

2015 Residential Air Conditioning Consumer Research Summary Report

Emerson Climate Technologies

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Introduction

Background Objectives Methodology

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Background

- **Emerson Climate Technologies is providing this information about the process of selecting and buying air conditioning and heating equipment to assist both consumers of the equipment and the HVAC contractors who sell and install the equipment, in the hope of improving overall industry effectiveness and consumer satisfaction.**

Objectives

- **Quantify meaningful aspects of the buying process among homeowners who are about to purchase, or who have recently purchased an HVAC system.**
- **Three classes of consumers were studied:**
 - **Buying:** Determine the impact of buying factors on shopper satisfaction with the shopping experience
 - **Bought:** Determine the impact of buying factors on customer satisfaction with their new HVAC system
 - **Should Be Buying:** Determine the reasons why homeowners with older and problematic systems are not currently shopping for a new HVAC system in advance of system failure

Methodology

- **Population Definition**
- **Geography: United States**
- **Qualifications:**
 - **Income \geq \$40,000**
 - **Homeowner**
 - **Has bought an HVAC system in the past 2 years OR in process of buying HVAC OR with old system or problems**
- **Sample Source: EMI**
- **Sample Size: 1454 valid completes**

	Total	Central	Northeast	Southeast	Southwest	All Other
TOTAL	1454	280	279	490	232	173
Illinois	84	84				
Ohio	52	52				
Michigan	47	47				
Indiana	32	32				
Missouri	27	27				
Kansas	16	16				
Nebraska	12	12				
Iowa	7	7				
West Virginia	3	3				
New York	87		87			
Pennsylvania	64		64			
New Jersey	59		59			
Massachusetts	33		33			
Connecticut	24		24			
Maine	5		5			
New Hampshire	5		5			
Rhode Island	2		2			
Florida	113			113		
Texas	113			113		
North Carolina	47			47		
Georgia	39			39		
Virginia	31			31		
Maryland	26			26		
South Carolina	24			24		
Tennessee	22			22		
Louisiana	21			21		
Alabama	11			11		
Kentucky	11			11		
Arkansas	10			10		
Oklahoma	9			9		
Mississippi	5			5		
Delaware	4			4		
District of Columbia	4			4		
California	178				178	
Arizona	29				29	
Nevada	17				17	
New Mexico	8				8	
Minnesota	41					41
Washington	36					36
Wisconsin	27					27
Colorado	25					25
Oregon	15					15
Utah	13					13
Idaho	6					6
South Dakota	4					4
Montana	3					3
North Dakota	3					3

Methodology – Field Method

Online Survey

- **The survey was designed and programmed by market research experts at Emerson Corporate Marketing and loaded onto an internet server hosted by Sawtooth Technologies.**
- **An email invitation was sent by EMI Research Solutions, a leader in online market research to a list of pre-screened panelists requesting participation in the survey.**
- **Panelists followed a link to the survey and completed the online survey within 10 to 20 minutes.**

Methodology – MaxDiff Analysis

Maximum Difference Scaling (MaxDiff)

- **MaxDiff is an approach for obtaining preference/importance scores for multiple items (brand preferences, brand images, product features, advertising claims, etc.) using marketing or social survey research, also known as “best-worst scaling”.**
- **With MaxDiff, respondents are shown a set (subset) of the possible items in the exercise, and are asked to indicate (among this subset) the best and worst items (or most and least important). The combinations of items are designed very carefully with the goal that each item is shown an equal number of times and pairs of items are shown an equal number of times. Each respondent typically sees each item two or more times across the MaxDiff sets.**
- **The end result is a set of scores that prioritize the list of items on a 0 to 100 scale and demonstrate greater discrimination among items and between respondents on the items**

MaxDiff Items: HVAC Benefits Studied

- **The purchase price**
- **The operating cost: monthly energy bill**
- **Requires little routine maintenance**
- **Always produces the desired air temperature**
- **Produces even temperature throughout my home; no hot or cold spots**
- **Creates no strong drafts of cold or hot air when running**
- **Maintains humidity at my desired level**
- **Keeps the air clean**
- **Removes unpleasant odors from the air**
- **The system operates quietly**
- **Minimizes impact to the global environment**
- **The system can be quickly and easily repaired if it breaks**
- **It automatically notifies me when it needs servicing or repair**
- **The system will operate for a long time without needing to be replaced**
- **The equipment is adequately covered by a warranty**
- **I can remotely monitor and control my home's climate via the internet**
- **Has the best technology available**
- **It is installed by a contractor I trust**

Results ***HVAC Benefit Importance***

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Prioritized List Of Homeowner HVAC Benefits - Why This is Important

- **If you are a homeowner considering various investment in your home's HVAC system, you might want to compare your situation to the profiles of people who are in, or have been in similar situations.**
- **If you are an HVAC contractor you might want to know what most consumers are concerned about with their HVAC system investments.**

HVAC Benefit Importance Summary

- **The most important factors considered when choosing a residential HVAC are:**
 - The system will operate for a long time without needing to be replaced
 - The operating cost:, monthly energy bill
 - Always produces the desired air temperature.
 - Purchase price is also important among the buying segment
- **Some of the less important factors are the following:**
 - I can remotely monitor and control my home's climate via the internet
 - Removes unpleasant odors from the air
 - It automatically notifies me when it needs servicing or repair
 - Minimizes impact to the global environment
 - Creates no strong drafts of cold or hot air when running

MaxDiff Scores

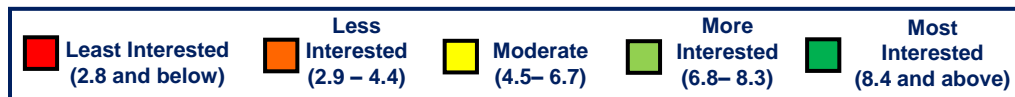
Total And By Segment

Q. When choosing an HVAC system for your home, which one of the attributes shown below is most important and which one is least important to you?

	Total	Bought	Buying
N=	942	451	491
The system will operate for a long time without needing to be replaced	11.8	12.0	11.6
The operating cost: monthly energy bill	11.2	11.1	11.4
Always produces the desired air temperature	8.6	9.1	8.2
The purchase price	8.2	7.8	8.6
Produces even temperature throughout my home; no hot or cold spots	8.0	8.3	7.8
Requires little routine maintenance	7.9	7.8	8.1
The equipment is adequately covered by a warranty	7.8	8.2	7.5
The system can be quickly and easily repaired if it breaks	6.7	6.6	6.9
It is installed by a contractor I trust	6.5	7.1	6.0
The system operates quietly	4.4	4.2	4.5
Has the best technology available	4.1	4.1	4.1
Keeps the air clean	3.9	3.6	4.1
Maintains humidity at my desired level	2.6	2.6	2.7
Creates no strong drafts of cold or hot air when running	2.4	2.5	2.4
Minimizes impact to the global environment	1.9	1.8	2.1
It automatically notifies me when it needs servicing or repair	1.6	1.4	1.8
Removes unpleasant odors from the air	1.3	1.1	1.5
I can remotely monitor and control my home's climate via the internet	.9	.8	1.0

Satisfied	Not Satisfied
508	434
11.6	12.0
10.9	11.6
8.8	8.4
7.7	8.8
8.1	7.9
7.6	8.3
7.8	7.8
6.5	7.0
7.0	5.9
4.4	4.3
4.3	3.8
3.9	3.9
2.8	2.4
2.6	2.3
2.1	1.8
1.6	1.7
1.3	1.2
.9	.9

Average Rating= 5.6



Benefits List – Key Takeaways

- **Homeowners** should be aware that most people are very concerned with the long term reliability as well as the operating costs related to their HVAC system and are also concerned that the system always provides the desired temperature throughout the whole home, all year round and in all seasons – not just on extreme days. They should also look at all the other items on the complete list of benefits which might be uniquely important to them – to make sure they are getting what they want from their new system.
- **Contractors** should know that most of their customers will just want their system to operate for a long time without needing repair or replacement and they should adjust their selling approach to emphasize this. In addition, contractors should be familiar with all the other benefits listed in this study and match them with their product offerings for those situations when individuals require something more in certain areas.

Respondent Comments: Why They Are Not Buying A New HVAC System

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Why They Are Not Buying A New HVAC System - Why This is Important

- If you are a homeowner with an older HVAC system or one that has had a lot of problems, you might want to compare your reasons for postponing investment in a new system with others who have been postponing HVAC replacements.
- If you are an HVAC contractor you might have some customers who continue to repair old systems but might be better off with a new, replacement system. You might want to know what most consumers are concerned about in new versus replacement situations.

Top Reasons For Not Purchasing New HVAC System

<u>Reason For Not Purchasing New HVAC System</u>	<u># Of Responses</u>
System Works fine; No major problems encountered	309
No current need to buy a new one	58
Cost Issues/Too expensive	38
Can't afford a new system	25
System is maintained regularly	24
Has plans to transfer to a new location	16
System already underwent repairs/Original parts were already replaced	14
System is new/System is not that old	11
Waiting until it breaks	10
Has other things to think about/purchase	8
Has a current need/Thinking of buying in the future/Preparing for purchase	8
System has a warranty	7
System not used that much	7
Personally fixes/Knows someone how to fix the HVAC	4
Savings in Operating Cost due to higher efficiency is not worth it	3

Top Reasons For Not Purchasing Key Takeaways

- **Homeowner** should be familiar with all the various reasons that other homeowners have given for not buying a new system to test their own reasons for delaying their purchase. Some of these reasons are valid (e.g. current system working fine) but others, like “waiting until it breaks” might be less relevant for older systems. Also, consumers should be aware that the costs for total system replacements can be expensive so they should build this into their household budgets as systems get older or if they have experienced frequent repairs.
- **Contractors** should already be familiar with the list of reasons for not buying a new system as these often come up when customers are deciding between a “repair or replace” scenario. Since some of the top issues are financial or cost related, contractors should be prepared to discuss energy savings, government/utility rebates and any financing options which could help homeowners with their replacement decisions.

Respondent Comments: Advice From Recent Buyers About The Buying Process

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Advice From Recent HVAC Buyers About The Buying Process

- **If you are a homeowner who is anticipating an investment in a new HVAC system, you might want to hear what other recent buyers have to say about what they would have done differently.**
- **If you are an HVAC contractor you might want to help your customers avoid some basic mistakes by providing answers and solutions to some of these common problems. You might even come up with some innovative ways which make you more competitive.**

Top Points Of Advise To New Buyers Of HVAC Systems

<u>Points Of Advise To New Buyers Of HVAC Systems</u>	<u># of Responses</u>
Research everything about the HVAC system (information online/read on consumer websites)	110
Get a qualified/ trusted contractor/ installer	46
Consider Energy Efficiency/ High SEER/ Potential energy savings	47
Ask for recommendations	42
Compare units/ Shop around/ Check all options available	30
Get several estimates/ quotes/ Compare prices	19
Ask questions from someone you trust/ family/ friend	19
Ask questions/help from a professional	24
Look for a Long Warranty/Clear warranty agreements	18
Get Best Quality Available	10
Consider Your Paying Capacity/Price of the HVAC System	12
Get the Size of the unit right	10
Consider Brand Reputation	7
Consider Size of the home	9
Home and Personal Needs	8
Look for quality over price	4
Consider Dependability/Reliability of the System	4

Advice To New Buyers Of HVAC Systems

Key Takeaways

- **Homeowners** should be aware that by far, the most common piece of advice given from previous HVAC buyers is to “research everything” before making their purchase decision. The second most common suggestion was to get a “qualified/trusted” contractor to install their system. There are many other good suggestions on the list which might help consumers prepare for their HVAC investment decisions.
- **Contractors** should be familiar with this list so they can help their customers through the buying process. For example, providing links to internet based information and following up with emails and text messages might help customers through the process faster than more traditional methods which are slower. Also, being prepared to show energy cost savings and payback calculations could help them with financing concerns.

Premium System Owners vs. Non-Premium Owners

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Introduction To Profiles of Premium Buyers - Why This is Important

- **If you are a homeowner considering the relative costs and benefits of a premium HVAC System you might want to compare yourself to the profiles of satisfied owners of premium systems.**
- **If you are an HVAC contractor who wants to make sure to help customers determine if a premium system is right for them.**

Premium System Owners vs. Non-Premium System Owners - Summary

- **Premium System Owners are more likely than Non-Premium System Owners to be very familiar with number of heating and cooling zones, HSPF, and AFUE**
- **In the past year, Premium System Owners were much more likely than Non-Premium System Owners to purchase additional climate control equipment**
- **Having a system that is quiet, cleans the air, maintains desired humidity, and creates no drafts is more important to Premium System Owners than to Non-Premium System Owners**
- **Premium System Owners are more likely to agree that their system cleans the air, has minimal environmental impact, has repair alert, removes odors, and has remote monitoring; vs. Non-Premium Owners**
- **Premium System Owners are much more likely than Non-Premium System Owners to have purchased for energy efficiency or for a more comfortable/healthier environment and less likely because of system failures or too much maintenance**
- **When selecting a contractor, Premium System Owners are more likely to take into account willingness and ability to perform diagnostic tests**
- **Premium System Owners are more likely to be female than Non-Premium System Owners**

Premium System Owners Familiarity With System Features

- Premium System Owners are more likely than Non-Premium System Owners to be Very Familiar with Number of Heating and Cooling Zones, HSPF, and AFUE

Q. How familiar are you with each of these facts about your home's existing HVAC system?

Fact About HVAC System	Premium System Owner	Non-Premium System Owner	Index
Length of my warranty coverage	56%	68%	83
Home insulation	51%	68%	75
Number of heating & cooling zones with separate systems or controls	51%	35%	143
Air filtration system	47%	54%	87
The System Efficiency Rating	45%	43%	105
The Seasonal Energy Efficiency Ratio (SEER)	43%	46%	93
Number of heating and/or cooling stages	35%	38%	90
The Heating Seasonal Performance Factor (HSPF)	27%	18%	147
The Annual Fuel Utilization Efficiency (AFUE)	26%	18%	141

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners

HVAC System Components Purchased

- Premium System Owners are much more likely than Non-Premium System Owners to have purchased additional climate control equipment in the past year

Q. Which type of Heating, Ventilation, and Air Conditioning (HVAC) system, or major components did you purchase in the past year? Please select all that apply.

HVAC System Component	Premium System Owner	Non-Premium System Owner	Index
Central Air Conditioner (Cooling)	60%	71%	84
Furnace: Central Heating	48%	42%	116
Heat Pump: Central Heating and Cooling	39%	32%	119
Indoor Ceiling Fan	26%	14%	188
Humidifier	25%	12%	203
De-Humidifier	21%	3%	689
Ductless Mini-Split System	18%	5%	389
Portable Space Heater	16%	5%	353
Window Air Conditioning Unit	16%	2%	1060
Attic Fan	15%	8%	191
None of these	0%	0%	

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners Benefit Importance (MaxDiff Results)

- Purchase Price is less important to Premium System Owners than it is to Non-Premium System Owners
- Having a system that is Quiet, Cleans the Air, Maintains Desired Humidity, and Creates No Drafts is more important to Premium System Owners than to Non-Premium System Owners

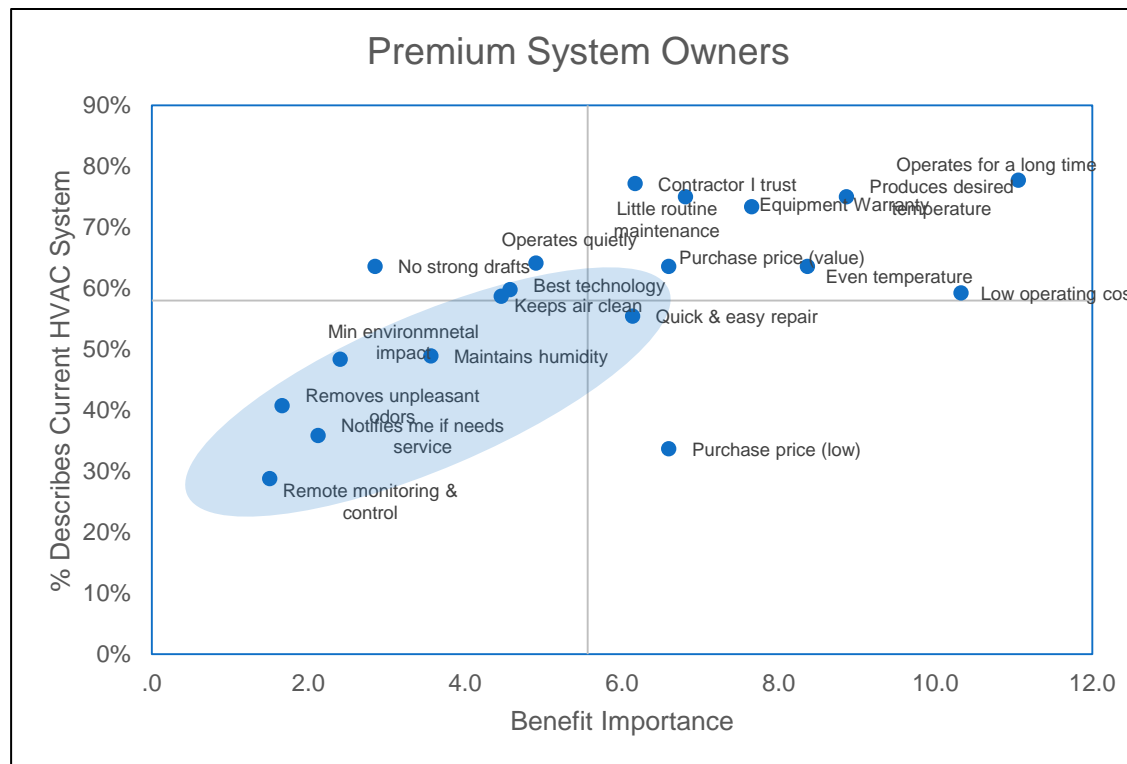
HVAC System Benefit	Total	Premium System Owner	Non Premium System Owner	
The system will operate for a long time without needing to be replaced	11.8	11.1	12.0	
The operating cost: monthly energy bill	11.2	10.3	11.8	
Always produces the desired air temperature	8.6	8.9	8.6	
The purchase price	8.2	6.6	9.0	
Produces even temperature throughout my home; no hot or cold spots	8.0	8.4	7.9	
Requires little routine maintenance	7.9	6.8	7.9	Very High
The equipment is adequately covered by a warranty	7.8	7.7	9.0	High
The system can be quickly and easily repaired if it breaks	6.7	6.1	6.2	Mid
It is installed by a contractor I trust	6.5	6.2	7.8	Low
The system operates quietly	4.4	4.9	3.9	Very Low
Has the best technology available	4.1	4.6	4.7	
Keeps the air clean	3.9	4.5	3.2	
Maintains humidity at my desired level	2.6	3.6	2.1	
Creates no strong drafts of cold or hot air when running	2.4	2.8	1.8	
Minimizes impact to the global environment	1.9	2.4	1.2	
It automatically notifies me when it needs servicing or repair	1.6	2.1	1.2	
Removes unpleasant odors from the air	1.3	1.7	1.0	
I can remotely monitor and control my home's climate via the internet	.9	1.5	.5	

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners

System Ratings X Benefit Importance

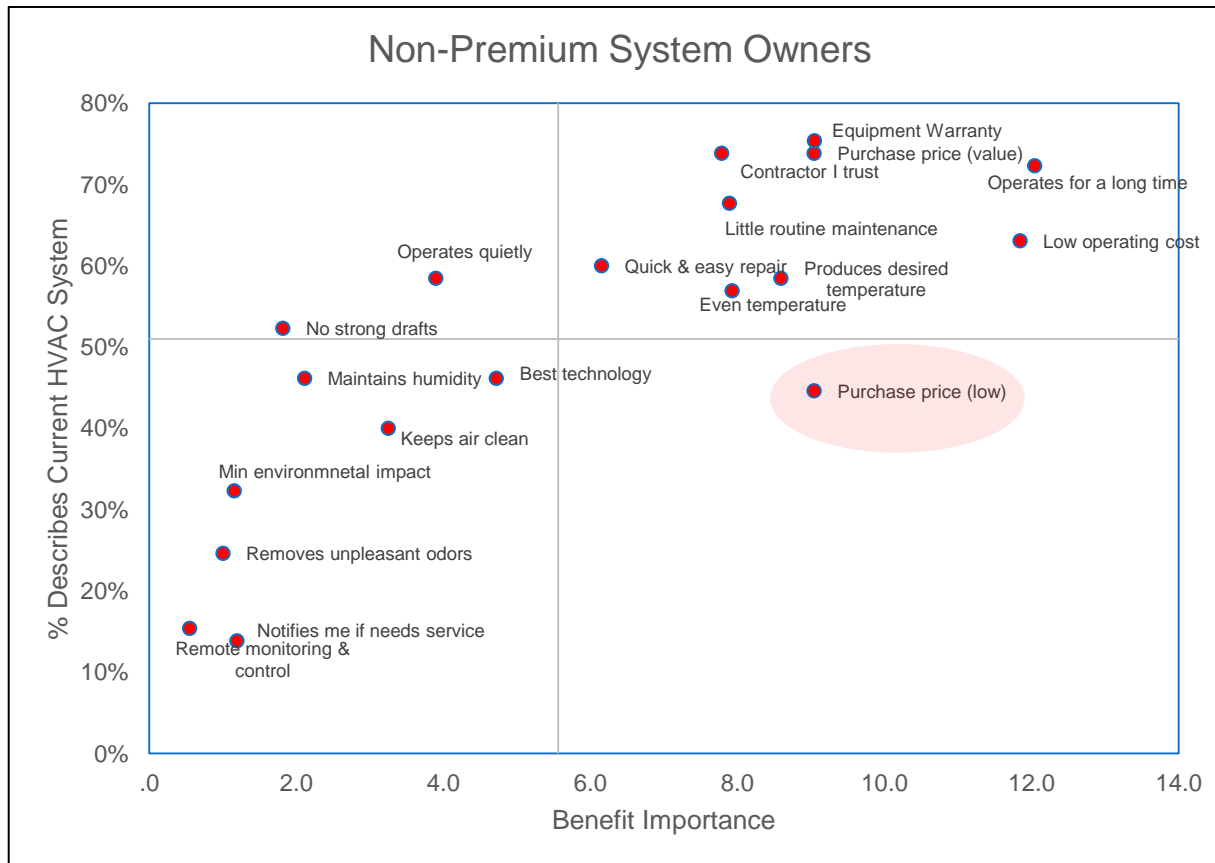
- Premium System Owners are more likely to agree that their system cleans the air, has minimal environmental impact, has repair alert, removes odors, and has remote monitoring; vs. non-premium owners



*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Non-Premium System Owners System Ratings X Benefit Importance

- **Non-Premium System Owners are more likely to agree that their system had a Low Purchase Price, which is more important to them**



*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners

Main Reason For Buying

- Premium System Owners are much more likely than Non-Premium System Owners to have purchased for energy efficiency or for a more comfortable/healthier environment
- Less likely because of system failures or too much maintenance

Q. What is the main reason you recently purchased a new HVAC system?

Reason	Premium System Owner	Non-Premium System Owner	Index
My previous system stopped working and is not repairable	25%	40%	63
To increase the energy efficiency of my system and reduce my energy bill	23%	14%	165
My previous system needed too much maintenance and repairs	22%	34%	66
I wanted a system that could provide a more comfortable or healthier environment than my previous system	12%	3%	389
I am building or buying a new home	5%	2%	-
My home did not have a central HVAC system and I wanted to install one	5%	2%	-
I increased the living area of my home	4%	0%	-
Other reason	3%	5%	71
I wanted a system that has less negative impact on the environment	1%	2%	-

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners Satisfaction With Current HVAC System

- Premium System Owners Have the same level of satisfaction with their systems as Non-Premium System Owners

Q. How satisfied are you with your home's HVAC system overall?

Satisfaction Level	Premium System Owner	Non-Premium System Owner	Index
Not At All Satisfied	1%	2%	35
2	0%	0%	-
3	1%	0%	-
4	4%	3%	141
5	13%	17%	74
6	44%	37%	119
Completely Satisfied	38%	42%	90
% Top 2 Box Satisfaction	82%	78%	104

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners

Influence of Contractors

- Nearly all used a contractor; no difference by system type in number of contractors evaluated
- No difference in contractor influence on purchase decision by system type

Q. How many professional HVAC contractors did you evaluate before selecting one to install your new system?

Number of Contractors Evaluated	Premium System Owner	Non-Premium System Owner
I did not use a professional HVAC contractor	1%	6%
One	27%	29%
Two	33%	34%
Three	30%	17%
Four	5%	9%
Five or more	4%	5%
Average Number of Contractors Evaluated	2.3	2.2

Q. How influential was a professional HVAC contractor in helping you determine which system to purchase?

Level of Influence	Premium System Owner	Non-Premium System Owner
1 Not at all Influential	2%	2%
2	2%	0%
3	2%	0%
4	7%	5%
5	18%	15%
6	37%	33%
7 Extremely Influential	33%	46%

*Premium System:
>\$10k or >14 SEER,
purchased in the past 2
years

Premium System Owners Contractor Selection

- Premium System Owners are more likely to take into account willingness and ability to perform diagnostic tests when selecting a contractor

Q. Which of the following did you take into consideration when selecting the professional HVAC contractor who installed your new system? Select all that apply.

Contractor Characteristics	Premium System Owner	Non-Premium System Owner	Index
Authorized dealer of the HVAC equipment manufacturer	49%	52%	94
Cost of services	49%	64%	76
References from friends and family	44%	48%	93
Professional licenses and certificates	40%	38%	107
Provided quotes for different system types and efficiencies	38%	39%	97
Provided a professionally written proposal or work order	34%	36%	94
Examples of prior installations	30%	28%	108
Willingness and ability to perform appropriate diagnostic tests	26%	11%	229
Previous relationship with the contractor	26%	36%	71
References online	26%	31%	82
Industry association memberships	17%	8%	213
Continuing education credits	13%	3%	383
Other	3%	3%	83

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners Procedures Performed by Contractors

- Premium System Owners are more likely to have had contractors perform measurements and inspections before recommending a system

Q. Which of the following procedures, if any, did your professional HVAC contractor perform on your home before quoting or recommending your new system? Please select all that apply.

Procedures	Premium System Owner	Non-Premium System Owner	Index
Measure square footage	50%	34%	146
Inspected Insulation levels	50%	36%	138
Inspected ductwork	49%	51%	97
Inspected door and window efficiency	36%	18%	200
Measured the R Value of your home	33%	23%	143
Performed manual "J" calculation	25%	11%	214
I Don't Know	18%	26%	69
None of these	3%	10%	33

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owners

Owner Profile

- Although mostly male, Premium System Owners are more likely to be female than Non-Premium System Owners

<i>What is your gender?</i>	Premium System Owner	Non-Premium System Owner	Index
	184	65	
Female	41%	25%	168
Male	59%	75%	78
<i>What is your age?</i>			
18 to 24 years	1%	3%	18
25 to 34 years	22%	6%	353
35 to 44 years	13%	12%	102
45 to 54 years	18%	18%	97
55 to 64 years	22%	17%	128
65 to 74 years	23%	32%	72
75 or more years	2%	11%	20
Average Age (years)	51	57	90

*Premium System: >\$10k or >14 SEER, purchased in the past 2 years

Premium System Owner Profiles

Key Takeaways

- **Homeowners who think they might be happy with a premium, high efficiency HVAC system are usually very well informed about the various terms used in the HVAC industry to describe these systems (SEER, HSPF, etc). They are also more likely to have needs that are further down the list of priorities for most consumers – quiet, clean air, humidity control as well as concerns about the environment. They are also more likely to have purchased other products that promote energy efficiency, environmental sustainability or health.**
- **Contractors should discuss with customers some of the less common benefits (i.e. lower items on the benefits list shown earlier). They should also be willing to perform diagnostic tests and other calculations for potential buyers of premium systems. Contractors should discuss with their customers whether they were satisfied with other recent purchases of high efficiency products or environmentally sustainable products or if they have any health issues like allergies which might be improved with the purchase of higher efficiency HVAC equipment.**

Satisfaction With Contractors

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Introduction To Satisfaction With Contractors - Why This is Important

- **If you are a homeowner, considering a significant investment in your home HVAC system, you might want to read what to expect from your contractor based on these profiles of satisfied owners.**
- **If you are an HVAC contractor you might want to read about what your customers are expecting from you.**

Satisfaction With Contractors - Summary

Selecting A Contractor

- Those satisfied with contractors are more likely to consider references from family/friends, hire an authorized dealer, receive multiple quotes for different systems, have a previous relationship with the contractors, and find a contractor willing to perform diagnostic tests.

Information Sources

- Satisfied homeowners use information sources differently during the purchase process. They rely more heavily on local contractors and also use AC & Heating Connect versus those who rely more on product brochures or government websites.

Familiarity With Systems And Government Regulations

- Those satisfied with contractors are more familiar with their systems as well as government regulations

Satisfaction With Contractors – Summary Continued

Services From Contractors

- **Contractors are extremely influential among those satisfied with their performance. 81% of the satisfied group report a heavy influence of the contractor (top 2 box score) versus just 28% of non-satisfied homeowners.**
- **Contractors are more likely to discuss high-efficiency systems with satisfied homeowners (88%) versus non-satisfied homeowners (67%).**
- **Contractors working with satisfied homeowners are more likely to do certain diagnostics, such as inspection of duct work, measurement of the R value etc.**

Dissatisfaction With Contractors

- **Those not satisfied with their contractors are more likely to report lower satisfaction with the system and its performance**

Level Of Comfort

- **Among homeowners satisfied with their contractors- 70% say their systems make them completely comfortable all year round. Among those not satisfied, just 32% feel a similar level of comfort.**
- **Satisfied homeowners are less likely to think about their system, while the not satisfied homeowners are more likely to believe there is a better system out there.**

Purchase Situations Tie To Satisfaction With Contractors

- **Satisfied HVAC Consumers are more likely to:**
 - Have a trusted contractor already
 - Report no major system problems in the past two years (51% versus 38% of non-satisfied)
 - If a problem occurred, they were more likely to be at home
 - More likely to have encountered an unrepairable system. 34% of the satisfied group claim this prompted their purchase versus just 24% of non-satisfied group.
- **Those not satisfied with their contractors:**
 - More likely to report issues with setting money aside for repairs
 - More likely to live in a rural area (75% versus 59%)

<i>The last time your HVAC system had a major failure what was the situation? Select all that apply.</i>	Top 2 box scores	
	Satisfied with contractor	Not Satisfied with contractor
n=	360	79
You had to get it fixed immediately	37%	35%
During the heat of summer	30%	35%
During the cold of winter	10%	14%
You didn't have money set aside to pay for the repair	6%	18%
You didn't already know a trusted contractor who could fix it	10%	22%
You were not at home	12%	24%
Many people in your home	6%	6%
You couldn't take time out of your busy schedule to get it repaired	61%	43%
You had to stay somewhere else until it was repaired	5%	8%

Homeowners Satisfied With Contractors Take More Efforts In Selecting The Contractor

- Those satisfied with contractors are more likely to consider references from family/friends, hire an authorized dealer, receive multiple quotes for different systems, have a previous relationship with the contractors, and find a contractor willing to perform diagnostic tests.

<i>Which of the following did you take into consideration when selecting the professional HVAC contractor who installed your new system? Select all that apply.</i>	Top 2 box scores	
	Satisfied with contractor	Not Satisfied with contractor
n=	360	79
Cost of services	54%	51%
References from friends and family	47%	37%
Authorized dealer of the HVAC equipment manufacturer	47%	33%
Provided quotes for different system types and efficiencies	39%	25%
Previous relationship with the contractor	38%	22%
Provided a professionally written proposal or work order	38%	29%
Professional licenses and certificates	36%	33%
Examples of prior installations	28%	22%
References online	23%	29%
Willingness and ability to perform appropriate diagnostic tests	23%	10%
Industry association memberships	12%	10%
Continuing education credits	6%	11%
Other	3%	5%

Satisfied Homeowners Use Information Sources Differently During The Purchase Process

What sources of information have you used to educate yourself about HVAC systems prior to making a purchase decision? Select all that apply.	Top 2 box scores	
	Satisfied with contractor	Not Satisfied with contractor
	n= 360	79
Local HVAC contractor	53%	39%
Friends or family	36%	43%
Manufacturer websites	26%	32%
AC & Heating Connect website	21%	15%
Product brochures, pamphlets, or packaging	17%	30%
HVAC distributor websites	12%	16%
HVAC distributor employees	11%	15%
HVAC association websites	10%	11%
None of the above	7%	6%
Government websites	6%	18%
AC Doctor website	5%	8%
Other information sources	4%	1%
HVAC Talk website	3%	13%
Other websites	2%	5%

Satisfied Customers More Familiar With Systems And With Government Regulations

How familiar are you with each of these facts about your home's existing HVAC system?	Top 2 box scores	
	Satisfied with contractor	Not Satisfied with contractor
n=	360	79
Length of my warranty coverage	53%	41%
Home insulation	50%	28%
Air filtration system	40%	37%
Number of heating & cooling zones with separate systems or controls	38%	33%
The System Efficiency Rating	34%	23%
Number of heating and/or cooling stages	28%	14%
The Seasonal Energy Efficiency Ratio (SEER)	29%	22%
The Heating Seasonal Performance Factor (HSPF)	17%	10%
The Annual Fuel Utilization Efficiency (AFUE)	18%	10%

How familiar are you with each of the following government regulations and incentives for residential HVAC systems?	Top 2 box scores	
	Satisfied with contractor	Not Satisfied with contractor
n=	360	79
Energy Star	47%	38%
Seasonal Energy Efficiency Ratio (SEER)	25%	19%
Heating Seasonal Performance Factor (HSPF)	15%	6%
Annual Fuel Utilization Efficiency (AFUE)	14%	9%

Satisfied Customers Receive More Services From Their Contractors

- Contractors are extremely influential among those satisfied with their performance. 81% of the satisfied group report a heavy influence of the contractor (top 2 box score) versus just 28% of non-satisfied homeowners.
- Contractors are more likely to discuss high-efficiency systems with satisfied homeowners (88%) versus non-satisfied homeowners (67%).
- Contractors working with satisfied homeowners are more likely to do certain diagnostics, such as inspection of duct work, measurement of the R value etc.

<i>Which of the following procedures, if any, did your professional HVAC contractor perform on your home before quoting or recommending your new system? Please select all that apply.</i>	Top 2 box scores	
	Satisfied with contractor	Not Satisfied w/ contractor
	n= 360	79
Inspected ductwork	48%	35%
Measure square footage	43%	32%
Inspected Insulation levels	39%	34%
Inspected door and window efficiency	26%	18%
Measured the R Value of your home	23%	14%
Performed manual "J" calculation	16%	18%
I Don't Know	28%	28%
None of these	6%	13%

Customers Dissatisfaction With Contractors Leads To Dissatisfaction With Purchased System And Performance

When thinking about your home's HVAC system, how much do you agree with each of the following statements?	Top 2 box scores	
	Satisfied with contractor	Not Satisfied w/ contractor
n=	360	79
Was installed by a contractor I trust	87%	28%
It will operate for a long time without needing to be replaced	79%	41%
It is adequately covered by a warranty	76%	37%
Requires little routine maintenance	74%	41%
Always produces the desired air temperature	72%	33%
Is a good value for the money I spent	71%	28%
Operates quietly	65%	24%
Produces even temperature throughout my home; no hot or cold spots	63%	23%
It can be quickly and easily repaired if it breaks	62%	19%
Creates no strong drafts of cold or hot air when running	62%	24%
Has a low operating cost: monthly energy bill	60%	23%
Keeps the air clean	52%	28%
Has the best technology available	50%	23%
Maintains humidity at my desired level	48%	16%
Minimizes impact to the global environment	41%	13%
Had a low purchase price	35%	18%
Removes unpleasant odors from the air	35%	13%
It automatically notifies me when it needs servicing or repair	22%	15%
I can remotely monitor and control my home's climate via the internet	19%	10%

- **85% of homeowners satisfied with their contractors are satisfied with their system overall. Just 41% of those not satisfied with their contractors claim to be satisfied with their systems overall.**
- **Those not satisfied with their contractor also cite poorer system performance across many dimensions.**

Satisfied Homeowners Are More Likely To Feel Comfortable Year Round

- Among homeowners satisfied with their contractors- 70% say their systems make them completely comfortable all year round. Among those not satisfied, just 32% feel a similar level of comfort.
- Satisfied homeowners are less likely to think about their system, while the not satisfied homeowners are more likely to believe there is a better system out there.

<i>How much do you agree with each of the following statements?</i>	Top 2 box scores	
	Satisfied with contractor	Not Satisfied w/ contractor
n=	360	79
My HVAC system makes me completely comfortable all year round	70%	32%
I need my HVAC system in order to sleep well during the summer	60%	54%
I rarely think about my HVAC system	49%	27%
I believe there is an HVAC system available that is much better than the one in my home	28%	37%
I run my HVAC system to prevent allergens from circulating throughout my home	26%	20%
I would be open to purchasing a better HVAC system	17%	24%
My HVAC system causes my monthly energy bills to be too high	17%	13%
My HVAC system is too noisy	13%	14%
My HVAC system often runs too hot or too cold	12%	13%

Satisfaction With Contractors

Key Takeaways

- The homeowners in the study who were more satisfied with their contractors relied heavily on reputable contractors for both the recommendations on what systems to buy and also to insure proper installation. This group also tended to use internet resources for research and recommendations from friends but relied less on product literature and government websites for assistance. They were also more likely to have engaged in discussions about high efficiency system options even if they did not buy them – they at least knew about alternatives.
- Contractors should use internet based tools to help their customers with their HVAC purchase decisions and also use both conventional and new, social media methods to gain referrals from family/friends. When discussing system options, contractors should always discuss the pros and cons of higher efficiency systems even if it seems unlikely they will sell them. Performing calculations and diagnostic tests was also correlated to high satisfaction scores.

Homeowner Profiles And Preferences

2015 Residential Air Conditioning Consumer Research Summary Report



Homeowner Profiles And Preferences - Why This Is Important

- **If you are a homeowner, considering a significant investment in your home HVAC system, you might want to read through what the typical homeowner situations are like prior to and during the purchase process. You might also gain some insight into what to expect, in terms of the time and effort required to be truly satisfied with your HVAC purchase.**
- **If you are an HVAC contractor you might want to read about what your customers are aware of and what they are probably not aware of with respect to their current system and also what is available. You might also get some further insight into the profiles of satisfied versus dissatisfied HVAC customers and what you can do to help them through the process to making good decisions about their HVAC investments.**

Homeowner Profiles And Preferences Summary

Age Of System

- **55% of respondents have an HVAC System that is 10-19 years old. 76% have an HVAC System 10+ years old.**
- **Average system age at time of replacement was about 16 years.**

Old System Profile

- **Most homeowners who purchased within the last two years do not know the efficiency rating (SEER) of their previous system.**

New System Profile

- **74% can't identify the SEER rating of their current system, 55% can't identify the SEER rating of the system they purchased within the last two years. Satisfied consumers are a little more aware (34%) of their SEER rating than the not satisfied group (28%).**

Familiarity with Government Regulations

- **Homeowners are more familiar with Energy Star than any other specific efficiency rating term.**

Problems with Current System

- **70% have had no major problems with their HVAC system in prior two years. 30% have had 1 or more major problems with their HVAC system in prior two years**

Homeowner Profiles And Preferences Summary Continued

Maintenance Frequency

- On average, homeowners perform maintenance on their systems every 9 months but answers vary greatly in the distribution from almost monthly to more than three years or “never”.

Situation During Last Major HVAC Failure

- 57% of recent purchasers who had a major failure had to get it fixed immediately versus only 39% of those currently in the market.

Overall Satisfaction With HVAC System

- Only 60% of respondents said they were satisfied with their current HVAC system.

Satisfaction Statements

- Over half (57%) agree their HVAC system requires little routine maintenance and 56% agree their HVAC system can operate for a long time without replacement. Only half (50%) agree their HVAC system is a good value for the money they spent. Only half (50%) agree their HVAC system was installed by a contractor they trust. Only 41% agree their system can be quickly & easily repaired. Only 22% agree their system has the best technology available

Step In Buying Process

- 79% of the “not satisfied” respondents said they shopped for deals but only 65% of the “satisfied” respondents said shopping for deals was most important

Homeowner Profiles And Preferences Summary Continued

Trigger

- **56% of respondents in process of “buying” cited energy efficiency or comfort/health and only 26% cited repairs or failure as the main reasons for buying. Those who already “bought” cited only 22% for energy efficiency or comfort and 59% cited repairs or failure.**

Information Sources

- **Satisfied consumers relied more on local contractors for information while dissatisfied consumers relied more on friends/family, manufacturer websites and product literature. AC & Heating Connect was one of the top 5 information sources for all categories.**

Knowledge of Current System

- **51% of those who bought in the past 2 years are Very Familiar with the length of their warranty coverage. Only 14% are Very Familiar with the SEER rating of their system.**

Research Time

- **On average, consumers spend about 3 weeks researching system options before deciding. However, more in the “satisfied” group (33%) researched less than one week versus the “not satisfied” group (25%). This may be reflecting effectiveness of search methods by satisfied group.**

Homeowner Profiles And Preferences Summary Continued

Contractor Influence

- Satisfied consumers were more heavily influenced by their contractors when deciding which system to purchase. Dissatisfied consumers were influenced less by their contractors.

Contractor Evaluation

- On average, consumers evaluate 2 different contractors before deciding. However, more from the “already bought” group only evaluated one contractor (37%) versus the “buying” group (27%).

Tools To Assist In Purchase Decision

- Higher percentage of satisfied consumers were shown online tools, apps, websites (25%) versus not satisfied (18%)

Talking about Purchasing High Efficiency HVAC system

- 84% of those who bought systems were advised of higher efficiency systems and a higher percentage of the satisfied buyers (87%) discussed high efficiency options versus the not satisfied group (74%).

Familiarity With HVAC Features

- Among those who recently purchased, few are "Very Familiar" with features of premium systems, like Variable capacity (20%), Variable speed air flow (24%) and Wi-Fi Thermostats (21%). Among those currently in the buying process even fewer are very familiar.

Homeowner Profiles And Preferences Summary Continued

HVAC Attribute Agreement

- Those who recently bought and have newer systems are less likely to believe there are better systems available than the one they have. Those in the process of buying are more likely to believe there are better systems than the one they have and they are more open to buying.

Item Least Likely to be Given Up In Summer

- HVAC system is the appliance that respondents were most reluctant to give up for a week during the peak heat of summer, among eight common household appliances considered.

Place Most Likely to have Felt Uncomfortable Air Temperatures

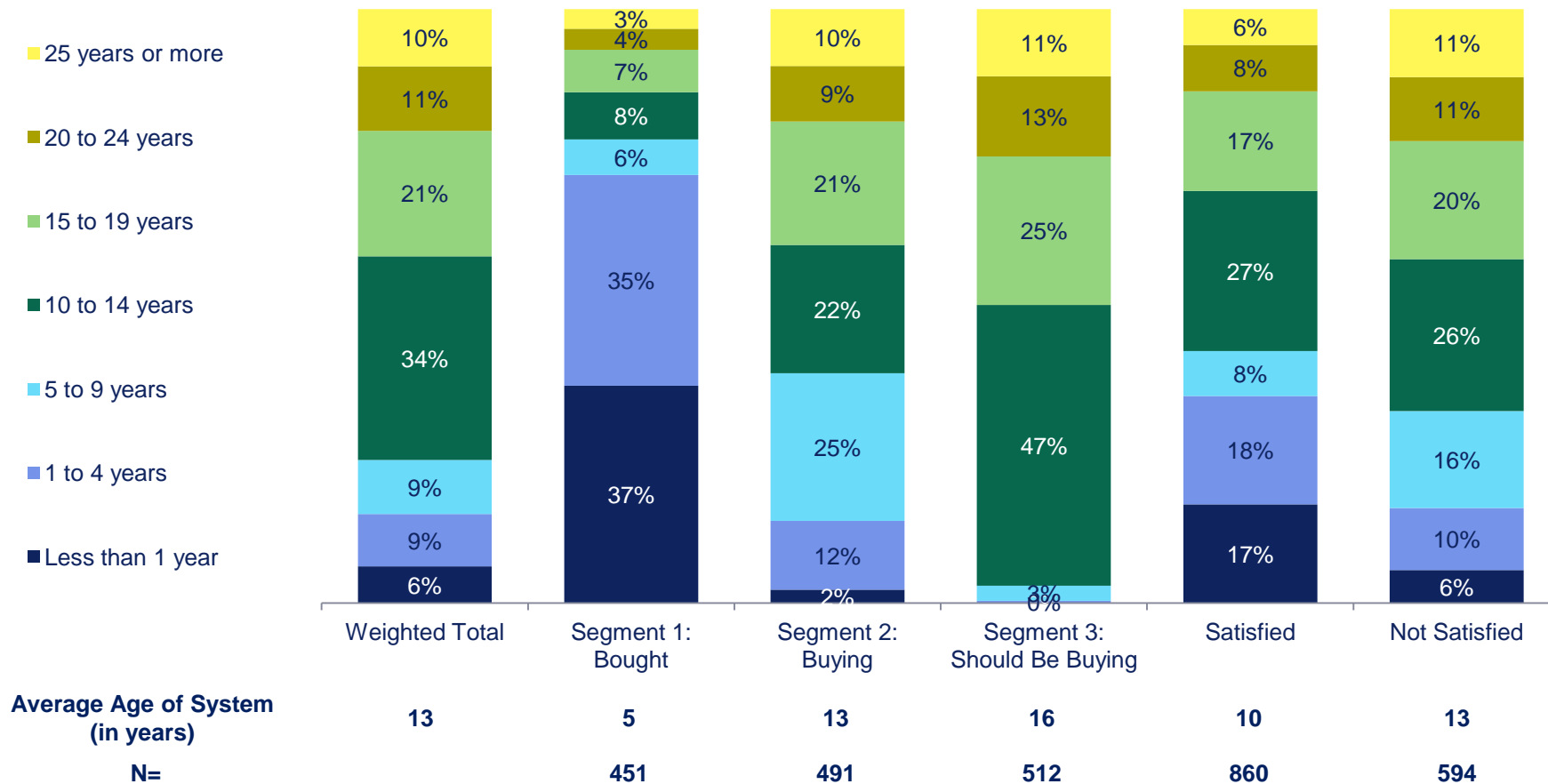
- Most respondents have felt uncomfortable air temperatures in Restaurants (57%) and Stores (43%). Least likely to have felt uncomfortable air temperatures in Schools (18%).

Incidence of Leaving Business Due to Temperature

- 14 % of all respondents have left a business or refused to return to a business because they felt air temperatures were either too hot or too cold. However, a higher percentage (21%) of consumers who recently purchased a new HVAC system either left or did not return versus the percentage of the “should be buying” segment (11%). Delayed purchasers may be less sensitive to comfort.

Age Of System Total And By Segment

Q. How old is the Heating, Ventilation, and Air Conditioning (HVAC) system in your home: how long since its oldest component was installed new? Select one.

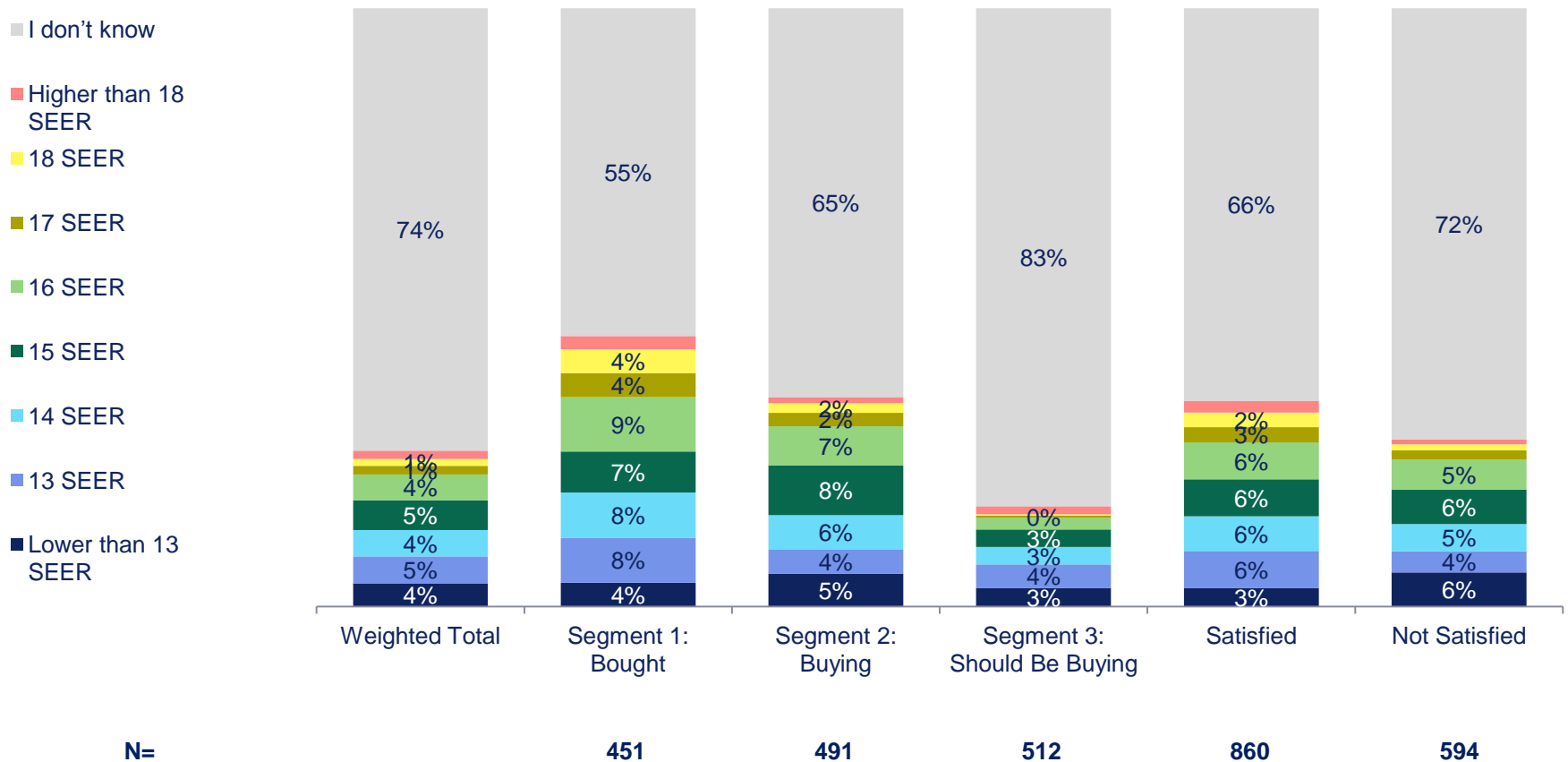


55% have an HVAC System that is 10-19 years old. 76% have an HVAC System 10+ years old.

New System Profile

Total And By Segment

Q. What is the Seasonal Energy Efficiency Ratio (SEER) rating of the HVAC system currently in your home?



74% can't identify the SEER rating of their current system, 55% can't identify the SEER rating of the system they purchased within the last two years. Satisfied consumers are a little more aware (66%) of their SEER rating than the not satisfied group (72%).

Familiarity With Government Regulations Total And By Segment

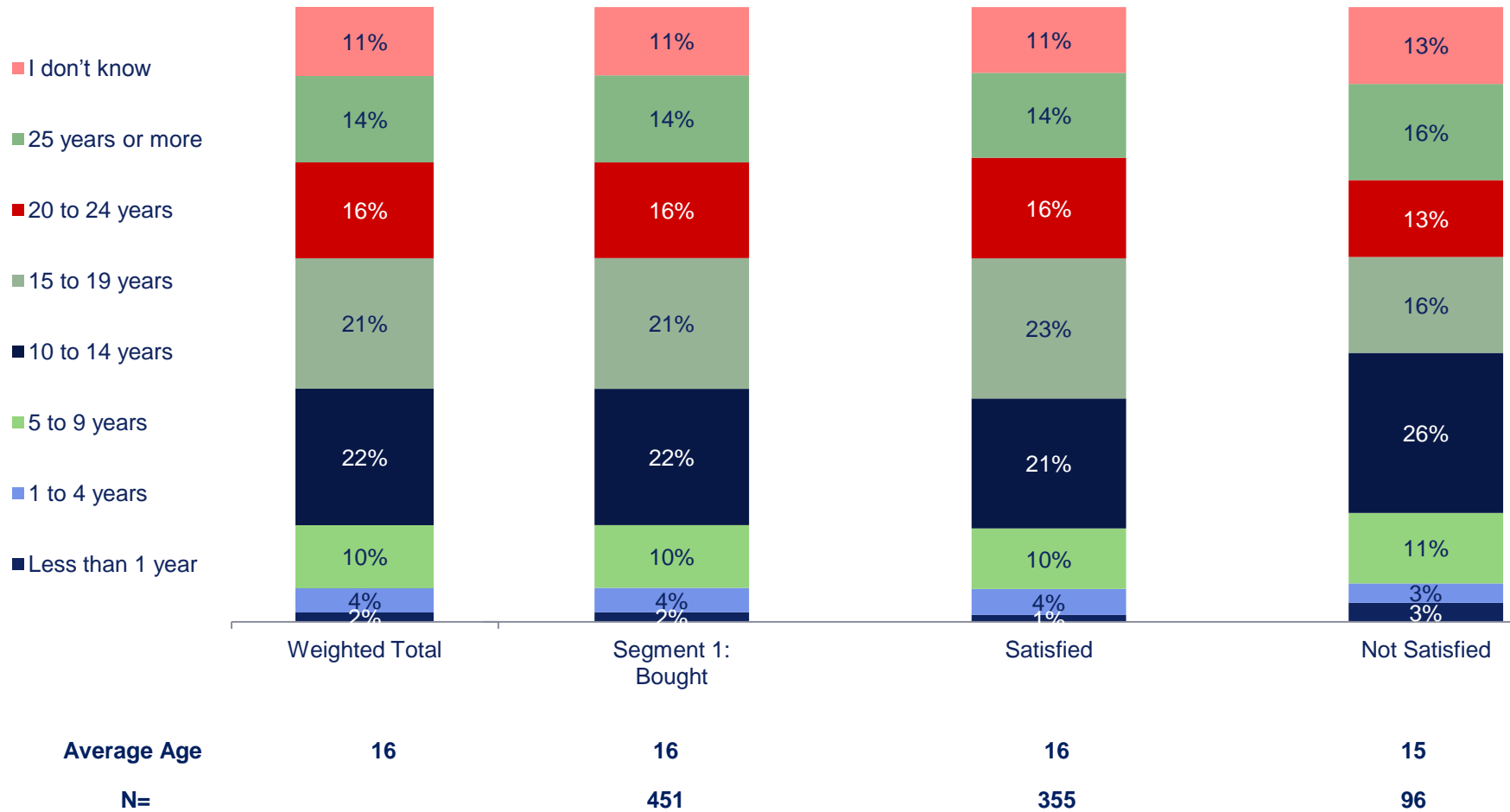
Q. How familiar are you with each of the following government regulations and incentives for residential HVAC systems?

% Very Familiar	Weighted Total	Segment 1: Bought	Segment 2: Buying	Segment 3: Should Be Buying	Satisfied	Not Satisfied
n=		451	491	512	860	594
Energy Star	35%	46%	45%	28%	40%	37%
Seasonal Energy Efficiency Ratio (SEER)	13%	24%	16%	8%	19%	11%
Heating Seasonal Performance Factor (HSPF)	6%	14%	8%	3%	11%	4%
Annual Fuel Utilization Efficiency (AFUE)	5%	13%	7%	2%	9%	5%

Homeowners are more familiar with Energy Star than any other specific efficiency rating term.

Old System Age Total And By Segment

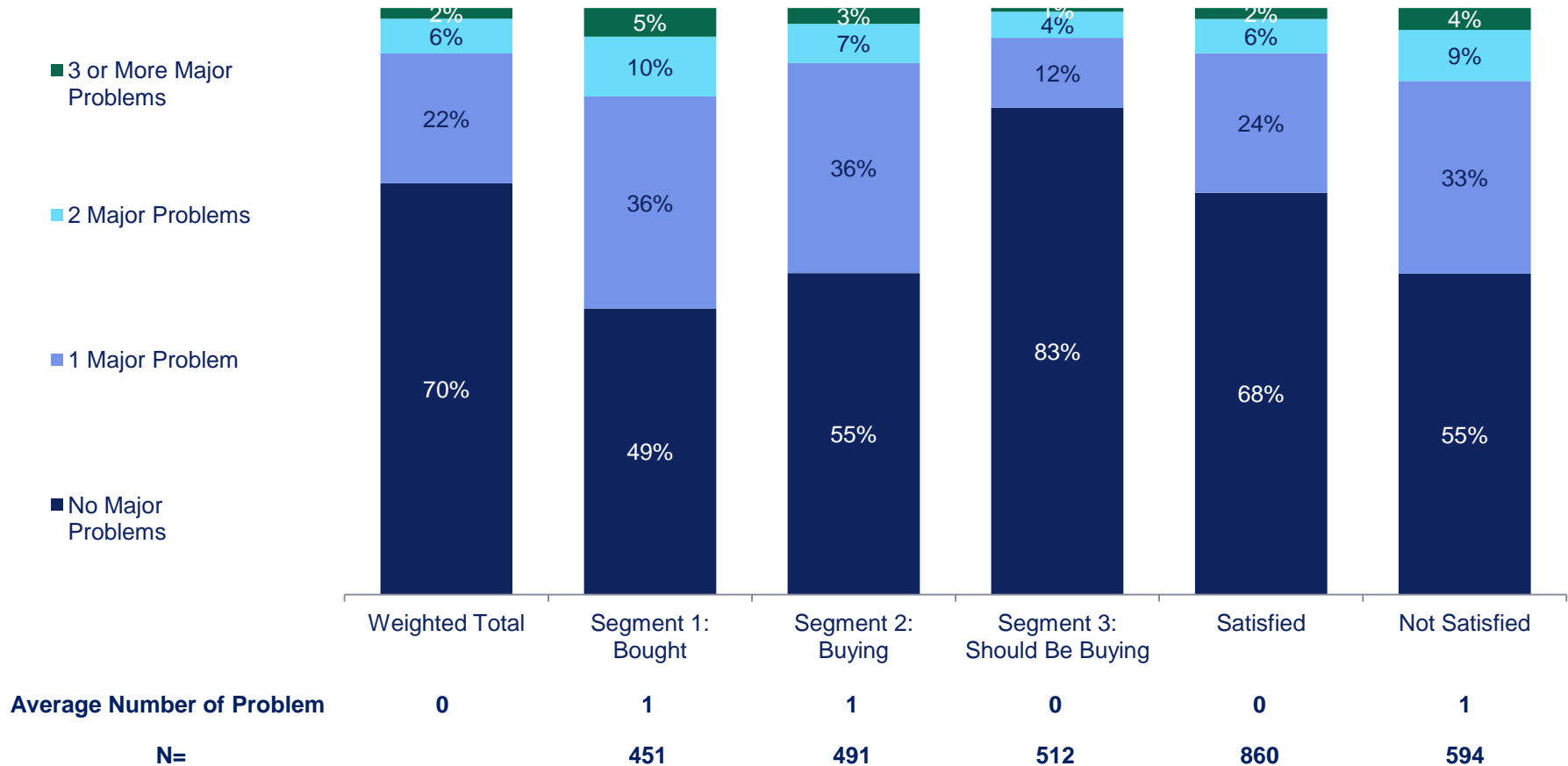
Q. How old was your last HVAC system when you replaced it?



Average system age at time of replacement was about 16 years.

Problems With Current System Total And By Segment

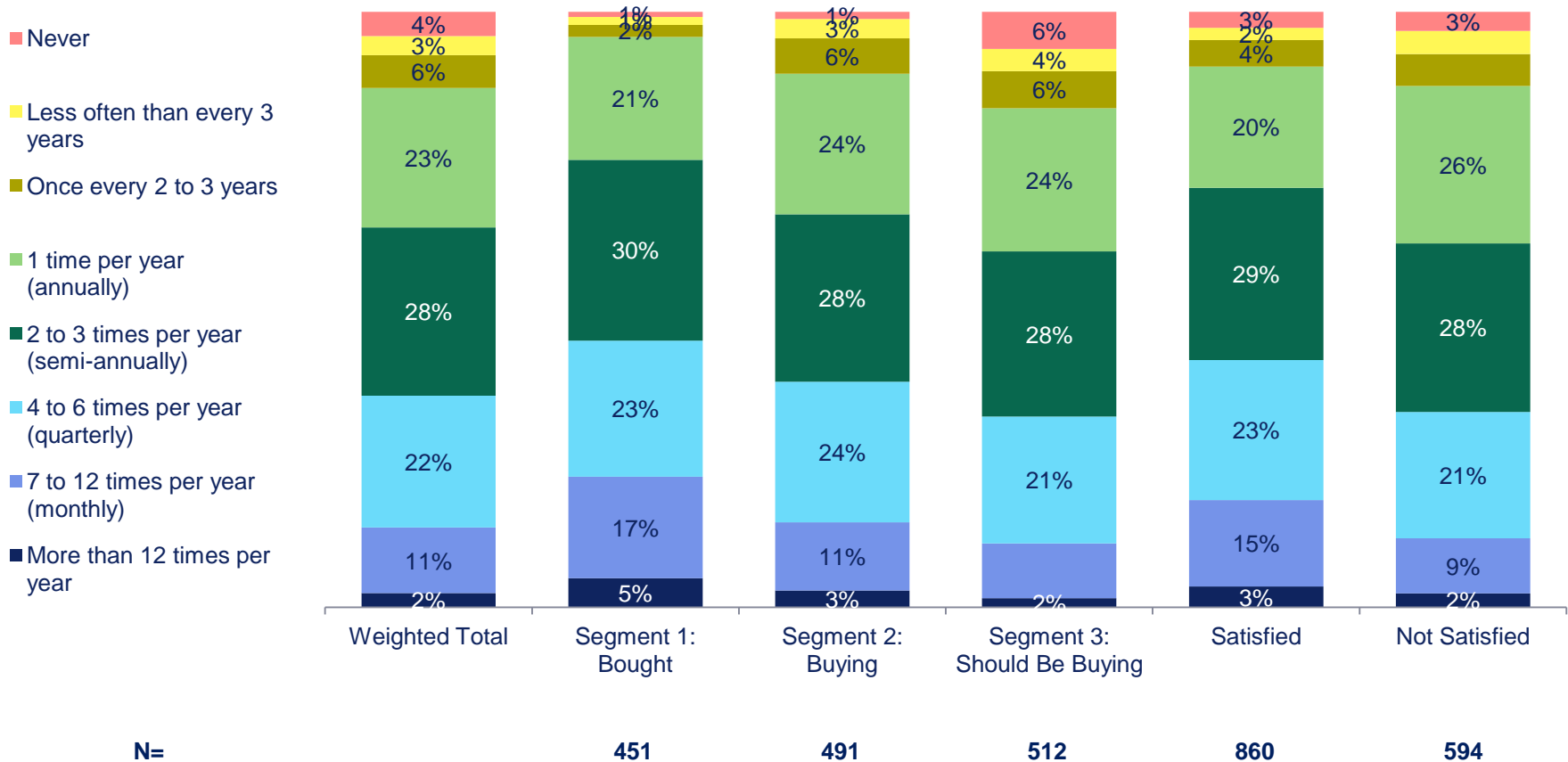
Q. In the past 2 years, how many times did you have a major problem with your Heating, Ventilation, and Air Conditioning (HVAC) system: a problem that required immediate repair? Select one.



70% have had no major problems with their HVAC system in prior two years. 30% have had 1 or more major problems with their HVAC system in prior two years

Maintenance Frequency Total And By Segment

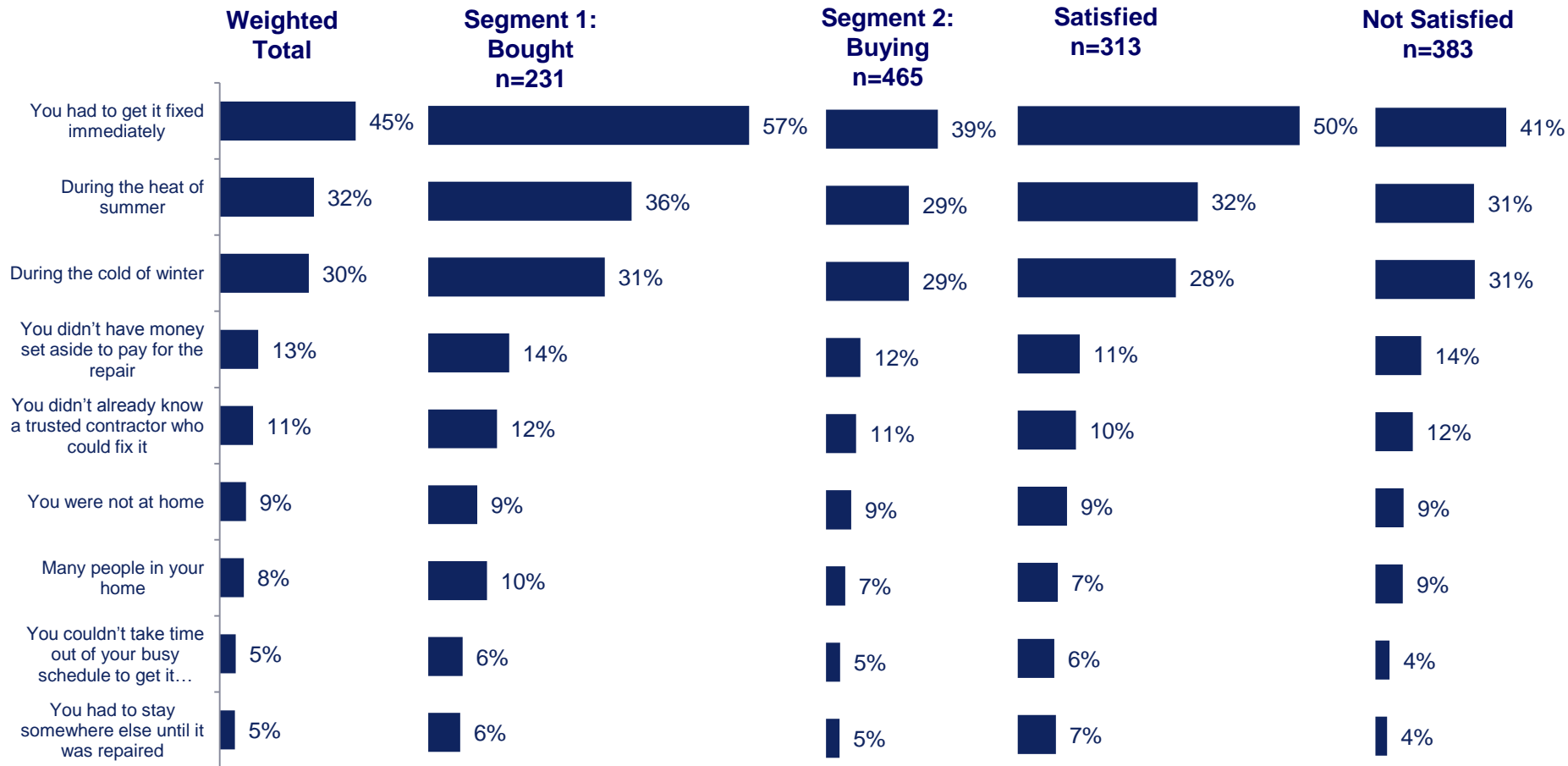
Q. How often do you perform regular maintenance on your HVAC system, such as changing filters and cleaning heat exchangers?



On average, homeowners perform maintenance on their systems every 9 months but answers vary in the distribution.

Situation During Last Major HVAC Failure Total And By Segment

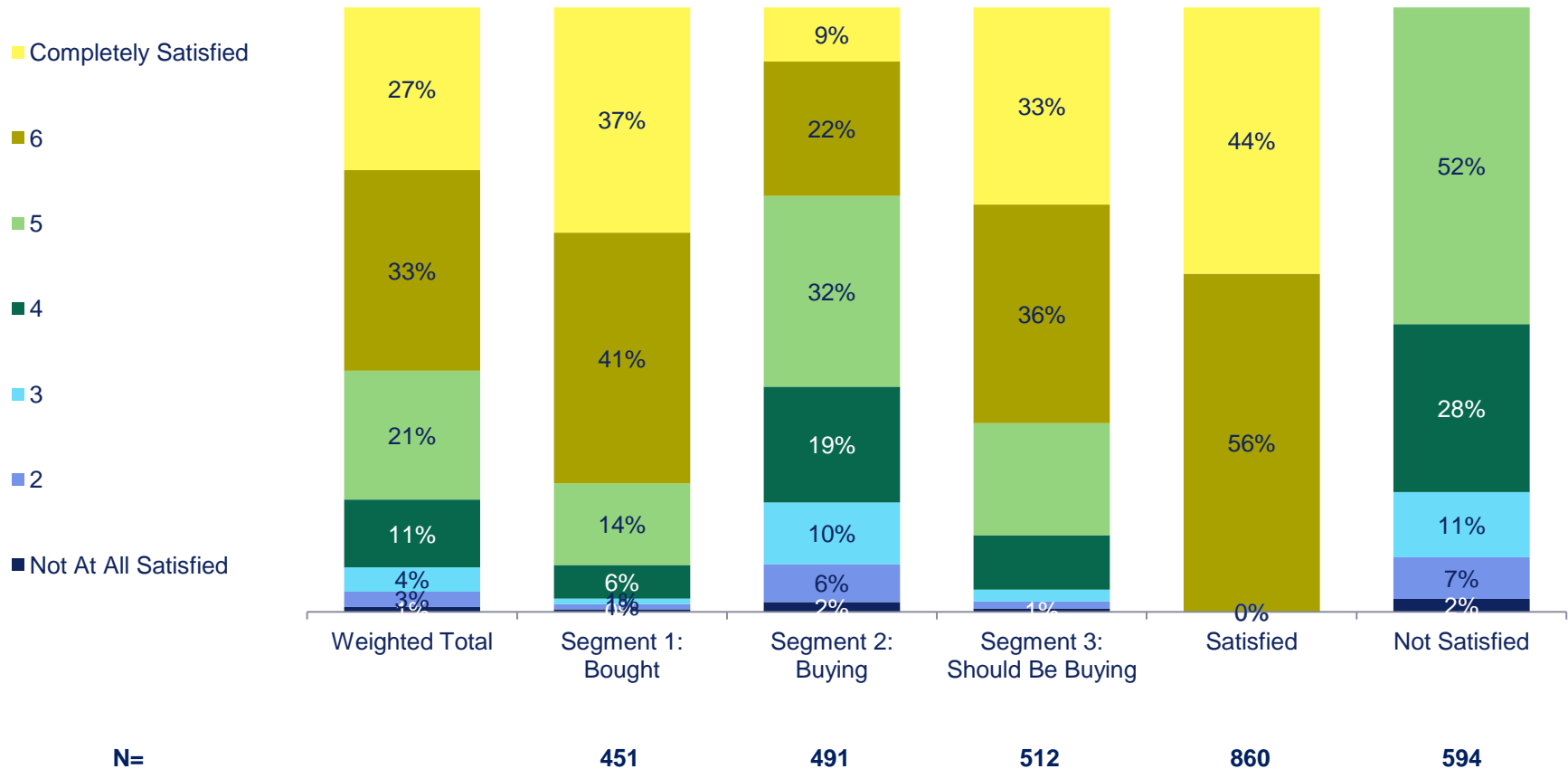
Q. The last time your HVAC system had a major failure what was the situation? Select all that apply.



57% of recent purchasers who had a major failure had to get it fixed immediately versus only 39% of those currently in the market.

Overall Satisfaction With HVAC System Total And By Segment

Q. How satisfied are you with your home's HVAC system overall?



Only 60% of respondents said they were satisfied with their current HVAC system.

Satisfaction Statements

Total And By Segment

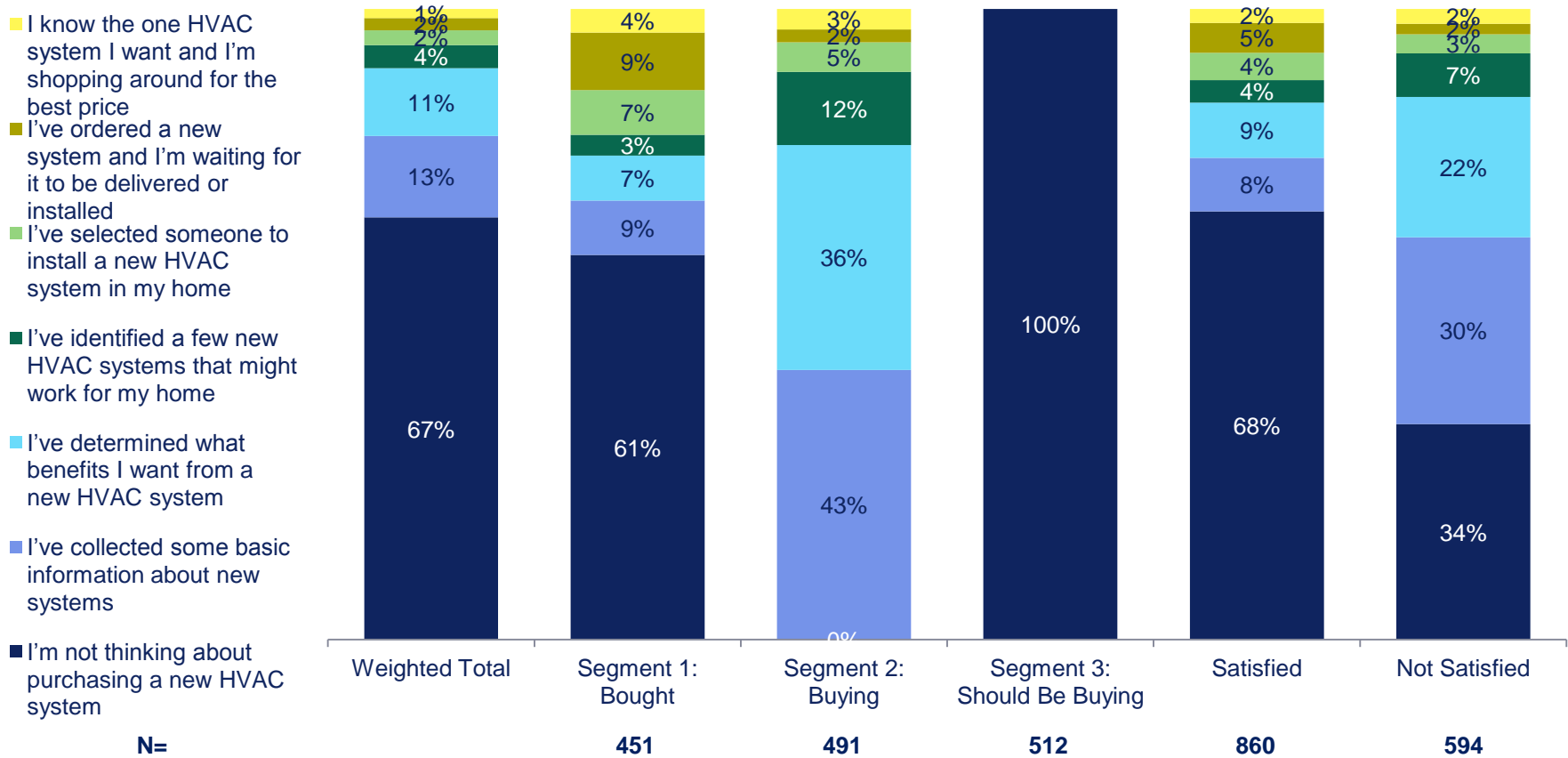
Q. When thinking about your home's HVAC system, how much do you agree or disagree with each of the following statements?

	Weighted Total	Segment 1: Bought	Segment 2: Buying	Segment 3: Should Be Buying	Satisfied	Not Satisfied
n=		451	491	512	860	594
It will operate for a long time without needing to be replaced	56%	71%	46%	57%	72%	36%
Requires little routine maintenance	57%	68%	44%	61%	72%	36%
Was installed by a contractor I trust	50%	75%	42%	47%	70%	32%
Is a good value for the money I spent	51%	63%	43%	51%	67%	30%
Always produces the desired air temperature	49%	64%	35%	51%	68%	24%
Operates quietly	46%	57%	35%	48%	60%	26%
Creates no strong drafts of cold or hot air when running	45%	54%	31%	49%	59%	23%
It can be quickly and easily repaired if it breaks	41%	54%	33%	41%	56%	22%
Produces even temperature throughout my home; no hot or cold spots	40%	55%	30%	40%	57%	19%
It is adequately covered by a warranty	31%	69%	31%	21%	51%	22%
Has a low operating cost: monthly energy bill	35%	53%	30%	33%	52%	19%
Keeps the air clean	35%	47%	29%	34%	49%	17%
Maintains humidity at my desired level	32%	42%	26%	33%	44%	17%
Had a low purchase price	26%	32%	29%	22%	32%	21%
Minimizes impact to the global environment	26%	35%	21%	25%	37%	12%
Has the best technology available	22%	44%	22%	16%	36%	13%
Removes unpleasant odors from the air	23%	30%	19%	23%	33%	12%
It automatically notifies me when it needs servicing or repair	12%	20%	14%	9%	19%	8%
I can remotely monitor and control my home's climate via the internet	11%	17%	15%	9%	17%	8%

Over half (57%) agree their HVAC system requires little routine maintenance and 56% agree their HVAC system can operate for a long time without replacement. Only half (50%) agree their HVAC system is a good value for the money they spent. Only half (50%) agree their HVAC system was installed by a contractor they trust. Only 41% agree their system can be quickly & easily repaired. Only 22% agree their system has the best technology available

Step In Buying Process Total And By Segment

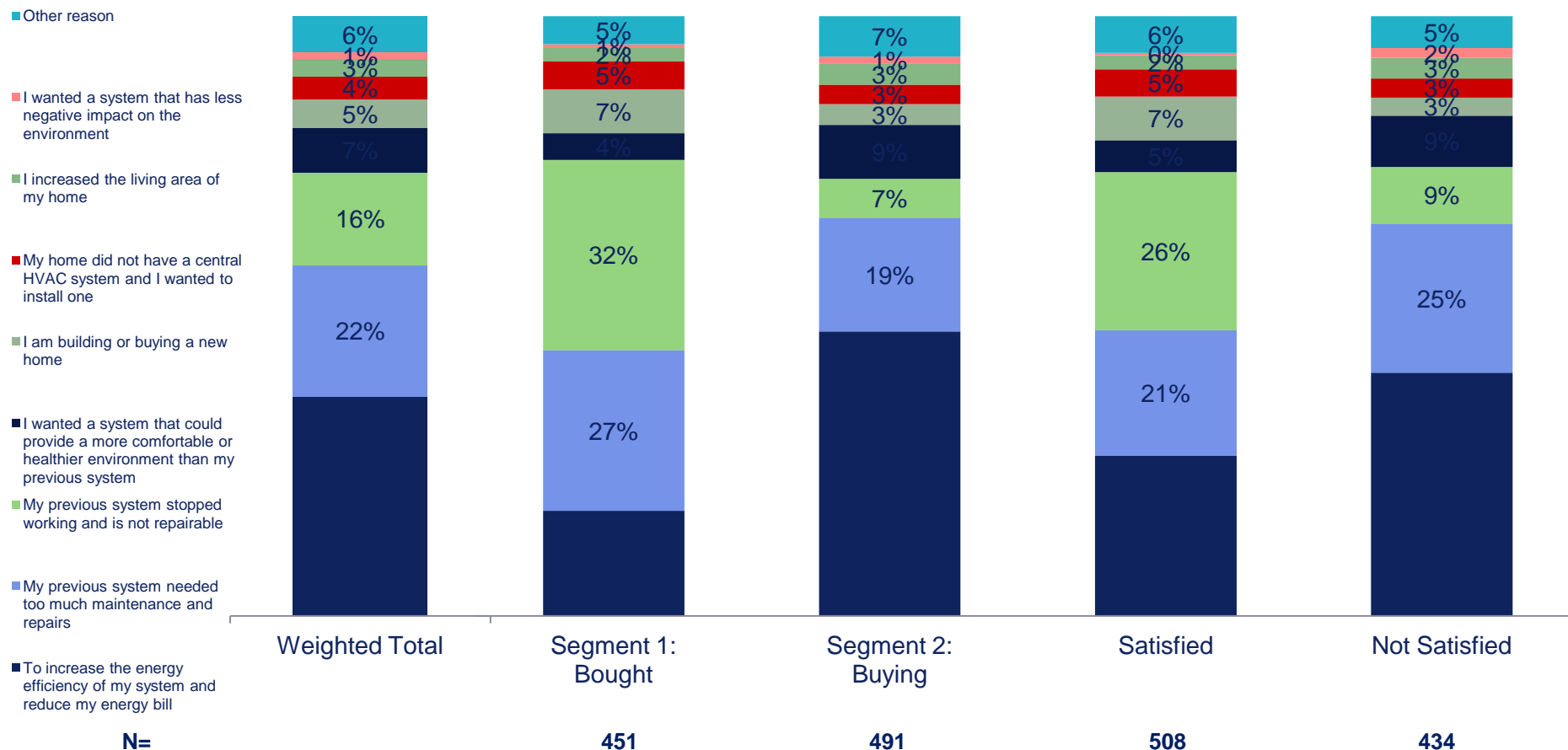
Q. Please select the statement that best describes where you are in the process of purchasing a new Heating, Ventilation, and Air Conditioning (HVAC) system, or major component for your home. Select one.



67% are not thinking about purchasing a new HVAC system. 33% are in the process of buying

Trigger Total And By Segment

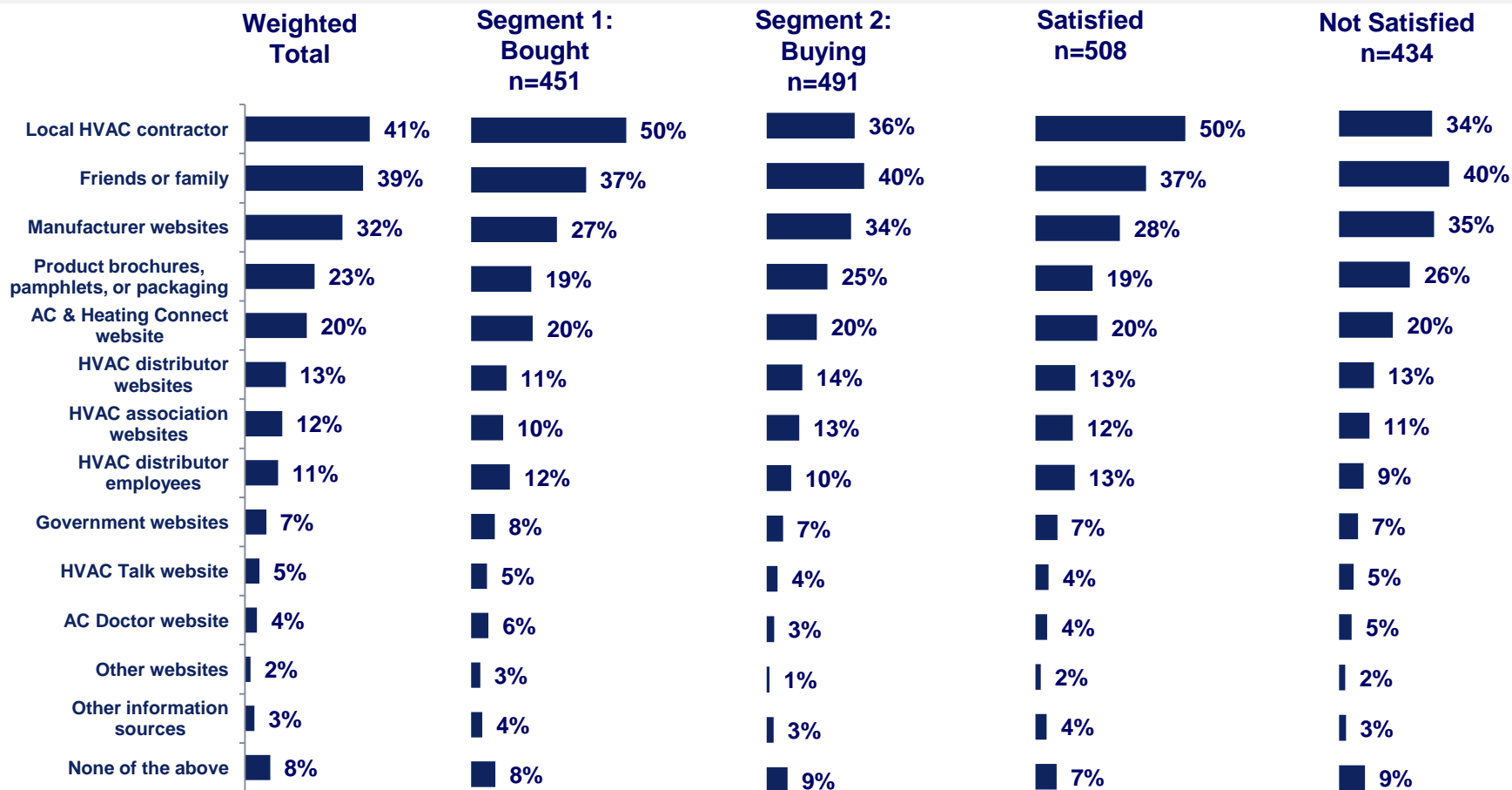
Q. What is the main reason you recently purchased or are considering purchasing a new HVAC system? Select one.



56% of respondents in process of “buying” cited energy efficiency or comfort/health and only 26% cited repairs or failure as the main reasons for buying. Those who already “bought” cited only 22% for energy efficiency or comfort and 59% cited repairs or failure.

Information Sources Total And By Segment

Q. What sources of information have you used to educate yourself about HVAC systems prior to making a purchase decision? Select all that apply.



Satisfied consumers relied more on local contractors for information while dissatisfied consumers relied more on friends/family, manufacturer websites and product literature. AC & Heating Connect was one of the top 5 information sources for all categories.

Knowledge of Current System Total and by Segment

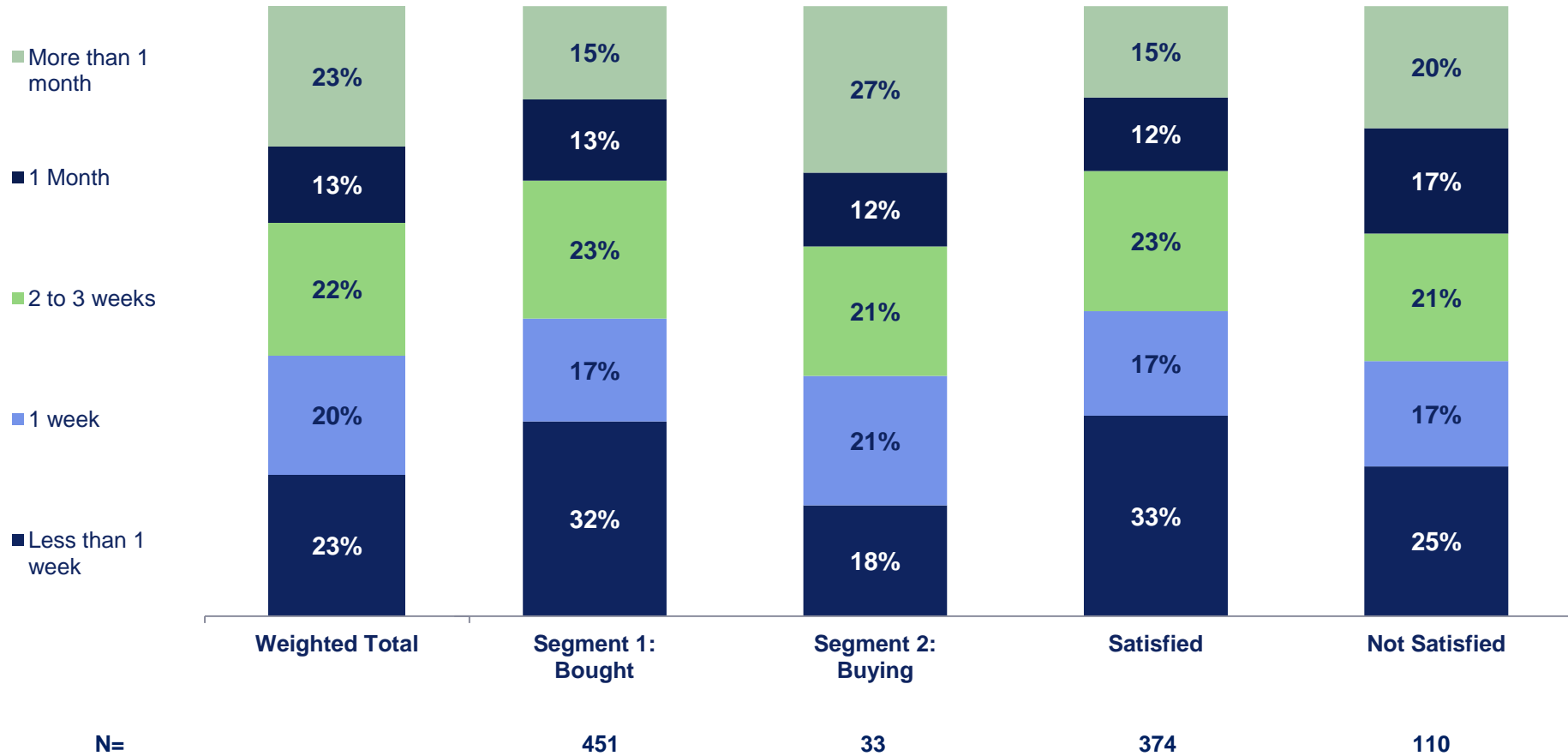
Q. How familiar are you with each of these facts about your home's existing HVAC system?

% Very Familiar	Weighted Total	Segment 1: Bought	Segment 2: Buying	Segment 3: Should Be Buying	Satisfied	Not Satisfied
n=		451	491	512	860	594
Length of my warranty coverage	39%	51%	36%	37%	47%	33%
Home insulation	35%	46%	37%	31%	43%	30%
Air filtration system	31%	39%	33%	27%	37%	27%
Number of heating & cooling zones with separate systems or controls	29%	37%	30%	27%	35%	25%
The System Efficiency Rating	17%	31%	20%	11%	25%	14%
Number of heating and/or cooling stages	19%	25%	19%	16%	24%	15%
The Seasonal Energy Efficiency Ratio (SEER)	14%	27%	15%	10%	20%	12%
The Heating Seasonal Performance Factor (HSPF)	8%	16%	10%	5%	13%	5%
The Annual Fuel Utilization Efficiency (AFUE)	8%	17%	9%	6%	13%	6%

51% of those who bought in the past 2 years are Very Familiar with the length of their warranty coverage. Only 14% are Very Familiar with the SEER rating of their system

Research Time Total and by Segment

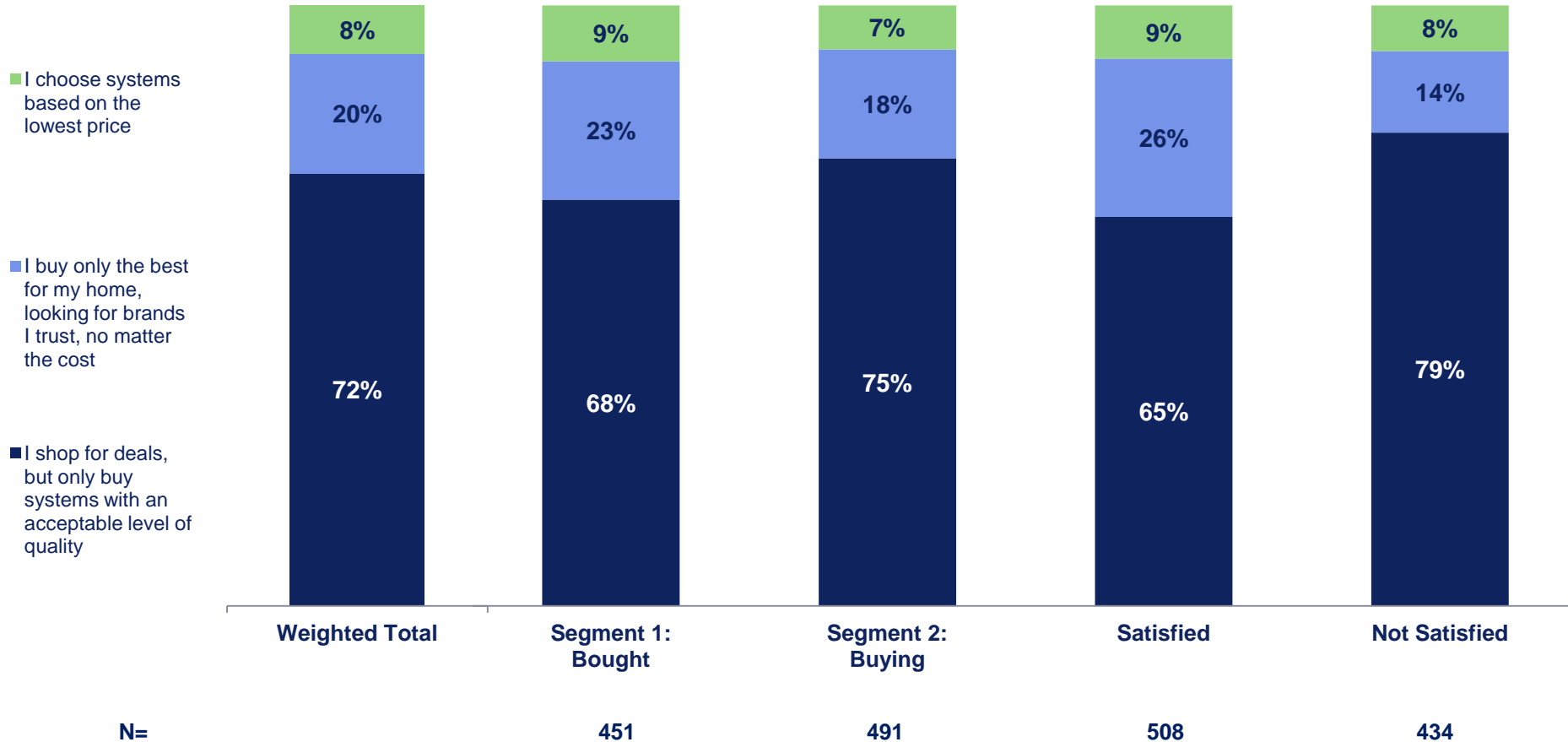
Q. How much time did you spend researching your HVAC system before making a purchase?



On average, consumers spend about 3 weeks researching system options before deciding. However, more in the “satisfied” group (33%) researched less than one week versus the “not satisfied” group (25%). This may be reflecting effectiveness of search methods by satisfied group.

Approach In Buying HVAC System Total And By Segment

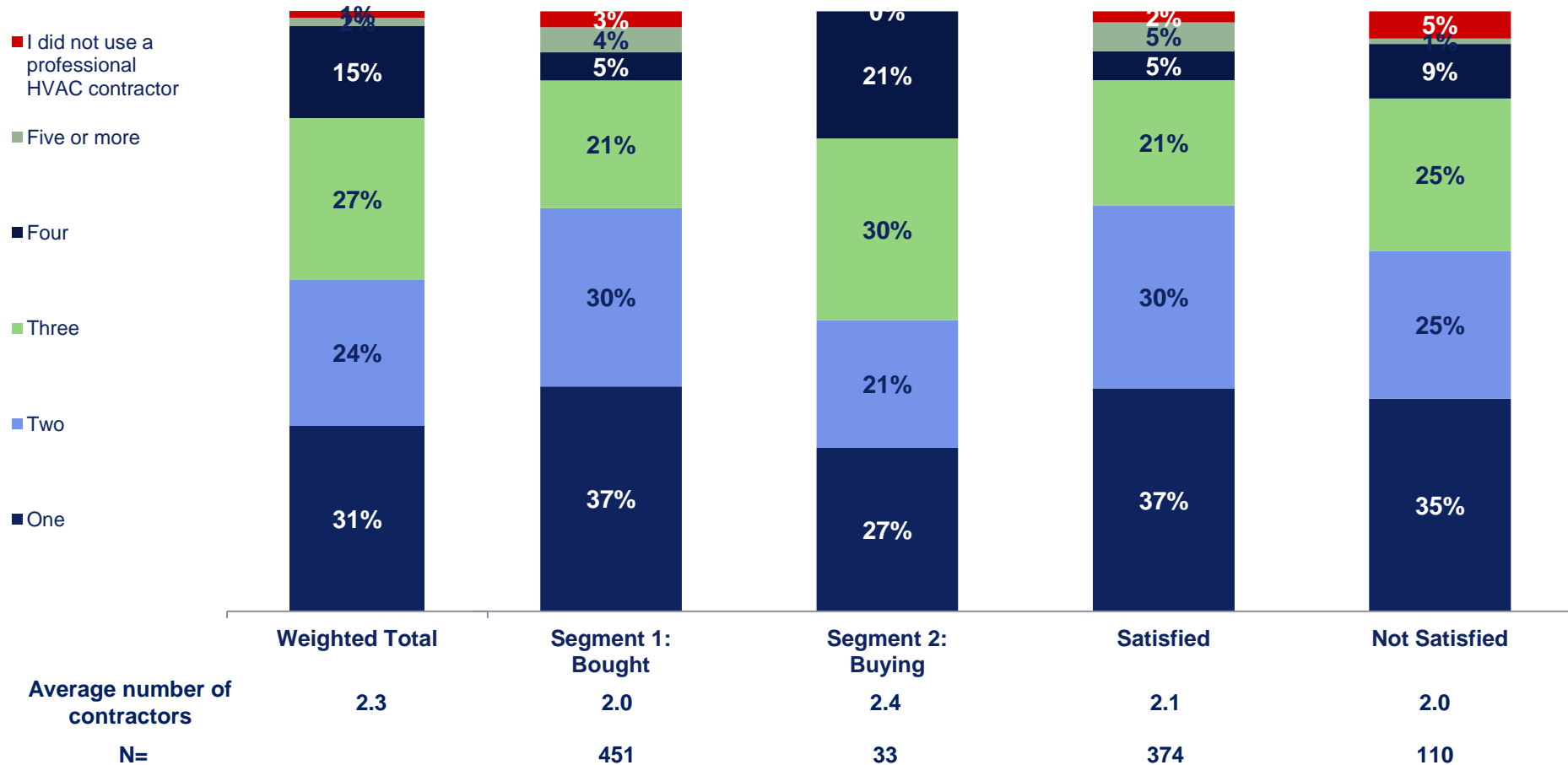
**Q. Which one of the following best describes your approach to buying HVAC systems for your home?
Select one.**



79% of the “not satisfied” respondents said they shopped for deals but only 65% of the “satisfied” respondents said shopping for deals was most important.

Number Of Contractors Evaluated Total And By Segment

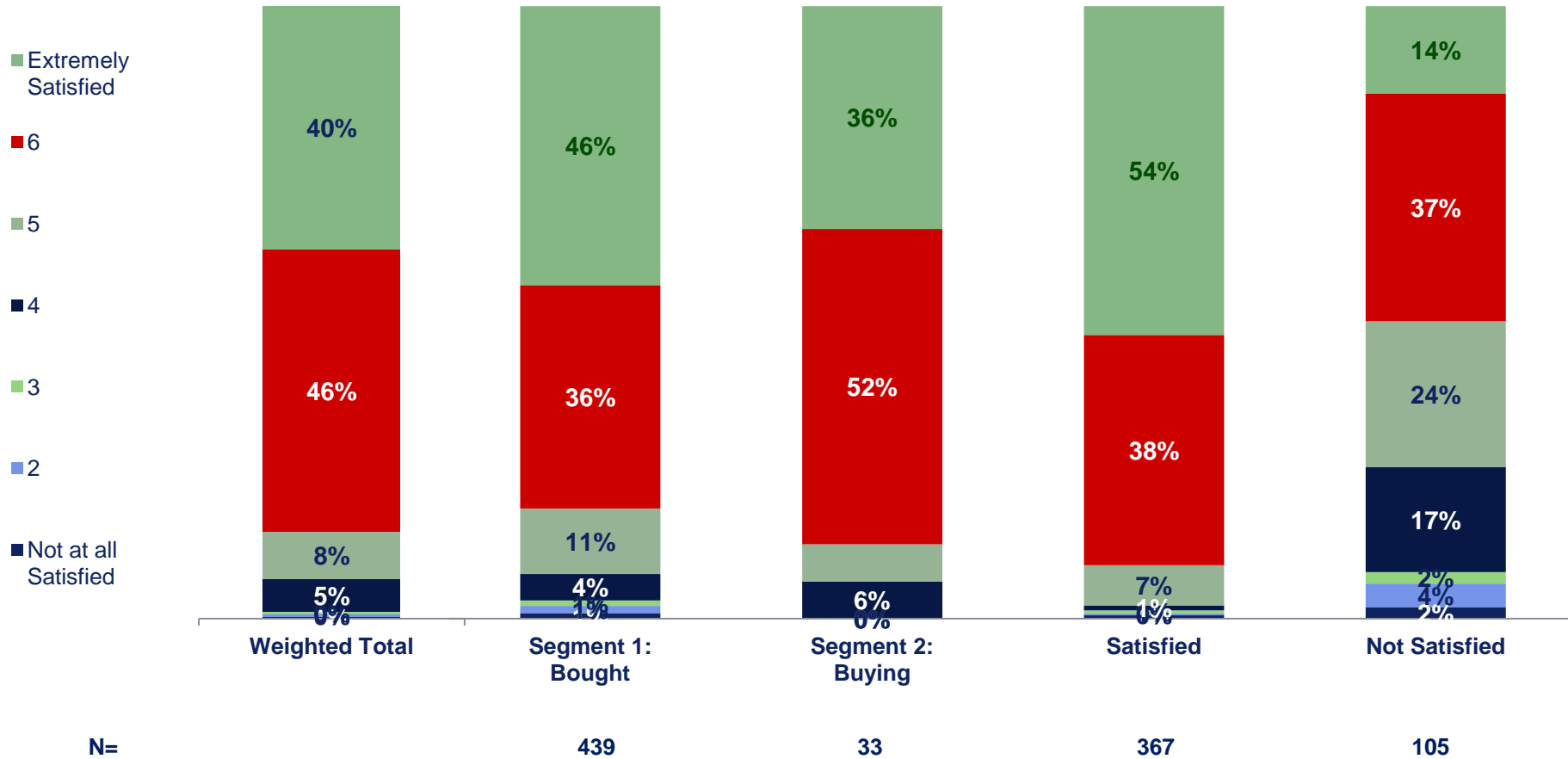
Q. How many professional HVAC contractors did you evaluate before selecting one to install your new system?



On average, consumers evaluate 2 different contractors before deciding. However, more from the “already bought” group only evaluated one contractor (37%) versus the “buying” group (27%).

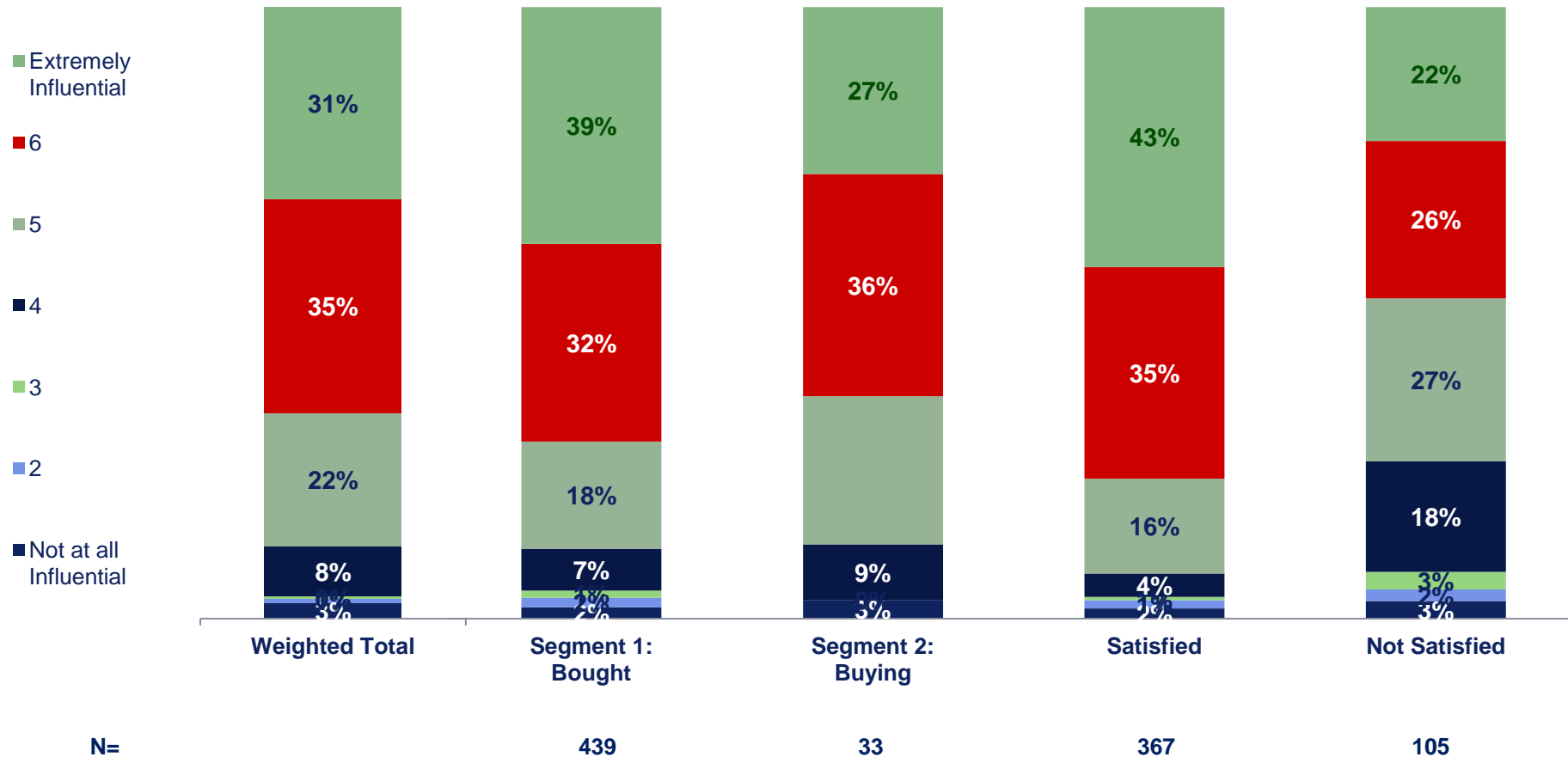
Satisfaction with HVAC Contractor Total And By Segment

Q. How satisfied are you with your professional HVAC contractor?



Contractor Influence Total And By Segment

Q. How influential was a professional HVAC contractor in helping you determine which system to purchase?



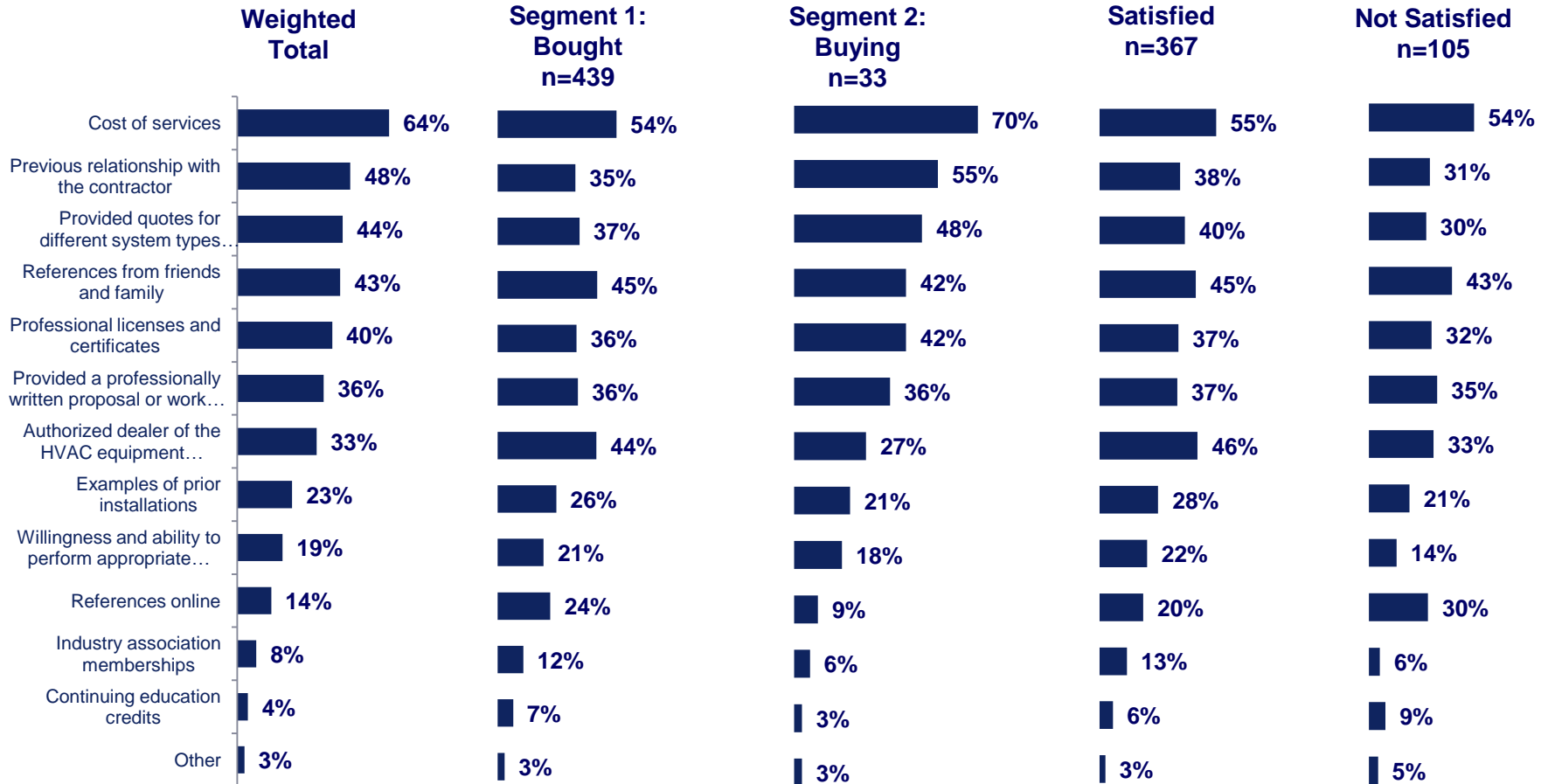
Satisfied consumers were more heavily influenced by their contractors when deciding which system to purchase. Dissatisfied consumers were influenced less by their contractors.

Contractor Evaluation Criteria

<u>Factors Considered When Selecting Contractor</u>	<u>% Responded</u>
Cost of services	64%
Previous relationship with the contractor	48%
Provided quotes for different system types and efficiencies	44%
References from friends and family	43%
Professional licenses and certificates	40%
Provided a professionally written proposal or work order	36%
Authorized dealer of the HVAC equipment manufacturer	33%
Examples of prior installations	23%
Willingness and ability to perform appropriate diagnostic tests	19%
References online	14%
Industry association memberships	8%
Continuing education credits	4%
Other	3%

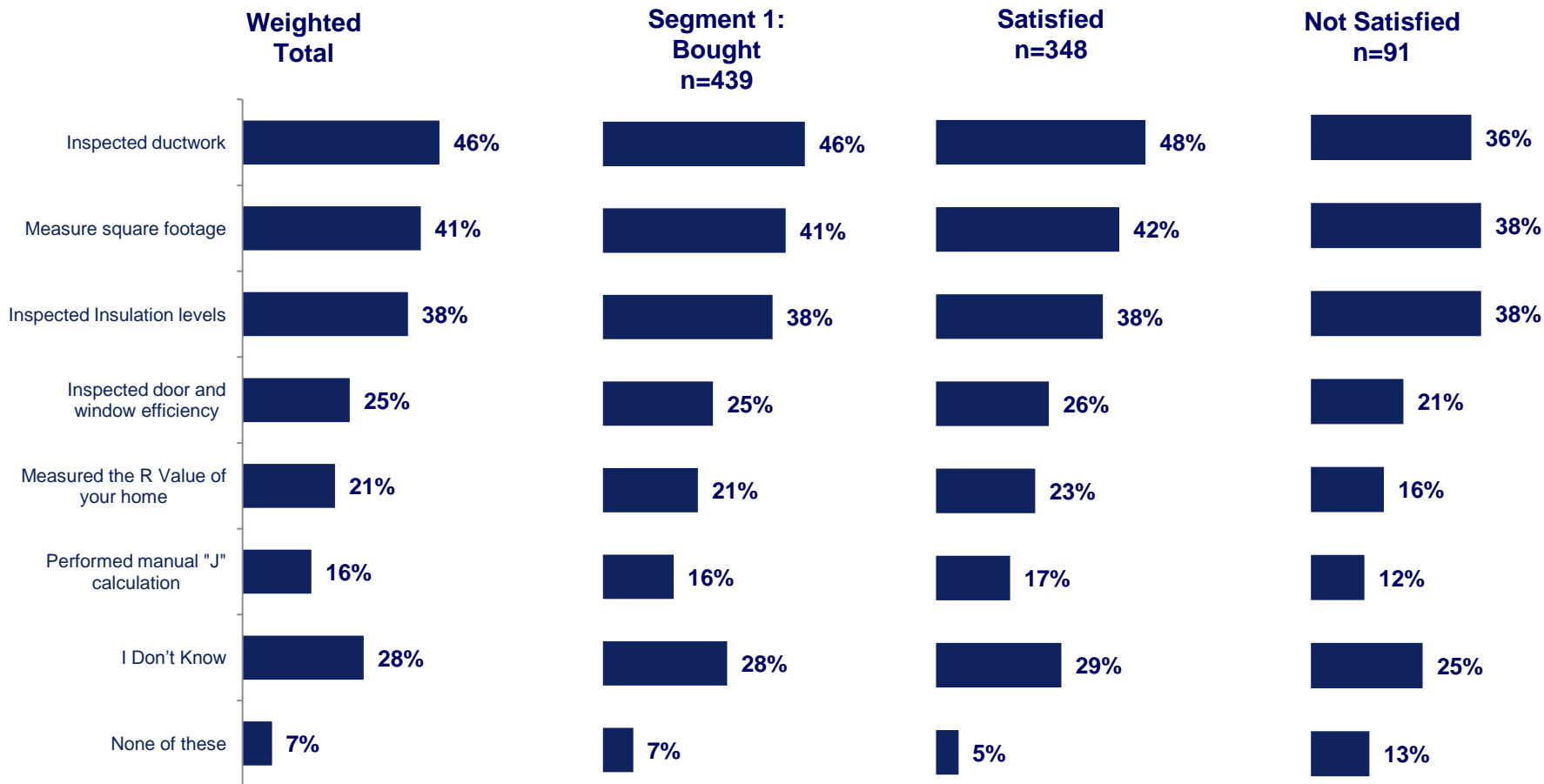
Contractor Evaluation Total and by Segment

Q. Which of the following did you take into consideration when selecting the professional HVAC contractor who installed your new system? Select all that apply.



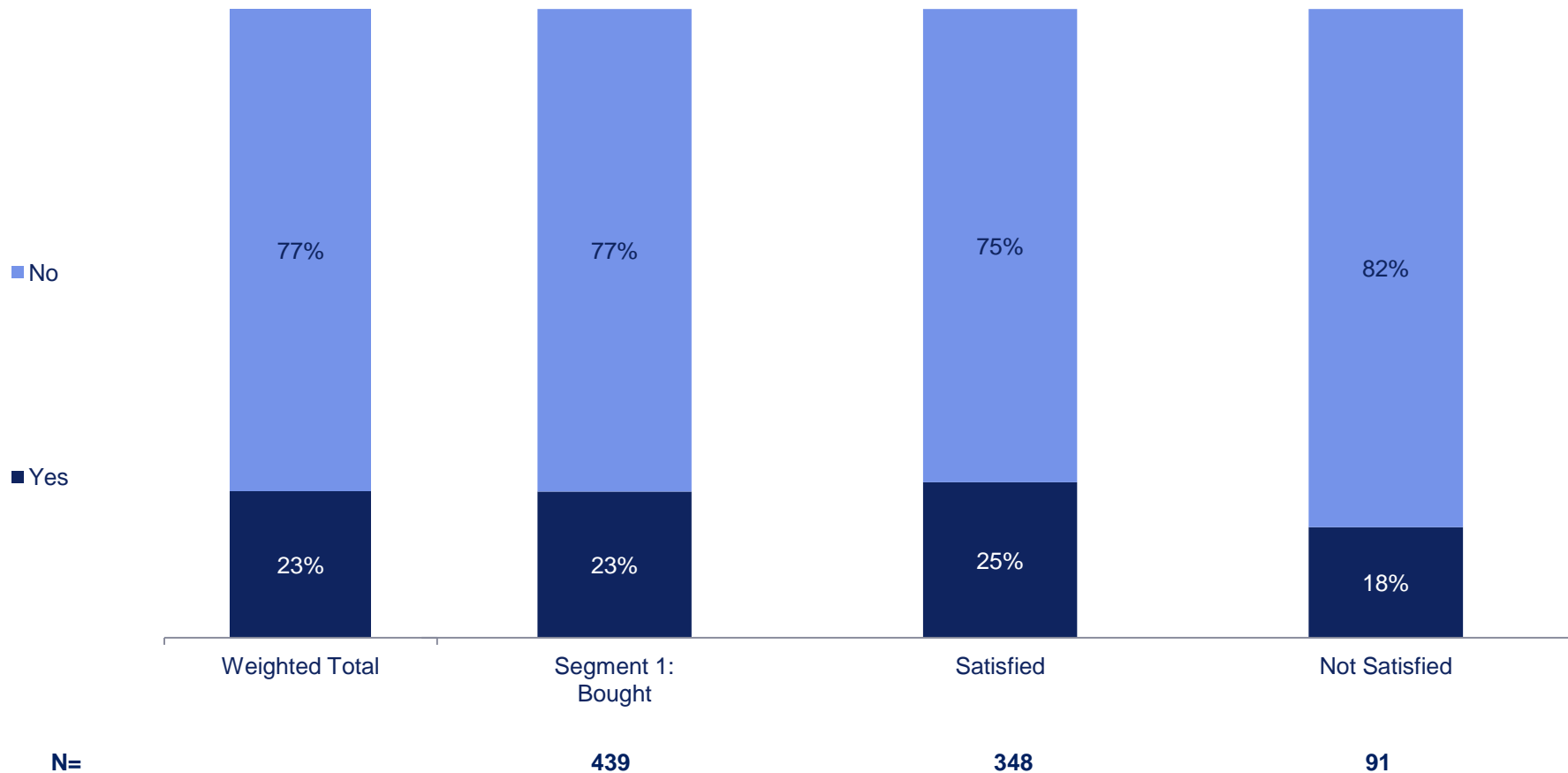
Contractor Tests Total And By Segment

Q. Which of the following procedures, if any, did your professional HVAC contractor perform on your home before quoting or recommending your new system? Please select all that apply.



Showing Tools To Assist In Purchase Decision Total And By Segment

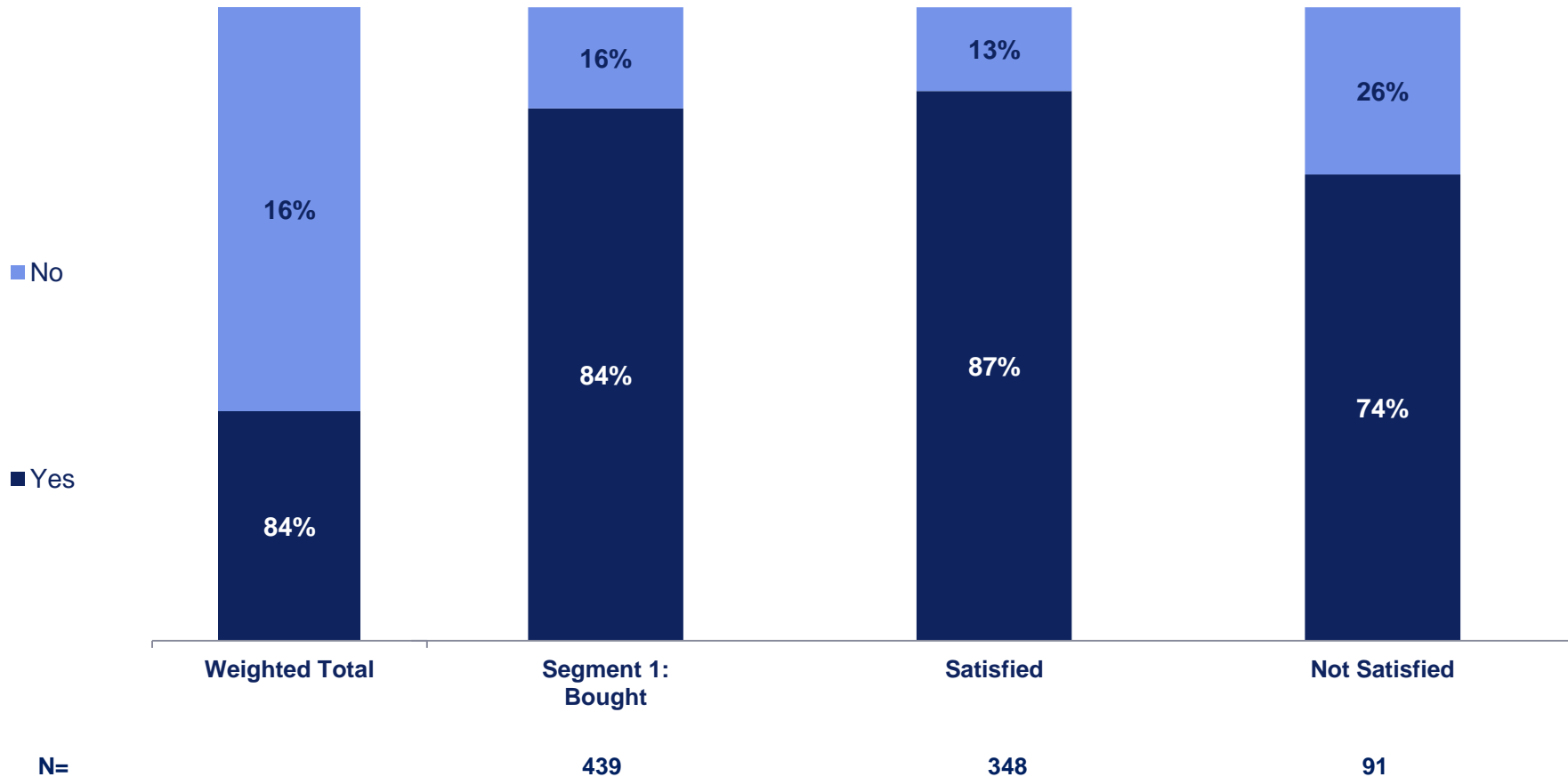
Q. Did your HVAC contractor show you any online tools, videos, apps, or websites to assist you in making your purchase decision?



Higher percentage of satisfied consumers were shown online tools, apps, websites (25%) versus not satisfied (18%)

Talking About Purchasing High Efficiency HVAC System Total And By Segment

Q. Did your HVAC contractor talk with you about purchasing a high efficiency HVAC system?



84% of those who bought systems were advised of higher efficiency systems and a higher percentage of the satisfied buyers (87%) discussed high efficiency options versus the not satisfied group (74%).

Familiarity With HVAC Features Total And By Segment

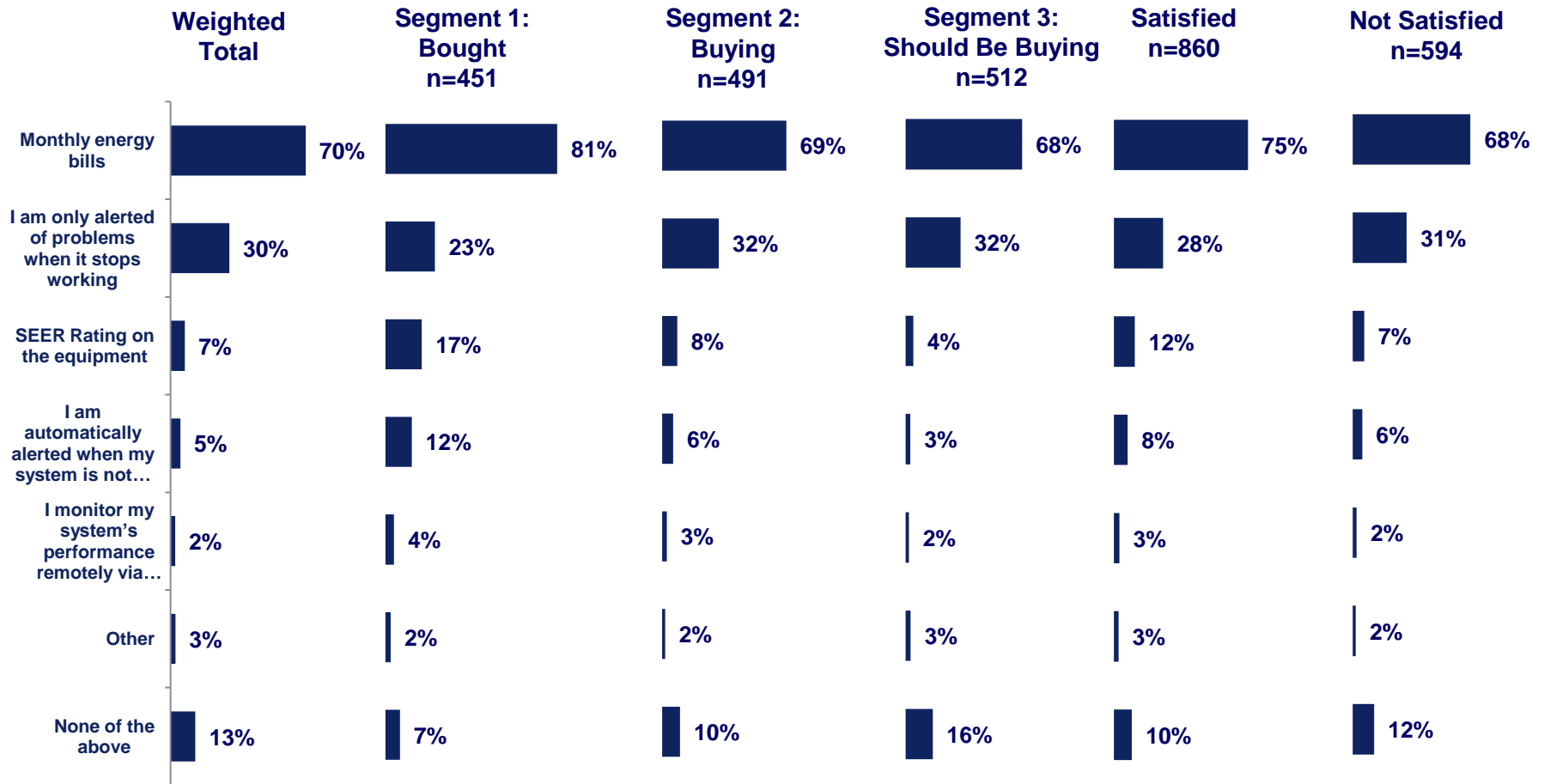
Q. How familiar are you with each of the following features and technologies used in residential HVAC systems?

% Very Familiar	Weighted Total	Segment 1: Bought	Segment 2: Buying	Segment 3: Should Be Buying	Satisfied	Not Satisfied
n=		451	491	512	860	594
Air filtration	28%	36%	31%	25%	34%	25%
Heat pump	23%	31%	28%	18%	27%	23%
Humidification	21%	29%	26%	17%	27%	19%
Multi zone control	21%	27%	27%	17%	26%	20%
Variable speed air flow	15%	24%	18%	11%	20%	14%
Wi-Fi thermostats	14%	21%	19%	10%	18%	13%
Variable heating and cooling capacity	12%	20%	14%	9%	17%	10%
Solar modules	8%	13%	11%	5%	12%	6%

Among those who recently purchased, few are "Very Familiar" with features of premium systems, like Variable capacity (20%), Variable speed air flow (24%) and Wi-Fi Thermostats (21%). Among those currently in the buying process even fewer are very familiar.

Monitoring HVAC Performance Total And By Segment

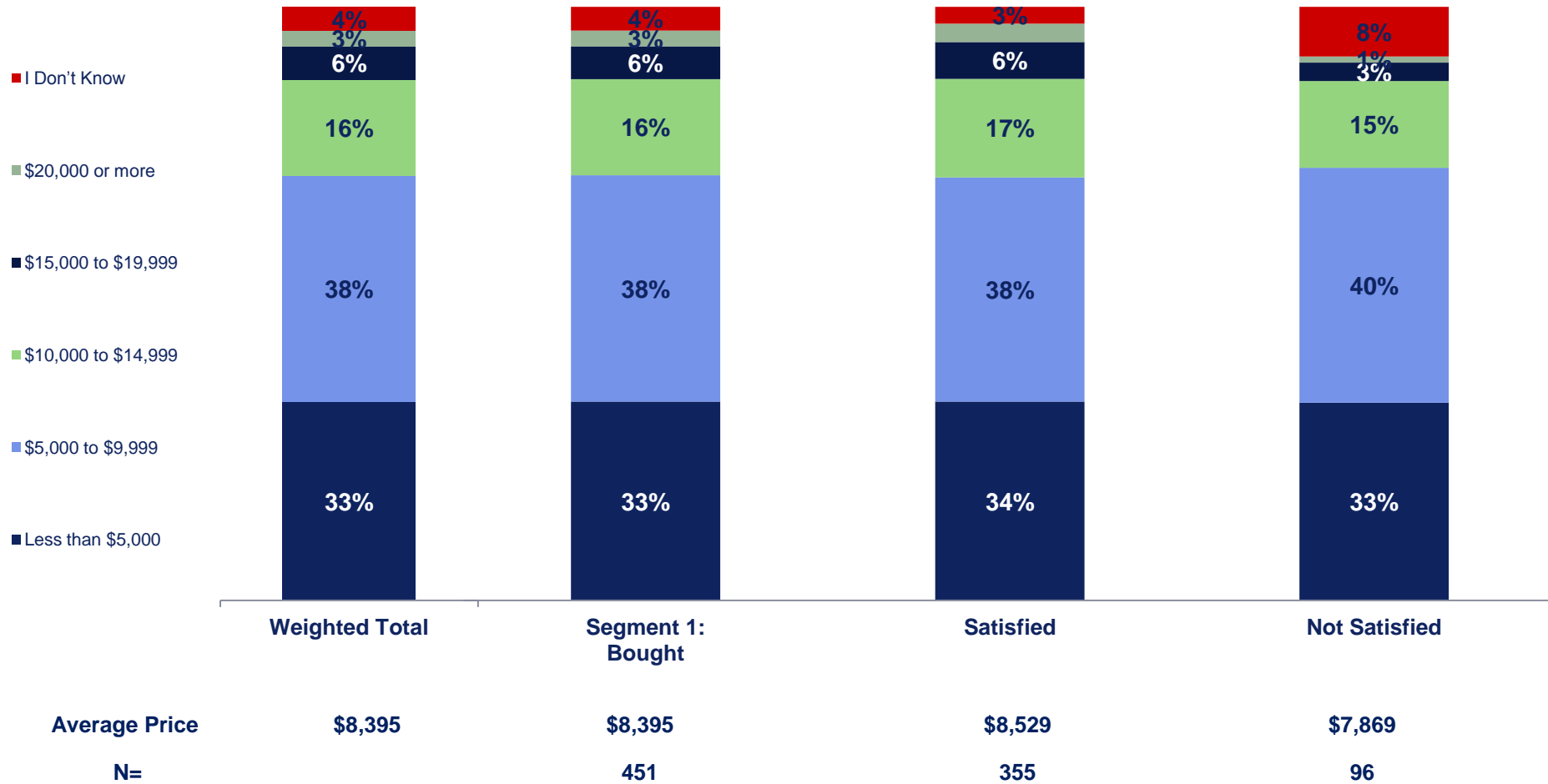
Q. In which of the following ways do you monitor the performance of your HVAC system? Select all that apply.



Most use monthly energy bills to monitor their systems' performance

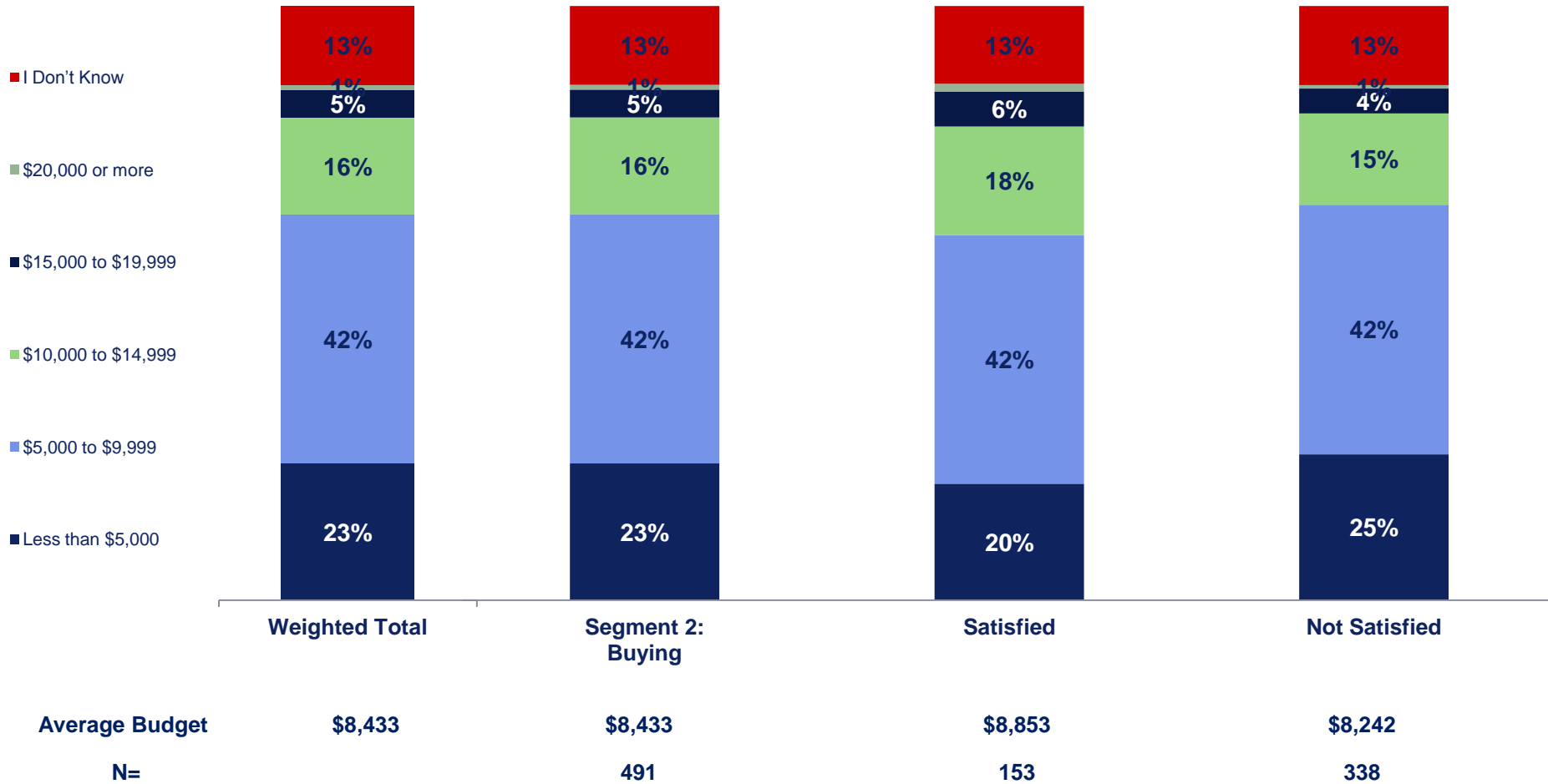
Price Of HVAC Purchased In The P2Y Total And By Segment

Q. How much did you pay for the new HVAC system you bought in the past 2 years?



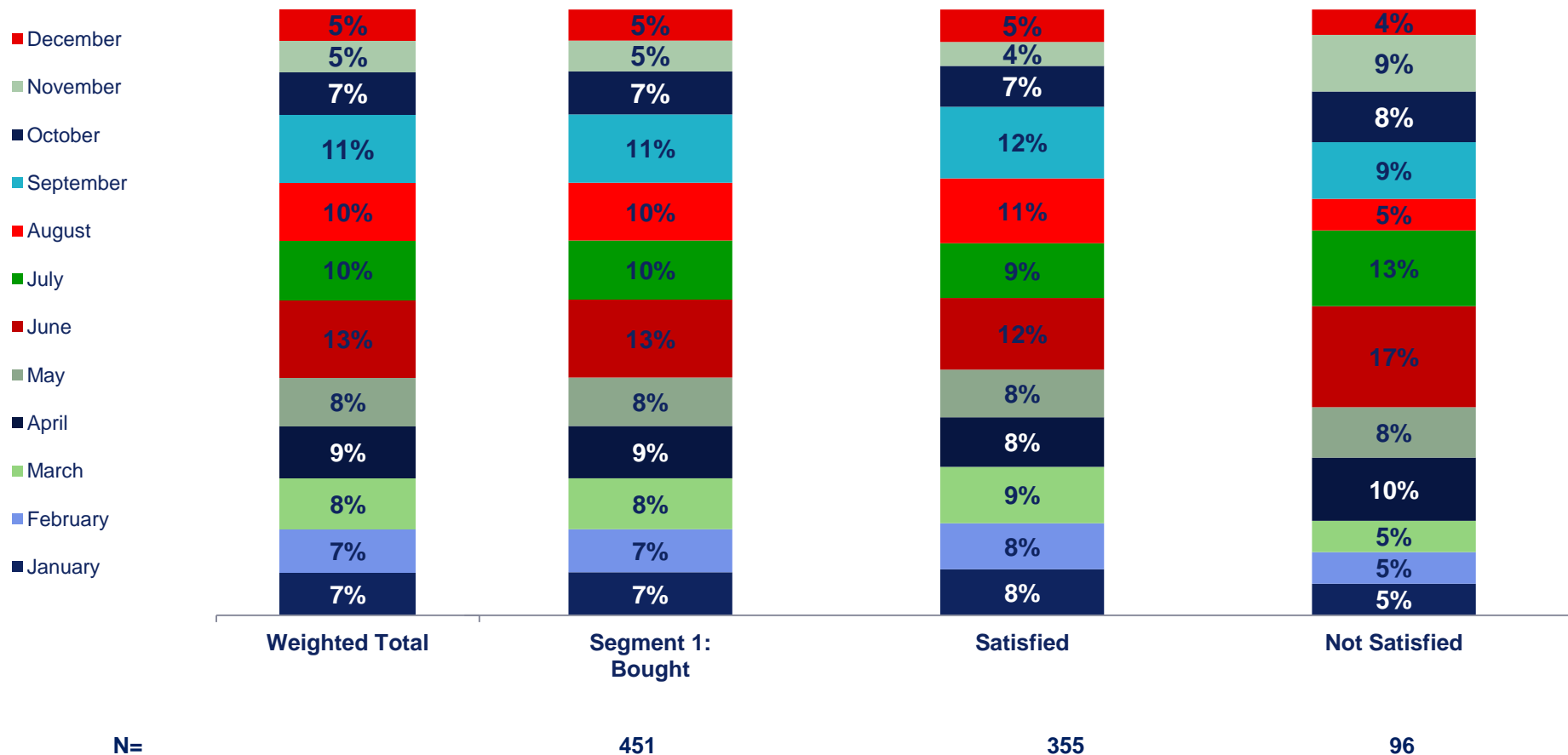
Budget For New HVAC System Total And By Segment

Q. How much do you plan to pay for the new HVAC system you are considering buying?



Purchase Month Total And By Segment

Q. In which month did you buy your new HVAC system?



HVAC Attribute Agreement

Total And By Segment

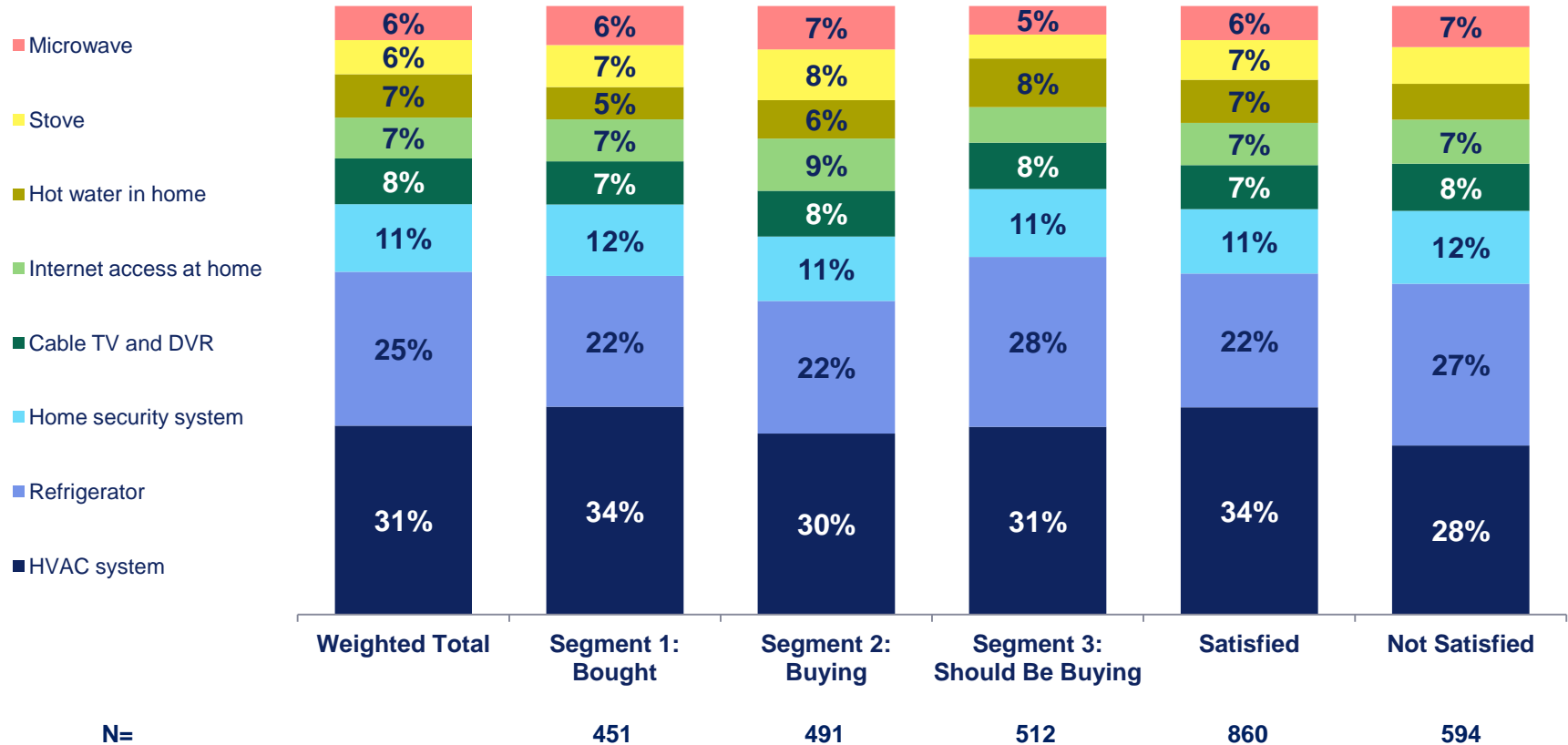
Q. How much do you agree with each of the following statements?

	Weighted Total	Segment 1: Bought	Segment 2: Buying	Segment 3: Should Be Buying	Satisfied	Not Satisfied
n=		451	491	512	860	594
I need my HVAC system in order to sleep well during the summer	48%	59%	51%	44%	56%	42%
I believe there is an HVAC system available that is much better than the one in my home	46%	30%	64%	42%	36%	60%
My HVAC system makes me completely comfortable all year round	43%	62%	29%	44%	62%	19%
I rarely think about my HVAC system	43%	44%	25%	50%	50%	25%
I would be open to purchasing a better HVAC system	29%	18%	62%	16%	22%	46%
My HVAC system causes my monthly energy bills to be too high	17%	16%	29%	12%	14%	26%
I run my HVAC system to prevent allergens from circulating throughout my home	16%	25%	18%	13%	22%	13%
My HVAC system is too noisy	11%	13%	17%	7%	10%	15%
My HVAC system often runs too hot or too cold	7%	12%	12%	3%	8%	10%

Those who recently bought and have newer systems are less likely to believe there are better systems available than the one they have. Those in the process of buying are more likely to believe there are better systems than the one they have and they are more open to buying.

Item Least Likely To Be Given Up In Summer Total And By Segment

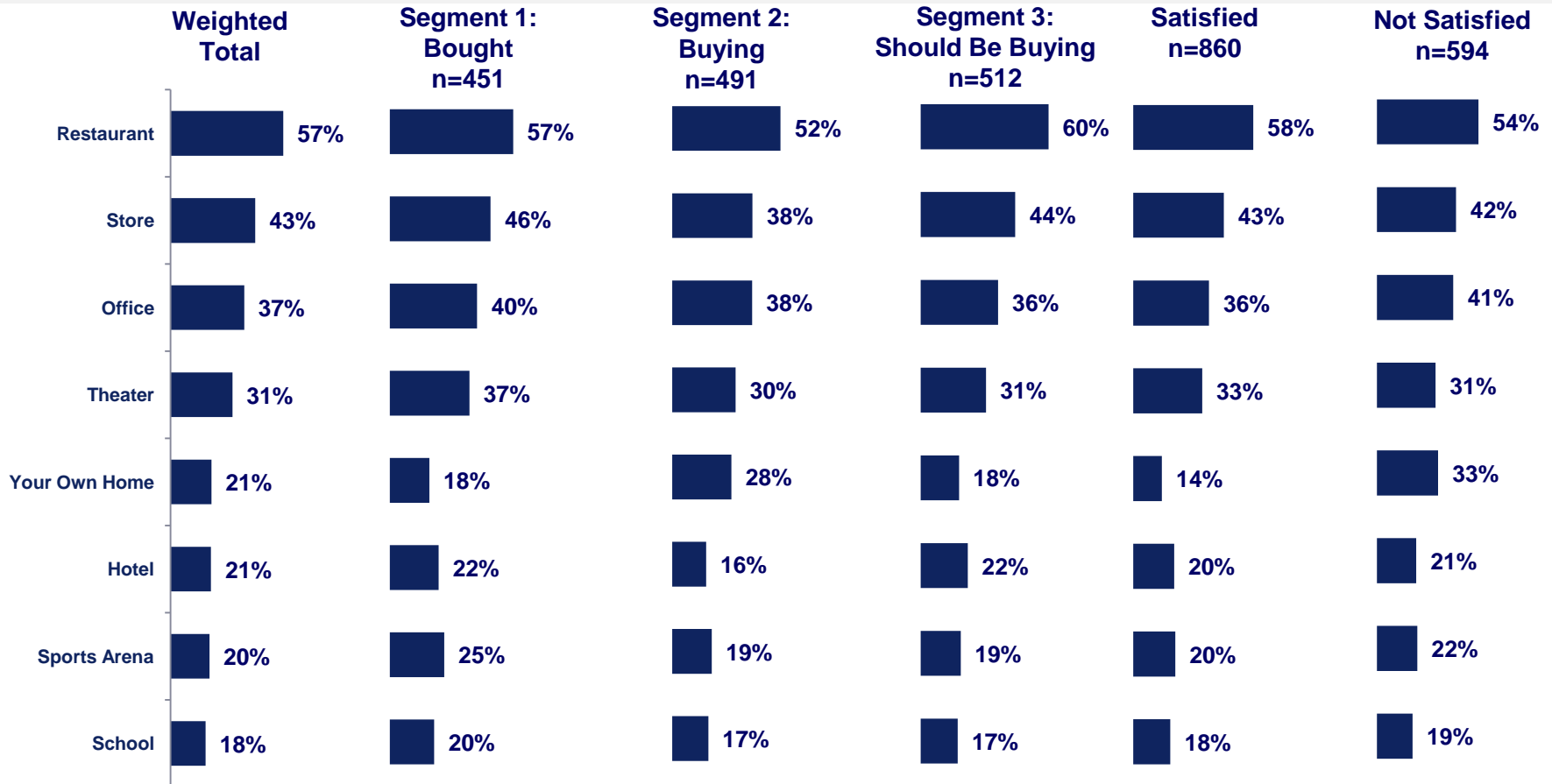
Q. Imagine you had to choose one of the following items to give up for one week, during the peak heat of summer. Which of the following items would you be least likely to give up?



HVAC system is the #1 thing the respondents were unwilling to give up for a week during the peak heat of summer, among things tested (31%)

Place Most Likely To Have Felt Uncomfortable Air Temperatures Total And By Segment

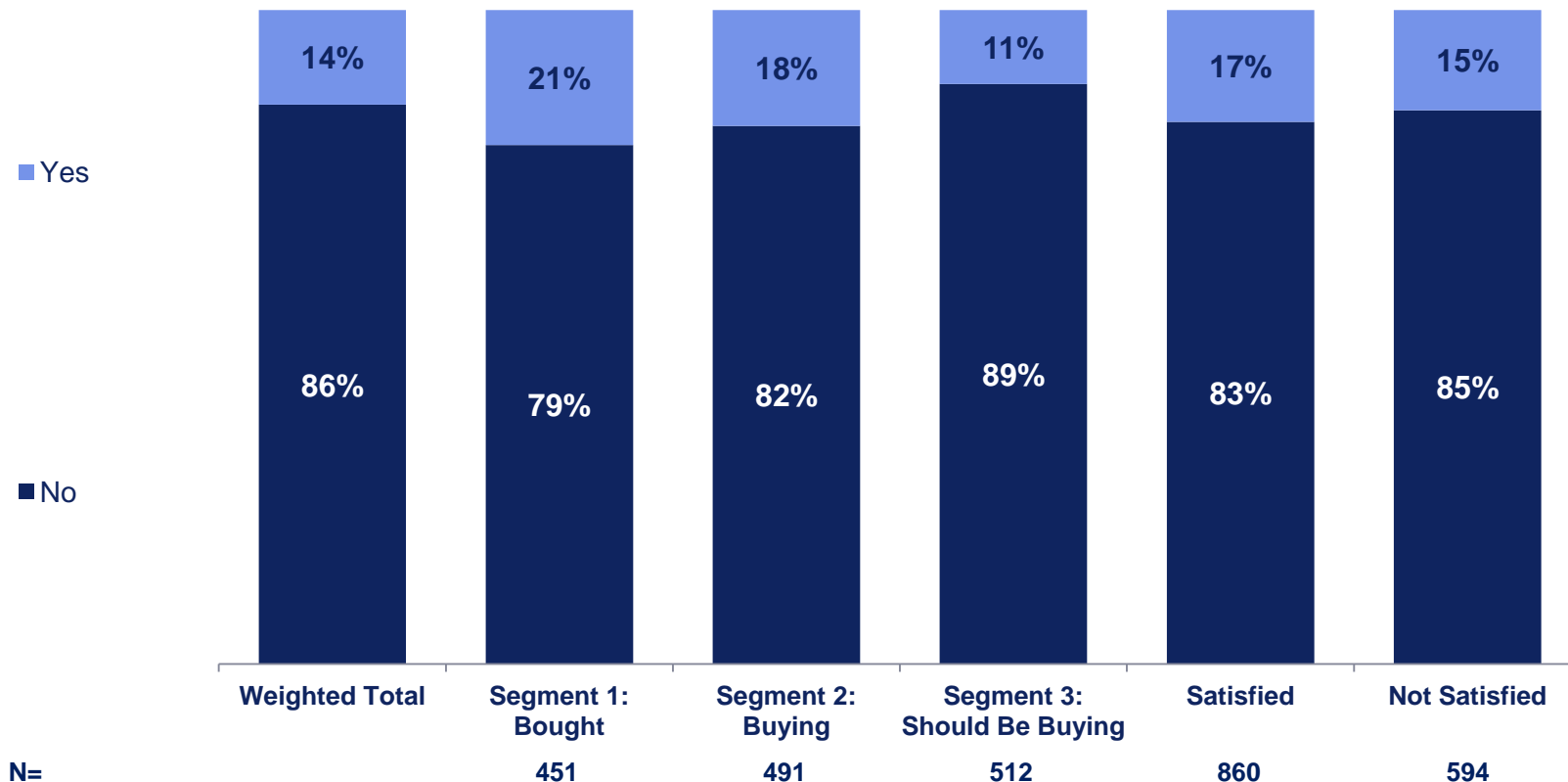
Q. In the list below, select all of the places you have felt uncomfortable indoors due to air temperatures that were too hot or too cold. Select all that apply.



Most respondents have felt uncomfortable air temperatures in Restaurants (57%) and Stores (43%). Least likely to have felt uncomfortable air temperatures in Schools (18%)

Incidence Of Leaving Business Due To Temperature Total And By Segment

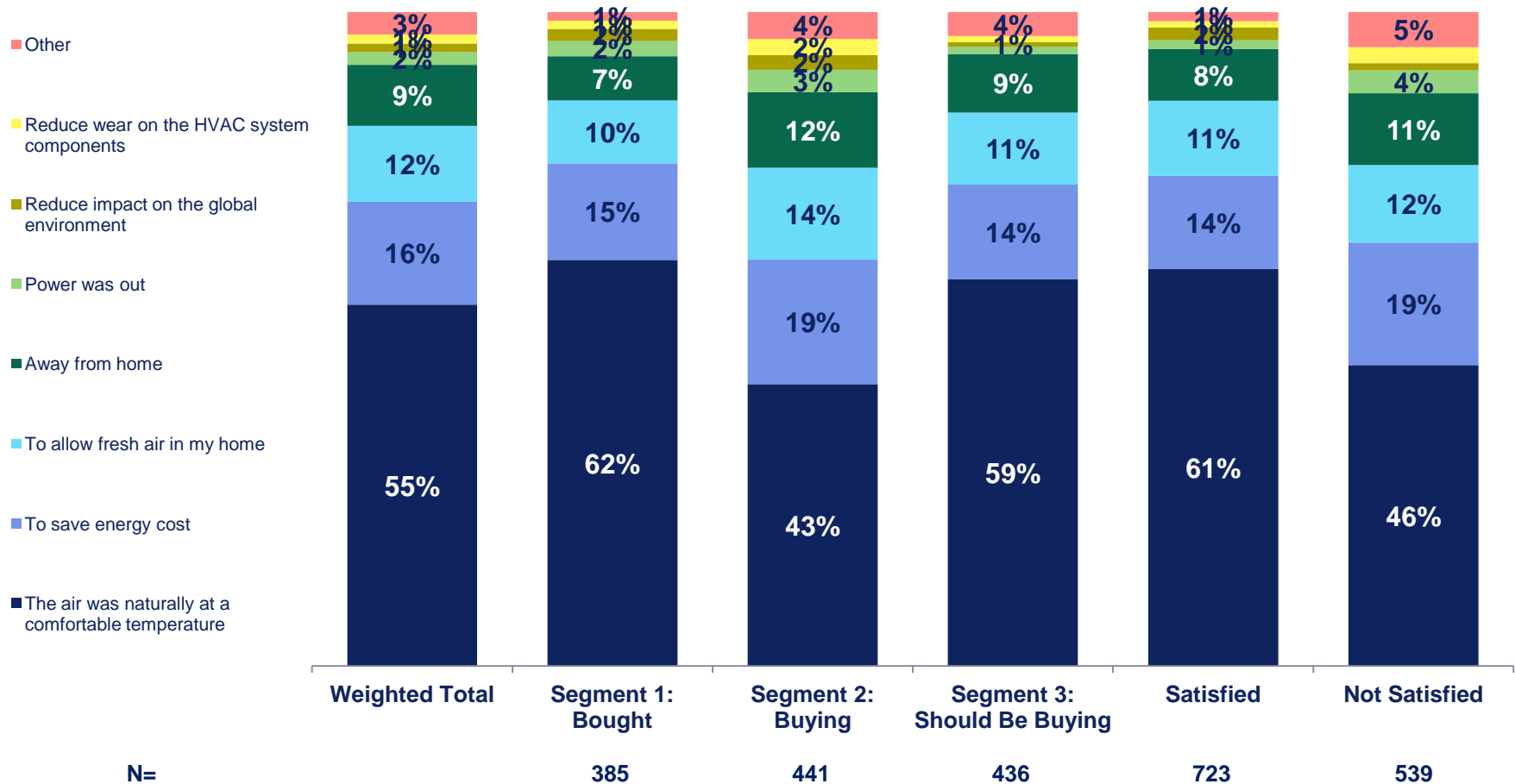
Q. In the past year did you leave a business or refuse to return to a business because its indoor temperature was too hot or too cold?



14 % of all respondents have left a business or refused to return to a business because they felt air temperatures were either too hot or too cold. However, a higher percentage (21%) of consumers who recently purchased a new HVAC system either left or did not return versus the percentage of the “should be buying” segment (11%). Delayed purchasers may be less sensitive to comfort.

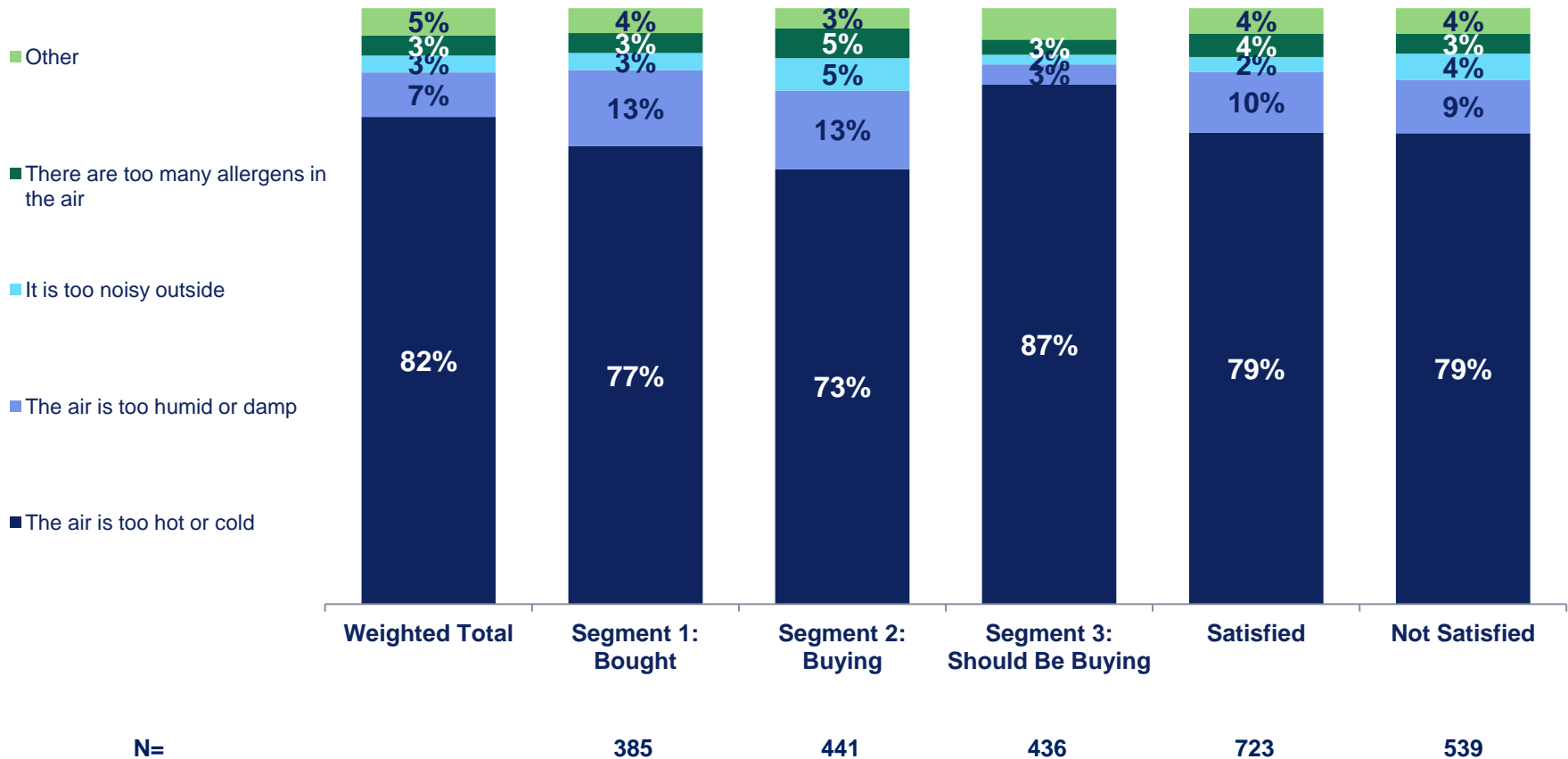
Main Reason When HVAC System Was OFF Total And By Segment

Q. During the times when your HVAC system was off, what was the main reason? Please select one.



Main Reason For Turning HVAC ON Total And By Segment

Q. During the times when your HVAC system was off, what was the main reason for turning it back on?
Please select one.



Main reason for turning on system after it has been off for a long time is "The air is too hot or cold" (82%)

Homeowner Profiles And Preferences

Key Takeaways - Homeowners

- Homeowners who are “currently buying” HVAC equipment appear to be much more interested in energy efficiency and comfort than those who have “already bought” a system. This group was more frequently in the market due to a major repair or system failure – so plan early for system replacement and don’t wait too long.
- On average most homeowners take three weeks to research their HVAC purchase, talk to two contractors and do significant internet research before deciding. However, some satisfied homeowners seem to do their research faster and deal more quickly with a local contractor who they know and trust without spending a lot of time.
- More research time does not necessarily lead to better decisions and better satisfaction. What is most important is doing good, objective internet research and finding the right contractor to help.
- A contractor who comes with a strong recommendation and who talks with you about various system options and performs diagnostic tests should help you to be satisfied with your system selection and also your overall satisfaction with your HVAC investment.
- Homeowners who made “shopping for deals” a priority had a slightly higher percentage of “dissatisfied” responses.

Homeowner Profiles And Preferences

Key Takeaways - Contractors

- **Having a reputation for quality service and providing reliable systems that last a long time is key. Getting those referrals to your customers quickly is also important along with providing recommendations for objective, internet based information to help them make decisions.**
- **Performing diagnostic tests and providing the results of calculations that help customers know you are taking steps to understand their unique needs is also essential for their satisfaction with your work and with their equipment selection.**
- **Homeowners will probably not be very familiar with terms like SEER and HSPF so explaining these to your customers will be helpful. They will probably be more familiar with Energy Star so you might be ready to explain efficiency in that context or as it relates to various rebates available in your area.**
- **Most homeowners do not know what the efficiency ratings are for their current equipment so you might take note of this when you are doing your diagnostics so you can help them with energy savings calculations later.**

Other Information Screening and Profile Questions

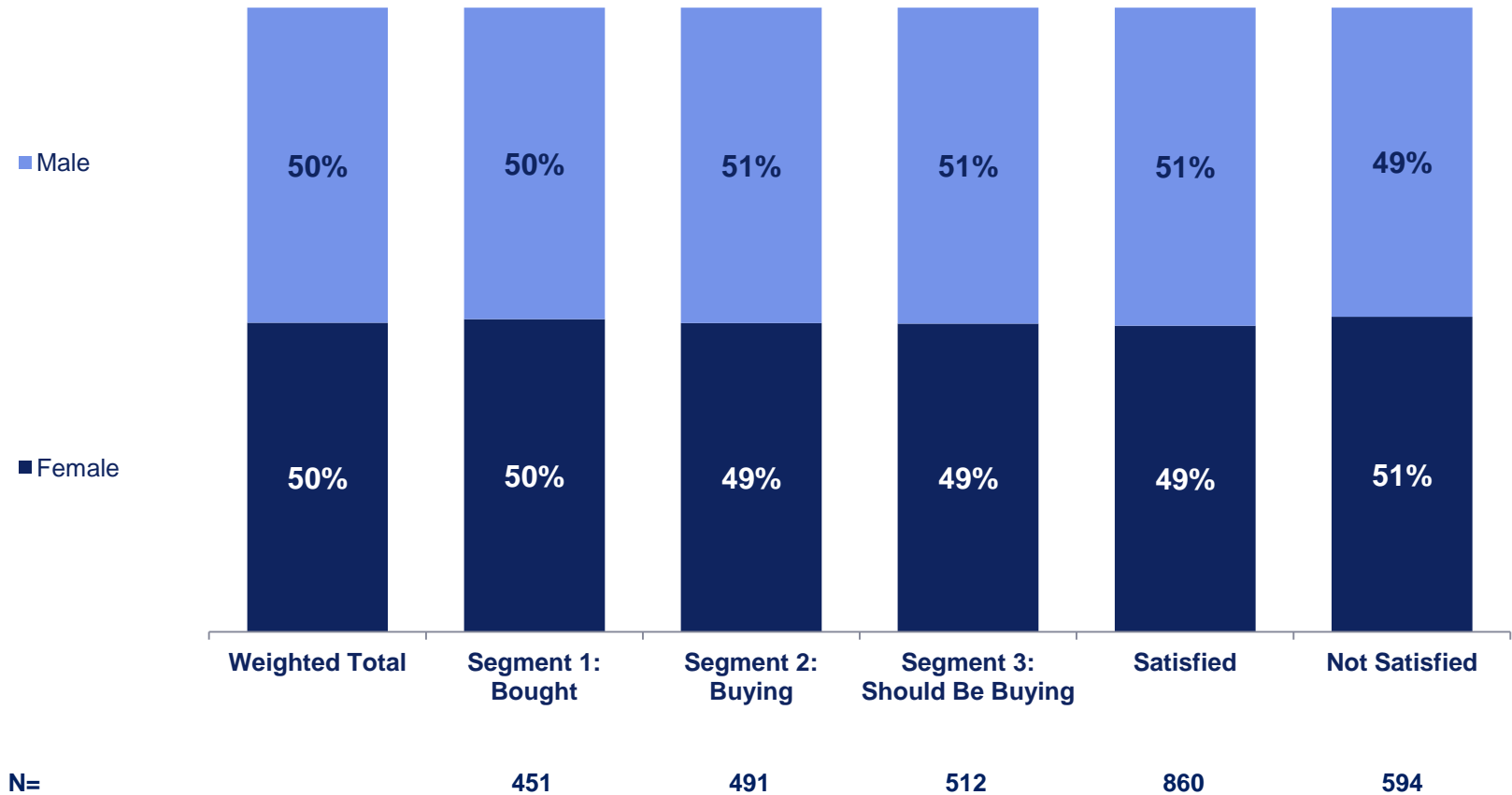
**2015 Residential Air Conditioning Consumer
Research Summary Report**



Gender

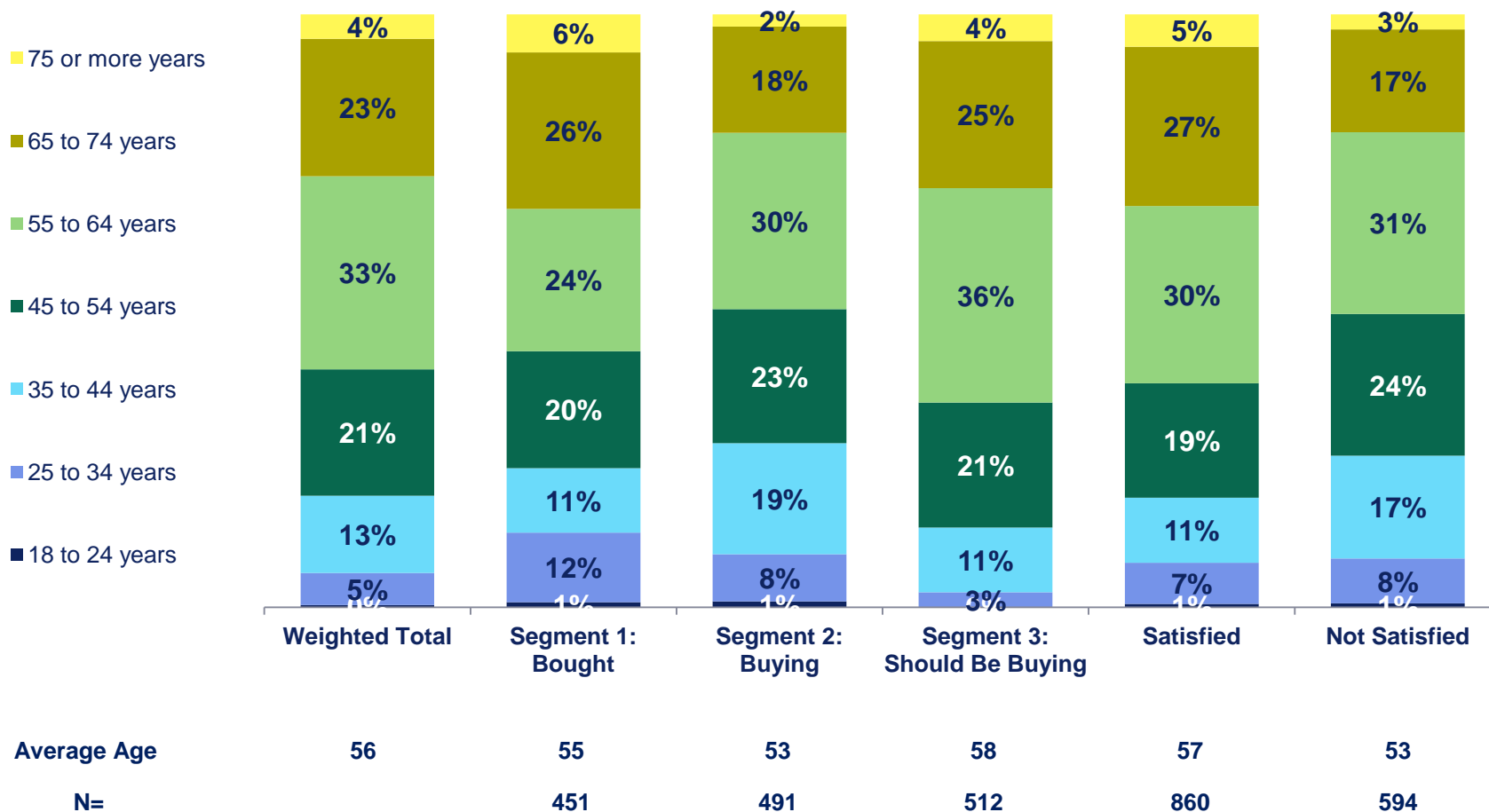
Total And By Segment

Q. What is your gender?



Age Total And By Segment

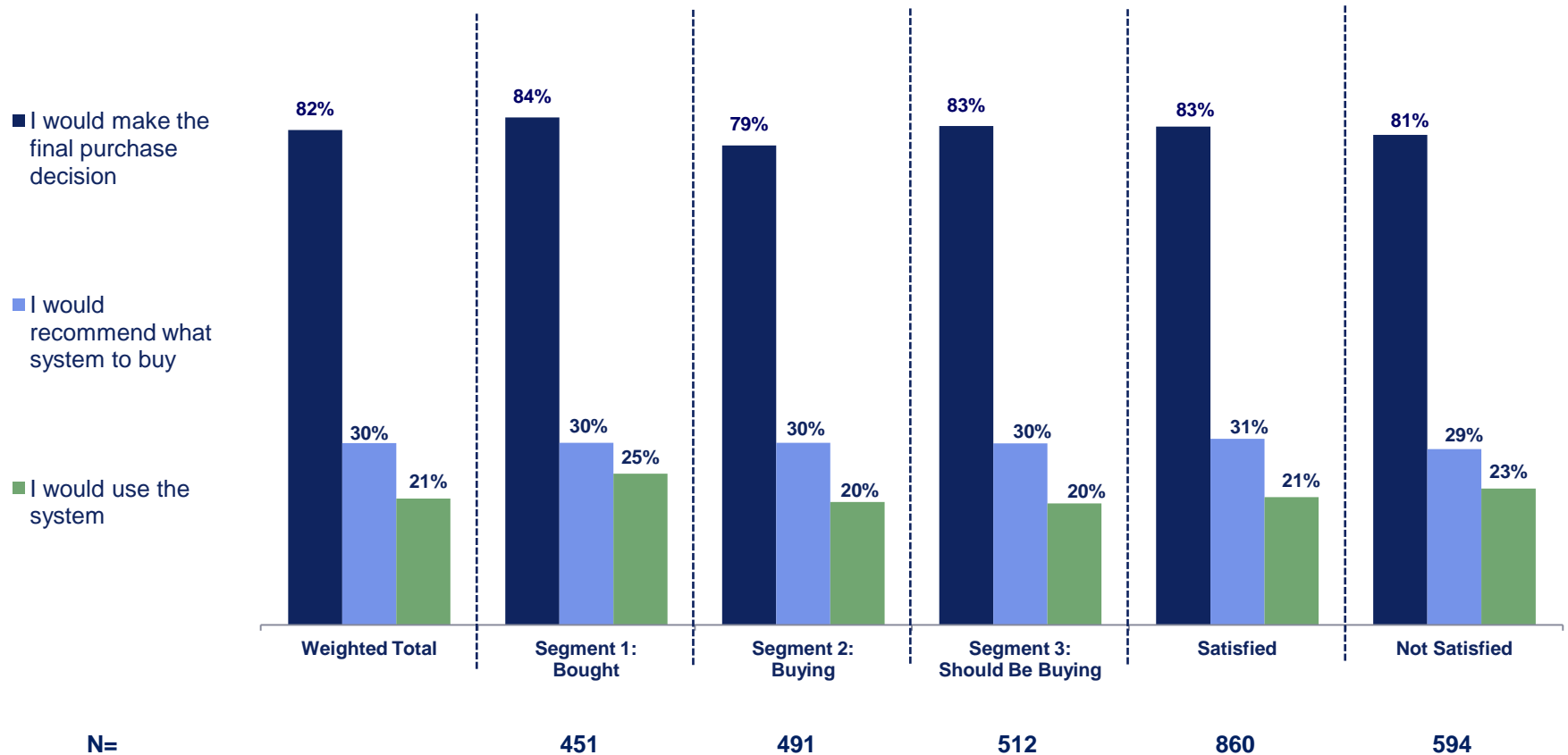
Q. What is your age?



Purchase Role

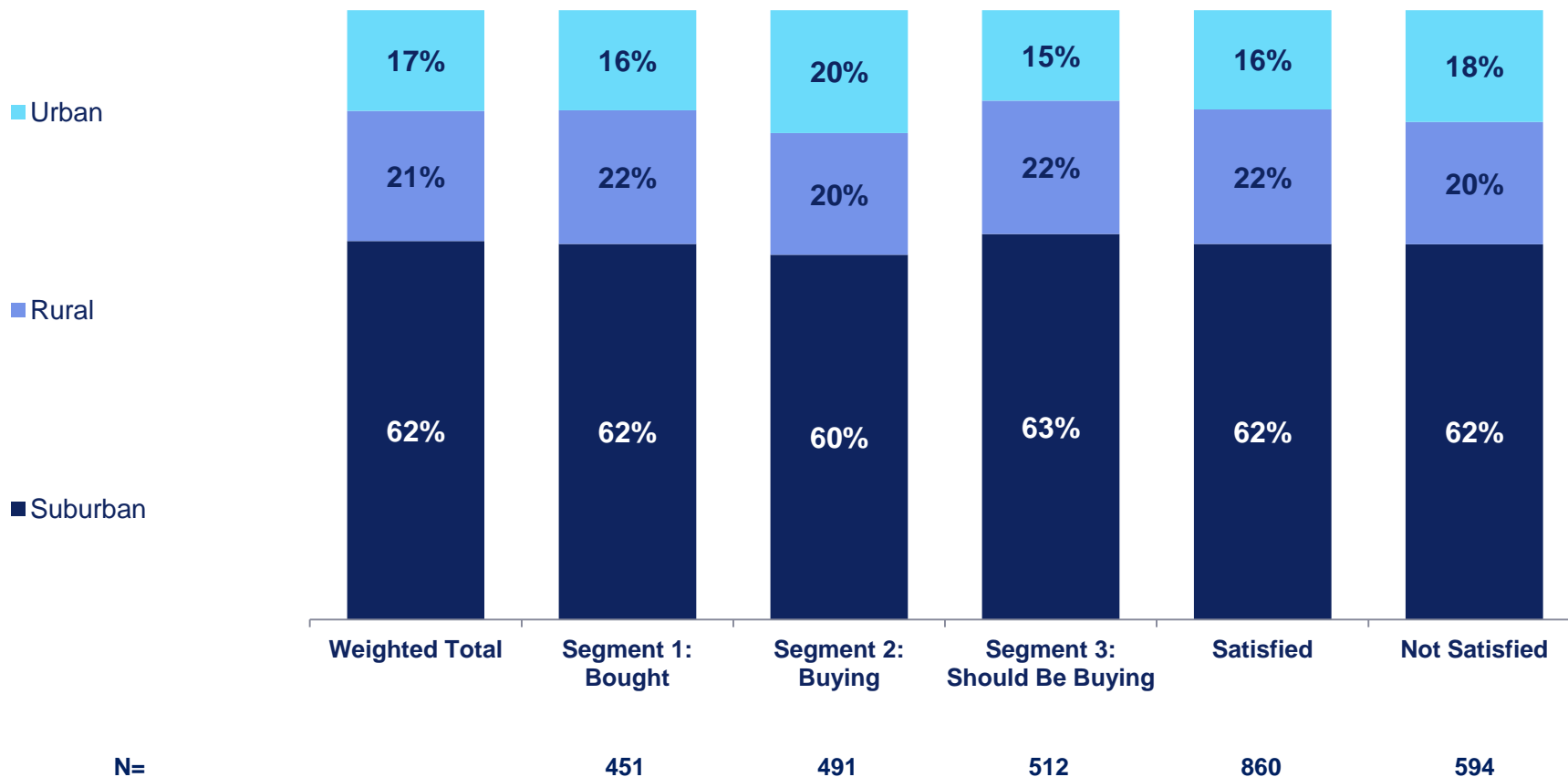
Total And By Segment

Q. What would be your role in purchasing or using a new Heating, Ventilation, and Air Conditioning (HVAC) system for your home? Select all that apply.



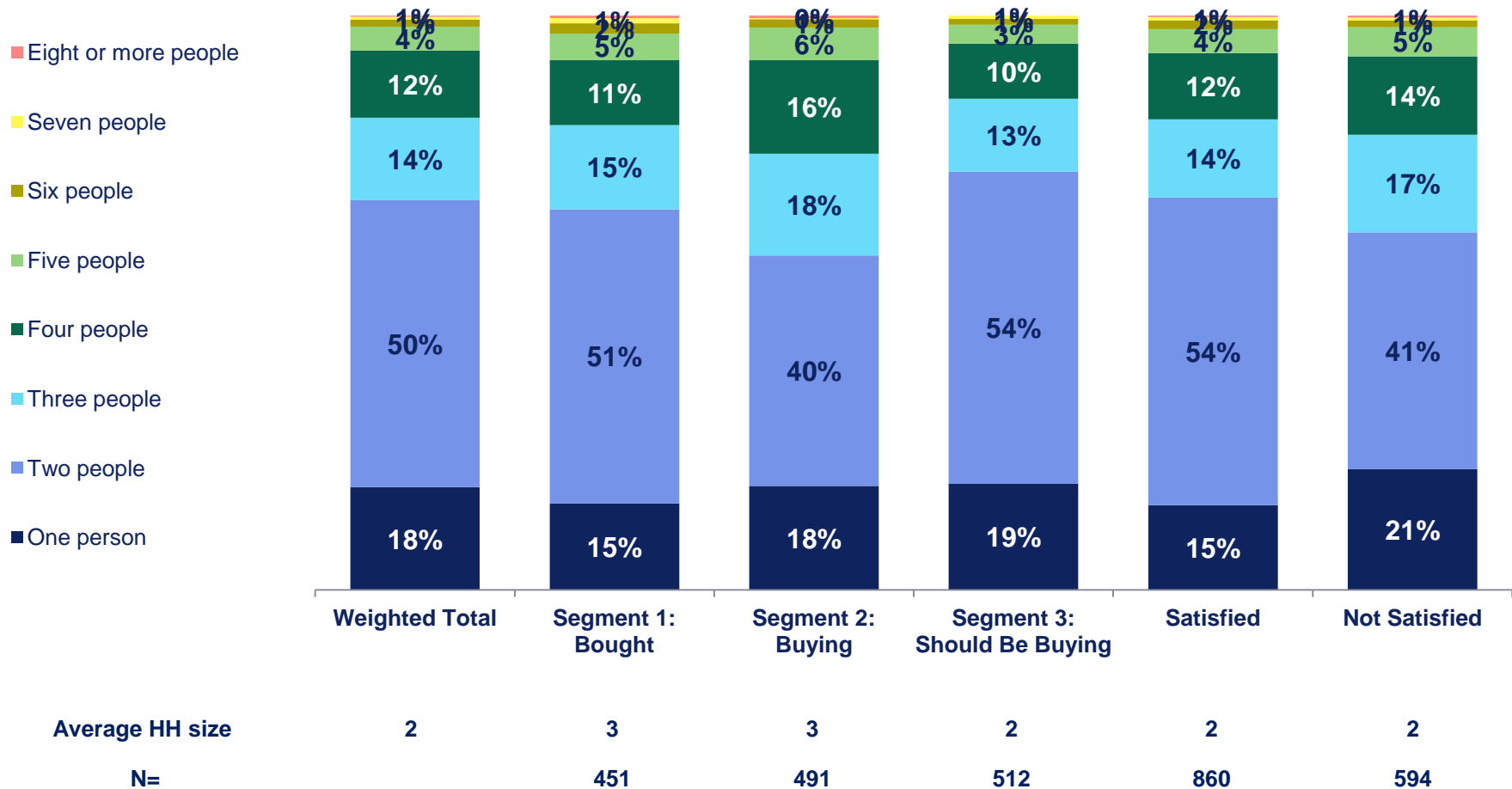
Urbanicity Total And By Segment

Q. Which of the following best describes the area in which you live?



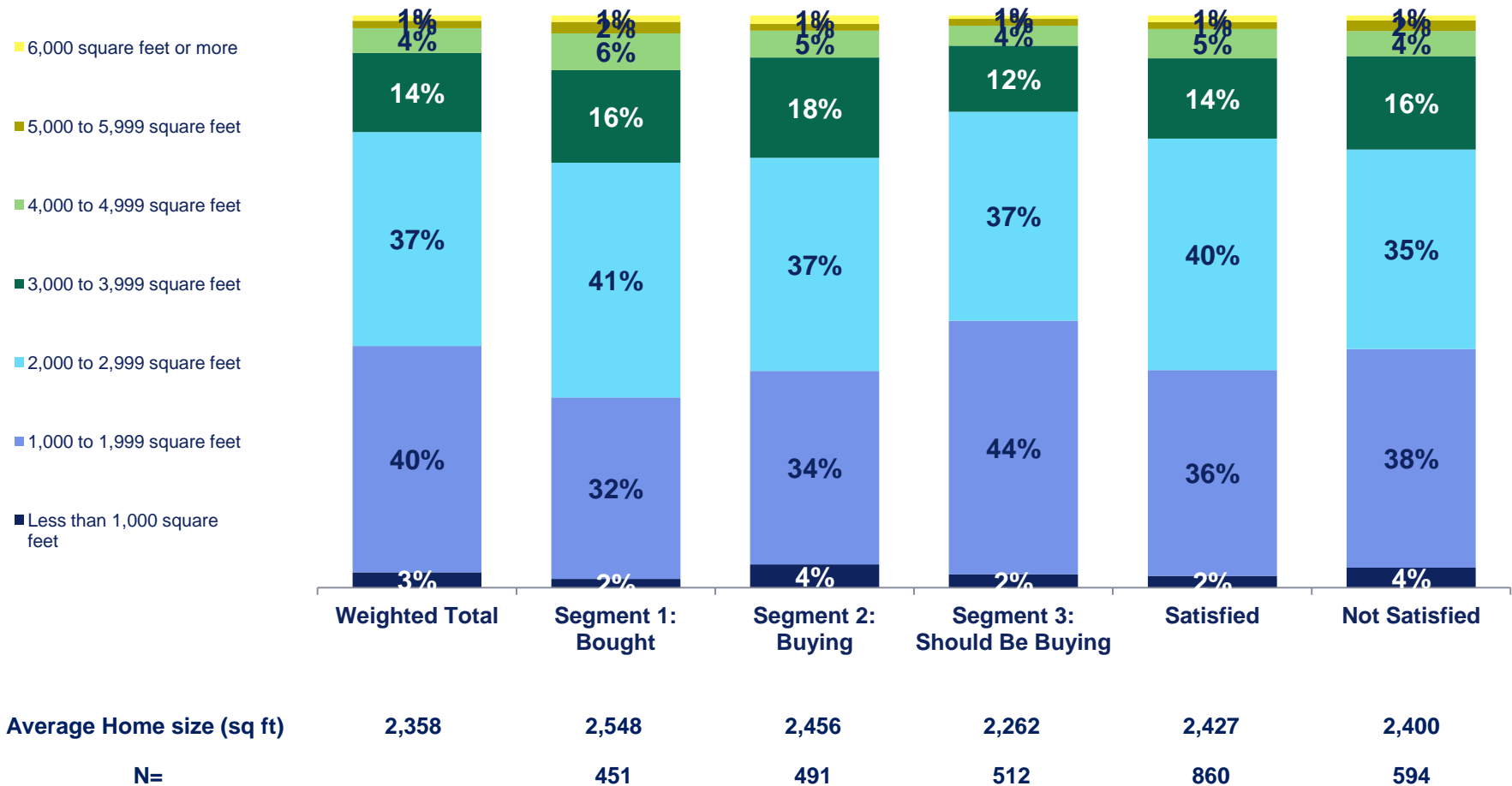
Household Size Total And By Segment

Q. Including yourself, how many people live in your home?



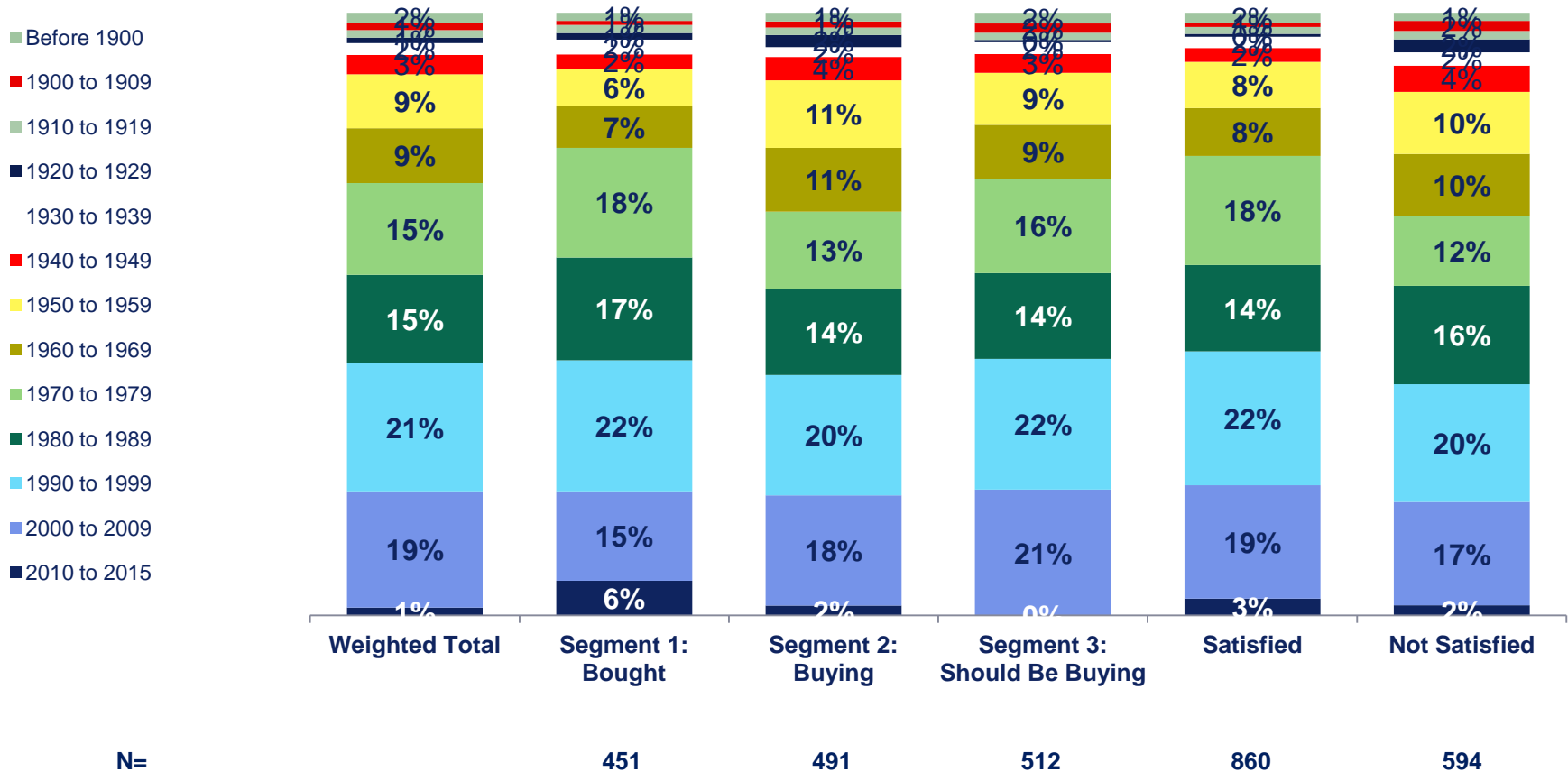
Home Size Total And By Segment

Q. What is the size of your home, including a finished basement?



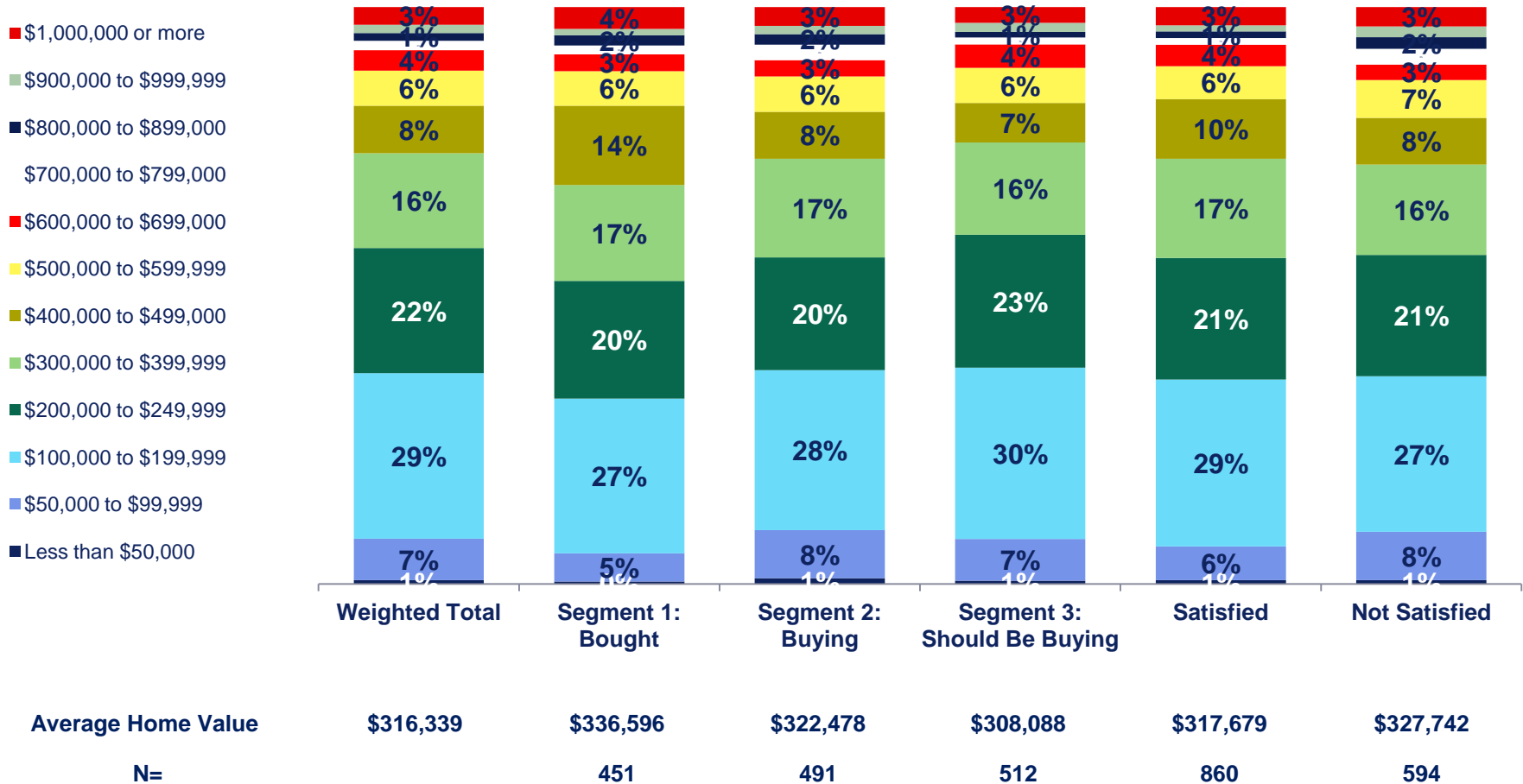
Home Age Total And By Segment

Q. What is the approximate age of your home?



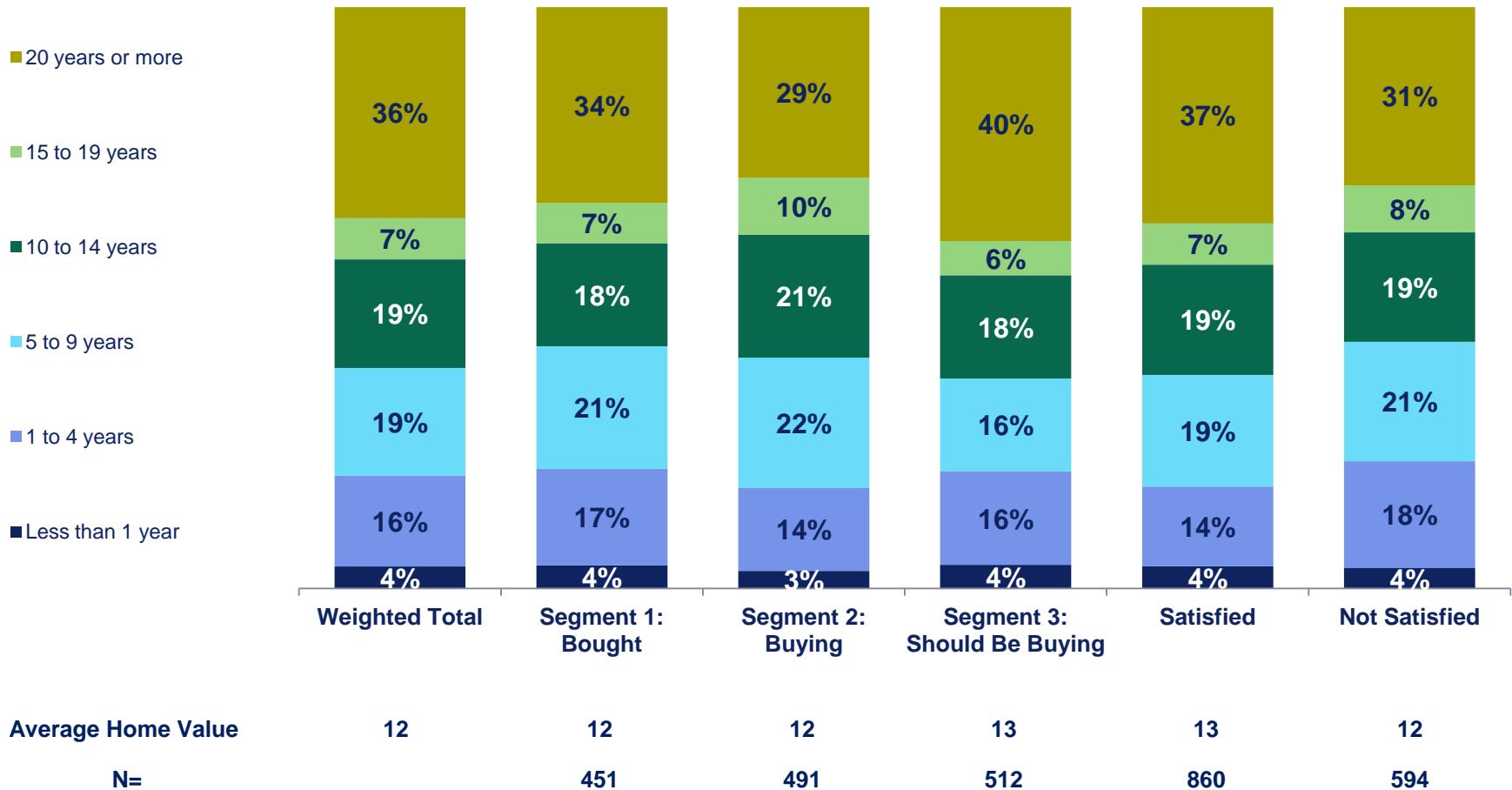
Home Value Total And By Segment

Q. What is the approximate value of your home?



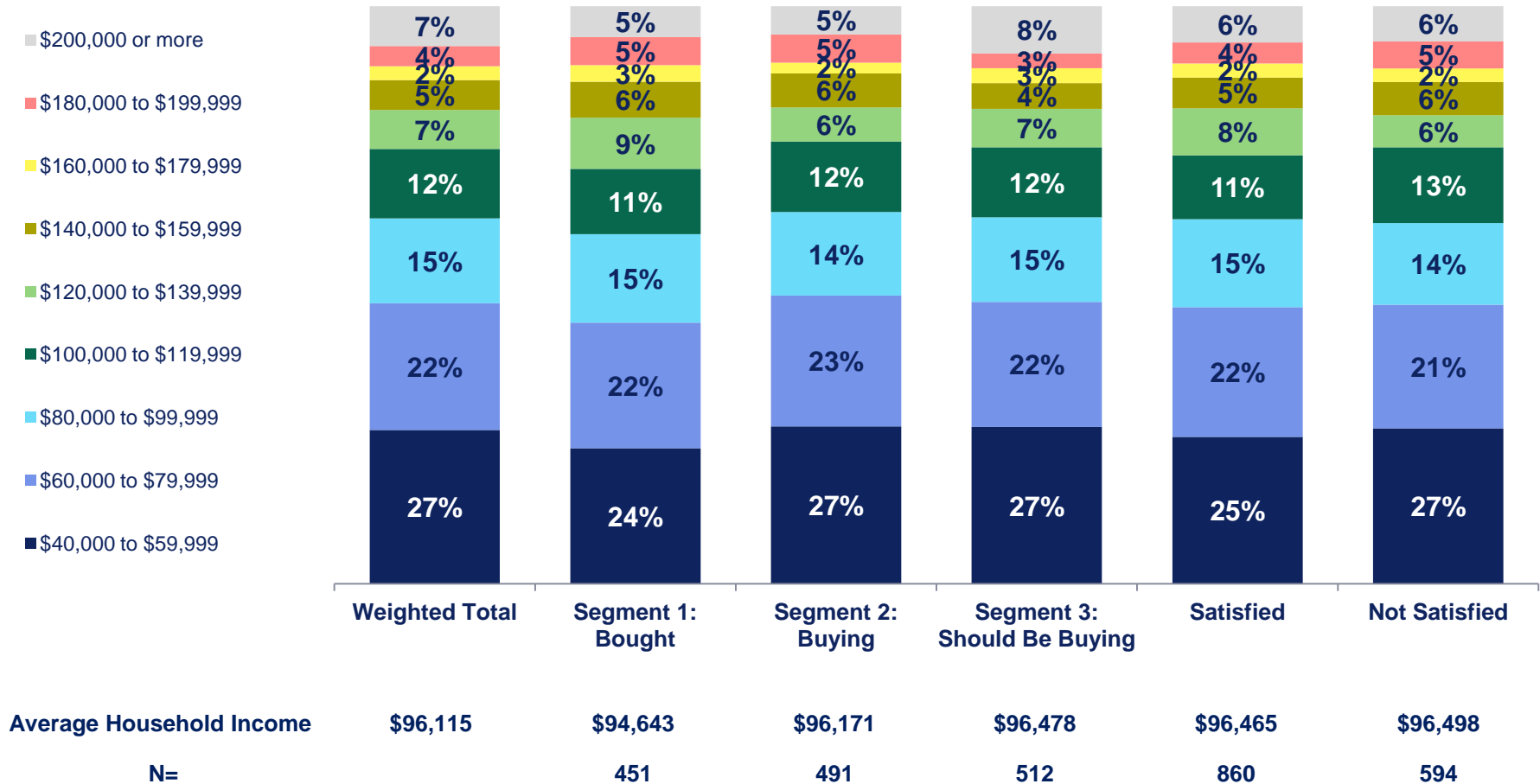
Home Longevity Total And By Segment

Q. How long do you plan to continue living in your current home?



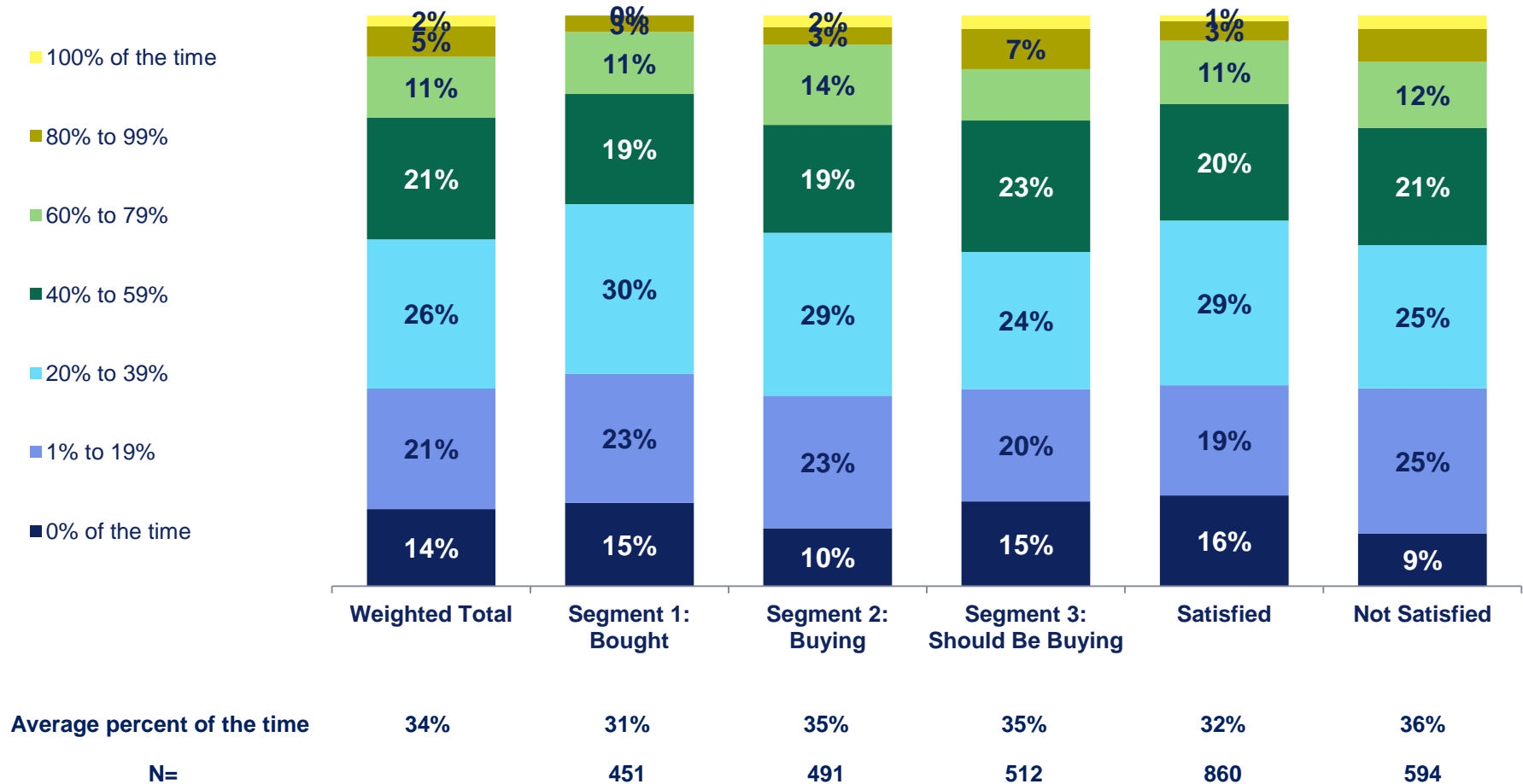
Household Income Total And By Segment

Q. What was your total household income in 2014?



HVAC Usage Total And By Segment

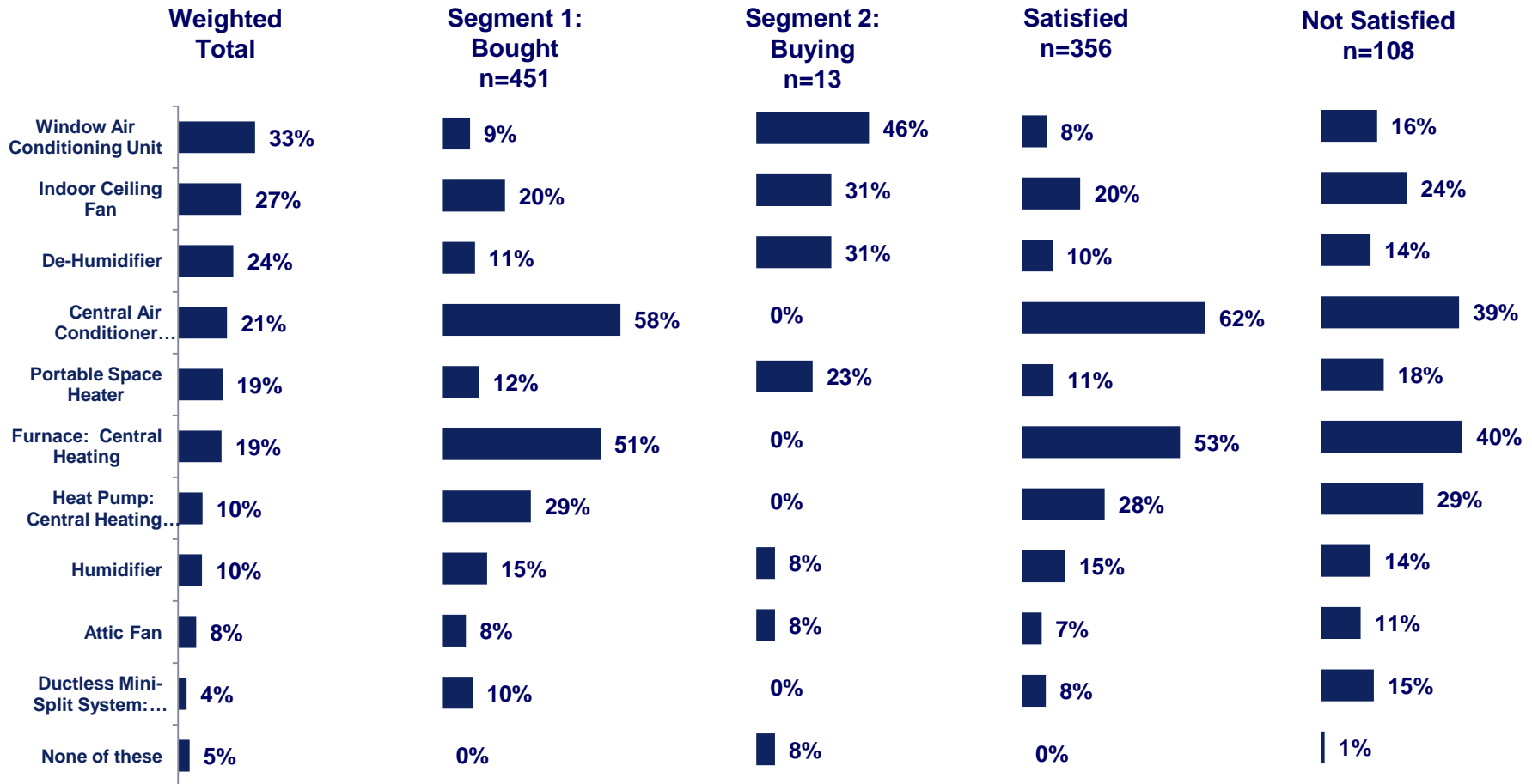
Q. In the past year, what percent of the time was your HVAC system off?



New System Profile

Total And By Segment

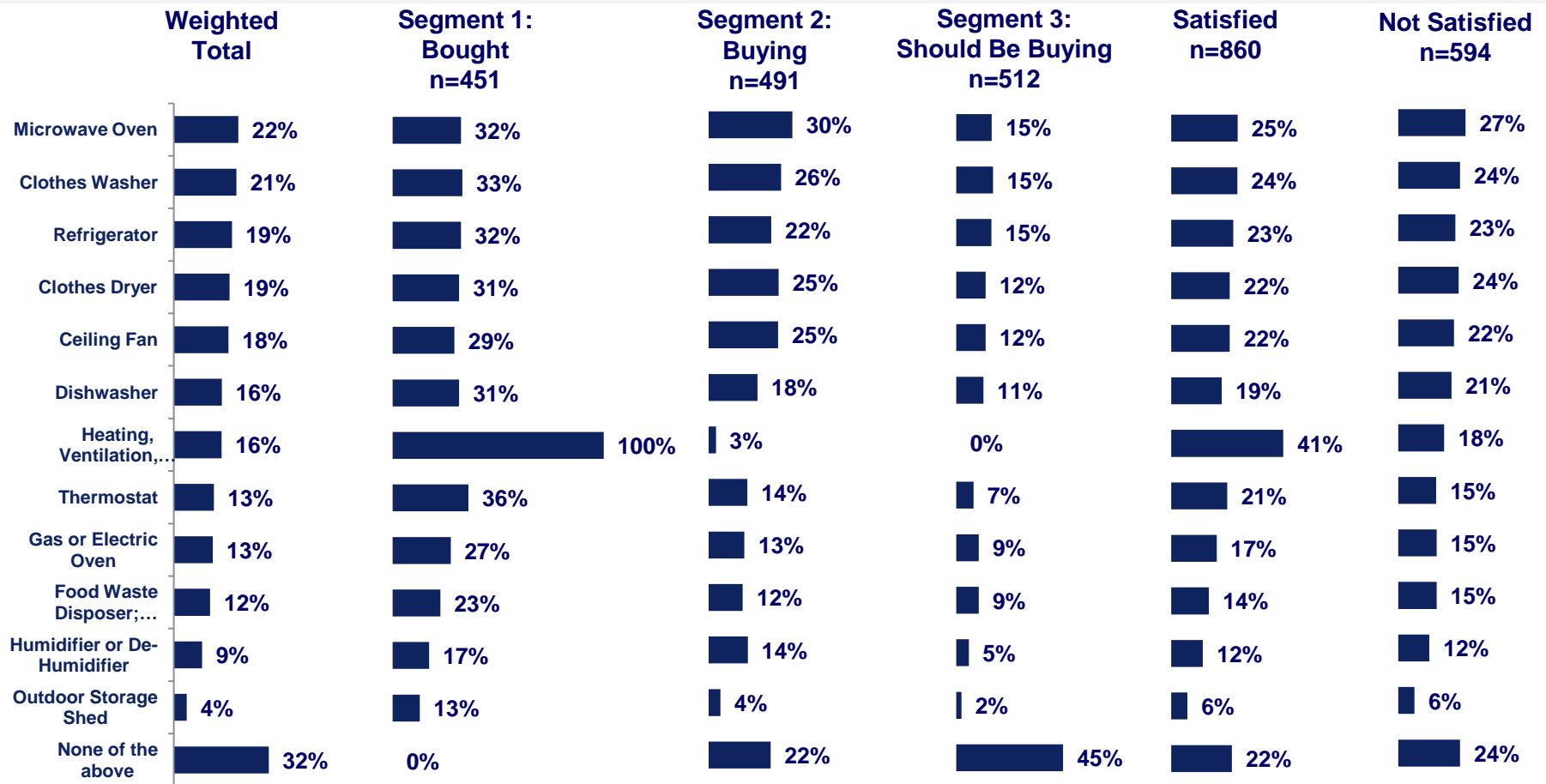
Q. Which type of Heating, Ventilation, and Air Conditioning (HVAC) system, or major components did you purchase in the past year? Please select all that apply.



Among those who purchased an HVAC system in the past 2 years, 58% bought Central Air, 51% Central Heat, 29% Heat Pump

Past Year Purchase Total And By Segment

Q. Which of the following did you purchase in the past 2 years for the home in which you live? Please select all that apply.



16% purchased a new HVAC System in the past 2 years

Country Total And By Segment

Q. Where are you located?

	Weighted Total	Segment 1: Bought	Segment 2: Buying	Segment 3: Should Be Buying	Satisfied	Not Satisfied
n=		451	491	512	860	594
California	12%	12%	13%	12%	11%	14%
Florida	8%	9%	7%	8%	8%	8%
Texas	8%	9%	7%	8%	8%	7%
New York	6%	5%	7%	6%	5%	8%
Illinois	6%	6%	5%	6%	6%	5%
Pennsylvania	4%	5%	4%	4%	4%	5%
New Jersey	4%	6%	2%	5%	5%	3%
Ohio	3%	4%	3%	3%	3%	4%
Michigan	3%	3%	3%	4%	4%	2%
North Carolina	3%	3%	5%	2%	3%	3%
Minnesota	3%	4%	2%	3%	3%	3%
Georgia	3%	2%	4%	2%	2%	4%
Washington	3%	2%	2%	4%	3%	2%
Massachusetts	2%	2%	3%	2%	2%	3%
Indiana	2%	2%	2%	2%	2%	2%
Virginia	2%	2%	1%	3%	2%	2%
Arizona	2%	2%	2%	2%	3%	1%
Missouri	2%	2%	2%	1%	2%	1%
Wisconsin	2%	2%	2%	1%	2%	1%
Maryland	2%	2%	2%	2%	2%	2%
Colorado	2%	1%	2%	2%	1%	2%
Connecticut	2%	1%	2%	2%	2%	2%
South Carolina	2%	3%	1%	2%	2%	2%
Tennessee	1%	2%	1%	2%	1%	2%

	Weighted Total	Segment 1: Bought	Segment 2: Buying	Segment 3: Should Be Buying	Satisfied	Not Satisfied
n=		451	491	512	860	594
Louisiana	2%	1%	2%	2%	1%	2%
Nevada	1%	1%	1%	1%	1%	1%
Kansas	1%	0%	1%	2%	1%	1%
Oregon	1%	1%	1%	1%	1%	1%
Utah	1%	1%	1%	1%	1%	0%
Nebraska	1%	1%	1%	1%	1%	1%
Alabama	1%	1%	1%	1%	1%	1%
Kentucky	1%	0%	1%	1%	0%	1%
Arkansas	1%	0%	1%	1%	1%	1%
Oklahoma	1%	1%	1%	0%	1%	1%
New Mexico	1%	0%	1%	1%	0%	1%
Iowa	1%	0%	0%	1%	0%	1%
Idaho	0%	1%	0%	0%	0%	0%
Maine	0%	0%	0%	0%	0%	1%
Mississippi	0%	0%	0%	0%	0%	0%
New Hampshire	0%	0%	0%	1%	0%	0%
Delaware	0%	0%	0%	0%	0%	0%
District of Columbia	0%	0%	0%	0%	0%	1%
South Dakota	0%	0%	0%	1%	0%	0%
Montana	0%	0%	0%	0%	0%	0%
North Dakota	0%	0%	0%	0%	0%	0%
West Virginia	0%	0%	0%	0%	0%	0%
Rhode Island	0%	0%	0%	0%	0%	0%