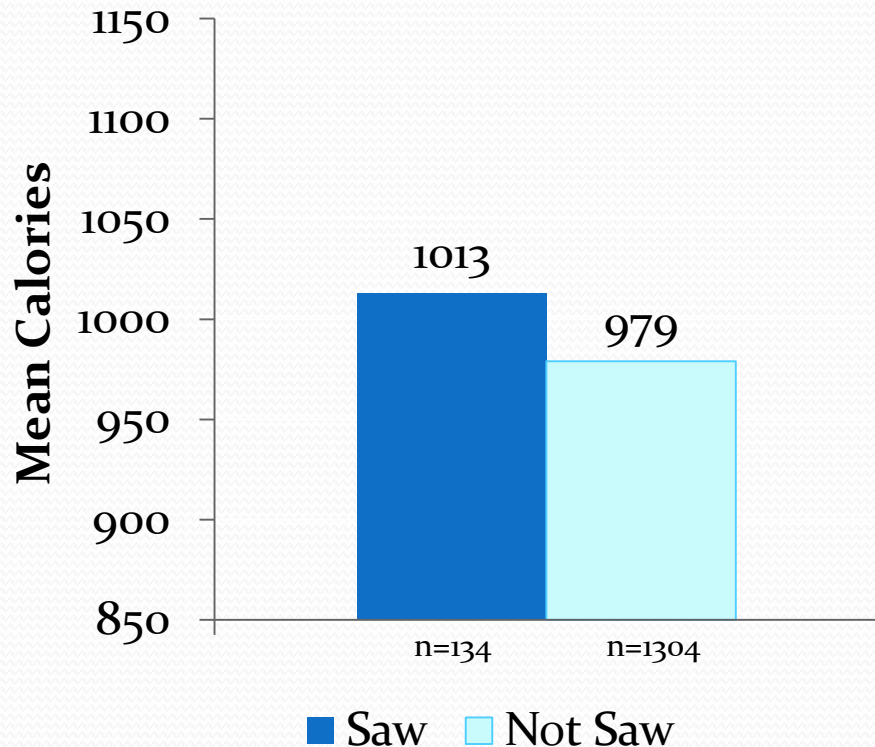
# Seeing and Using Calorie Information

% of Burger Customers Spring and Fall 2009

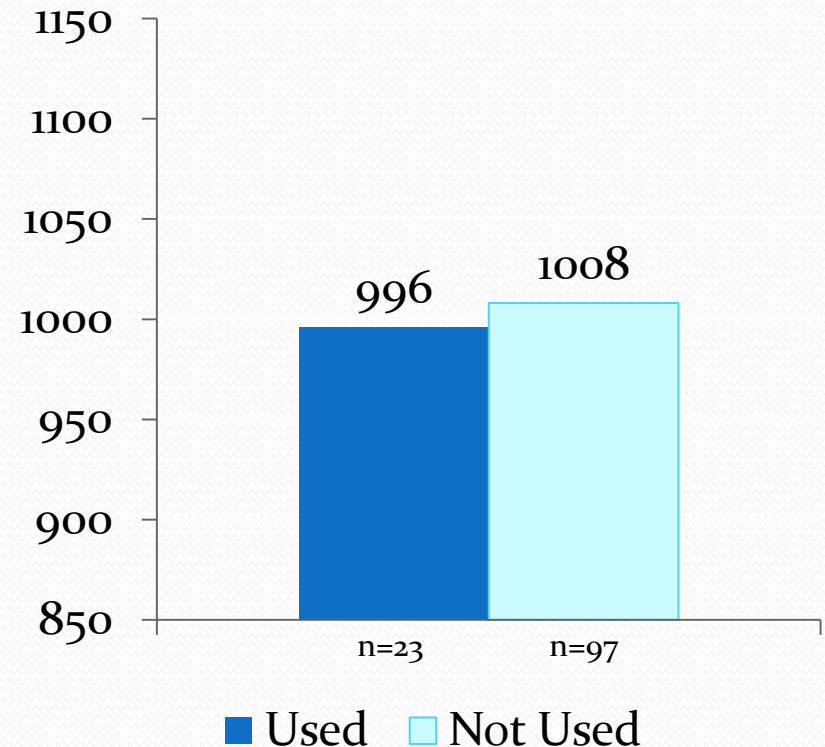


# Mean Calories Consumed Spring and Fall Combined

## Saw Calorie Information

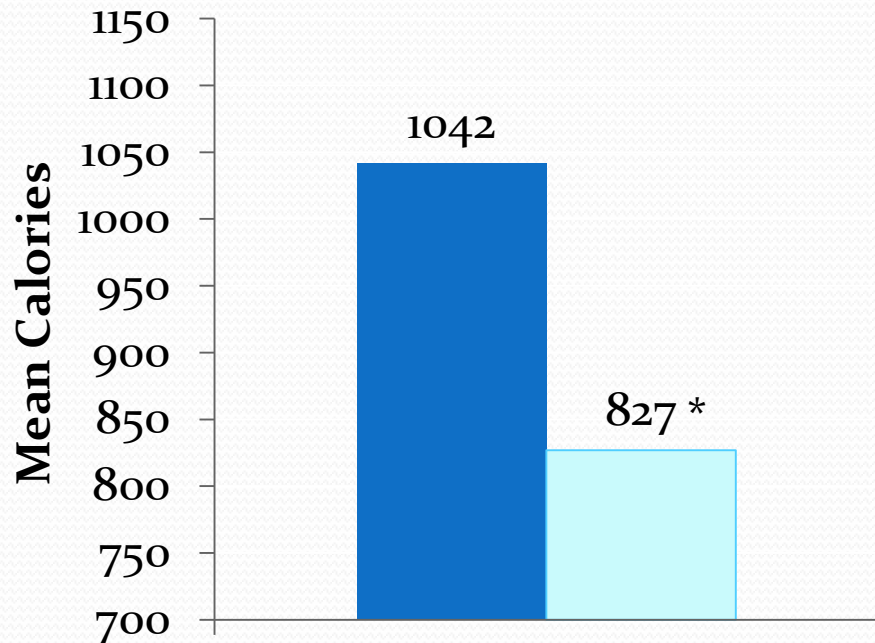


## Used Calorie Information (among those who saw calorie information)



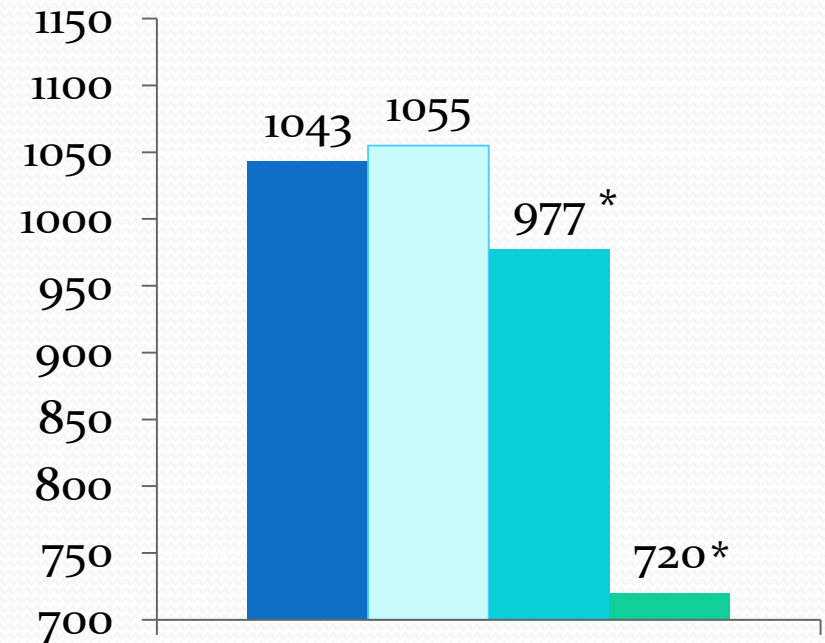
# Mean Calories Consumed Spring and Fall Combined

## Gender



■ Male ■ Female

## Age Groups

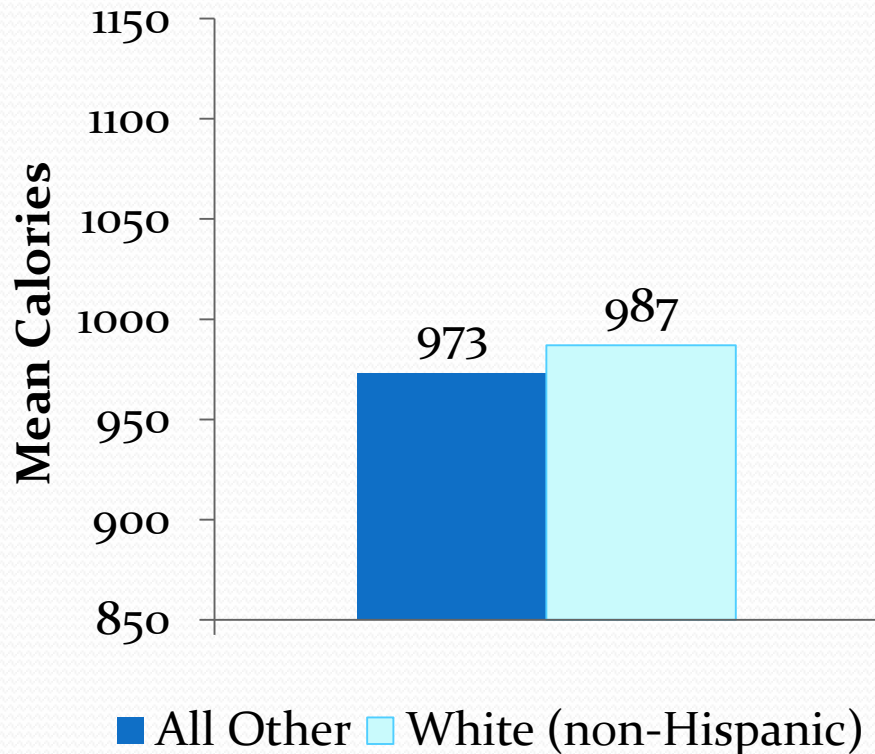


■ <25 ■ 25-39 ■ 40-64 ■ 65+

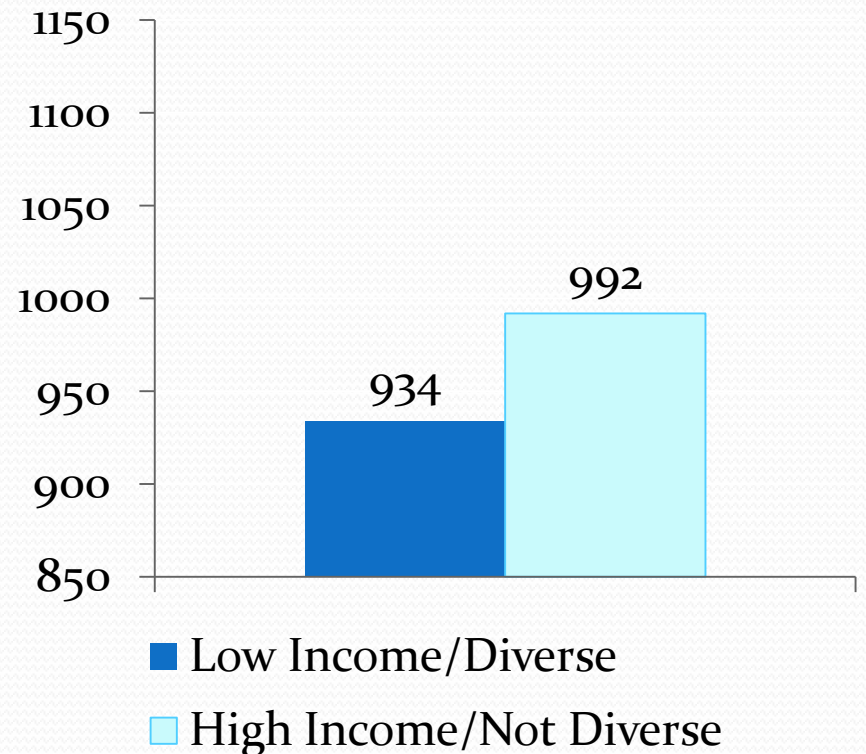
\*Statistically significant difference , p-value <0.05

# Mean Calories Consumed Spring and Fall Combined

## Race/Ethnicity

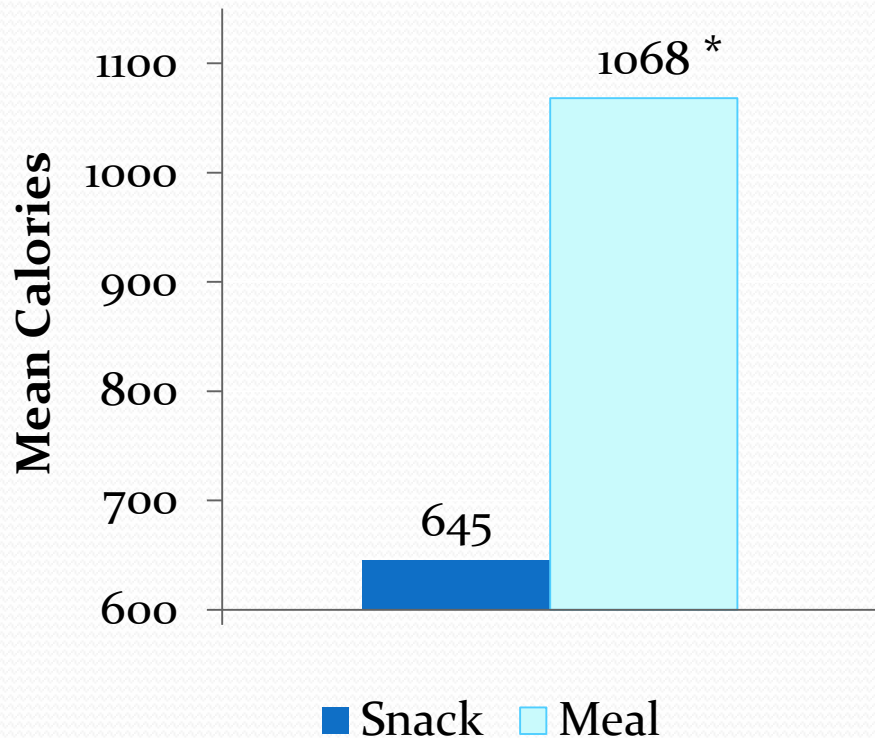


## Site Socioeconomic Status

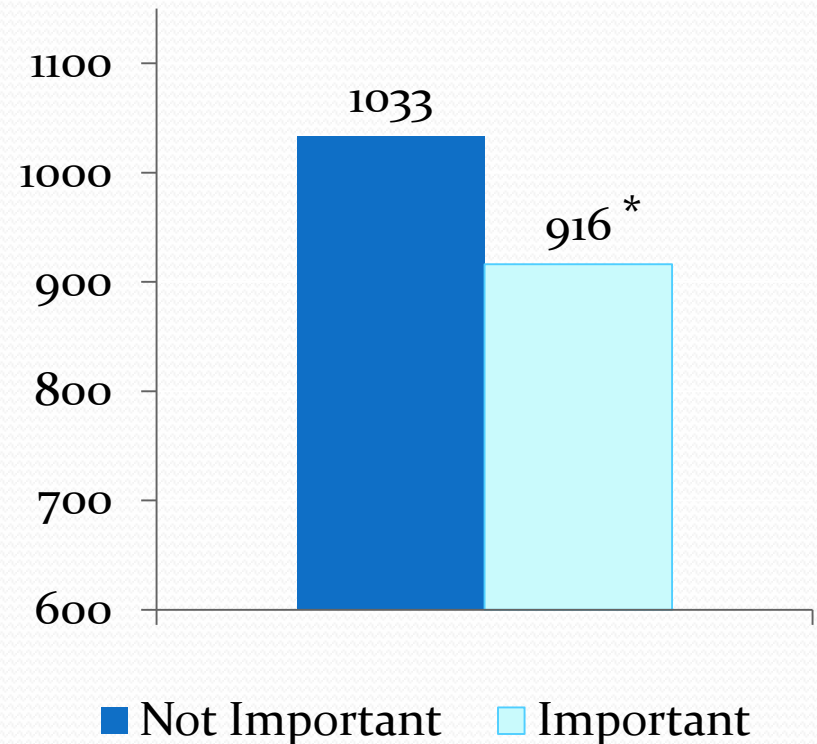


# Mean Calories Consumed Spring and Fall Combined

## Snack or Meal



## Calories Important

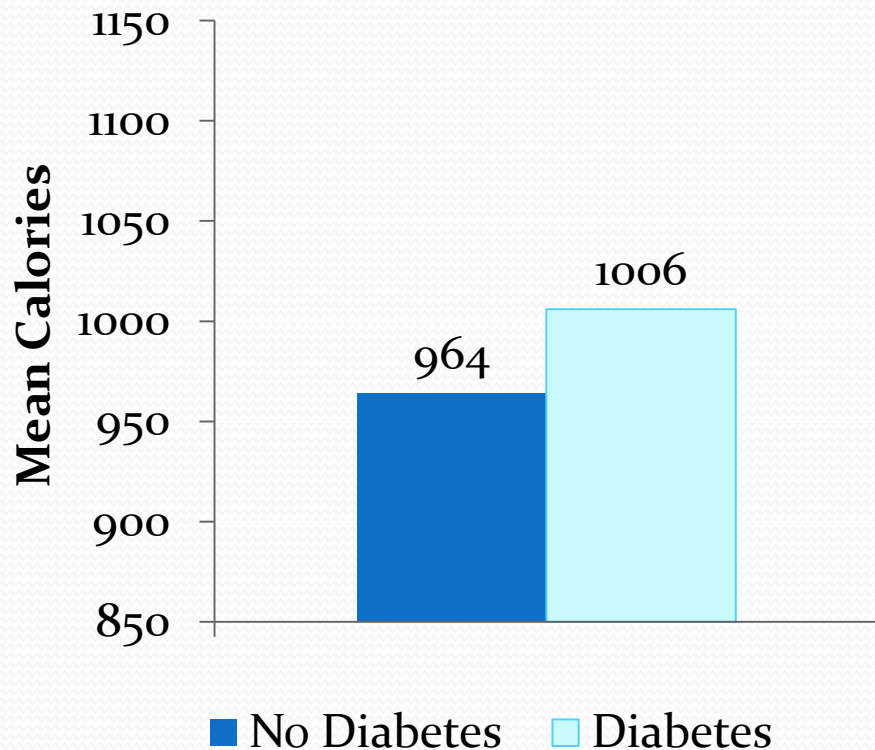


\*Statistically significant difference , p-value <0.05

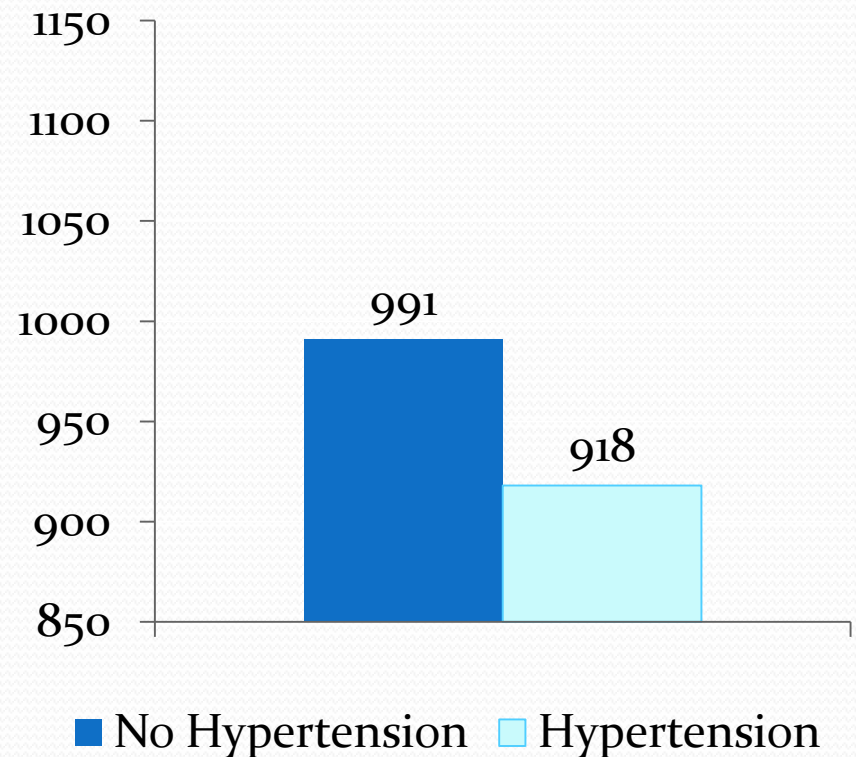
# Mean Calories Consumed

## Fall 2009

### Diabetes



### Hypertension





# Multivariate Model

Dependent Variable: Calories Consumed

Independent Variables	Coefficient	Standard Error	P-value
Constant	1300.37	63.30	0.000
Female	-196.21	27.94	<b>0.000</b>
Age			
<25	5.01	57.58	0.931
40-64	-69.11	24.30	<b>0.008</b>
65+	-310.46	61.18	<b>0.000</b>
White race	47.48	31.35	0.141
Site High SES	38.56	24.46	0.126
Burger chain			
Burgerville	-48.69	40.34	0.238
McDonalds	-141.61	36.36	<b>0.001</b>
Wendys	-221.18	46.33	<b>0.000</b>
Burger King	13.40	40.11	0.741
Calories important	-75.35	48.46	0.131

$R^2 = 0.1084$

# Summary

- Overall, average calories consumed at burger establishments did not change significantly from spring 2009 to fall 2009
- Average calories for a lunchtime meal is high – nearly half of the recommended daily intake of 2000 calories for the average adult
- Females and older age customers consumed fewer calories on average
- Customers at McDonald's and Wendy's consumed fewer calories on average

# Acknowledgements

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- Project Team:
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- Technical Evaluation Advisory Committee