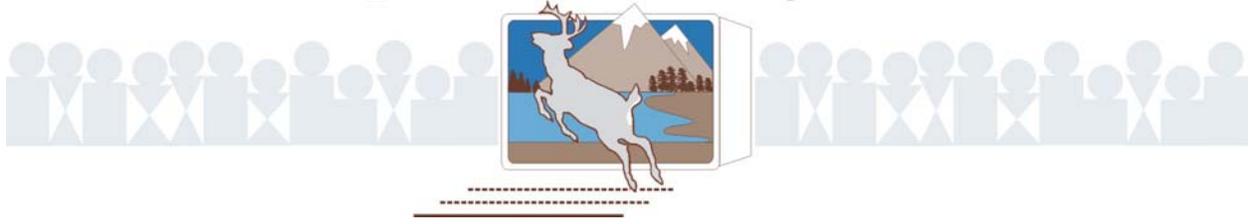


Responsive Management



A REVIEW OF BOATING SAFETY EDUCATION PROGRAMS NATIONWIDE

**PHASE II: REGISTERED BOAT OWNERS' OPINIONS ON AND
ATTITUDES TOWARD BOATING SAFETY EDUCATION PROGRAMS**

**Conducted for the
National Association of State Boating Law Administrators**

by Responsive Management

2010

A REVIEW OF BOATING SAFETY EDUCATION PROGRAMS NATIONWIDE

PHASE II: REGISTERED BOAT OWNERS' OPINIONS ON AND ATTITUDES TOWARD BOATING SAFETY EDUCATION PROGRAMS

2010

Responsive Management National Office

Mark Damian Duda, Executive Director
Martin Jones, Senior Research Associate
Tom Beppler, Research Associate
Steven J. Bissell, Ph.D., Qualitative Research Associate
Andrea Criscione, Research Associate
Joanne Nobile, Research Associate
Amanda Ritchie, Research Associate
Carol L. Schilli, Research Associate
Megan Wilkes, Research Associate
Tim Winegard, Survey Center Manager
Alison Lanier, Business Manager

130 Franklin Street
Harrisonburg, VA 22801
Phone: 540/432-1888 Fax: 540/432-1892
Email: mark@responsivemanagement.com
www.responsivemanagement.com

Acknowledgments

Responsive Management would like to thank Gail Kulp, John Johnson, and Deborah Gona of the National Association of State Boating Law Administrators for their input, support, and guidance on this project.

EXECUTIVE SUMMARY

INTRODUCTION AND METHODOLOGY

This report is Phase II of a three-part study conducted for the National Association of State Boating Law Administrators (NASBLA) under a grant from the U.S. Coast Guard. The overall goal of this project is to gain an enhanced understanding of boating safety education programs, as well as boating professionals' and registered boat owners' opinions, attitudes, and behaviors related to boating safety education programs. An understanding of both elements of boating safety education—the administrators and the boating public—allows for the development of recommendations to improve boating safety education programs.

The project couples an internal review, an “inside-out” approach, with an external review, an “outside-in” approach. Phase I of this project is the assessment from the “inside-out,” which looked at where boating safety education programs currently are and where administrators want them to go, thereby providing a better understanding of the internal attitudes, values, and visions for the future among those administering the programs. Specifically, Phase I consisted of in-depth personal interviews and supplementary telephone surveys of state and territory Boating Law Administrators and education coordinators from all states and territories.

Phase II of this project is the review from the “outside-in,” which gained a better understanding of the opinions, attitudes, and program priorities of one constituent group of boating safety education programs: owners of registered boats. Phase II gained an enhanced understanding of the attitudes of boat owners toward boating safety education programs and their experiences with boating safety courses. An understanding of this element of boating safety education helps boating safety professionals successfully implement and enhance boating safety education programs. Specifically, Phase II of the study entailed a telephone survey of owners of registered boats in all 50 states and Washington, D.C. This survey was designed to scientifically and accurately reflect owners of registered boats nationwide as well as regionally. Results of the survey are reported at the 95% confidence interval with a margin of error for the entire sample of plus or minus 1.58 percentage points.

Phase III of the project contains the synthesis of the Phase I and II reports, as well as additional analyses of the telephone survey data and insights obtained from a series of focus groups. The focus groups consisted of owners of registered boats who had taken and passed a boating safety course and owners of registered boats who had not taken boating safety education.

For this nationwide survey of owners of registered boats in Phase II, telephones were selected as the sampling medium. The telephone survey questionnaire was developed cooperatively by Responsive Management and NASBLA. Responsive Management conducted a pre-test of the questionnaire to ensure proper flow, logic, and wording. Interviews were conducted Monday through Friday from 9:00 a.m. to 9:00 p.m., Saturday noon to 5:00 p.m., and Sunday from 5:00 p.m. to 9:00 p.m., local time. The survey was conducted in September and October 2008. Responsive Management obtained a total of 3,833 completed interviews nationwide. The software used for data collection was Questionnaire Programming Language.

The researchers chose to interview owners of registered boats, thereby reaching a large constituency for boating education. While the researchers realized that this sampling design would miss some boaters (e.g., those who rent a boat, those who use a friend's boat, or those who use an unregistered boat), the alternative sampling design to reach these boaters would have been prohibitively expensive. The alternative would have required a general population survey with screeners for any type of boating activity, requiring thousands of additional telephone calls. Interviewing owners of registered boats, thus, was a cost-effective method to determine opinions and attitudes of boaters regarding boating safety education and particularly issues related to mandatory boating education. The sampling design for this survey was based on standard sampling methodology to accurately reflect the opinions and attitudes of owners of registered boats nationwide and regionally.

The majority of the sample of owners of registered boats for this survey was obtained from the agencies responsible for boating in each state. However, a few of the states could not supply a sample due to legal prohibitions from releasing registered boat owner information. For these states, the survey sample was purchased from Chilcutt Marketing, which has developed a high-quality sample of owners of registered boats through a combination of identified purchasers of

boats and boating-related equipment and those who subscribe to boating-related magazines. When a telephone number was not included with an individual in the sample, a reverse look-up methodology was employed using the firm Survey Sampling International as well as proprietary software developed by Responsive Management.

The state-by-state breakdown of the sample was designed to match the proportion of registered boats (a proxy for the proportion of *owners* of registered boats) among all the states and Washington, D.C. The state assigned to the respondent for the sampling plan was the state of boat registration, not the state of respondent's residence. The analysis of data was performed using Statistical Package for the Social Sciences software as well as proprietary software developed by Responsive Management. The analysis included crosstabulations by an assortment of variables, including a regional breakdown; other crosstabulations include those who had taken a boating safety course versus those who had not, those who had taken a course to satisfy a mandatory requirement versus those who had taken a course voluntarily, by the format of the course taken (among those who took a course), by length of time since a course was taken (among those who took a course), and by whether the boater had been in an accident. Additionally, for this report, a nonparametric analysis examined how various responses related to other responses in the survey.

TYPES OF BOATS USED, BOAT OWNERSHIP, BOATING LOCATIONS, AND BOATING AVIDITY

The typical owner of a registered boat in the survey used a motorboat 16 to 26 feet long that was owned by either the boater or his/her family. Smaller portions of the registered boat owner population used other various types of boats. About a quarter of the owners of registered boats in the survey sometimes were guests on friends' boats. A small portion of the sample consisted of individuals who no longer own a registered boat but had a registered boat in 2007, the year of the data from which the sample was obtained; regardless, if they had boated in the previous year, they were surveyed (and they are referred to throughout the report as an owner of a registered boat).

The apportionment of registered boats across the U.S. appears to be most influenced by both a state's total population as well as access to coastal waters or the Great Lakes. As discussed previously, the sample was pulled proportional to registered boats in the U.S.

The typical owner of a registered boat among the survey sample goes boating no more than 15 days annually; nonetheless, about a third of owners of registered boats in the survey are quite avid, boating more than 20 days annually.

KNOWLEDGE OF BOATING SAFETY PRACTICES, PERCEPTIONS OF THE SAFETY OF BOATING, AND CONCERNS ABOUT SAFETY

The owners of registered boats in this survey, for the most part, think that they, personally, know how to boat safely, and they generally think that boating in their state is safe. Nonetheless, they have safety concerns about other boaters' use of alcohol/drugs, reckless and careless operation, and lack of experience. There is also concern expressed about personal watercraft.

Owners of registered boats most commonly think that boating safety can best be addressed primarily through education and law enforcement presence. Owners of registered boats also, for the most part, think that mandatory boating safety education makes boating safer.

RESPONDENTS' BOATING ACCIDENTS AND REASONS FOR BOATING ACCIDENTS

The data suggest that about 1 in 15 owners of registered boats have been in a boating accident, and most of those who have been in a boating accident did not have prior NASBLA-approved boating safety education certification.

The most common types of accidents experienced by respondents include collision with another vessel, collision with a fixed object, being struck by a boat, capsizing, and striking a submerged object. The most commonly cited contributing factors to accidents include operator inattention, reckless/careless operation, operator inexperience, excessive speed, and hazardous waters.

In an analysis of *types* of accidents and contributing *factors* to accidents, there were no statistically significant differences between those with prior NASBLA-approved boating safety

education certification and those without such education certification. Note that this lack of difference between those with and those without NASBLA-approved boating safety education certification applies to types of accidents and contributing factors; this finding does not mean that there is no difference between the groups in whether they *have* accidents.

In an analysis of the number of people injured in accidents and the number of fatalities in accidents, there were no statistically significant differences between those with prior NASBLA-approved boating safety education certification and those without such certification.

RESPONDENTS' CURRENT BOATING SAFETY PRACTICES

Participation in several behaviors/actions related to boating safety and/or environmentally sound boating is strong, based on respondents' self reporting of those behaviors. Most owners of registered boats say that, with high frequency, they locate and check safety aids prior to launch, check navigation instruments and lights prior to launch, do not paint or clean their boat in the water, and require passengers to wear life jackets (even if sometimes the operators do not wear life jackets). On the other hand, improvements could be made regarding other behaviors/actions of boaters, including filing float plans, personally wearing life jackets (as opposed to just requiring passengers to do so), and removing invasive species from their boats before using different waters, according to the frequency that boaters say that they do these behaviors/actions.

The ten behaviors/actions asked about were:

- Wearing a life jacket while operating or riding on a boat
- Requiring all other passengers to wear a life jacket
- Filing a float plan with the appropriate agency
- Locating and checking all safety aids prior to launch
- Checking all navigation instruments and lights prior to launch
- Checking the marine radio prior to launch
- Fueling the boat at a dock
- Properly disposing of waste at pump-out and dump stations
- Painting or cleaning the boat in the water
- Removing all plants/animals from the boat and inspecting/washing the boat out of the water prior to entering another body of water

LAW ENFORCEMENT PRESENCE AND BOATING

Although most owners of registered boats report seeing, while they are on the water, law enforcement officers always or sometimes, about a third report seeing them only rarely or never. Regardless of how often they actually see law enforcement officers, boaters are about evenly split between wanting to see the presence increased or wanting the presence to remain about the same; almost none want law enforcement presence to be *decreased*. The most prominent law enforcement concerns are addressing reckless/careless operation, alcohol/drug use while boating, the disregard of rules (intentional or out of ignorance), and speeding.

AWARENESS OF VARIOUS BOATING SAFETY EDUCATION PROGRAMS OR CAMPAIGNS

The programs/campaigns that owners of registered boats most commonly say that they have heard of are National Safe Boating Week, alcohol/drug prevention boating programs, and the Life Jacket “Wear It” campaign, each program/campaign with more than a quarter of boaters having heard of it. Avidity in boating appears to be one of the strongest factors influencing a boaters’ exposure to any program or campaign.

PARTICIPATION IN BOATING SAFETY COURSES AND MOTIVATIONS FOR TAKING BOATING SAFETY EDUCATION

While 41% of the owners of registered boats in this survey have taken any type of boating safety course at some time, only 30% have taken a *NASBLA-approved* boating safety course. Based on several questions, it appears that 9% of owners of registered boats in the survey have taken a boating safety course that was mandatory.

Most of the boaters surveyed who took a boating safety course took it in the classroom. A small portion took courses with a hands-on component. The U.S. Coast Guard (including the Auxiliary), state agencies, and U.S. Power Squadrons are the most commonly cited providers of courses among those in the survey who took a boating safety education course.

Owners of registered boats who took a course were asked about their motivations for taking the course. Their most common response was that they were motivated because they felt that they needed to know more about boating. This percentage giving this response exceeded the

percentage who said that their motivation was because the course was mandated (note that this is their *stated* motivation; this question does not measure the proportion of boating safety course participants who were *actually* required to take a course). Likewise, the most common reason given for *not* taking a course was that the boater felt that he/she did not need the course.

Owners of registered boats most commonly say that the following factors are important in their choice to take a boating safety course: location, content, convenience, reputation, whether it is state-certified, and cost.

About 1 in 10 owners of registered boats in the survey say that it is *very* likely that they will take a boating safety course in the next 2 years. In general, the longer the boat that the respondent owns, the greater the propensity it is for him/her to say that it is likely that he/she will take a boating safety course. Sailboat users also have a relatively higher likelihood to say that they will take boating safety education, compared to users of other types of boats.

Finally, the survey found that participation in seven specific programs/campaigns (some of which do *not* entail a course) is low—each program/campaign had a participation rate of no more than 1 in 20 owners of registered boats surveyed.

The seven programs/campaigns that were asked about were:

- National Safe Boating Week
- The Life Jacket “Wear It” campaign
- The cold water immersion/hypothermia program
- Alcohol prevention
- Small boat awareness
- Hunter/angler awareness
- Paddlesports awareness

SATISFACTION AND DISSATISFACTION WITH BOATING SAFETY EDUCATION, RATINGS OF ASPECTS OF BOATING SAFETY EDUCATION PROGRAMS, AND PERCEIVED EFFECTIVENESS OF BOATING SAFETY EDUCATION PROGRAMS

Overall, satisfaction with boating safety courses is high—nearly all course participants were very or somewhat satisfied with their course. Also, the overwhelming majority of participants rated their course as excellent or good, and registered boat owners in the survey overwhelmingly said that boating safety courses were effective (note that the definition of “effective” was left up to

the respondent, and note that these are respondents' perceptions). In general, those who took a course using a classroom format gave higher ratings of the course relative to those who took other formats. The most prominent dissatisfaction with courses was a mismatch between course content and the boater's needs; nonetheless, ineffective instruction was also a dissatisfaction to some.

Most owners of registered boats feel that they practice safer boating behavior after taking a course. Boaters also feel that eight specific behaviors about which the interviewers asked are improved by boating safety education. In particular, boating safety education is perceived to be effective at increasing awareness of boating safety issues, increasing participation in safe boating practices, and in reducing unsafe/reckless boating. On the other hand, boating safety education is *not* perceived as being effective at addressing alcohol and drug use while boating.

The eight behaviors asked about were:

- Being aware of boating safety issues
- Participating in safe boating
- Using life jackets
- Practicing unsafe and reckless boating
- Using alcohol and drugs while boating
- Being aware of environmental boating issues
- Properly disposing of waste from boats
- Engaging in boating practices that are unsafe for the environment

The data analysis included a comparison of behaviors/actions by owners of registered boats before taking a course and after taking a course to help assess the effectiveness of boating safety education in influencing behavior. This was done by asking boaters to indicate the frequency at which they had participated in various behaviors/actions *prior* to taking their course and then asking them to indicate the frequency at which they now participate in the various behaviors/actions *after* their course.

The ten behaviors/actions asked about were:

- Wearing a life jacket while operating or riding on a boat
- Requiring all other passengers to wear a life jacket
- Filing a float plan with the appropriate agency
- Locating and checking all safety aids prior to launch
- Checking all navigation instruments and lights prior to launch
- Checking the marine radio prior to launch

- Fueling the boat at a dock
- Properly disposing of waste at pump-out and dump stations
- Painting or cleaning the boat in the water
- Removing all plants/animals from the boat and inspecting/washing the boat out of the water prior to entering another body of water

The data suggest that the following behaviors/actions (based on boaters' responses regarding how often that they participated in these behaviors prior to taking NASBLA-approved boating safety education and how often that they participate in these behaviors after taking NASBLA-approved boating safety education) may be influenced by boating safety education: locating and checking safety aids prior to launch and checking navigation instruments and lights prior to launch. Most other behaviors/actions appear to be positively influenced a little by boating safety education, again based on boaters' responses regarding their behaviors. Note that this analysis was conducted only among those who got both sets of questions (it eliminated those who had not boated before taking a NASBLA-approved certification boating safety course and were, therefore, asked only the post-course set of questions).

The format of boating safety courses appears to affect *perceptions* of effectiveness. Those who took a classroom course give better ratings of the course's effectiveness, relative to those who took other formats. Note that the definition of effectiveness is left up to the respondent, and note that these are respondents' perceptions; more objective measurements of effectiveness were not feasibly attainable in this study.

Regardless of course format, the lack of a hands-on component of many courses is a common criticism among boaters. Furthermore, in a direct question, owners of registered boats indicate that a hands-on component is important. Also, those who had a course with a hands-on component give quite high ratings to the quality of the hands-on component.

The topics of boating safety education that boaters most commonly want to see more of include navigation/running lights/rules of the road, personal watercraft, alcohol/drugs, first aid/emergencies, hazardous conditions, and etiquette.

The interviewers also asked about the effectiveness of seven specific programs/campaigns, some of which do *not* involve a course. Those considered the most effective by the respondents include cold water immersion/hypothermia programs, hunter/angler awareness, and paddlesports awareness. Conversely, National Safe Boating Week and alcohol/drug programs are not considered as effective. Again, this question measures perceptions of effectiveness from the boaters' perspective, not an objective measurement of effectiveness. It is important to note that the definition of effectiveness and the ways to assess effectiveness were left up to the respondent.

The seven programs/campaigns that were asked about were:

- National Safe Boating Week
- The Life Jacket "Wear It" campaign
- The cold water immersion/hypothermia program
- Alcohol prevention
- Small boat awareness
- Hunter/angler awareness
- Paddlesports awareness

OPINIONS ON FORMATS AND DELIVERY METHODS OF BOATING SAFETY COURSES

Owners of registered boats in the survey, when asked to choose their preferred course format if they were to take a boating safety education course, most commonly chose the classroom format (just over half chose the classroom format in this question), although a substantial portion (about 2 in 5) chose distance learning. Those who chose distance learning showed a much greater preference for taking the course on-line rather than by mail. The previous format of boating safety education that respondents had taken (among those who had taken a course) influenced them to favor that same format for future courses: about three-quarters of those who had taken a classroom course said they would prefer a classroom course; about three-quarters of those who had taken a distance learning course said they would prefer a distance learning course. Those who had not previously taken any boating safety courses were split, with just slightly more preferring distance learning. Also, as discussed previously, a hands-on component in boating safety education is considered important by many owners of registered boats.

In choosing a course, owners of registered boats most commonly say that the most important factors that they would consider in choosing which course to take are the location (within a 30-minute trip), course content, convenience, reputation, whether it is state-certified, and cost.

While there is no strong preference regarding weekends versus weeknights, there is a marked preference for winter or spring courses rather than summer or fall.

SOURCES OF INFORMATION ABOUT BOATING SAFETY EDUCATION

Word-of-mouth is the most common medium from which owners of registered boats learn of boating courses or hear about boating safety in general, although television, newspapers, and magazines are also important. A question from a different angle—where owners of registered boats would *look* for information (the above asked about where they had learned of a course or had heard of boating safety regardless of whether they were actually looking)—found that owners of registered boats most commonly say that the Internet is the best way to provide them with information, although television, mail, and newspapers are important media.

OPINIONS ON MANDATORY BOATING SAFETY EDUCATION

Most owners of registered boats support mandatory boating safety education requirements, particularly for younger and inexperienced boaters. Also, most owners of registered boats perceive boating to be safer in states where boating safety education is mandatory, and they likewise think it is important to know that other boaters have taken boating safety education.

Owners of registered boats, for the most part, want boating safety education certification to transfer from one state to the next, feeling that boating safety practices and courses do not greatly differ from one state to the next. However, some owners of registered boats expressed concern that boaters going to a new state should know state-specific laws and regulations in the new state or should know about certain water conditions that may be particular to the new state.

TABLE OF CONTENTS

Introduction and Methodology	1
Purpose of Study	1
Telephone Survey Methodology.....	2
Data Analysis	5
Nonparametric Analysis.....	6
Sampling Error and Source of Sample.....	8
Reading the Text.....	10
Types of Boats Used, Boat Ownership, Boating Locations, and Boating Avidity.....	11
Boating Safety.....	18
Knowledge of Boating Safety Practices, Perceptions of the Safety of Boating, and Concerns About Safety.....	19
Respondents' Boating Accidents and Reasons for Boating Accidents	34
Respondents' Current Boating Safety Practices.....	56
Law Enforcement Presence and Boating.....	141
Boating Safety Courses and Programs	147
Awareness of Various Boating Safety Education Programs or Campaigns	148
Participation in Boating Safety Courses and Motivations for Taking Boating Safety Education	153
Satisfaction and Dissatisfaction with Boating Safety Education, Ratings of Aspects of Boating Safety Education Programs, and Perceived Effectiveness of Boating Safety Education Programs	187
Opinions on Formats and Delivery Methods of Boating Safety Courses	235
Sources of Information About Boating Safety Education.....	249
Opinions on Mandatory Boating Safety Education	262
Demographic Data	272
Appendix A: Survey Questions	278
Appendix B: Regional Breakdown of the U.S. for Analysis.....	290
Appendix C: Breakdown of States for Analysis by Boating Safety Education Requirements	292
Appendix D: Variables Run in the Nonparametric Analysis.....	293
About Responsive Management	296

INTRODUCTION AND METHODOLOGY

PURPOSE OF STUDY

This report is Phase II of a three-part study conducted for the National Association of State Boating Law Administrators (NASBLA) under a grant from the U.S. Coast Guard. The overall goal of this project is to gain an enhanced understanding of boating safety education programs, as well as boating professionals' and registered boat owners' opinions, attitudes, and behaviors related to boating safety education programs. An understanding of both elements of boating safety education—the administrators and the boating public—allows for the development of recommendations to improve boating safety education programs.

The project couples an internal review, an “inside-out” approach, with an external review, an “outside-in” approach. Phase I of this project was the assessment from the “inside-out,” which looked at where boating safety education programs currently are and where administrators want them to go, thereby providing a better understanding of the internal attitudes, values, and visions for the future among those administering the programs. Specifically, Phase I consisted of in-depth personal interviews and supplementary telephone surveys of state and territory Boating Law Administrators and education coordinators from all states and territories.

Phase II of this project is the review from the “outside-in,” which gained a better understanding of the opinions, attitudes, and program priorities of one constituent group of boating safety education programs: owners of registered boats. Phase II gained an enhanced understanding of the attitudes of boat owners toward boating safety education programs and their experiences with boating safety courses. An understanding of this element of boating safety education helps boating safety professionals successfully implement and enhance boating safety education programs. Specifically, Phase II of the study entailed a telephone survey of owners of registered boats in all 50 states and Washington, D.C. This survey was designed to scientifically and accurately reflect owners of registered boats nationwide as well as regionally. Results of the survey are reported at the 95% confidence interval with a margin of error for the entire sample of plus or minus 1.58 percentage points.

Phase III of the project contains the synthesis of the Phase I and II reports, as well as additional analyses of the telephone survey data and insights obtained from a series of focus groups. The focus groups consisted of owners of registered boats who had taken and passed a boating safety course and owners of registered boats who had not taken boating safety education.

This report is the culmination of Phase II of the study—the scientific telephone survey of owners of registered boats in all 50 states and Washington, D.C. Specific aspects of the research methodology for Phase II are discussed below.

TELEPHONE SURVEY METHODOLOGY

For this nationwide survey of owners of registered boats in Phase II, telephones were selected as the sampling medium. A central polling site at the Responsive Management office allowed for rigorous quality control over the interviews and data collection. Responsive Management maintains its own in-house telephone interviewing facilities. These facilities are staffed by interviewers with experience conducting computer-assisted telephone interviews on the subjects of natural resources and outdoor recreation. The telephone survey questionnaire was developed cooperatively by Responsive Management and NASBLA. Responsive Management conducted a pre-test of the questionnaire to ensure proper flow, logic, and wording. The telephone survey questionnaire was developed cooperatively by Responsive Management and NASBLA (the survey questions are shown in Appendix A).

To ensure the integrity of the telephone survey data, Responsive Management has interviewers who have been trained according to the standards established by the Council of American Survey Research Organizations. Methods of instruction included lecture and role-playing. The Survey Center Managers and other professional staff conducted project briefings with the interviewers prior to the administration of this survey. Interviewers were instructed on type of study, study goals and objectives, handling of survey questions, interview length, termination points and qualifiers for participation, interviewer instructions within the survey instrument, reading of the survey instrument, skip patterns, and probing and clarifying techniques necessary for specific questions on the survey instrument. The Survey Center Managers and statisticians monitored the data collection, including monitoring of the actual telephone interviews without the interviewers'

knowledge, to evaluate the performance of each interviewer and ensure the integrity of the data. After the surveys were obtained by the interviewers, the Survey Center Managers and/or statisticians checked each completed survey to ensure clarity and completeness.

Interviews were conducted Monday through Friday from 9:00 a.m. to 9:00 p.m., Saturday noon to 5:00 p.m., and Sunday from 5:00 p.m. to 9:00 p.m., local time. A five-callback design was used to maintain the representativeness of the sample, to avoid bias toward people easy to reach by telephone, and to provide an equal opportunity for all to participate. When a respondent could not be reached on the first call, subsequent calls were placed on different days of the week and at different times of the day. The survey was conducted in September and October 2008. Responsive Management obtained a total of 3,833 completed interviews of owners of registered boats nationwide.

The state-by-state breakdown is shown in the tabulation below; the sample of boaters was designed to match the proportion of registered boats (a proxy for the proportion of *owners* of registered boats) among all the states and Washington, D.C. The sampling selection, sampling error, and the source of the sample are discussed shortly in the section of this report titled, “Sampling Error and Source of Sample” (see page 8).

State	Number of Registered Boats*	Percent of Registered Boats	Number of People in Sample	Percent of People in Sample
Alabama	271,658	2.14	81	2.11
Alaska	49,533	0.39	16	0.42
Arizona	145,023	1.14	15	0.39
Arkansas	199,189	1.57	61	1.59
California	893,828	7.05	266	6.94
Colorado	98,067	0.77	29	0.76
Connecticut	108,701	0.86	32	0.83
Delaware	59,192	0.47	18	0.47
Florida	988,652	7.80	303	7.91
Georgia	336,579	2.66	103	2.69
Hawaii	15,109	0.12	5	0.13
Idaho	88,464	0.70	28	0.73
Illinois	383,615	3.03	115	3.00
Indiana	164,678	1.30	51	1.33
Iowa	234,335	1.85	69	1.80

State	Number of Registered Boats*	Percent of Registered Boats	Number of People in Sample	Percent of People in Sample
Kansas	95,677	0.75	28	0.73
Kentucky	177,951	1.40	55	1.43
Louisiana	306,366	2.42	93	2.43
Maine	113,276	0.89	36	0.94
Maryland	204,277	1.61	61	1.59
Massachusetts	148,640	1.17	46	1.20
Michigan	828,529	6.54	246	6.42
Minnesota	862,937	6.81	258	6.73
Mississippi	179,433	1.42	53	1.38
Missouri	324,826	2.56	96	2.50
Montana	81,935	0.65	25	0.65
Nebraska	83,313	0.66	26	0.68
Nevada	59,957	0.47	18	0.47
New Hampshire	101,297	0.80	32	0.83
New Jersey	205,967	1.62	61	1.59
New Mexico	38,794	0.31	13	0.34
New York	497,975	3.93	153	3.99
North Carolina	370,291	2.92	116	3.03
North Dakota	49,638	0.39	19	0.50
Ohio	412,256	3.25	125	3.26
Oklahoma	216,556	1.71	64	1.67
Oregon	186,497	1.47	57	1.49
Pennsylvania	344,190	2.72	102	2.66
Rhode Island	43,375	0.34	14	0.37
South Carolina	436,075	3.44	134	3.50
South Dakota	53,430	0.42	20	0.52
Tennessee	271,687	2.14	88	2.30
Texas	595,934	4.70	179	4.67
Utah	76,481	0.60	24	0.63
Vermont	32,090	0.25	11	0.29
Virginia	248,091	1.96	74	1.93
Washington	270,627	2.13	93	2.43
Washington, D.C.	2,425	0.02	1	0.03
West Virginia	57,422	0.45	19	0.50
Wisconsin	635,571	5.01	191	4.98
Wyoming	26,296	0.21	10	0.26
TOTAL	12,676,705	100.00	3,833	100.00

*Source: U.S. Coast Guard, *Recreational Boating Statistics 2007*

The software used for data collection was Questionnaire Programming Language (QPL). The survey data were entered into the computer as each interview was being conducted, eliminating manual data entry after the completion of the survey and the concomitant data entry errors that

may occur with manual data entry. The survey instrument was programmed so that QPL branched, coded, and substituted phrases in the survey based on previous responses to ensure the integrity and consistency of the data collection.

DATA ANALYSIS

The analysis of data was performed using Statistical Package for the Social Sciences software as well as proprietary software developed by Responsive Management. The analysis included crosstabulations by several variables, including a regional breakdown by the state in which the respondent boated most often, corresponding to regions of the Western States Boating Administrators Association, Northern Association of Boating Administrators, and Southern States Boating Law Administrators Association (these are separate associations from NASBLA but are discussed on NASBLA's website; a map of these regions and a listing of the states that are members of each association is included in Appendix B).

Because the aforementioned regions are so large, encompassing quite divergent types of states within each region (for instance, West Virginia, with no ocean coast, and Florida, with hundreds of miles of ocean coast, are both in the Southern States Boating Law Administrators Association), a further breakdown of these regions into sub-regions was done in the nonparametric analysis (discussed below) to determine if any further geographical variations exist. These sub-regions are also shown in Appendix B.

Another crosstabulation grouped states into three categories according to how strict their boating safety education requirements are. There are five categories discussed by NASBLA on its website. The categories include:

- requirements for all boaters
- requirements for those born on or after a date
- requirements for youth
- requirements only for PWC operators
- no requirements

Using these five categories, the researchers created three categories that were in a scale from most to least restrictive. The researchers chose to make fewer, larger groupings (three categories instead of five) because the resulting crosstabulations would be more likely to show if

there were significant differences among the groups. The first two categories were included in the category of most restrictive states, and the last two categories were included in the category of least restrictive states. In summary, the most restrictive category included those that have “born after” or phased-in requirements; the moderately restrictive category included those states that have requirements only for youth; and the least restrictive category included those states that have requirements only for personal watercraft or have no requirements at all. The criteria and data used for categorization are fully explained in Appendix C.

The three categories created by the researchers are:

- **Most restrictive states** (those that have “born after” or phased-in requirements): Alabama, Arkansas, Connecticut, Delaware, the District of Columbia, Kansas, Louisiana, Maryland, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia, Washington, West Virginia, and Wisconsin.
- **Moderately restrictive states** (states that have requirements only for youth): Colorado, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oklahoma, South Carolina, and Texas.
- **Least restrictive states** (states that have requirements only for personal watercraft or have no requirements at all): Alaska, Arizona, California, Hawaii, Idaho, Maine, Michigan, New York, North Carolina, South Dakota, Utah, and Wyoming.

Other crosstabulations include an examination of those who had taken a boating safety course versus those who had not, those who had taken a course to satisfy a mandatory requirement versus those who had taken a course voluntarily, by the format of the course taken (among those who had taken a course), by the length of time since a course was taken (again, among those who had taken a course), and by whether or not the boater had been in an accident.

NONPARAMETRIC ANALYSIS

For this report, a nonparametric analysis examined how various responses to survey questions related to other responses to survey questions. Responses for selected questions were tested by z-scores for relationships to other responses (hereinafter, this analysis will be referred to as the “z-score analysis”). The z-score analysis examined 125 variables (based on survey responses of the respondents), entailing 7,875 calculations (note that a sub-regional breakdown—as discussed above—is included in the nonparametric analysis). A positive z-score means that the first

response being tested is positively related to the second response; a negative z-score means that the responses are negatively related.

The responses examined in the nonparametric analysis are shown in Appendix D. The z-scores were calculated as shown in the formula below.

$$z = \frac{(p_1 - p_2)}{\sqrt{p(1-p) \left[\frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

where: n_1 represents the number of observations in Group 1.

n_2 represents the number of observations in Group 2.

$p_1 = a/(a + b) = a/n_1$ and represents the proportion of observations in Group 1 that falls in Cell a . It is employed to estimate the population proportion Π_1 (% of Group 1 who had specific characteristic).

$p_2 = c/(c + d) = c/n_2$ and represents the proportion of observations in Group 2 that falls in Cell c . It is employed to estimate the population proportion Π_2 (% of Group 2 who had specific characteristic).

$p = (a + c)/(n_1 + n_2) = (a + c)/n$ and is a pooled estimate of the proportion of respondents who had specific characteristic in the underlying population.

(Equation from *Handbook of Parametric and Nonparametric Statistical Procedures*, 2nd Edition by David J. Sheskin. © 2000, Chapman & Hall/CRC, Boca Raton, FL.)

There is an important point that must be considered when interpreting z-score results. A characteristic (as indicated by a certain response to a question) that is correlated with a particular response does not mean that *all* people with that characteristic responded that way. For instance, being male is positively correlated with having taken a boating safety course. This does not mean that *all* males took a boating safety course (as some did not); rather, it means that males in the survey are more likely than are females in the survey to have taken a course. For each z-score, the examination compares those in the group (males, in the example above) with those not in that group (females). Likewise, having a bachelor's degree is positively correlated with having taken a boating safety course. Again, this does not mean that all those who have a bachelor's degree also have taken a course; rather, they are more likely to have taken a course than are those who do *not* have a bachelor's degree.

Note that a positive correlation between a characteristic and a response does not identify cause and effect; instead, it merely shows that a relationship exists. For instance, the z-score analysis found a positive correlation between being male and having taken a boating safety course. However, one would not want to leap to the conclusion that being male causes a person to take a course. The correlation simply means that males in the survey have a higher rate of having taken a course than do females.

In summary, the report identifies correlations between responses. These correlations do not mean that *all* those who responded one way also responded a second way. The report also does not identify causes and effects, nor does the report imply that a single person is associated with all of the correlations identified. The reader should consider the z-score findings with the above explanations in mind.

SAMPLING ERROR AND SOURCE OF SAMPLE

The sampling design for this survey was based on standard sampling methodology to accurately reflect the opinions and attitudes of owners of registered boats nationwide and regionally. The size of this survey (3,833 owners of registered boats) produced a sampling error on the whole sample of 1.58 percentage points at the 95% confidence interval.

The researchers chose to interview owners of registered boats, thereby reaching a large constituency for boating education. While the researchers realized that this sampling design would miss some boaters (e.g., those who rent a boat, those who use a friend's boat, or those who use an unregistered boat), the alternative sampling design to reach these boaters would have been prohibitively expensive. The alternative would have required a general population survey with screeners for any type of boating activity, requiring thousands of additional telephone calls. Interviewing owners of registered boats, thus, was a cost-effective method to determine opinions and attitudes of boaters regarding boating safety education and particularly issues related to mandatory boating education. The sampling design for this survey was based on standard sampling methodology to accurately reflect the opinions and attitudes of owners of registered boats nationwide and regionally.

Most of the sample of owners of registered boats for this survey was obtained from the agencies responsible for boating in each state. However, a few of the states could not supply a sample due to legal prohibitions from releasing boat registration information. For these states, the survey sample was purchased from Chilcutt Marketing, which has developed a high-quality sample of owners of registered boats through a combination of identified purchasers of boats and boating-related equipment and those who subscribe to boating-related magazines. When a telephone number was not included with an individual in the sample, a reverse look-up methodology was employed using the firm Survey Sampling International as well as proprietary software developed by Responsive Management.

Throughout this report, findings of the telephone survey are reported at a 95% confidence interval with a sampling error of at most plus or minus 1.58 percentage points on the national level. This means that if the survey were conducted 100 times on different samples of the population that were selected in the same way, the findings of 95 out of the 100 surveys would fall within plus or minus 1.58 percentage points of each other. Sampling error was calculated using the formula described below, with a sample size of 3,833 and a population size of 12,676,705 registered boats nationwide (a proxy for the proportion of *owners* of registered boats).

Sampling Error Equation

$$B = \left(\sqrt{\frac{N_p(.25)}{N_s} - .25} \right) (1.96)$$

Where: B = maximum sampling error (as decimal)
 N_p = population size (i.e., total number who could be surveyed)
 N_s = sample size (i.e., total number of respondents surveyed)

Derived from formula: p. 206 in Dillman, D. A. 2000. *Mail and Internet Surveys*. John Wiley & Sons, NY.

Note: This is a simplified version of the formula that calculates the maximum sampling error using a 50:50 split (the most conservative calculation because a 50:50 split would give maximum variation).

READING THE TEXT

In examining the results, it is important to be aware that the questionnaire included several types of questions:

- Open-ended questions are those in which no answer set is read to the respondents; rather, they can respond with anything that comes to mind from the question.
- Closed-ended questions have an answer set from which to choose.
- Some questions allow only a single response, while other questions allow respondents to give more than one response or choose all that apply. Those that allow more than a single response are indicated on the graphs with the label, “Multiple Responses Allowed.”
- Many closed-ended questions (but not all) are in a scale, such as excellent-good-fair-poor.
- Many questions are part of a series, and the results are primarily intended to be examined relative to the other questions in that series (although results of the questions individually can also be valuable). Typically, results of questions in a series are shown on a single graph.

Some graphs show an average, either the mean or median (or both). The mean is simply the sum of all numbers divided by the number of respondents. Because outliers (extremely high or low numbers relative to most of the other responses) may skew the mean, the median may be shown. The median is the number at which half the sample is above and the other half is below. In other words, a median of 150 means that half the sample gave an answer of more than 150 and the other half gave an answer of less than 150.

Most graphs show results rounded to the nearest integer; however, all data are stored in decimal format, and all calculations are performed on unrounded numbers. For this reason, some results may not sum to exactly 100% because of this rounding on the graphs. Additionally, rounding may cause apparent discrepancies of 1 percentage point between the graphs and the reported results of combined responses (e.g., when “strongly support” and “moderately support” are summed to determine the total percentage in support).

Finally, some graphs pertain to more than one section of the report, so these graphs are discussed in more than one section of the report. In these instances when the graph is discussed in more than one section, the graph is only shown in one section with a call-out in the other section indicating where the graph is located.

TYPES OF BOATS USED, BOAT OWNERSHIP, BOATING LOCATIONS, AND BOATING AVIDITY

The typical owner of a registered boat in the survey most often used a motorboat 16 to 26 feet long that was owned by the boater or his/her family. Smaller portions of the sample of owners of registered boats used other various types of boats. About a quarter of owners of registered boats in the survey were sometimes guests on friends' boats.

The apportionment of registered boats across the U.S. appears to be most influenced by both a state's total population as well as access to coastal waters or the Great Lakes.

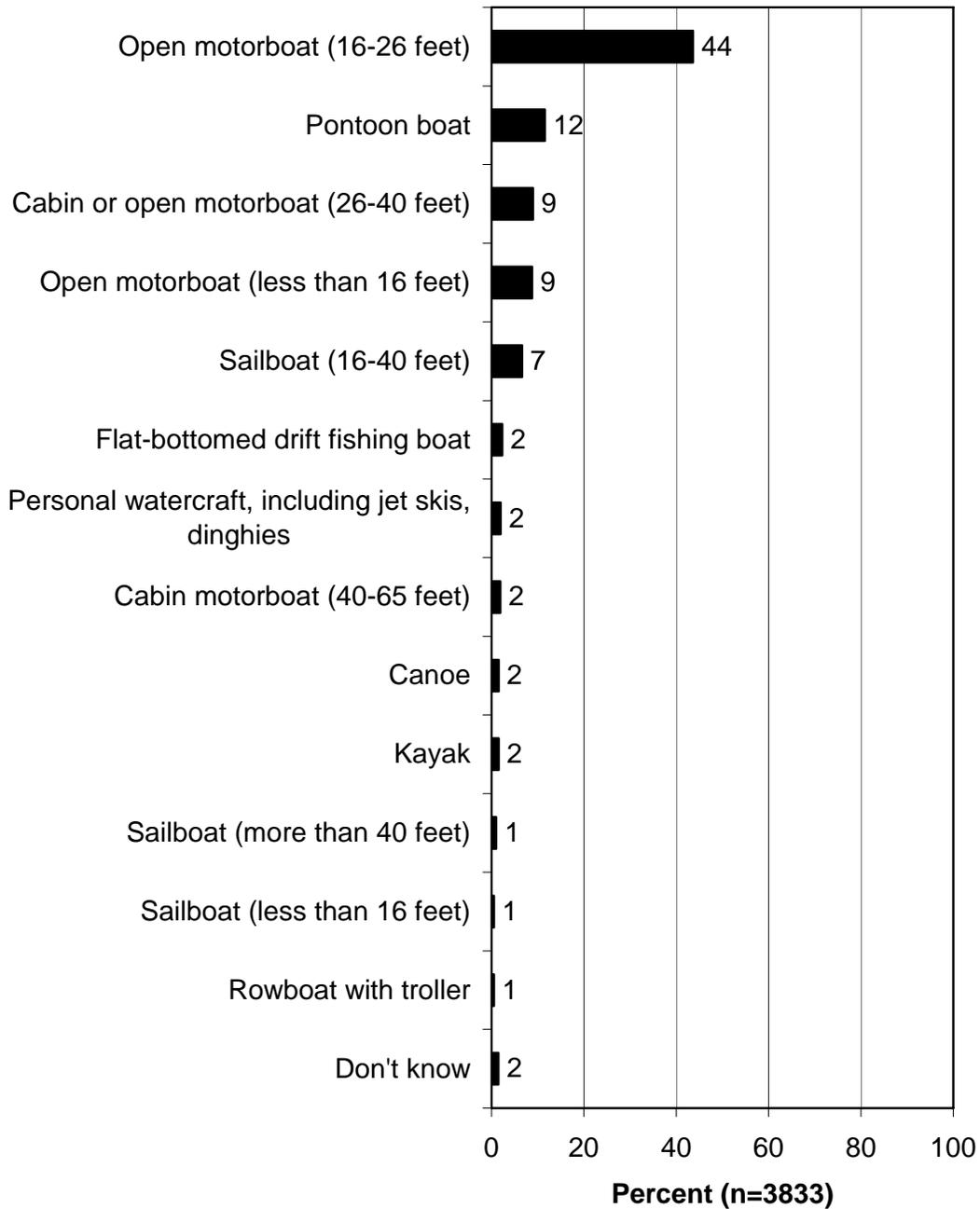
The typical owner of a registered boat among the survey sample goes boating no more than 15 days annually; nonetheless, about a third of owners of registered boats in the survey are quite avid, boating more than 20 days annually.

- The most commonly used boat types by owners of registered boats in the survey were open motorboats from 16 to 26 feet (44% of boat owners used this type the most), pontoon boats (12%), cabin or open motorboats of 26 to 40 feet (9%), open motorboats of less than 16 feet (9%), and sailboats of 16 to 40 feet (7%).
- Another question in the survey asked owners of registered boats to indicate the ownership of all the boats they used. The overwhelming majority (89%) used a boat that they owned. A substantial percentage (26%) used a boat owned by a friend (most often in addition to using a boat they owned as well—note that multiple answers were allowed to account for boaters who used more than one boat).
- The sample was proportional to registered boats across the U.S.—those states with the most registered boats had the most respondents. Although the respondent was selected for the sample based on the state in which his/her boat is registered, he/she could indicate a different state as the state in which he/she most often boated. Therefore, the results discussed below

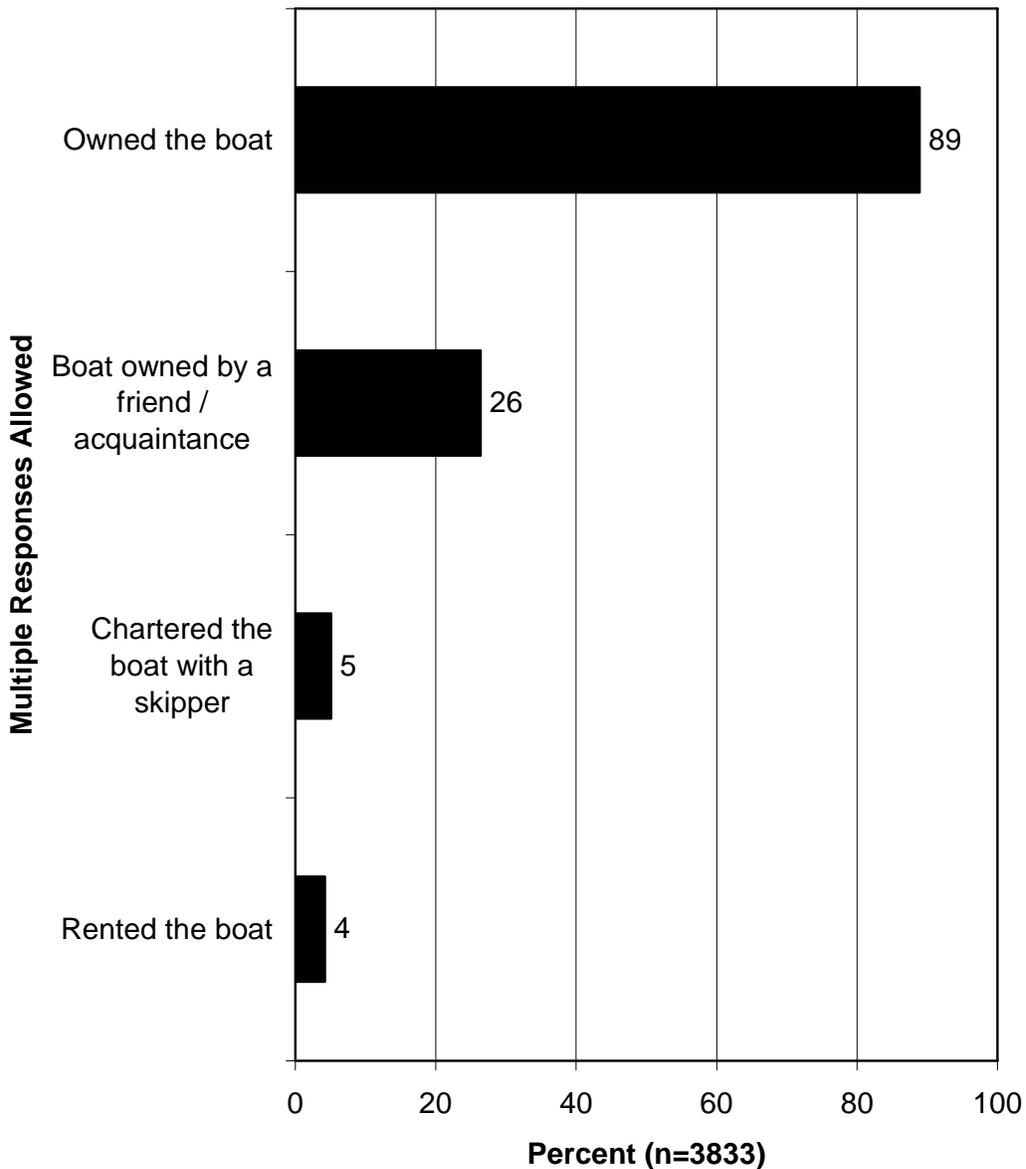
are representative of the states of actual boating activity among owners of registered boats, regardless of where the boater may have had his/her boat registered.

- The states most often boated in among owners of registered boats nationwide include Florida, Michigan, Minnesota, Wisconsin, California, Texas, New York, South Carolina, and Ohio—all with at least 3.0% of boat owners having boated there *the most*. Note that this question asked boaters to name the *single* state in which they boated *the most often*. Previous questions had asked them to name *all* the states they had boated in. These states most commonly boated in include Florida, Wisconsin, Minnesota, Michigan, California, Texas, and New York—all with close to 5.0% or more of owners of registered boats having boated there at least once in the previous 12 months. (Because many states had very small percentages associated with them, these graphs show percentages out to two decimal places.)
 - A related question asked boaters who had obtained boating safety education certification to indicate in which states they had obtained this certification. The most commonly named states include Florida, Michigan, New York, and California—all with more than 7.0% of those who took a state-certified course having obtained boating safety education certification in that state. (This graph is shown in the section of this report titled “Participation in Boating Safety Courses and Motivations for Taking Boating Safety Education.”)
- A majority of owners of registered boats (55%) boated no more than 15 days in the previous 12 months. Nonetheless, there was a substantial percentage of owners of registered boats (35%) who boated more than 20 days in the in the previous 12 months. The median number of days spent boating was 14 days in the in the previous 12 months.

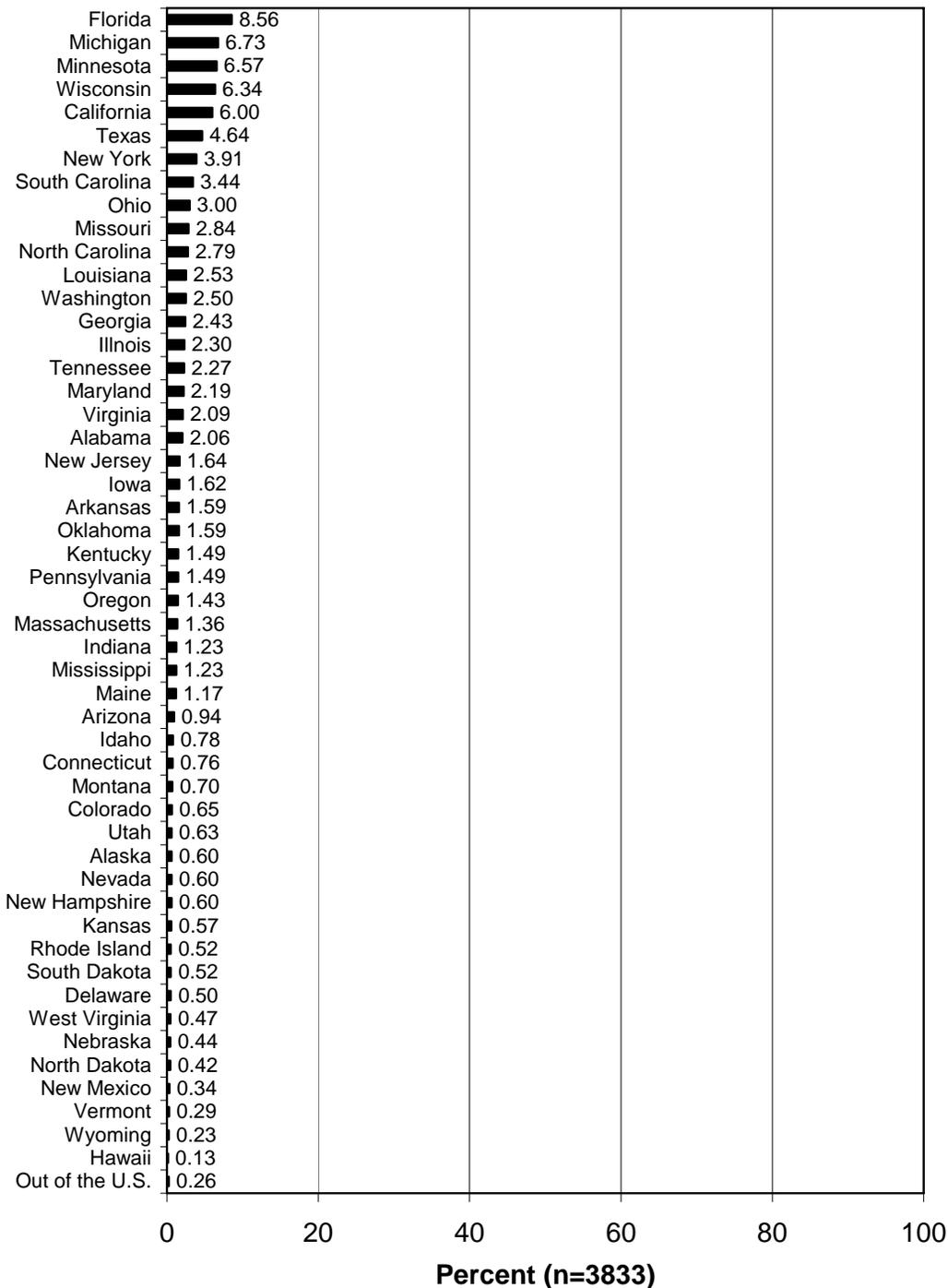
Q37. What type of boat did you use most often in the past 12 months?



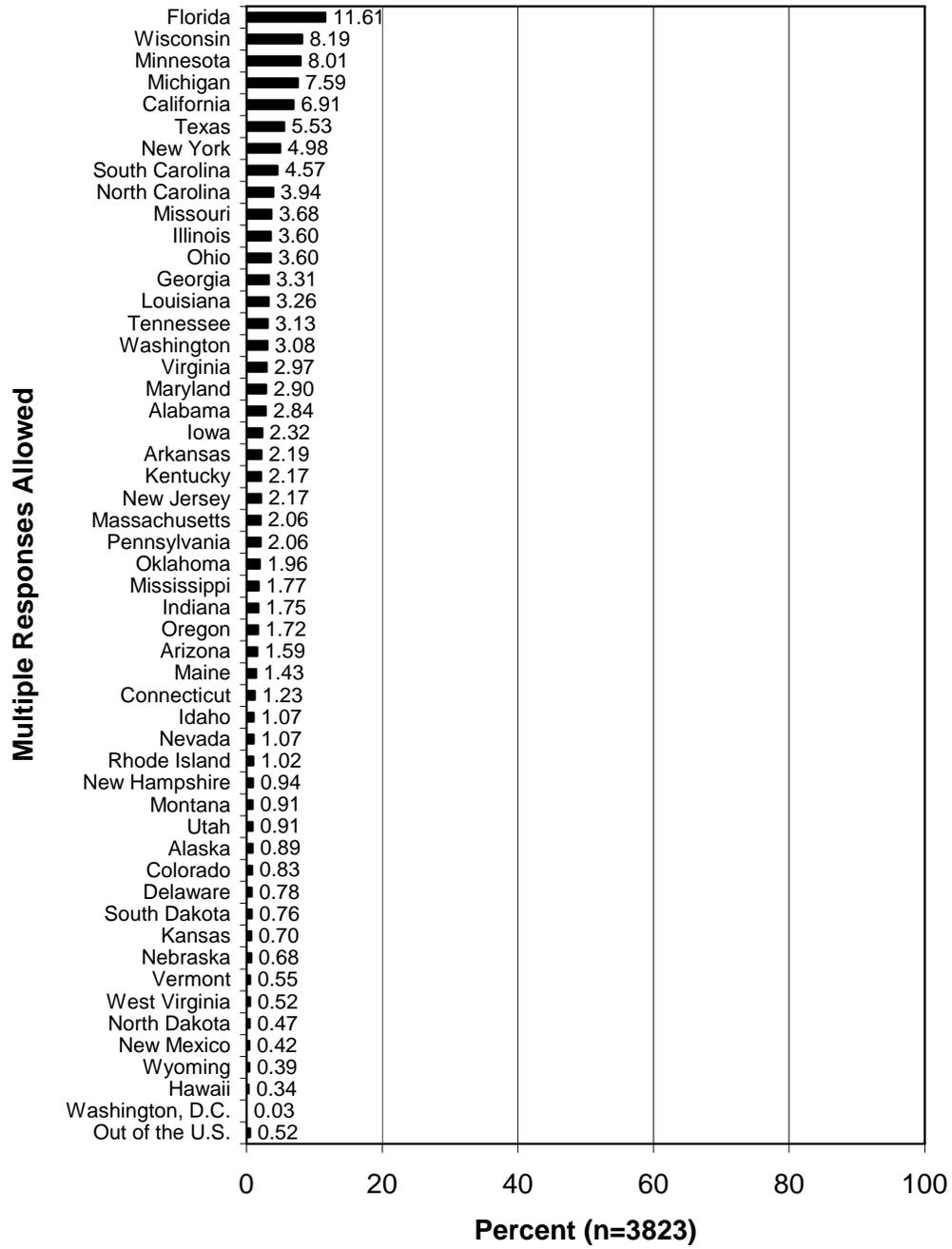
Q36. While boating in the past 12 months, did you use a boat that you or your family owned, did you or a member of your party rent a boat, did you or a member of your party charter a boat with a skipper, or were you a guest on a boat owned by a friend or acquaintance? (Respondent chose all types that he/she used.)



Q27. Which state have you boated in most often in the past 12 months?

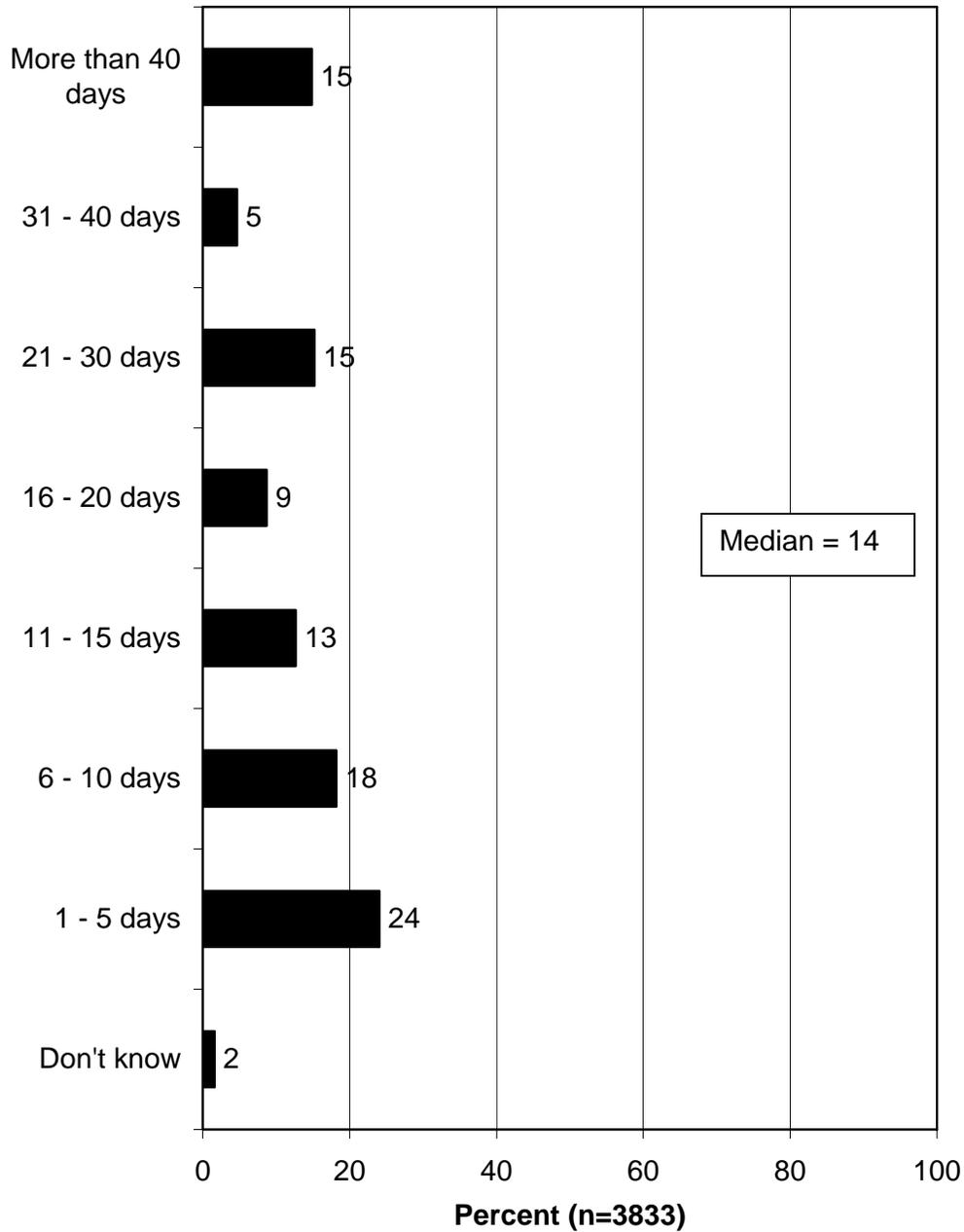


Q21-26. In which states have you been boating in the past 12 months?



Respondents could name up to six states.

Q32. How many days have you been boating in the past 12 months?



BOATING SAFETY

The topic of boating safety has several aspects, each of which the survey addressed using various types of questions, including open-ended questions (to which respondents could give any answer that came to mind), closed-ended questions (in which respondents were given an answer set to choose from, typically a scale, such as always-sometimes-rarely-never), and several series of questions in which the individual questions are designed to be compared to each other (such as a series of questions about different boating behaviors).

This section of the report is broken down into the following subsections:

- Knowledge of Boating Safety Practices, Perceptions of the Safety of Boating, and Concerns About Safety
- Respondents' Boating Accidents and Reasons for Boating Accidents
- Respondents' Current Boating Safety Practices
- Law Enforcement Presence and Boating
- Boating Safety Courses and Programs

KNOWLEDGE OF BOATING SAFETY PRACTICES, PERCEPTIONS OF THE SAFETY OF BOATING, AND CONCERNS ABOUT SAFETY

The owners of registered boats in this survey, for the most part, think that they, personally, know how to boat safely, and they generally think that boating in their state is safe. Nonetheless, they have safety concerns about other boaters' use of alcohol/drugs, reckless and careless operation, and lack of experience. There is also concern expressed about personal watercraft.

Owners of registered boats most commonly think that boating safety can best be addressed primarily through education and law enforcement presence. They also, for the most part, think that mandatory boating safety education makes boating safer.

- The large majority of owners of registered boats nationally have much confidence in their boating safety knowledge, with 60% saying that they know a great deal about how to boat safely, and another 34% saying that they know a moderate amount (a total of 94% saying that they know at least a moderate amount). At the other end, 5% say that they know a little, and only 1% say that they know nothing about how to boat safely.
- For the most part, owners of registered boats perceive boating in the state in which they boated most often as safe: 39% say it is *very* safe, and 42% say it is *somewhat* safe (a total of 81% saying it is safe); on the other end, 13% say it is dangerous.
 - Several crosstabulations were run to more closely examine the owners of registered boats who say that boating in the state in which they most often boat is dangerous. When crosstabulated by gender or age, there are no statistically significant differences in the percentages giving a rating of dangerous. Additionally, a crosstabulation by type of boat that the respondent most commonly used shows no marked differences, with most groups of boaters categorized by boat type having no more than 13% saying that boating is dangerous (only three boat types have more than 13% saying that boating is dangerous, but these types have small sample sizes because not many primarily use those types of boats).

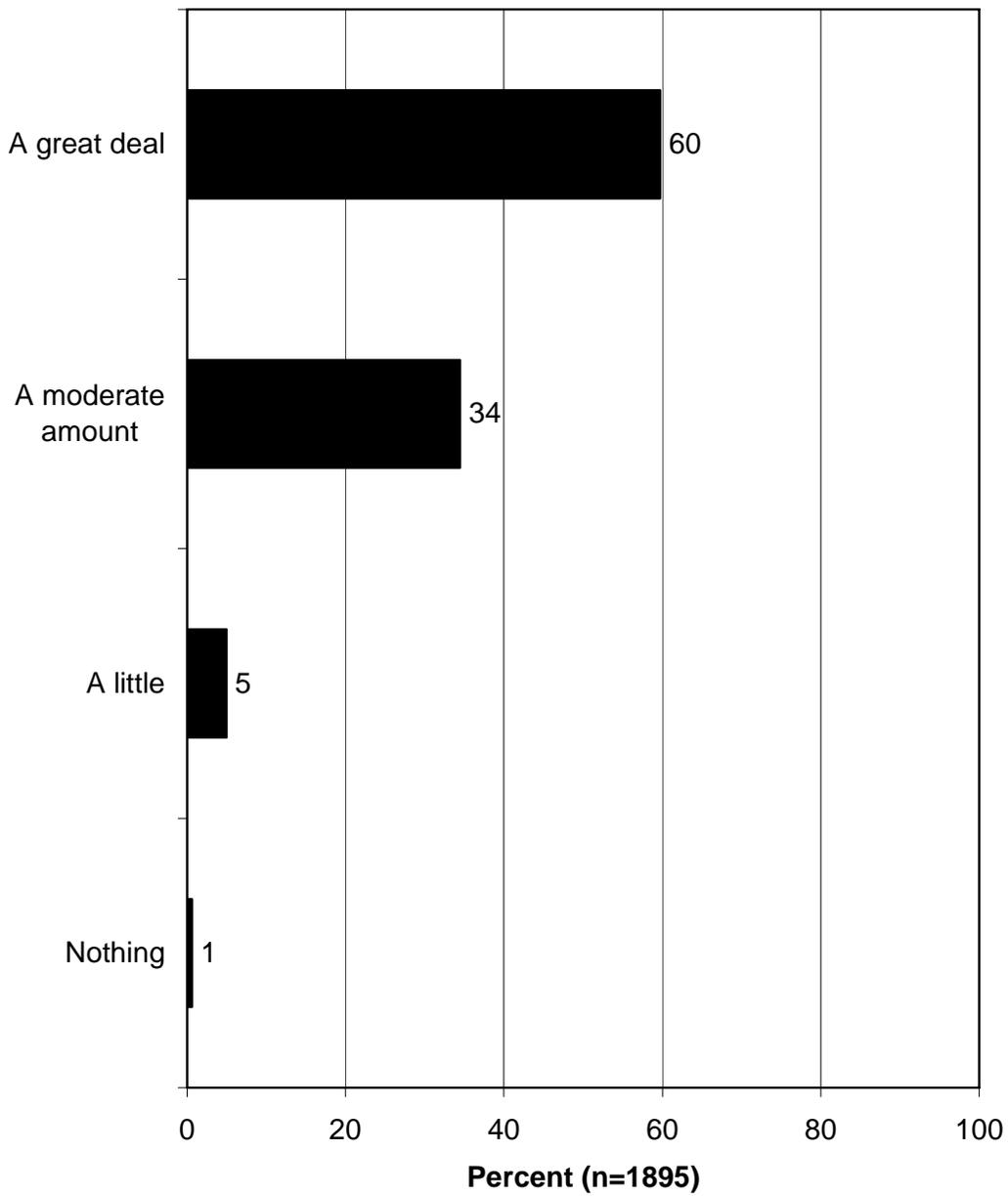
- A crosstabulation was also run by whether the respondent had completed a NASBLA-approved boating safety course, a course that was not NASBLA-approved, or no course at all. Both the “NASBLA-approved” group and the “no boating safety education” group were similar in the percentages thinking that boating in the state in which they most often boat is dangerous.
 - The research team conjectured that perhaps those who rated themselves high in their level of knowledge would be more likely to indicate that boating in their most-boated state was dangerous; this was not the case, as perceptions of boating safety are not markedly different between self-professed unknowledgeable and self-professed knowledgeable boaters. In looking at the *very* and *somewhat* dangerous responses combined (to get a total who gave a rating of “dangerous”), only 6 percentage points separate the three groups: 15% of those who indicate knowing a great deal gave a rating of very or somewhat dangerous; 11% of those who indicate knowing a moderate amount gave a very or somewhat dangerous rating; and 9% of those who indicate knowing a little or nothing gave a very or somewhat dangerous rating. These differences are not statistically significant.
- The boating safety issues of most concern to owners of registered boats, when they are asked in an open-ended question, are alcohol/drug use by boaters (33% named this problem), reckless/careless operation and/or speeding (32%), inadequate training (17%), and personal watercraft (16%).
- Similar answers are given when owners of registered boats are asked to name the main reason people have accidents; this list can also be thought of as problems of concern. Alcohol most commonly is indicated as the main reason people have boating accidents, named by 36% of boaters, followed by reckless/careless operation and speeding (32%) and boater inattention (13%).
 - Owners of registered boats were asked in an open-ended question to indicate boating issues for which more educational programs and/or campaigns are needed. The top answers are personal watercraft-related programs (8.2%), alcohol/drug programs (7.3%),

general boating safety (6.5%), and education regarding navigation/rules of the road (5.1%). (Because many answers to this question had very small percentages associated with them, the graph shows percentages out to one decimal place.)

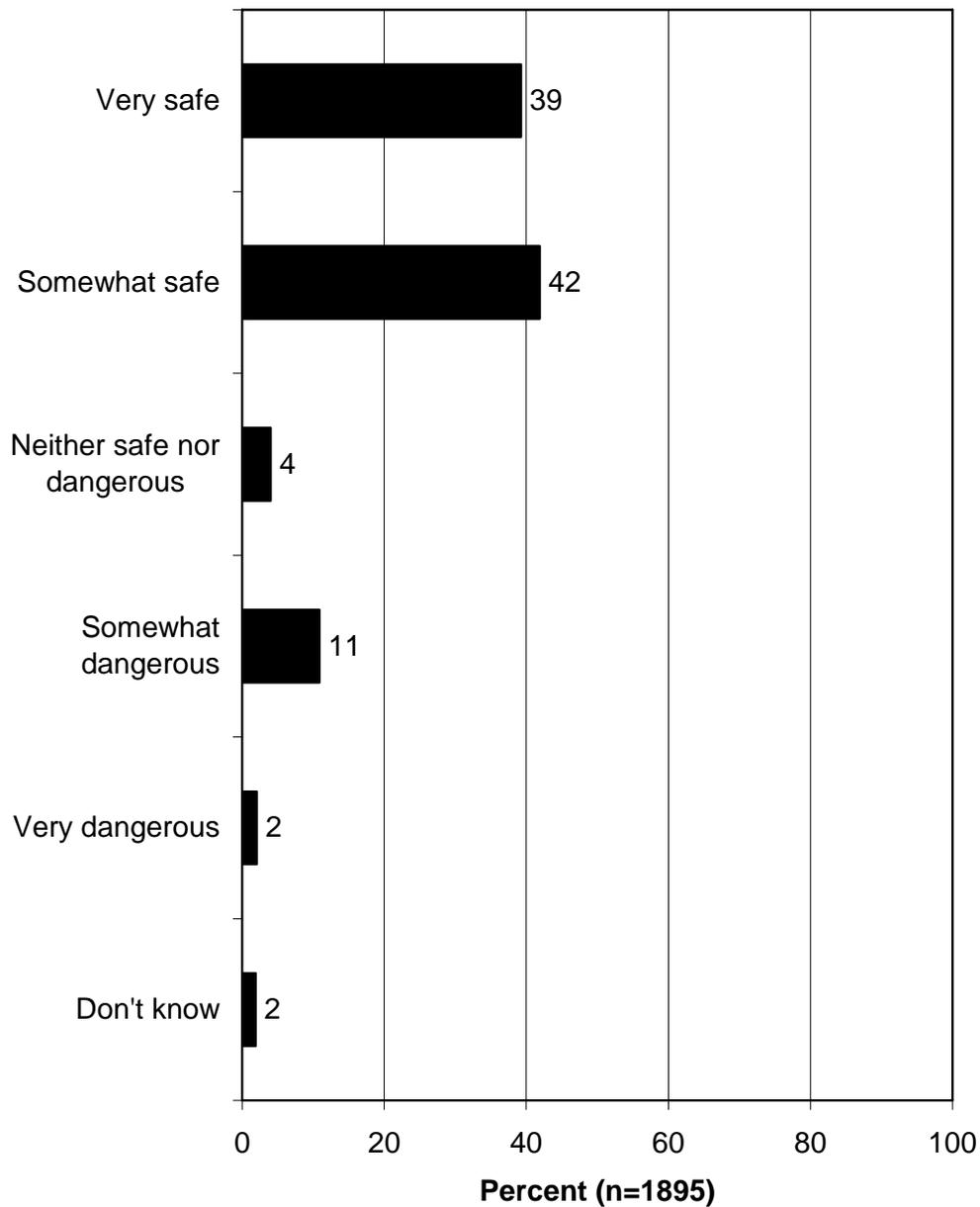
- When boaters were asked in an open-ended question to indicate the actions that could be taken in their state to make public waters safer, the top two answers, far exceeding any other answers, are education-related (e.g., make education mandatory, provide more courses) (32%) and maintain a more visible law enforcement presence (25%).

- A majority of owners of registered boats (58%) agree that boating is safer in states where boating safety education is mandatory. A substantial percentage give a neutral answer (neither agree nor disagree or don't know), leaving only 10% who *disagree* that boating is safer in states where boating safety education is mandatory. (This graph is shown in the section of this report titled “Opinions on Mandatory Boating Safety Education.”)

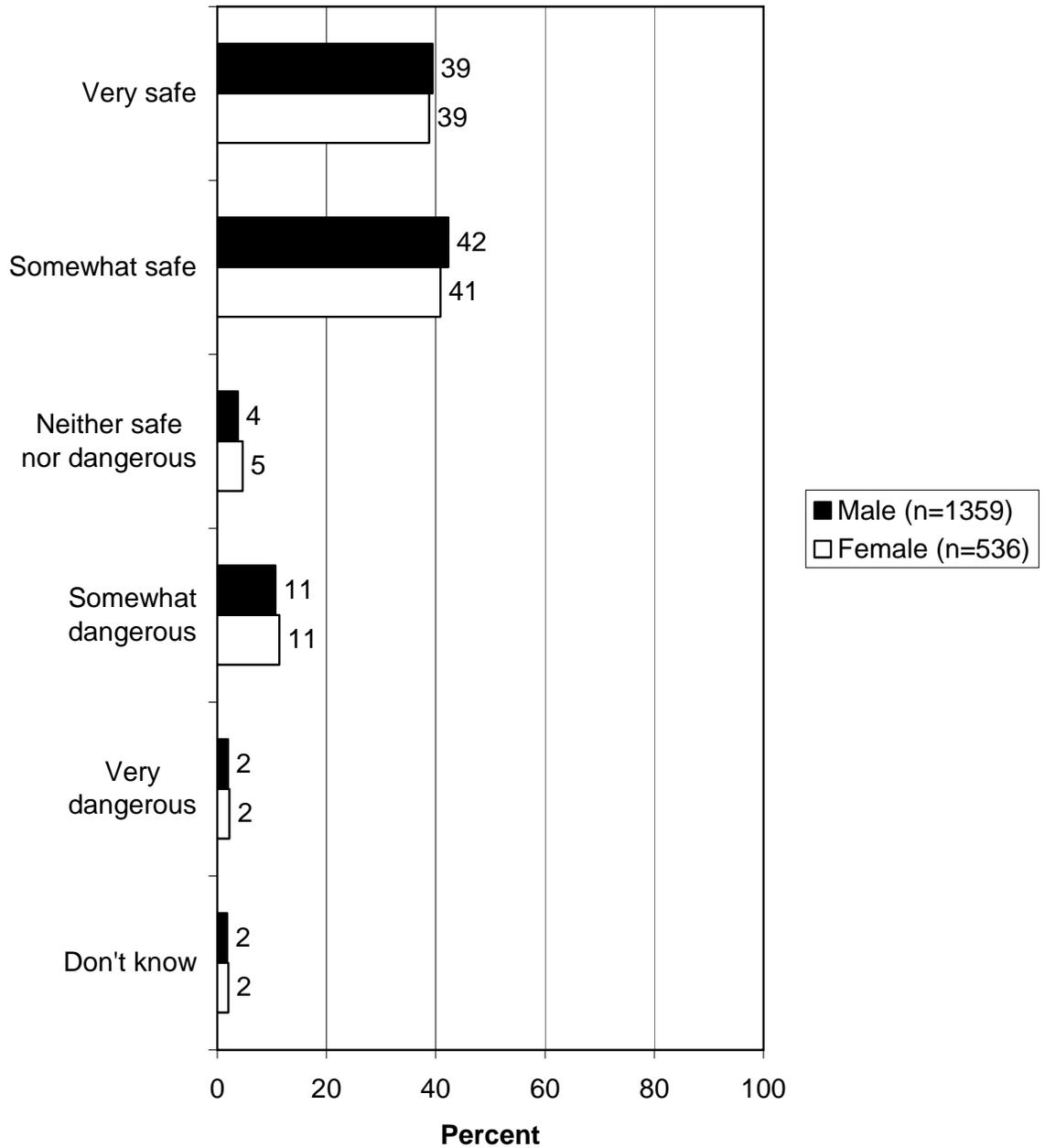
Q40. Would you say you know a great deal, a moderate amount, a little, or nothing about how to boat safely?



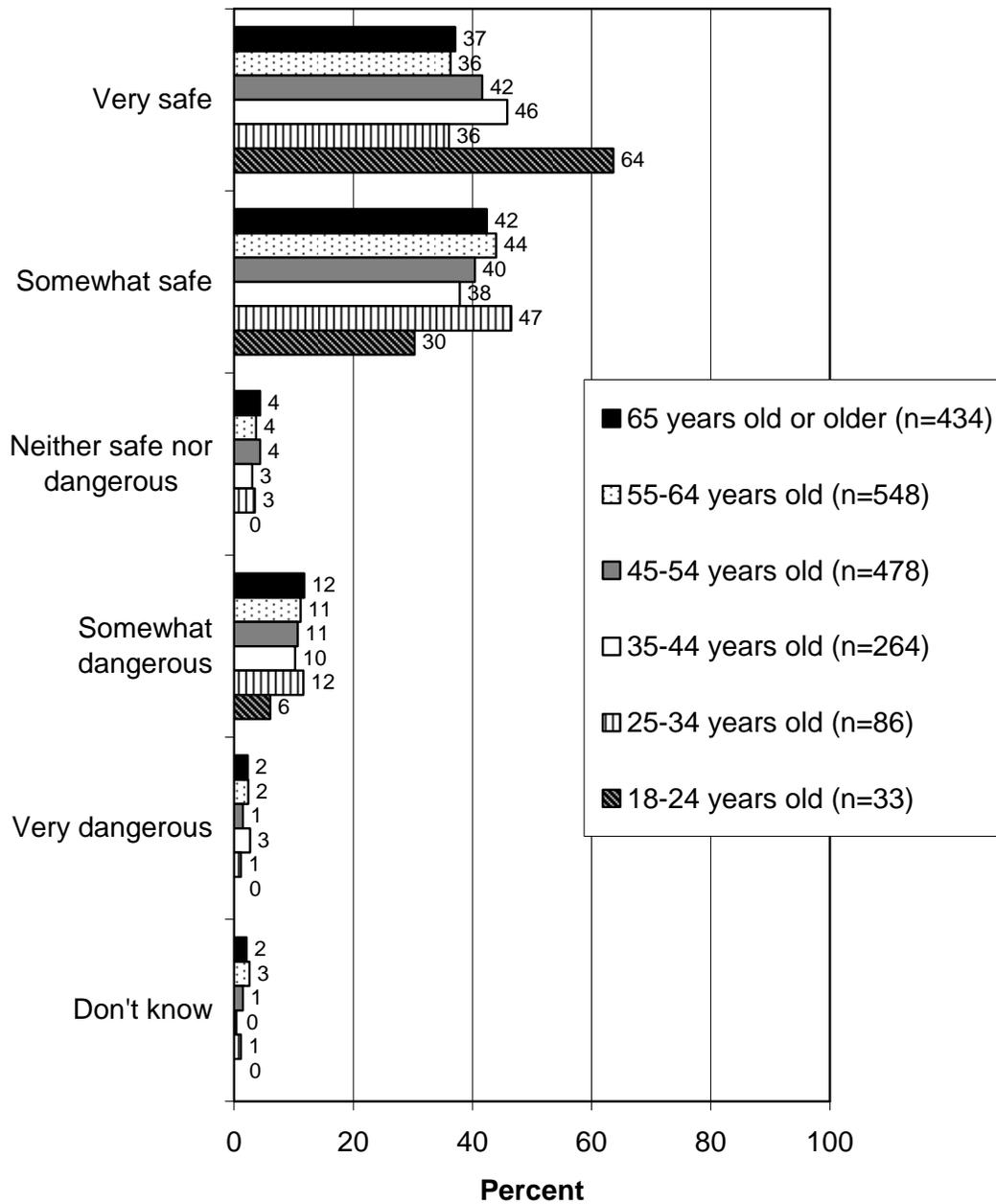
Q41. Overall, do you think that boating in the state you boat most often in is safe or dangerous?



Q41. Overall, do you think that boating in the state you boat most often in is safe or dangerous?

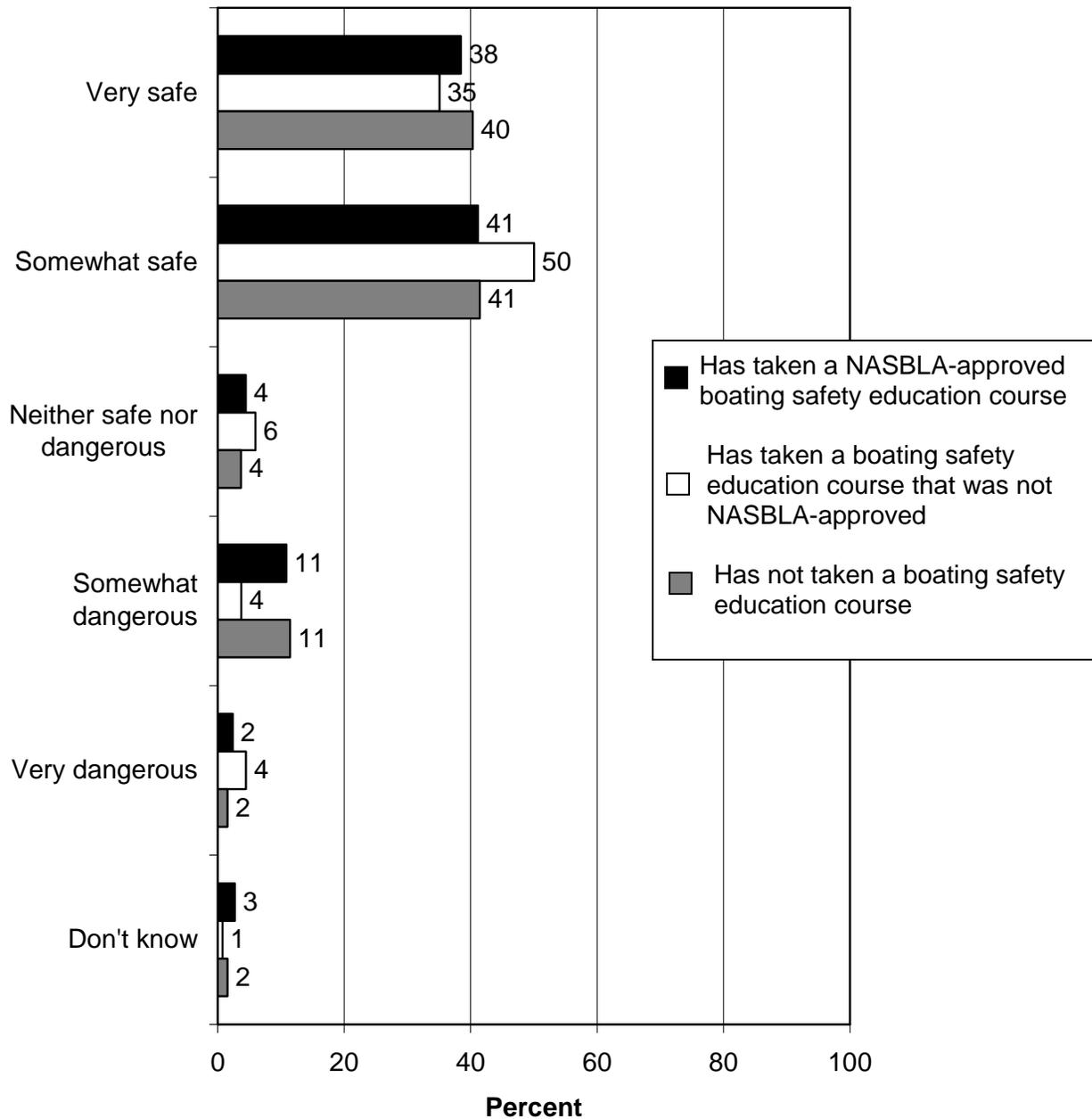


Q41. Overall, do you think that boating in the state you boat most often in is safe or dangerous?

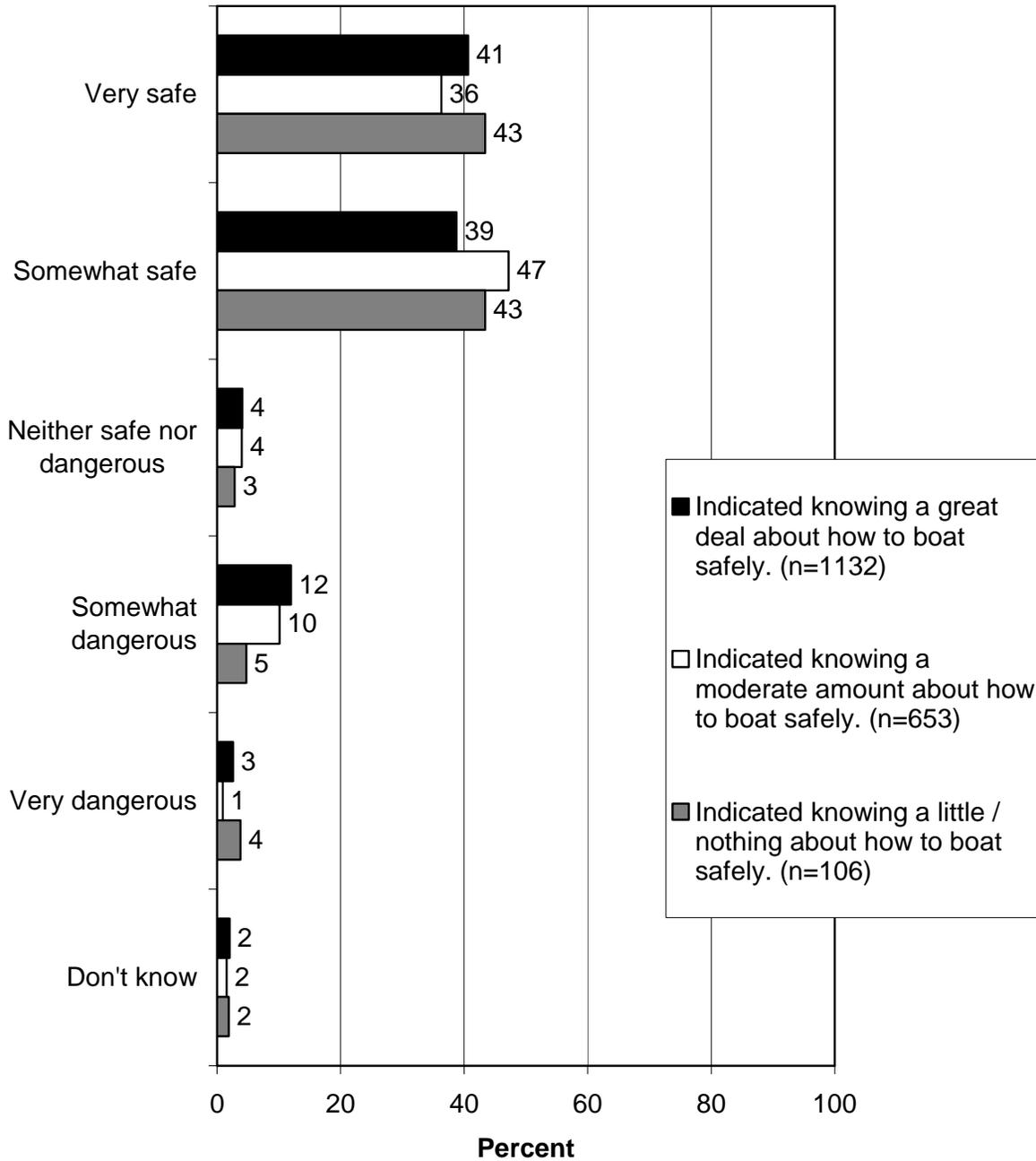


Q41. Overall, do you think that boating in the state you boat most often in is safe or dangerous?						
Type of boat used most often in the past 12 months	Very safe	Somewhat safe	Neither safe nor dangerous	Somewhat dangerous	Very dangerous	Don't know
Open motorboat (less than 16 ft)	42	38	4	10	3	2
Open motorboat (16-26 ft)	40	41	5	11	2	1
Cabin or open motorboat (26-40 ft)	34	48	4	11	2	1
Cabin motorboat (40-65 ft)	44	29	2	20	2	2
Cabin motorboat (more than 65 ft)	60	30	0	10	0	0
Sailboat (less than 16 ft)	44	33	11	11	0	0
Sailboat (16-40 ft)	42	42	4	8	2	3
Sailboat (more than 40 ft)	47	47	0	7	0	0
Flat-bottomed drift fishing boat	47	37	2	7	2	5
Canoe	41	41	9	0	0	9
Kayak	32	43	0	18	4	4
Rowboat with troller	45	36	0	9	9	0
Pontoon boat	37	47	2	11	1	2
Personal watercraft, including jet skis, dinghies	33	43	10	10	3	0

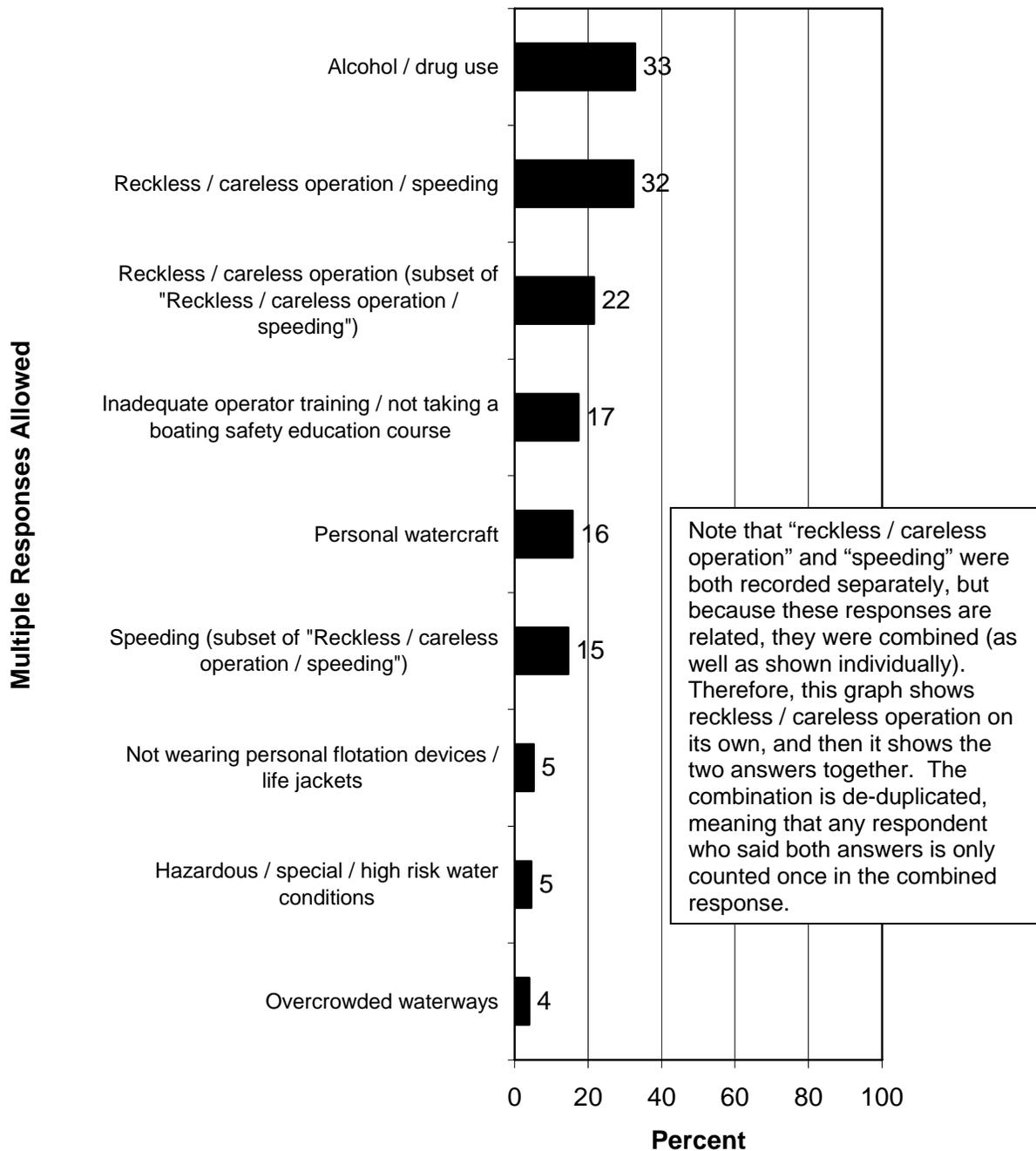
Q41. Overall, do you think that boating in the state you boat most often in is safe or dangerous?



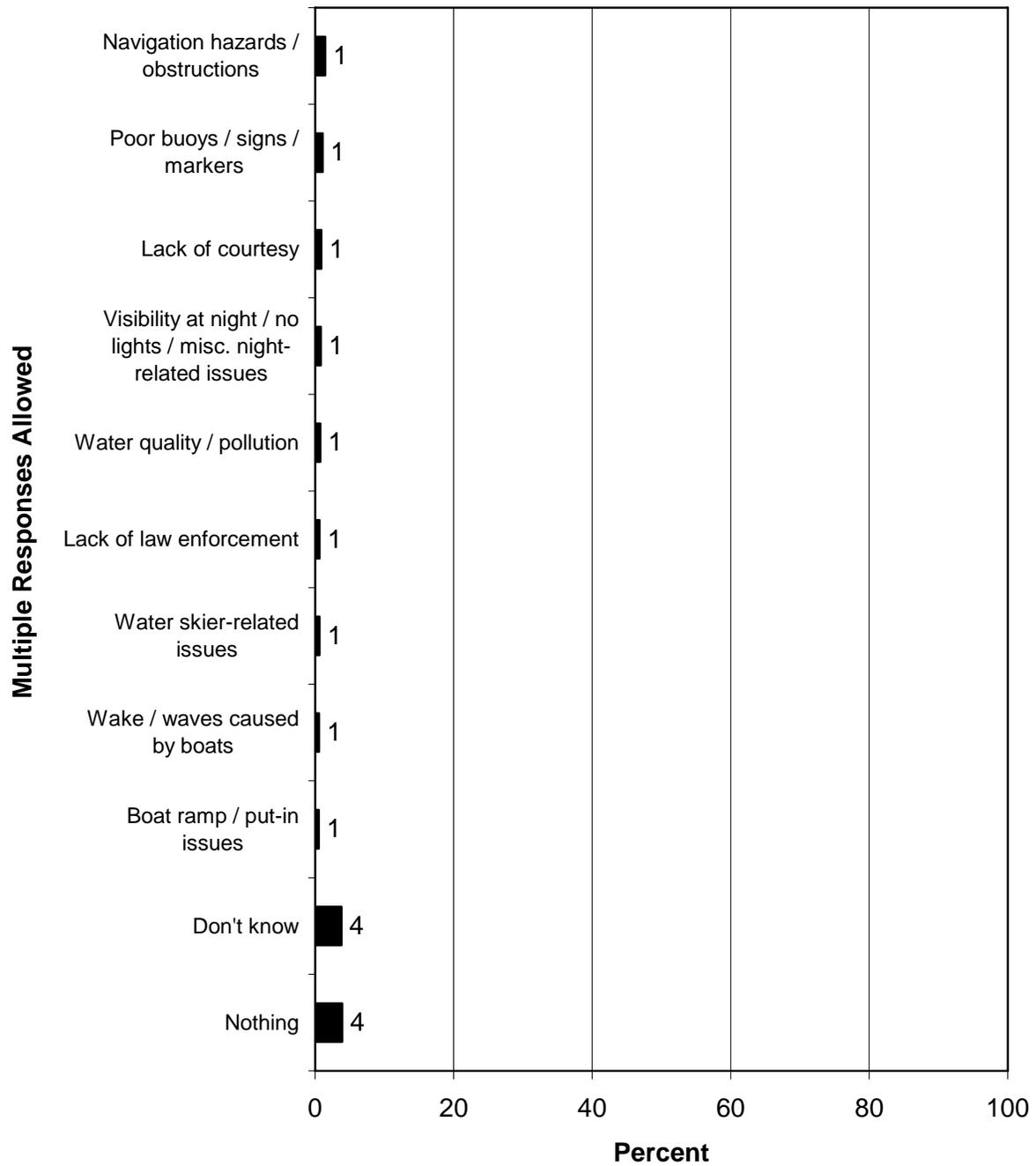
Q41. Overall, do you think that boating in the state you boat most often in is safe or dangerous?



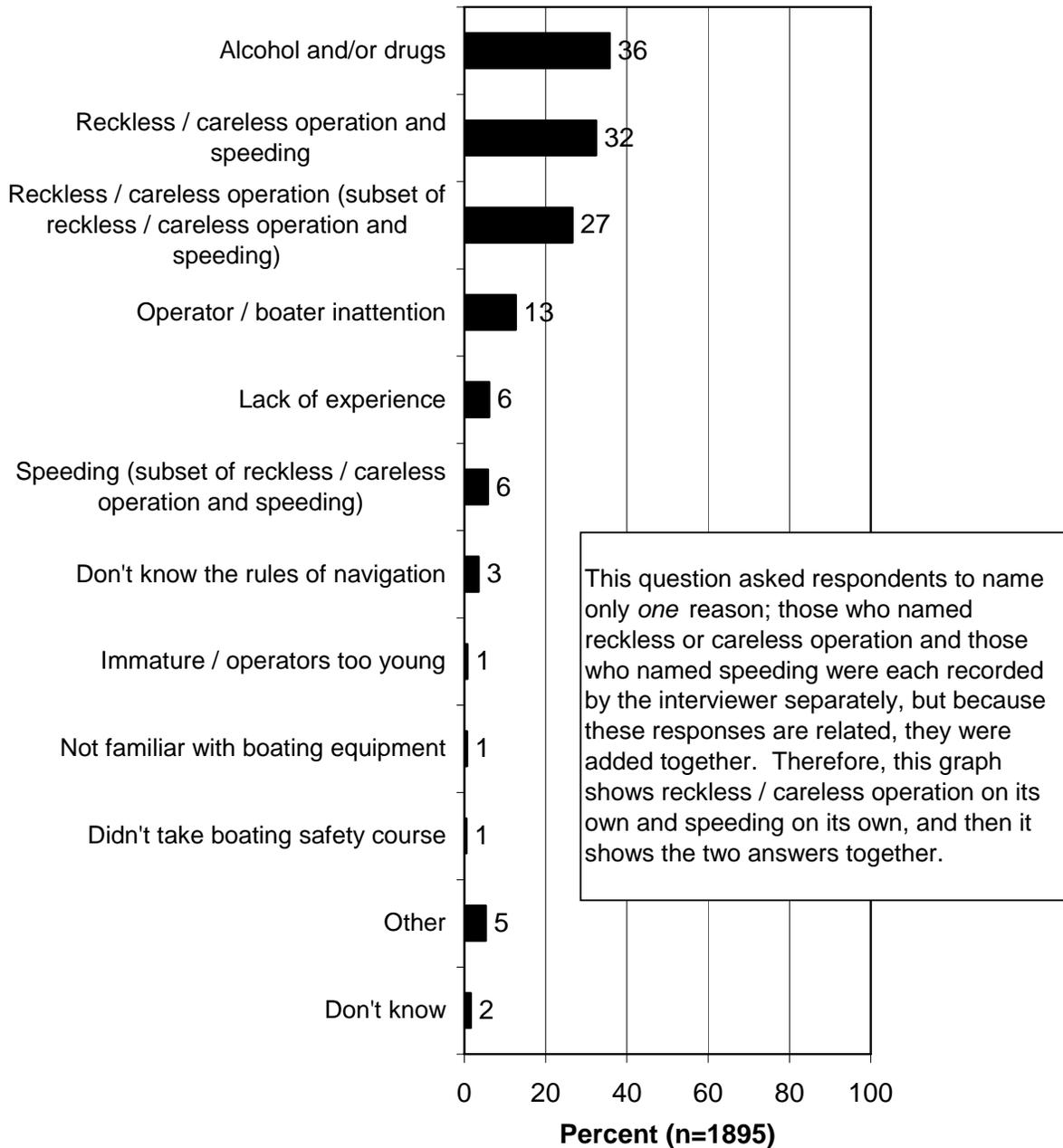
Q44. As a boater, what types of boating safety issues concern you the most? (Part 1.)



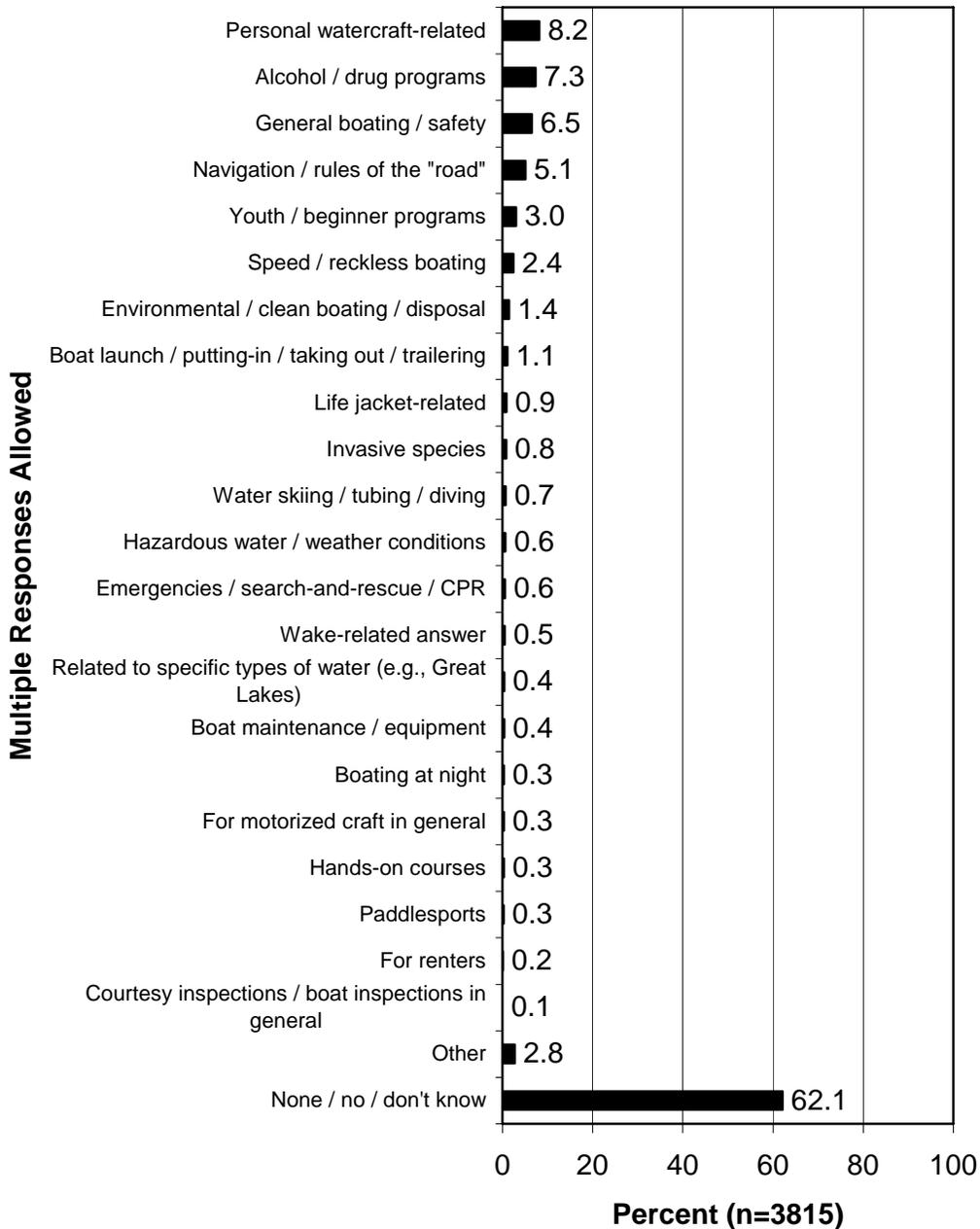
Q44. As a boater, what types of boating safety issues concern you the most? (Part 2.)



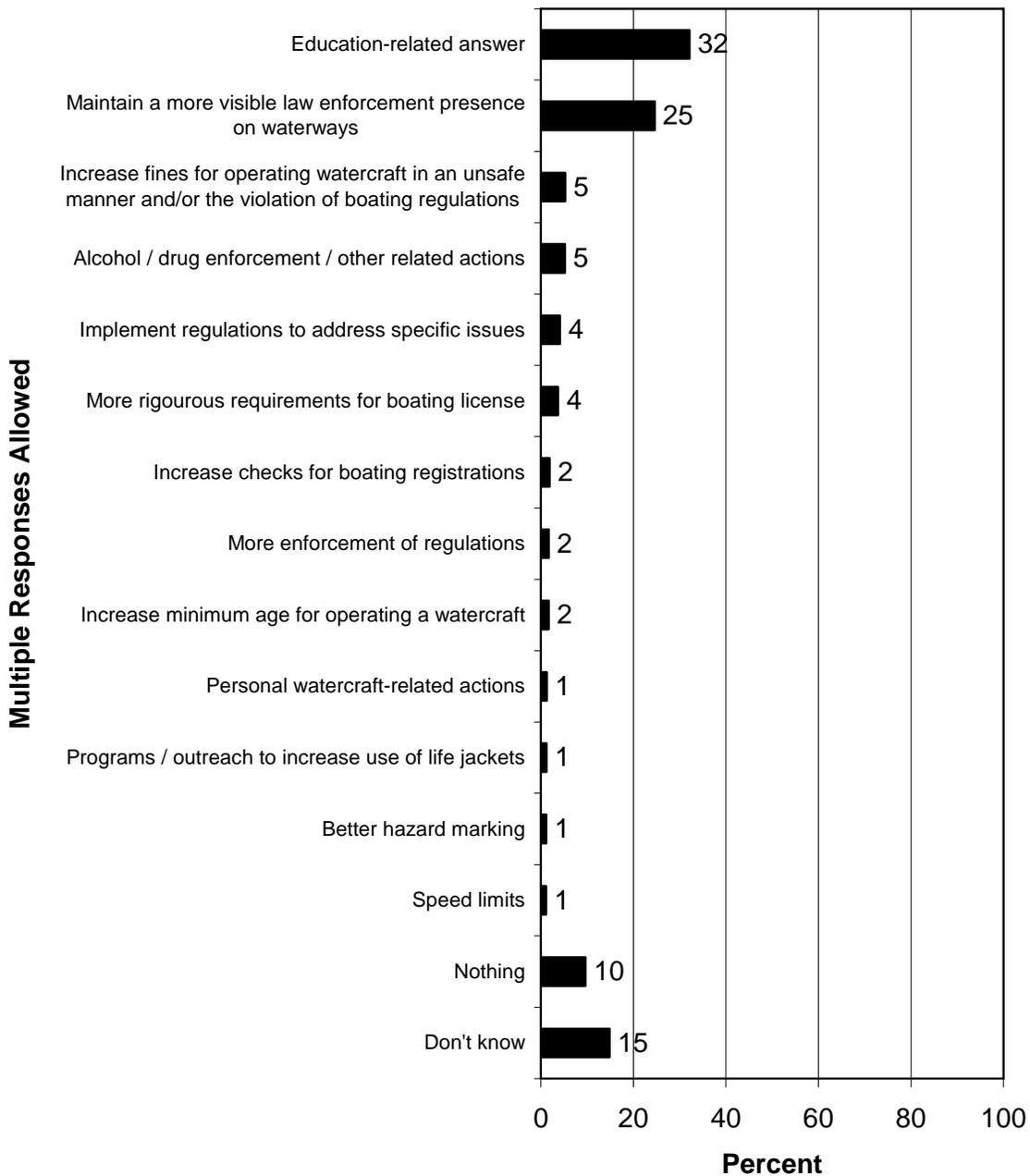
Q46. What would you say is the main reason that people have boating accidents?



Q292. Are there any boating issues for which you think more educational programs or campaigns are needed?



Q50. In your opinion, what actions could be taken in the state you boat most often in to make public waters safer?



RESPONDENTS' BOATING ACCIDENTS AND REASONS FOR BOATING ACCIDENTS

The data suggest that about 1 in 15 owners of registered boats have been in a boating accident, and most of those who have been in a boating accident did not have prior NASBLA-approved certification boating safety education.

The most common types of accidents experienced by respondents include collision with another vessel, collision with a fixed object, being struck by a boat, capsizing, and striking a submerged object. The most commonly cited contributing factors to accidents include operator inattention, reckless/ careless operation, operator inexperience, excessive speed, and hazardous waters.

In an analysis of *types* of accidents and contributing *factors* to accidents, there were no statistically significant differences between those with prior NASBLA-approved boating safety education certification and those without such education certification. Note that this lack of difference between those with and those without state-approved certification boating safety education applies to types of accidents and contributing factors; this finding does not mean that there is no difference between the groups in whether they *are involved in accidents*.

In an analysis of the number of people injured in accidents and the number of fatalities in accidents, there were no statistically significant differences between those with prior NASBLA-approved boating safety education certification and those without such education certification.

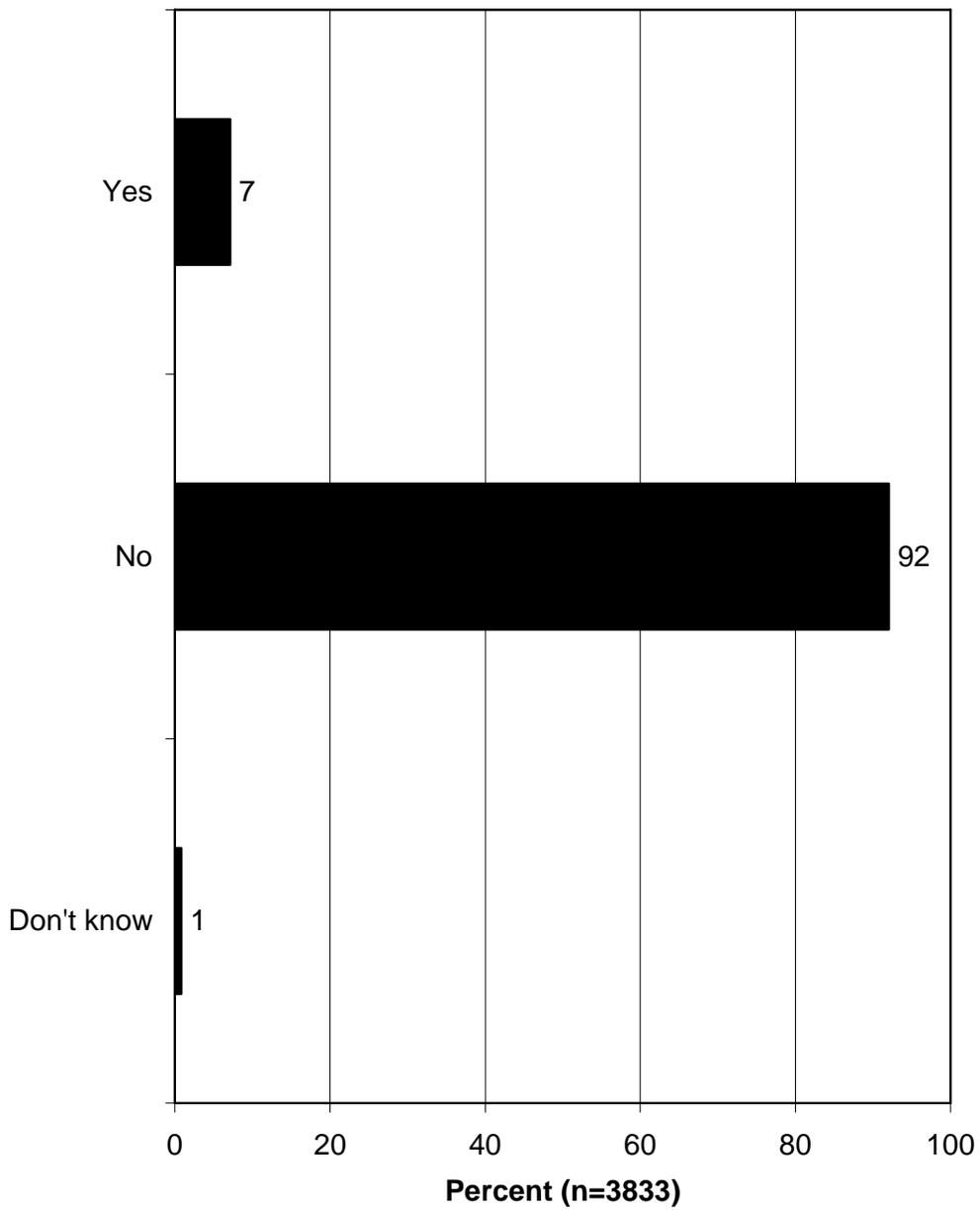
- Among owners of registered boats nationally, 7% indicate that they have been in a boating accident at some time. The overwhelming majority of those who have been in an accident say that they have been in only a single accident. (Note that the survey asked if they had been in an accident; it did not ask if they were *operating* the boat at the time of the accident.)
 - An analysis shows that of all owners of registered boats in the survey, 92.0% had not been in an accident, 5.3% had been in an accident without having had any prior boating safety education (although they may have had a course *after* their accident), and 1.9%

had been in an accident *after* having boating safety education (the remaining 0.8% did not know if they had been in an accident or did not know when they had been in an accident relative to when they took a boating safety education course).

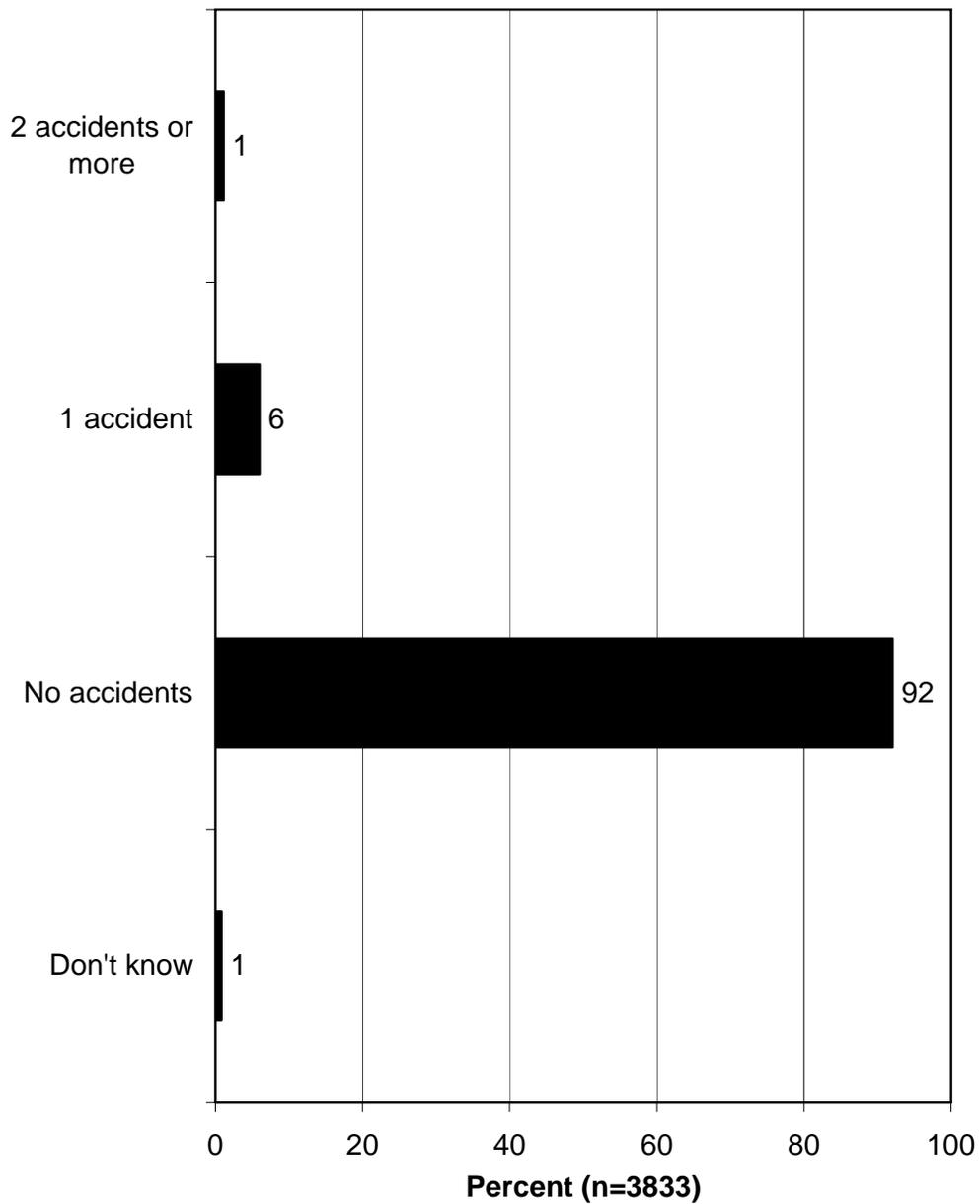
- Of those who had been in an accident, the above data translate into the following breakdown: 66% of those who had an accident had no prior boating safety education, 23% had an accident after having boating safety education, and 11% do not know if they had been in an accident or do not know the timing of the accident relative to their boating safety education.
- The above suggests that most accidents occur to those *without* boating safety education. In addition, U.S. Coast Guard boating accident data from 2007 is also provided, which reinforces the correlation between lack of boating safety education and accidents. The three pie graphs of U.S. Coast Guard data do not, strictly speaking, show accidents, but they show vessels involved, injuries, and fatalities (by known education status), all of which have a larger slice of the pie in the “no boating safety education” category. In summary, there is compelling evidence that boating safety education reduces boating accidents.
- The most common types of accidents respondents had experienced include collision with another vessel, collision with a fixed object, being struck by a boat, capsizing, and striking a submerged object. Note that the question was asked of three different groups, as indicated in the “Asked of” statements in the graph titles; all three graphs are shown. (These results are similar to U.S. Coast Guard accident statistics, which show that the five most common types of accidents, in order by the number of accidents in 2007, are collision with another vessel, collision with a fixed object, skier mishap, fall overboard, and capsizing.)
- The most common contributing factors to survey respondents’ accidents include operator inattention, reckless/careless operation, operator inexperience, excessive speed, and hazardous waters. Again, note that the question was asked of three different groups, as indicated in the “Asked of” statements in the graph titles; all three graphs are shown. (These results are similar to U.S. Coast Guard accident data. A table of the top ten contributing factors, according to U.S. Coast Guard data, is shown.)

- As indicated above, the survey was structured to ask questions of three groups, which could be combined into two different groups for comparison (both groups are composed of those who had at least one accident): those who had an accident with *no* prior NASBLA-approved certification boating safety education, and those who had an accident after a NASBLA-approved certification boating safety course. The survey sought to compare them to help assess the effects that boating safety education has on boaters. The questions that were compared pertain to the type of accident, contributing factors to the accident, number of injured in the accident, and number of fatalities in the accident.
- In the comparison of types of accidents among those *with* NASBLA-approved certification boating safety education and those *without* prior NASBLA-approved certification boating safety education, there were no statistically significant differences.
 - In the comparison of factors that contributed to accidents among those *with* NASBLA-approved certification boating safety education and those *without* prior NASBLA-approved certification boating safety education, there were no statistically significant differences.
 - Graphs are shown indicating the number of people injured and the number of fatalities in accidents. Again, in comparing the two groups of interest (those *with* NASBLA-approved certification boating safety education and those *without* prior NASBLA-approved certification boating safety education), there were no statistically significant differences, even though the mean number injured is lower among those with NASBLA-approved certification boating safety education.

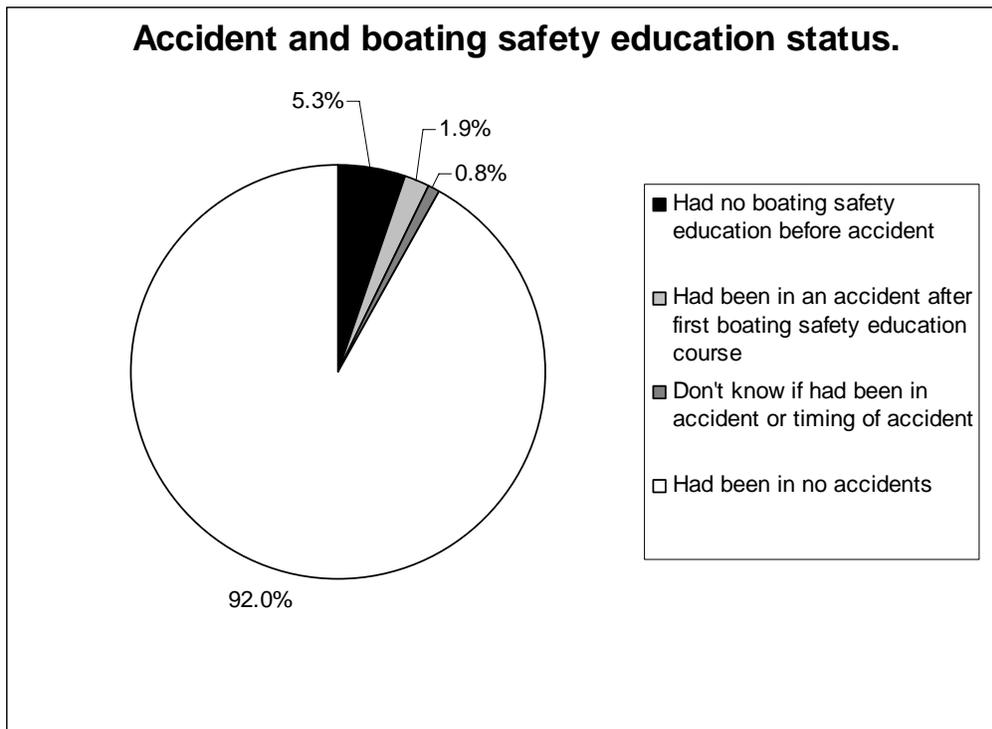
Q300. Have you ever been in a boating accident?



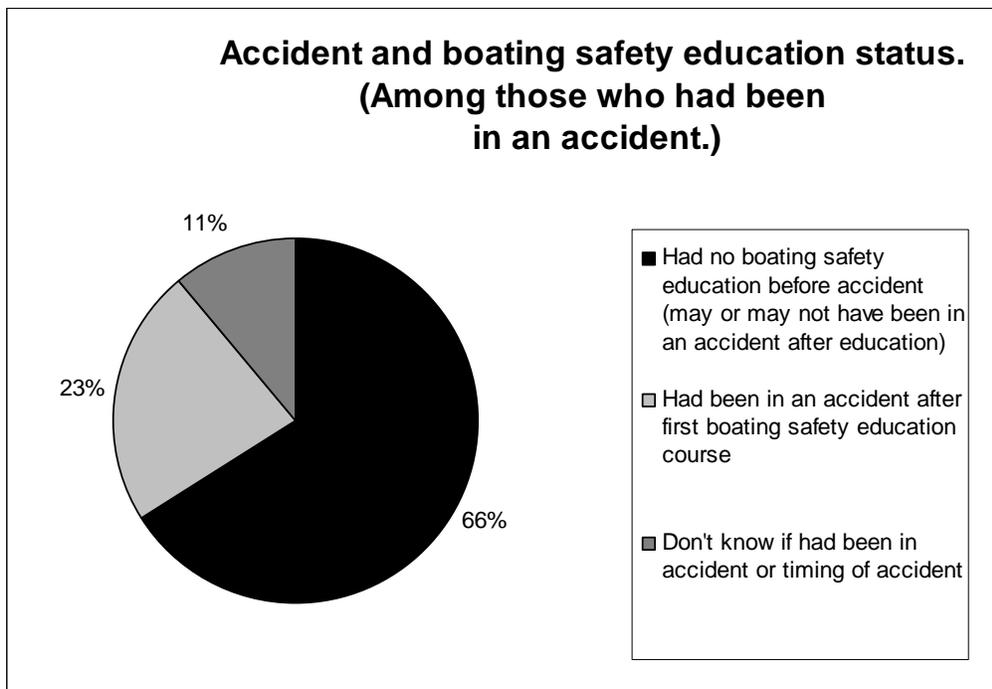
Q301. How many total boating accidents have you been in?



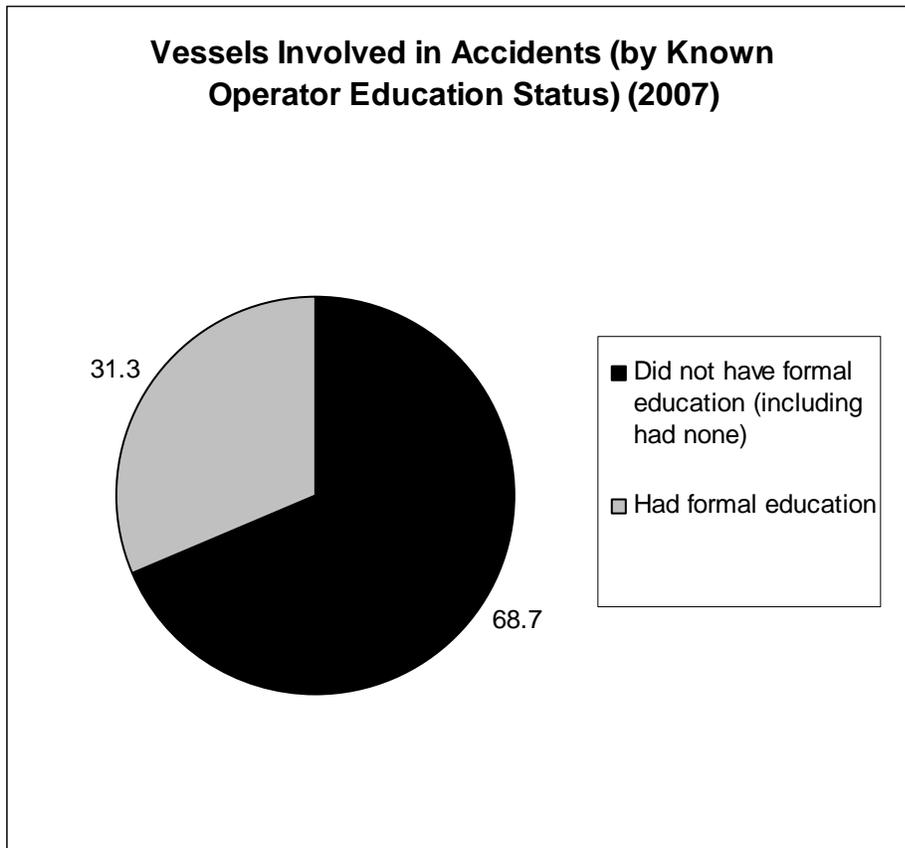
BOATING ACCIDENT DATA FROM TELEPHONE SURVEY



Note: This graph shows *all* owners of registered boats.



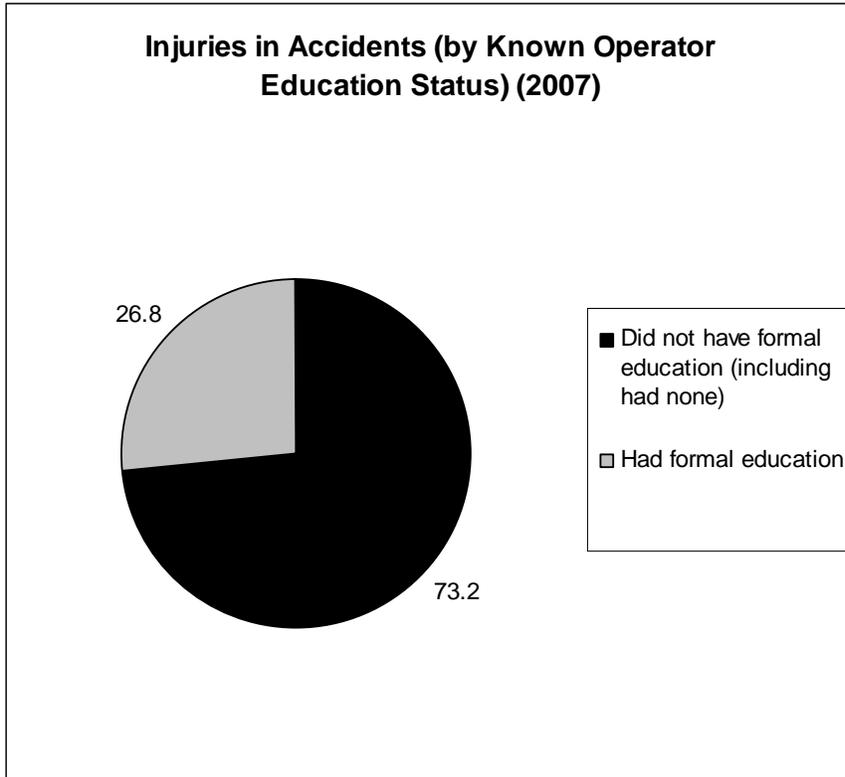
Note: This graph shows owners of registered boats who had an accident.

U.S. COAST GUARD BOATING ACCIDENT DATA

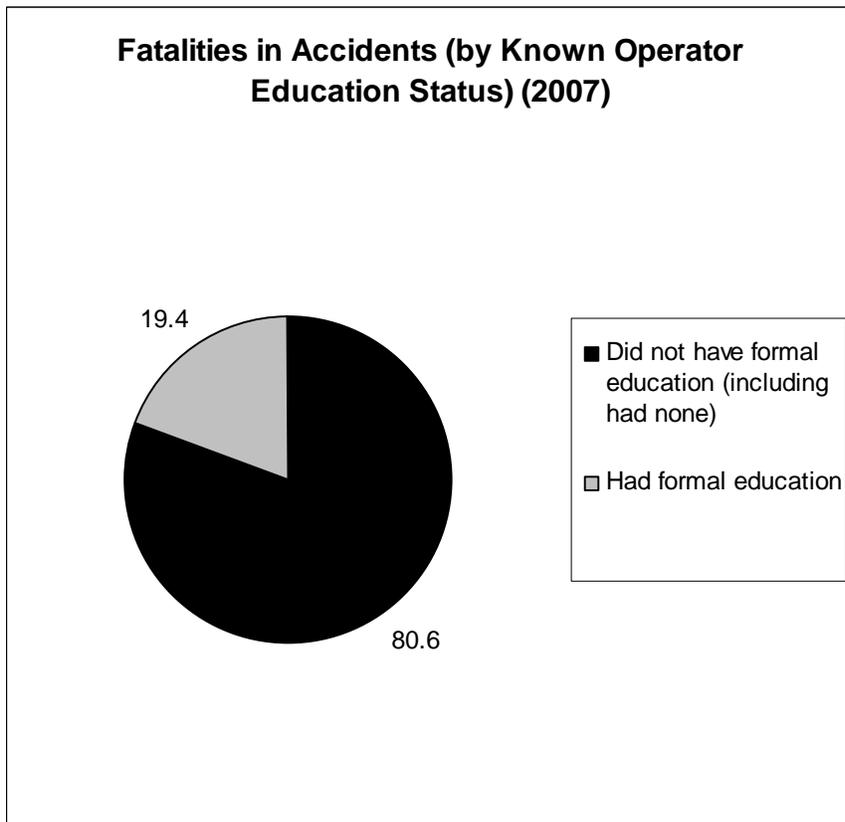
U.S. Coast Guard accident statistics include, in addition to “Formal education,” the following categories of operator education: “Informal education” and “None.” These latter two categories are combined into “Did not have formal education (including had none).”

Source: U.S. Coast Guard, *Recreational Boating Statistics 2007*

U.S. COAST GUARD BOATING ACCIDENT DATA

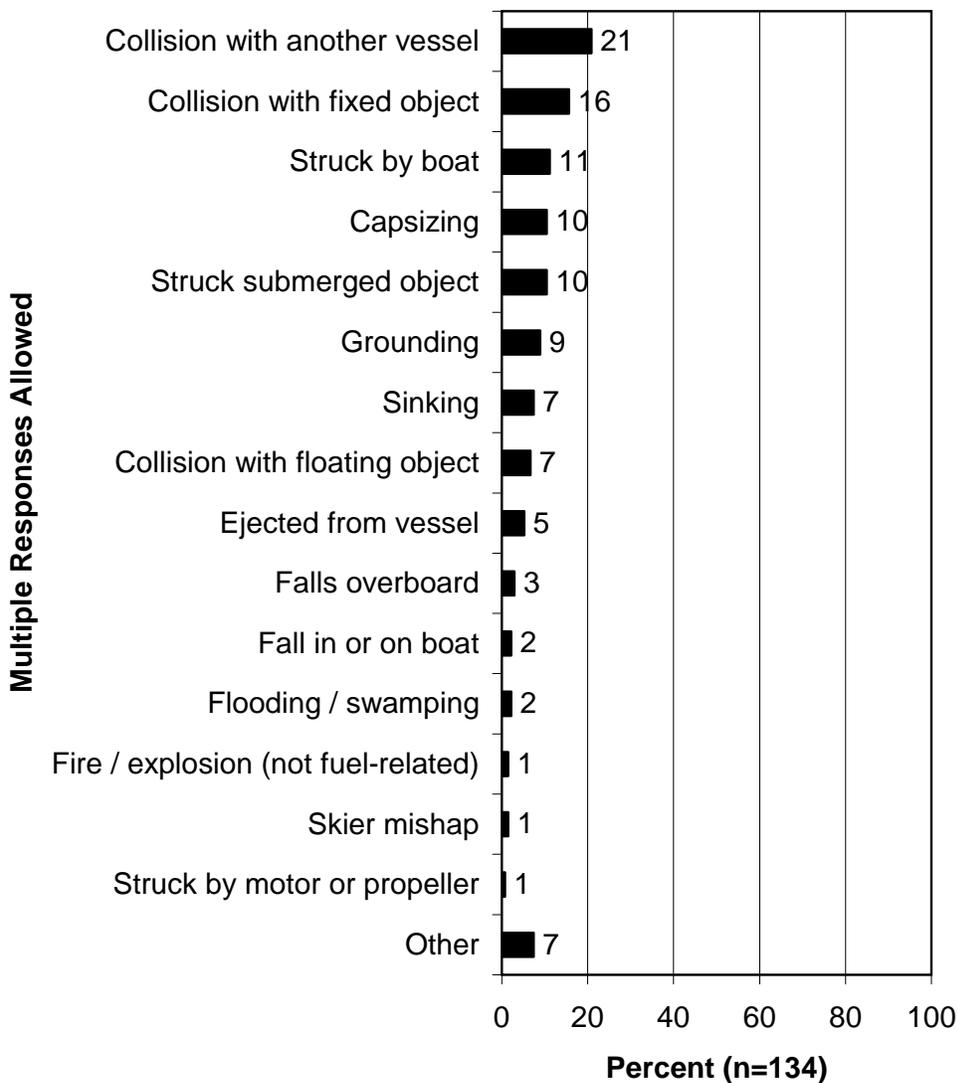


U.S. Coast Guard accident statistics include, in addition to “Formal education,” the following categories of operator education: “Informal education” and “None.” These latter two categories are combined into “Did not have formal education (including had none).”

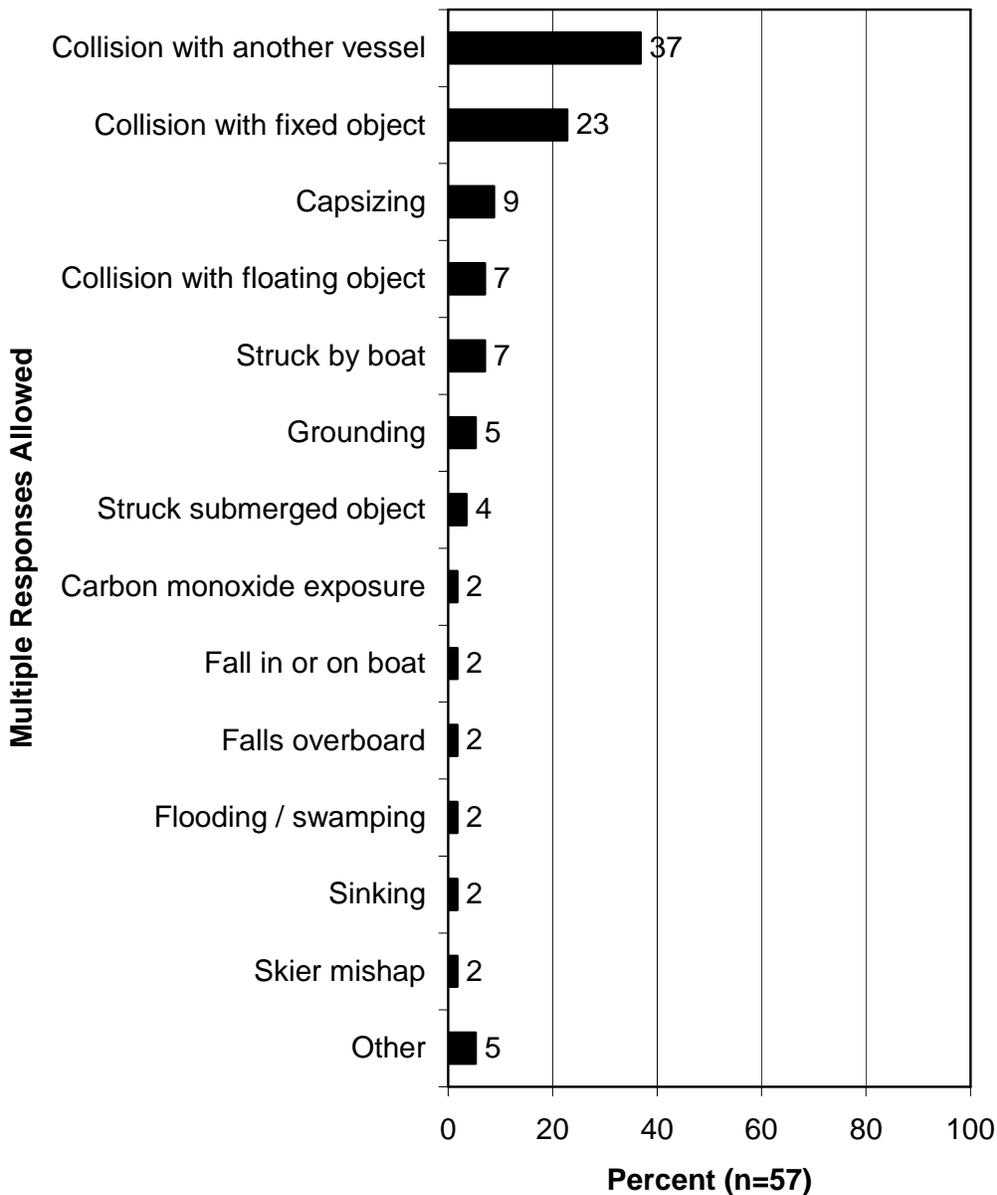


Source: U.S. Coast Guard, *Recreational Boating Statistics 2007*

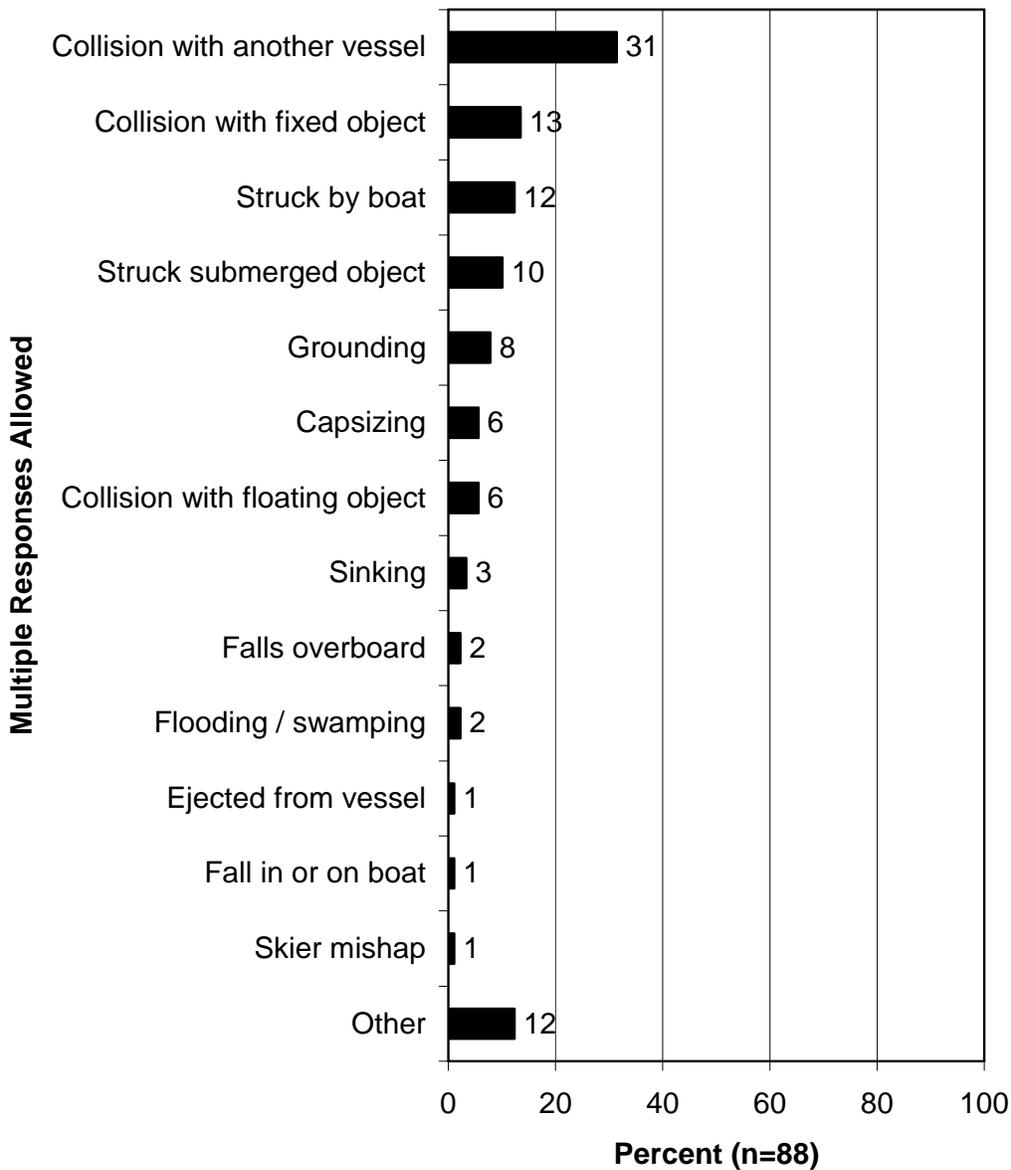
Q314. What type of accident were you in?
(Asked of those who had been in a boating accident and who
a) had taken a boating safety education course that was
***not* state-approved or basic/general,**
b) don't know the timing of the accident relative to the
completion of the course, or
c) had *no* boating safety education at all.)



Q331. What type of accidents were you in before your first boating safety education course? (Asked of those who had been in a boating accident that occurred before they had taken their first state-approved certification or basic/general boating safety education course.)



Q348. What type of accidents were you in after your first boating safety education course? (Asked of those who had been in a boating accident that occurred after they had taken their first state-approved certification or basic/general boating safety education course.)



U.S. COAST GUARD BOATING ACCIDENT DATA: TOP TYPES OF ACCIDENTS

Primary Accident Type (2007)	Number of Accidents	Number of Injuries	Number of Deaths
Collision with Vessel	1,329	953	66
Collision with Fixed Object	558	389	35
Skier Mishap	492	502	11
Fall Overboard	485	312	208
Capsizing	398	284	204

Source: U.S. Coast Guard, *Recreational Boating Statistics 2007*

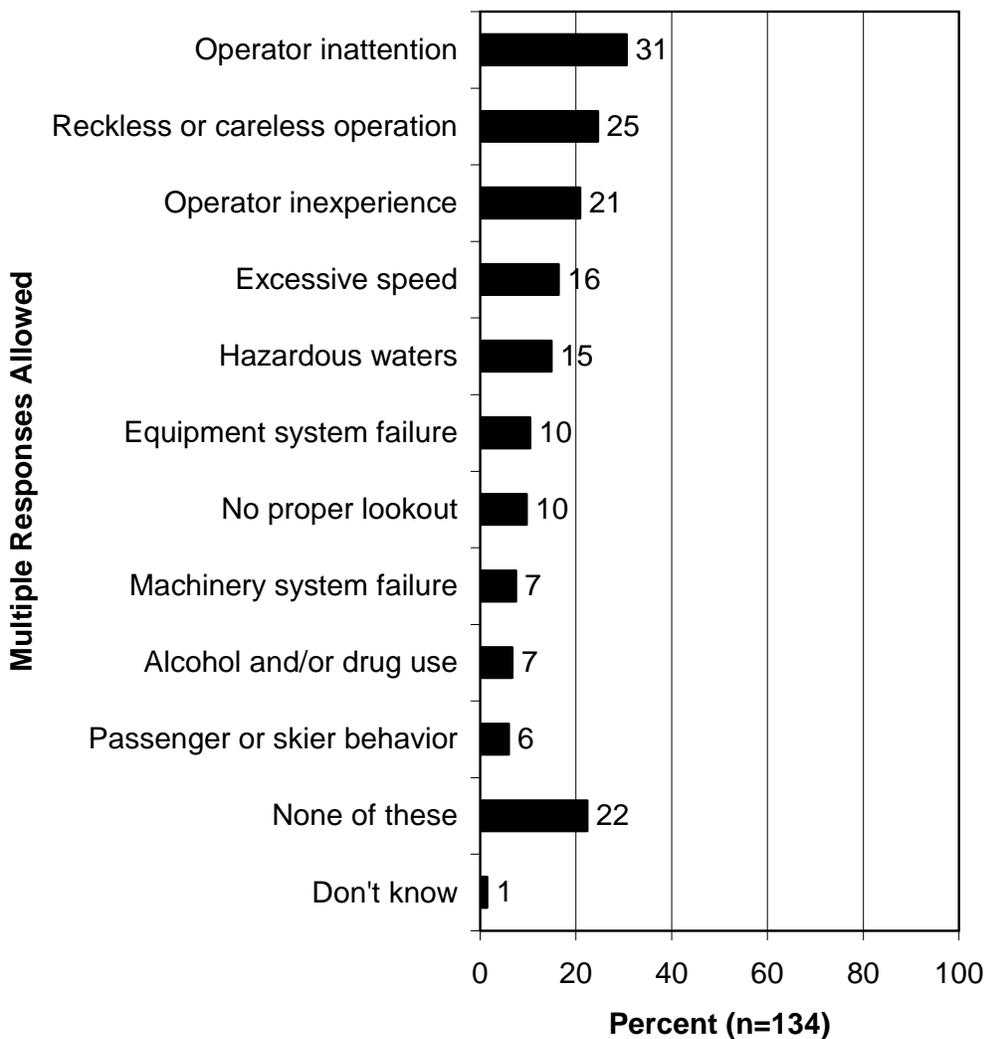
Q327. Did any of the following contribute to any of these accidents?

(Asked of those who had been in a boating accident and who

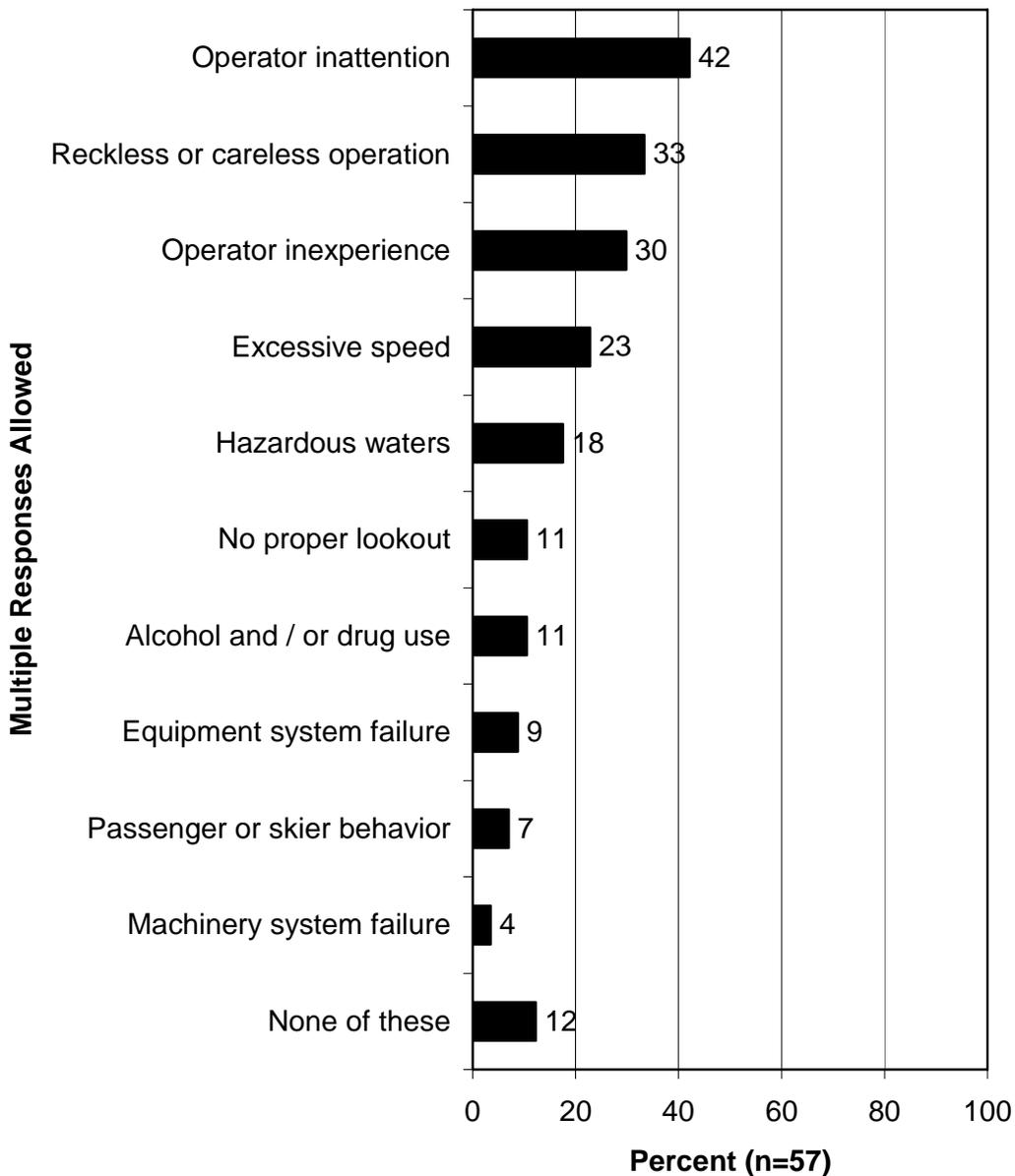
a) had taken a boating safety education course that was *not* state-approved or basic/general,

b) don't know the timing of the accident relative to the completion of the course, or

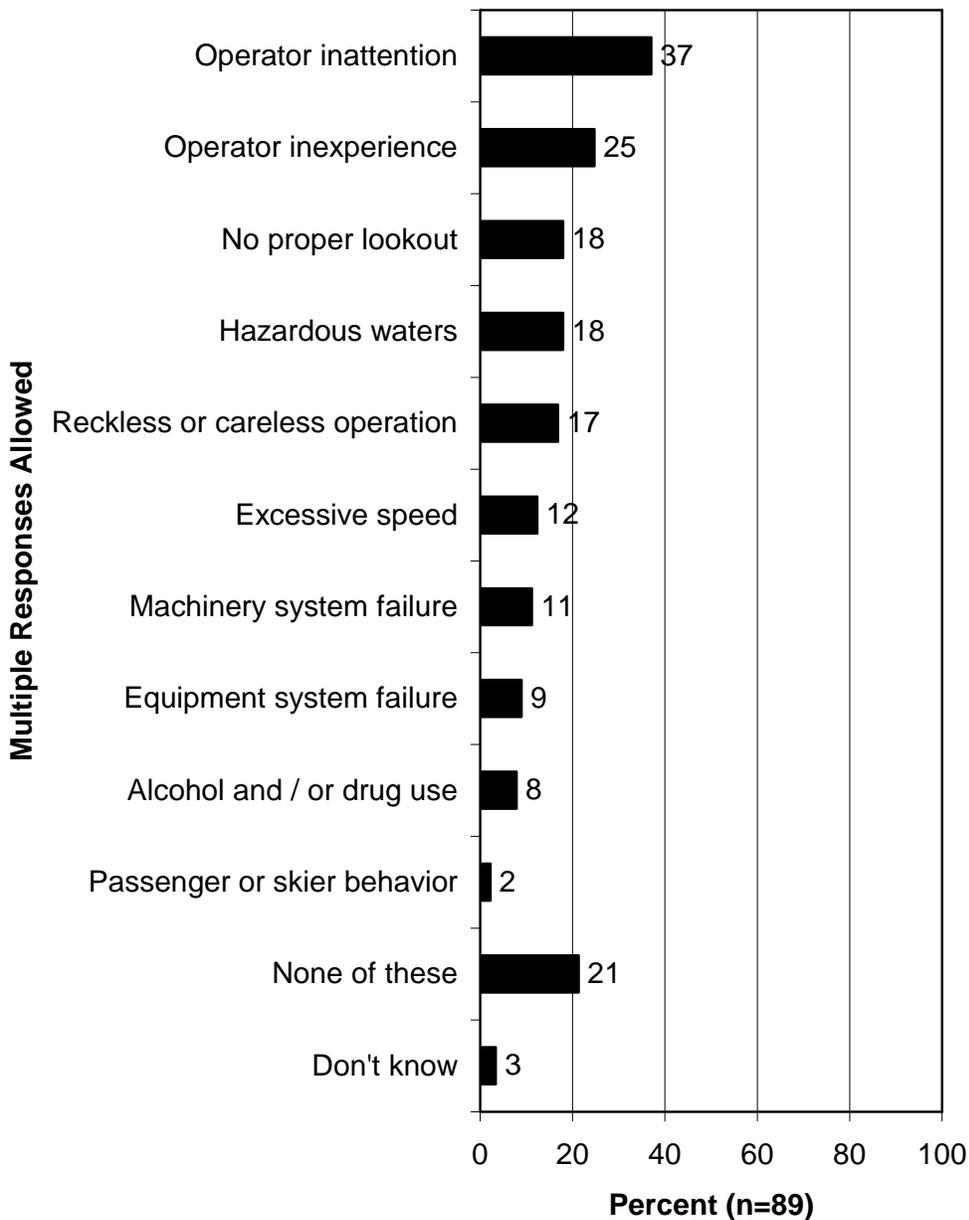
c) had *no* boating safety education at all.)



Q344. Did any of the following contribute to any of these accidents? (Asked of those who had been in a boating accident that occurred before they had taken their first state-approved certification or basic/general boating safety education course.)



Q361. Did any of the following contribute to any of these accidents? (Asked of those who had been in a boating accident that occurred after they had taken their first state-approved certification or basic/general boating safety education course.)

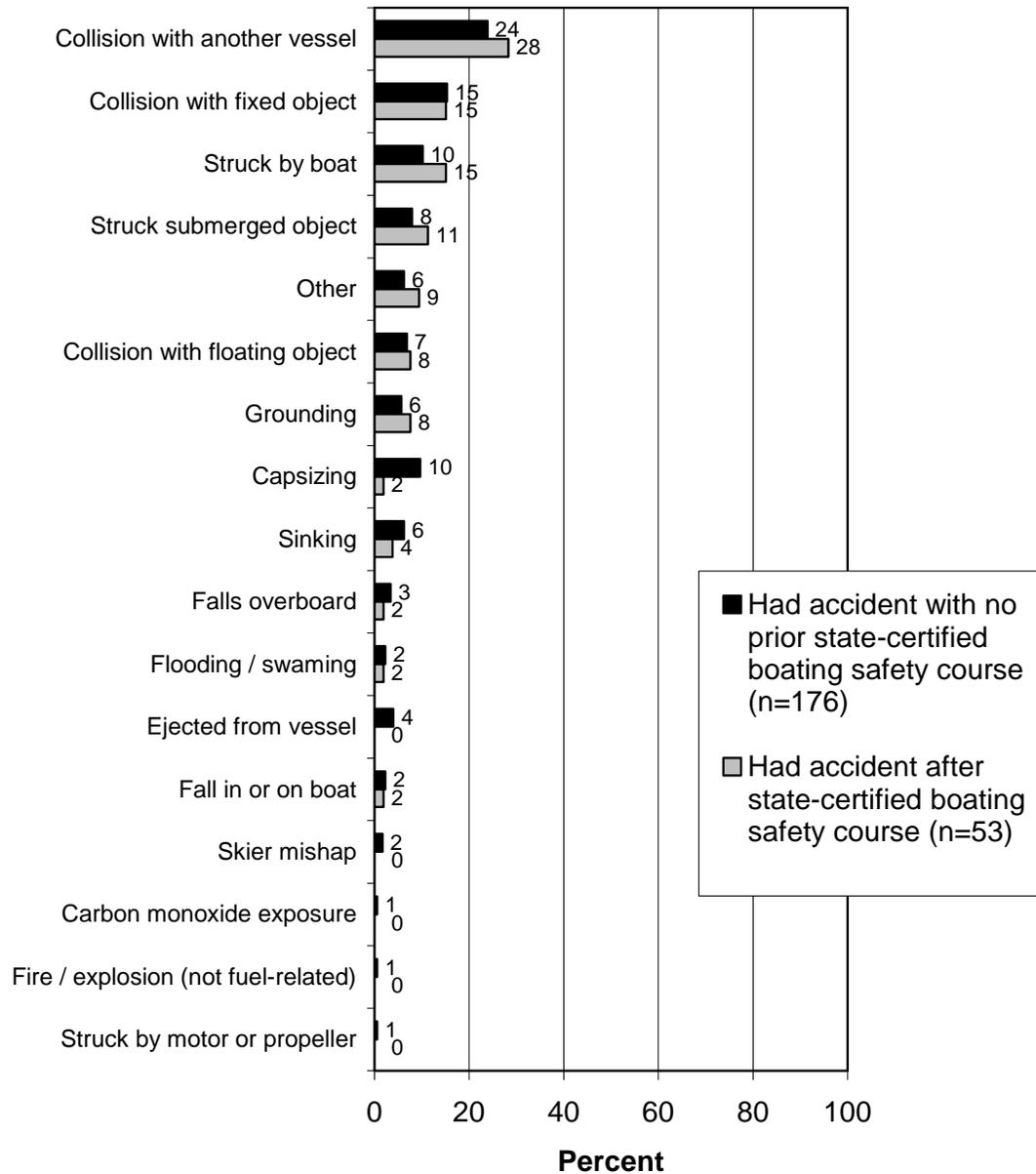


U.S. COAST GUARD BOATING ACCIDENT DATA: TOP CONTRIBUTING FACTORS

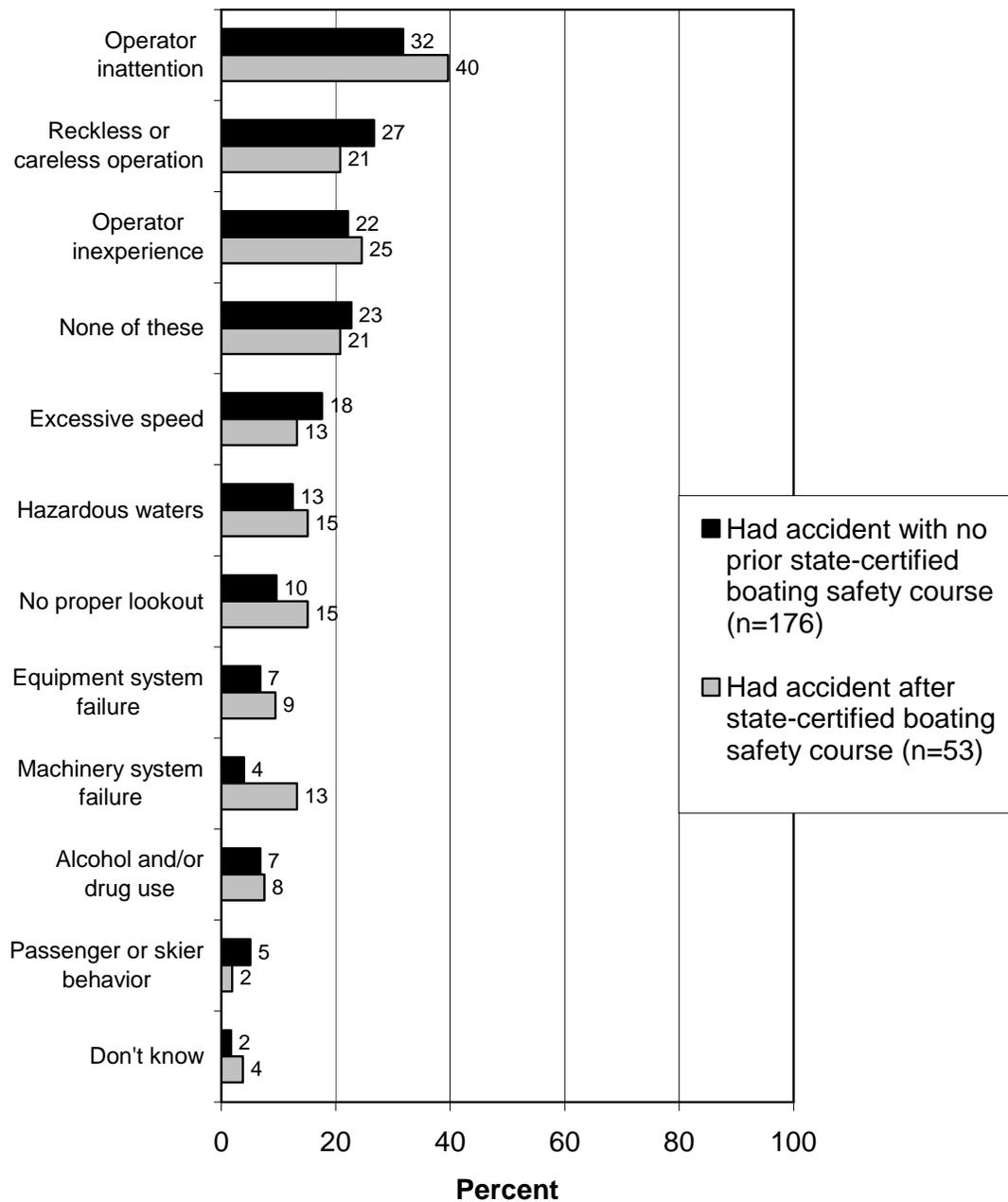
Primary Contributing Factor (2007)	Number of Accidents	Number of Injuries	Number of Deaths
Operator Inattention	628	436	47
Careless/Reckless Operation	552	445	33
Passenger/Skier Behavior	492	458	47
Excessive Speed	473	425	31
Alcohol Use	391	341	145
No Proper Lookout	375	266	20
Operator Inexperience	353	234	42
Machinery Failure	312	146	21
Weather	148	70	36
Equipment Failure	141	40	17

Source: U.S. Coast Guard, *Recreational Boating Statistics 2007*

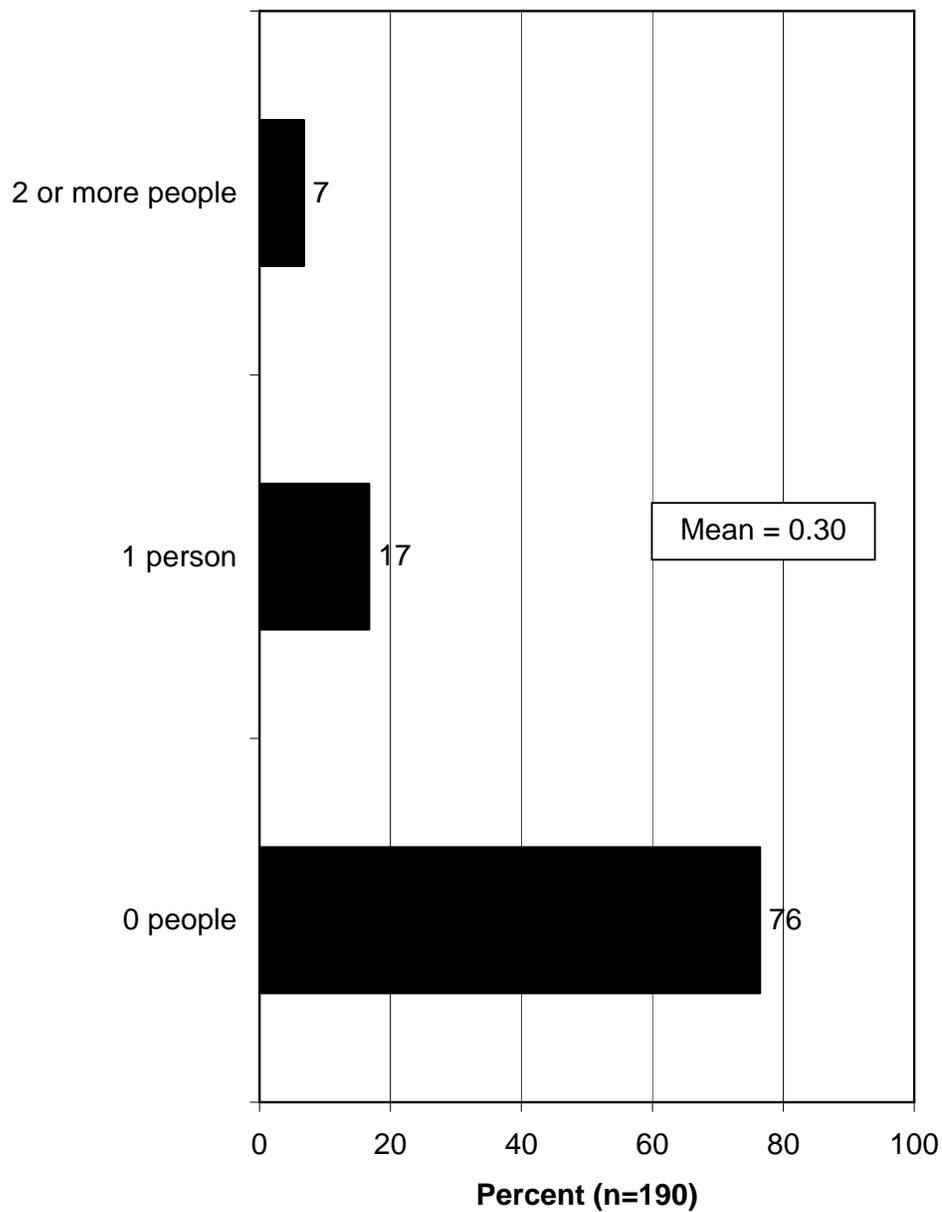
Q314, Q331, Q348. What type of accident(s) were you (in? / in before your first boating safety education course? / in after your first state-certified boating safety education course?)



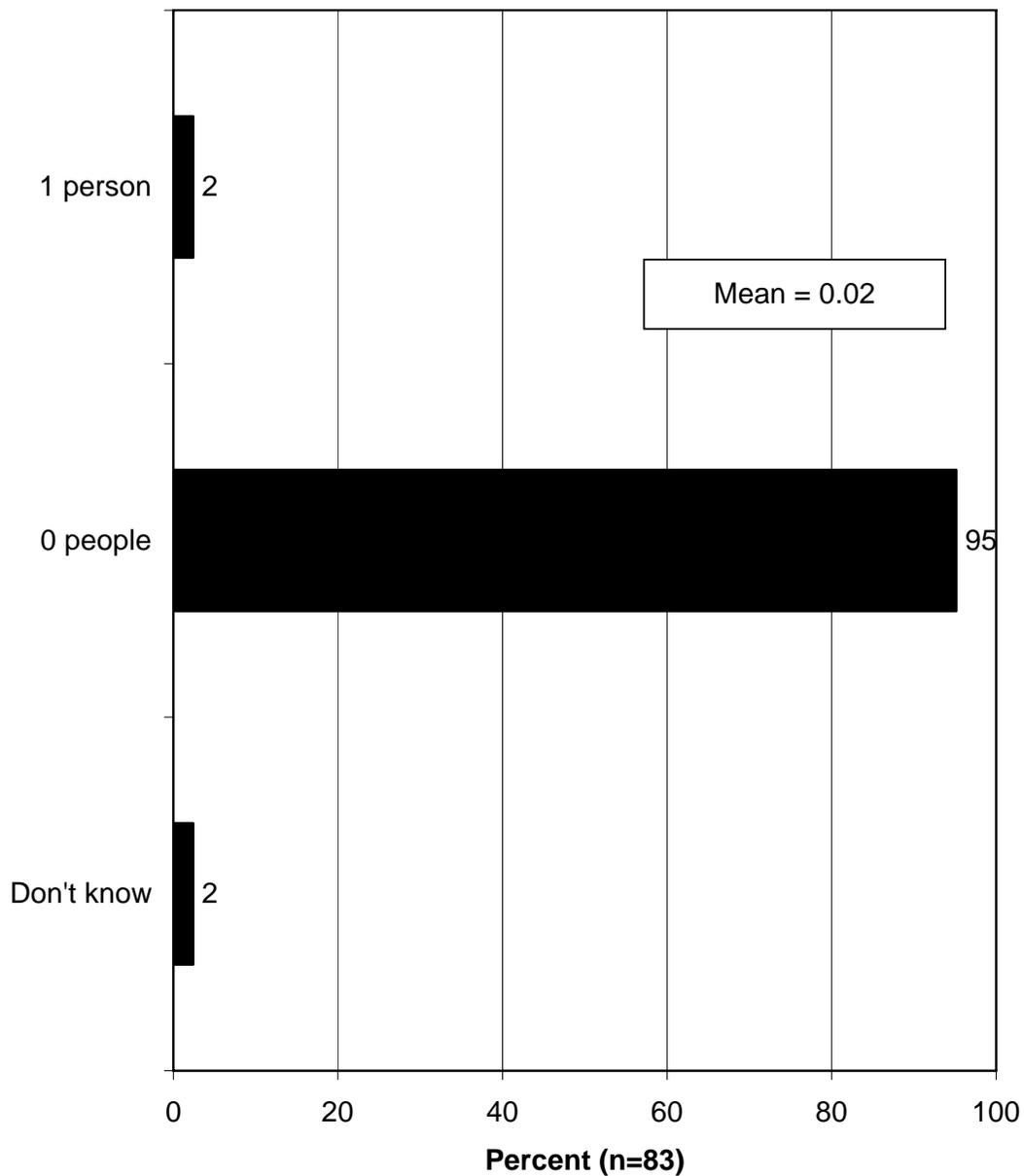
Q327, Q344, Q361. Did any of the following contribute to any of these accidents?



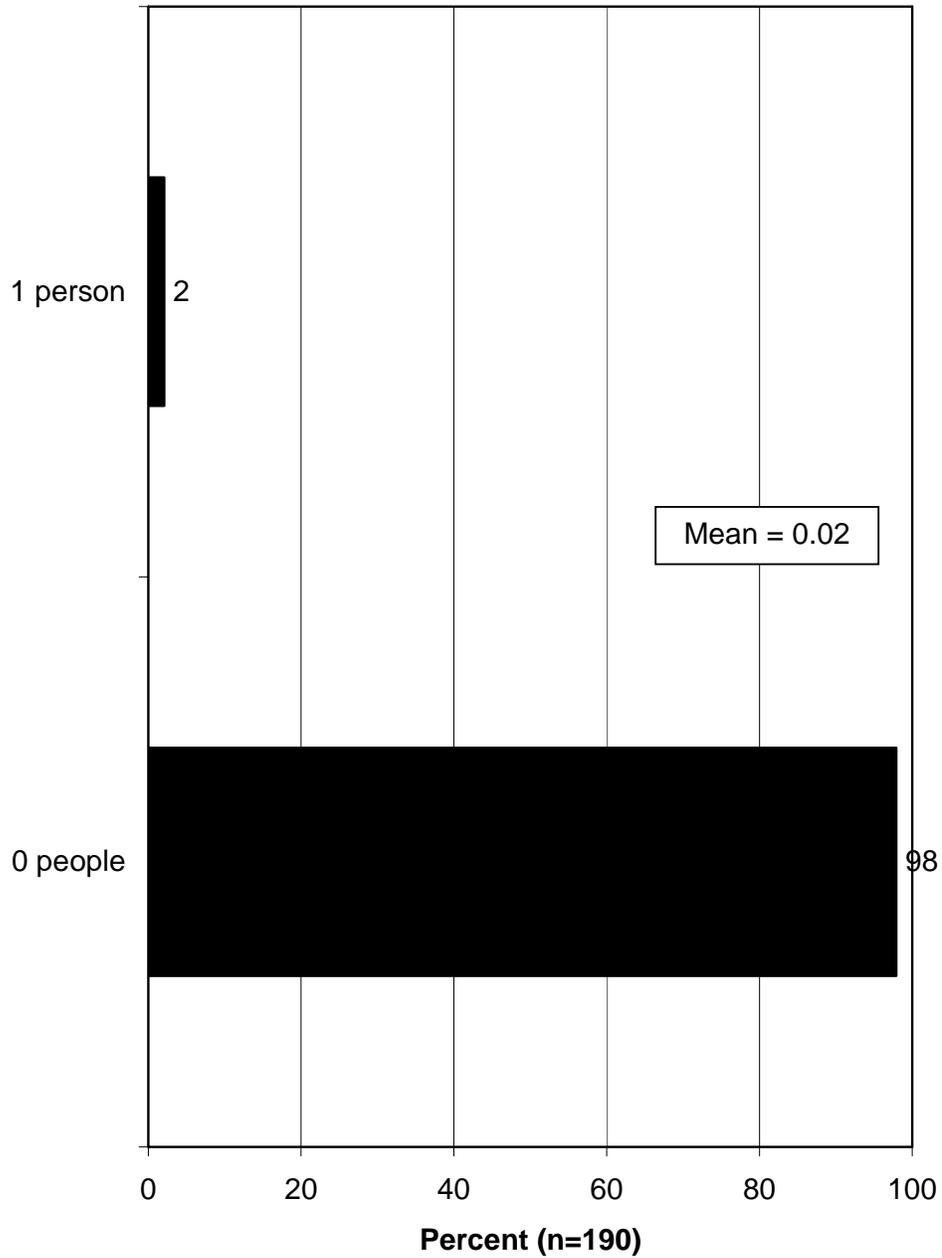
Q316/318 & 333/335. How many people, including yourself, were injured in the accident? (Asked of those who had a boating accident with no prior state-approved certification boating safety education.)



Q350/352. How many people, including yourself, were injured in the accident? (Asked of those who had a boating accident after taking their first state-approved certification or basic/general boating safety education course.)



322 & 339. How many fatalities resulted from the accident? (Asked of those who had a boating accident with no prior state-approved certification boating safety education.)



Q356. How many fatalities resulted from the accident? (Asked of those who had a boating accident after taking his/her first state-approved certification or basic/general boating safety education course.)



RESPONDENTS' CURRENT BOATING SAFETY PRACTICES

Participation in several behaviors/actions related to boating safety and/or environmentally sound boating is strong, based on respondents' self reporting of those behaviors. Most owners of registered boats say that, with high frequency, they locate and check safety aids prior to launch, check navigation instruments and lights prior to launch, do not paint or clean their boat in the water, and require passengers to wear life jackets (even if sometimes the operators do not wear life jackets). On the other hand, improvements could be made regarding other behaviors/actions of boaters, including filing float plans, personally wearing life jackets (as opposed to just requiring passengers to do so), and removing invasive species from their boats before using different waters, according to the frequency that boaters say that they do these behaviors/actions.

The ten behaviors/actions asked about were:

- Wearing a life jacket while operating or riding on a boat
- Requiring all other passengers to wear a life jacket
- Filing a float plan with the appropriate agency
- Locating and checking all safety aids prior to launch
- Checking all navigation instruments and lights prior to launch
- Checking the marine radio prior to launch
- Fueling the boat at a dock
- Properly disposing of waste at pump-out and dump stations
- Painting or cleaning the boat in the water
- Removing all plants/animals from the boat and inspecting/washing the boat out of the water prior to entering another body of water

A crosstabulation was conducted on the format of the boating safety education that the respondent had taken (i.e., classroom, distance learning, or home study) to see if one format produced better subsequent behaviors (albeit self-reported behaviors) relative to other formats. However, no format of boating safety education outperformed the other formats in a consistent way in looking at behaviors: the classroom format appeared to be *better* on two behaviors/actions—filing a float plan, checking the marine radio prior

to launch—and the classroom format appeared to be *worse* on one behavior/action—removing invasive species from the boat out of the water prior to entering another body of water. All other behaviors/actions had no statistically significant differences according to format of the course the boater had taken.

The length of time since taking a course has a statistically significant influence on only two behaviors: checking the marine radio prior to launch and filing a float plan, with those who more recently took a course being more likely to always or sometimes practice these behaviors.

- The interviewers asked owners of registered boats who had taken a course to indicate the frequency that they participated in ten behaviors/actions *after* taking boating safety education (i.e., currently). (Most of the behaviors/actions are safety-related, but a few of them are environmentally related; the ten behaviors/actions asked about are listed on the previous page.) For all but one behavior/action, more frequent participation is better; the exception is “painting or cleaning your boat in the water,” for which *less* frequent participation is better for the environment (boaters are encouraged to clean/paint their boats *out* of the water rather than *in* the water). The exception was reverse-coded in the first set of graphs so that all behaviors/actions could be compared. Reverse-coded means the percentage who said “always” on that question was compared to the percentage who said “never” on the other behaviors/actions, and so forth.
- Three behaviors/actions are nearly ubiquitous, based on the frequency that boaters say that they practice the behaviors/actions, with 75% or more of respondents who took a NASBLA-approved certified or basic/general boating safety course saying that they participate in the behavior/action *always* after the course: locate and check all safety aids prior to launch (79%), check all navigation instruments and lights prior to launch (76%), and *not* paint or clean the boat in the water (75%).

- In looking at the percentage who say that they participate in the behavior/action *always* or *sometimes*, the three items above are at the top of the ranking along with requiring all other passengers to wear a life jacket while boating.
 - At the bottom of the ranking is file a float plan with the appropriate agency (15% say that they do this always).
 - Note that a *comparison* of perceptions of pre-course behaviors and post-course behaviors is shown in a later section of this report titled, “Satisfaction and Dissatisfaction with Boating Safety Education, Ratings of Aspects of Boating Safety Education Programs, and Perceived Effectiveness of Boating Safety Education Programs.”
- The ten behaviors/actions asked about above were also asked of owners of registered boats who had *never* taken a NASBLA-approved certification or basic/general boating safety course (including those who never took any course). These graphs also show “painting or cleaning your boat in the water” reverse-coded.
- In looking at the percentage who say that they always participate in the behavior/action, three stand out markedly above the rest with a majority saying that they do them always: *not* paint or clean the boat in the water (85%), locate and check all safety aids prior to launch (71%), and check all navigation instruments and lights prior to launch (60%).
 - In looking at the percentage who say that they participate in the behavior/action *always* or *sometimes*, the three items above are at the top of the ranking along with requiring all other passengers to wear a life jacket while boating.
- The research team wanted to determine if having heard of particular programs/campaigns was associated with better behaviors, according to boaters’ reported frequency of practicing the behaviors/actions. To do this, the researchers ran a crosstabulation of the results of the post-course behavior/action questions by the groups who had heard of various programs/campaigns (recognizing that some overlap would exist in this analysis, as some boaters had heard of multiple programs/campaigns). However, the crosstabulations found no marked differences in reported behaviors/actions according to which programs/campaigns the boaters had heard about (for this reason, the graphs are not shown). In other words, using “filed a float plan” as an example, those who had heard of National Safe Boating Week are little

different from those who had heard of any other program/campaign in their stated frequency of filing a float plan. (The researchers were interested in crosstabulating behaviors/actions by actual *participation* in the programs/campaigns, but no crosstabulations were made by participation in various programs/campaigns because not enough had participated in them to allow the analysis to be run.)

- The research team also wanted to determine if there were regional variations in behaviors/actions, again according to boaters' reported frequency of practicing the behaviors/actions. This crosstabulation used the three large regions encompassed by the three regional boating administrator associations: the Western States Boating Administrators Association, the Northern Association of Boating Administrators, and the Southern States Boating Law Administrators Association, as discussed in Appendix B. However, the crosstabulations found no marked differences in reported behaviors/actions according to the three large regions, and, for this reason, no graphs are shown.

- The behaviors/actions were crosstabulated by whether or not the owner of a registered boat had experienced an accident, as the researchers conjectured that perhaps having experienced an accident might affect behaviors/actions (among those who had taken a NASBLA-approved certification or basic/general boating safety course). Only two behaviors/actions were affected. All these graphs are shown, with the two with statistically significant differences indicated.
 - Those who have been in an accident are more likely, compared to those who have *not* been in an accident, to say that they always or sometimes check the marine radio prior to launch ($p \leq 0.01$), among those with NASBLA-approved certification boating safety education.
 - Those who have been in an accident are more likely, compared to those who have *not* been in an accident, to say that they always or sometimes properly dispose of waste at pump-out or dump stations ($p \leq 0.05$), among those with NASBLA-approved certification boating safety education.

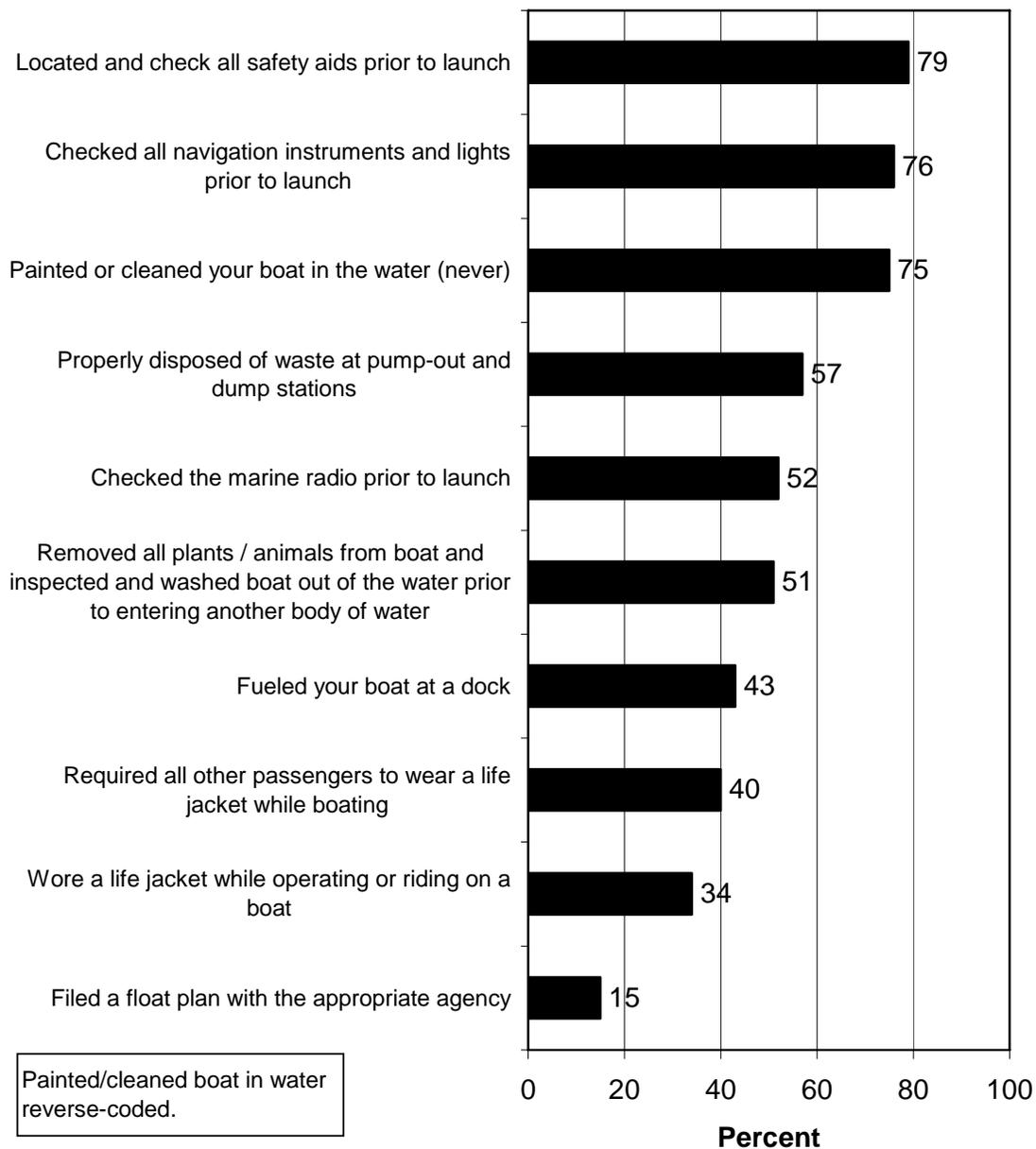
- Similar to the analysis described above, some of the behaviors/actions (among those who *had not* taken a NASBLA-approved certification or basic/general boating safety course) were crosstabulated by whether or not the owner of a registered boat had experienced an accident. This analysis found that three behaviors/actions show differences on this variable (had accident/did not have accident) among those who have *not* taken a NASBLA-approved certification or basic/general boating safety course. All these graphs are shown, with the three with statistically significant differences indicated.
- Among this group, those who have been in an accident, compared to those who have not, are slightly more likely to always or sometimes check all navigation instruments and lights prior to launch ($p \leq 0.05$).
 - Those who have been in an accident, compared to those who have not, are slightly more likely to always or sometimes check the marine radio prior to launch ($p \leq 0.01$).
 - Finally, those who have been in an accident, compared to those who have not, are slightly more likely to always or sometimes paint/clean their boat *in* the water (which is a bad behavior) ($p \leq 0.05$).
- Also in this section of the report, a comparison was made regarding these ten behaviors/actions among those who have taken a NASBLA-approved certification boating safety course and those who have not (the latter including those who have no boating safety education or who took a course that was not a NASBLA-approved certification course). The comparison suggests that those who have taken state-certified or basic boating safety courses, for the most part, have more positive behaviors, according to their stated frequency of practicing those behaviors.
- In particular, owners of registered boats who have taken state-certified boating safety education are more likely, relative to those who have not, to report a markedly higher frequency of filing a float plan with the appropriate agency, locating and checking all safety aids prior to launch, checking all navigation instruments and lights prior to launch, checking the marine radio prior to launch, fueling their boat at a dock, and properly disposing of waste at pump-out and dump stations. All of these differences are statistically significant ($p \leq 0.001$).

- A crosstabulation of behaviors by whether the NASBLA-approved course was mandatory or was taken voluntarily found three behaviors that had statistically significant differences in the responses, among those who had taken a course.
 - Those who took the course because of a *mandatory* requirement were more likely than their counterparts to always wear a life jacket ($p \leq 0.001$) and to always require others to wear life jackets ($p \leq 0.01$).
 - Those who took the course *voluntarily* were more likely than their counterparts to always locate and check safety aids prior to launch ($p \leq 0.001$).

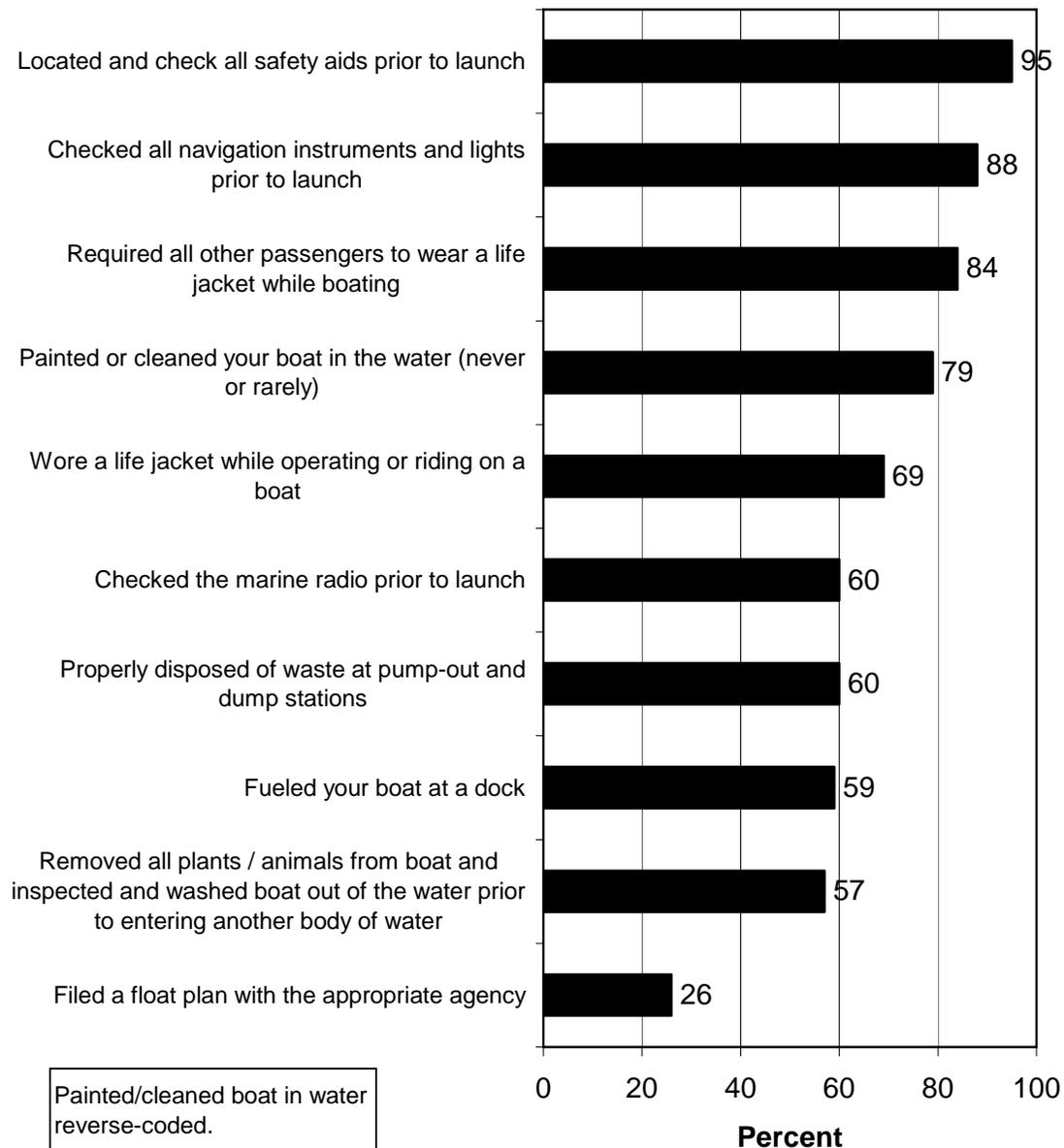
- A crosstabulation of the ten questions regarding the frequency that owners of registered boats participate in ten behaviors/actions by the type of *format* of the course sought to determine if a particular course format produced better results regarding post-course behaviors/actions. Overall, no course format performed markedly better than any other course format on all stated behaviors/actions. Only three behaviors/actions have statistically significant differences when crosstabulated by format of the course. Those three behaviors/actions are discussed below. All of these graphs are shown, with the three with statistically significant differences indicated.
 - *Filing a float plan with the appropriate agency:* Those who completed a classroom course are slightly more likely than are those who completed other formats to say that they always or sometimes do this. These differences are statistically significant ($p \leq 0.05$).
 - *Checking the marine radio prior to launch:* Those who completed a classroom course are slightly more likely than are those who completed other formats to say that they always or sometimes do this. These differences are statistically significant ($p \leq 0.001$).
 - *Removing all plants and animals from the boat and inspecting and washing the boat out of the water prior to entering another body of water:* Those who completed a home study or web course are more likely than are those who completed a classroom course to say that they always or sometimes do this. These differences are statistically significant ($p \leq 0.05$).

- The analysis discussed above regarding the frequency that owners of registered boats participate in ten behaviors/actions crosstabulated by the type of format of the course also was conducted only among those who had taken a boating safety course *within the previous 8 years*. This was done to determine if a particular course format produced better results regarding post-course behaviors/actions among those who had an opportunity to take any of the types of format now available (in other words, to exclude those who took a course so long ago that the Internet was not an option). Only three behaviors/actions have statistically significant differences according to course format among those who took courses in the previous 8 years, with no single format consistently outperforming the others. These are discussed below. All of these graphs are shown, with the three with statistically significant differences indicated.
- *Filing a float plan with the appropriate agency:* Those who completed a classroom or home study course are more likely than are those who completed a distance learning course to say that they always or sometimes do this. These differences are statistically significant ($p \leq 0.01$).
 - *Checking all navigation instruments and lights prior to launch:* Those who completed a home study course, relative to those who took the other formats, are more likely to say that they always or sometimes check all navigation instruments and lights prior to launch. These differences are statistically significant ($p \leq 0.05$).
 - *Checking the marine radio prior to launch:* Those who completed a classroom course are more likely than those who took other formats to say that they always or sometimes do this. These differences are statistically significant ($p \leq 0.001$).
- An examination of the ten questions regarding the reported frequency that owners of registered boats participate in ten behaviors/actions crosstabulated by the amount of time since their most recent course sought to determine if the timing of the course had any correlations with reported frequency of post-course behaviors/actions. Overall, the length of time since taking the most recent course had little effect on reported post-course behavior, with two exceptions, as discussed below. All these graphs are shown, with the two with statistically significant differences indicated.
- *Checking the marine radio prior to launch:* Those who more recently took a course are more likely to always or sometimes practice this behavior ($p \leq 0.01$).
 - *Filing a float plan:* Those who more recently took a course are more likely to always or sometimes practice this behavior ($p \leq 0.01$).

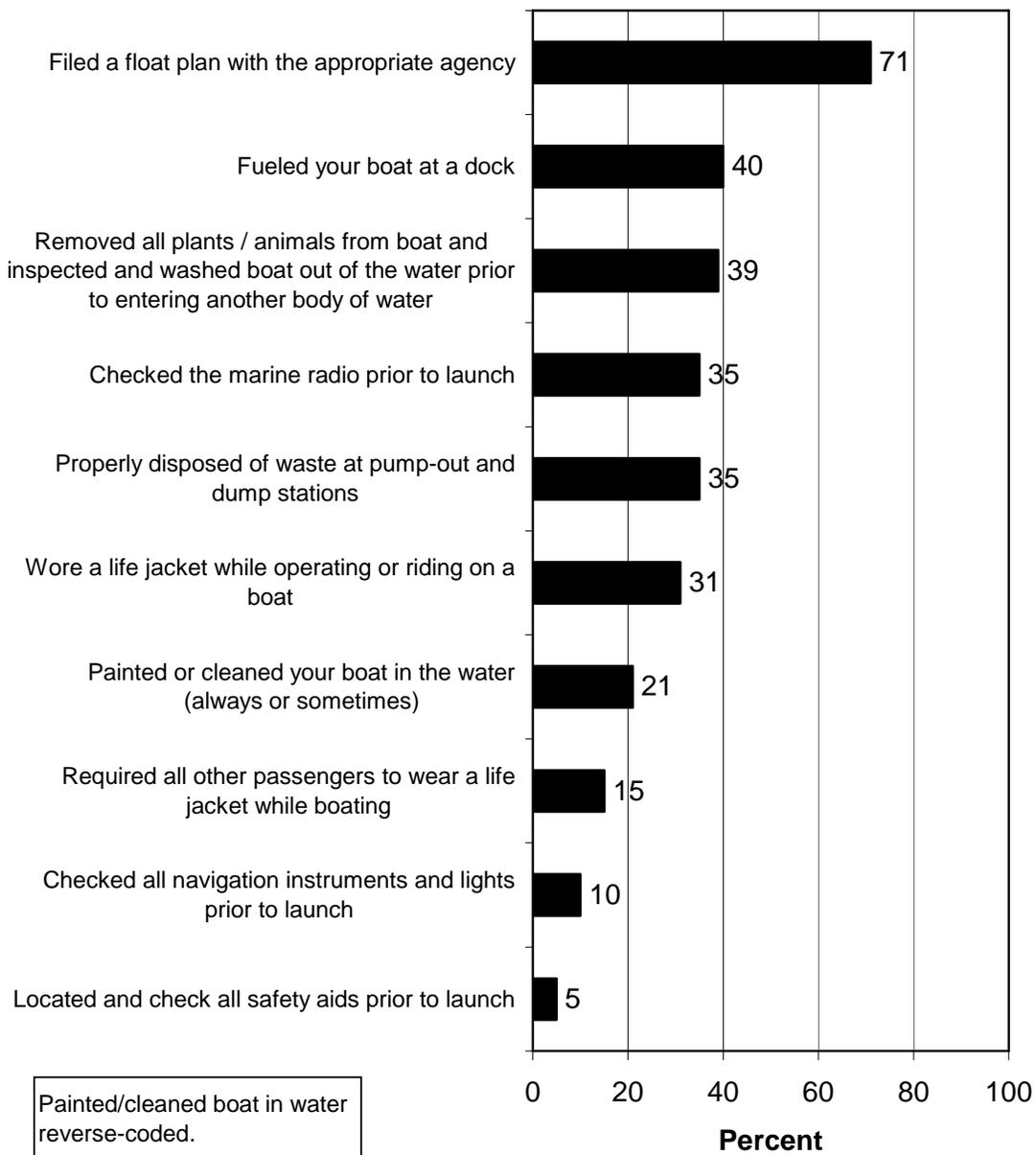
Q149-Q158. Percent who always participated in the following after taking the most recent boating safety education course he/she completed. (Asked of those who have taken at least one boating safety education course.)



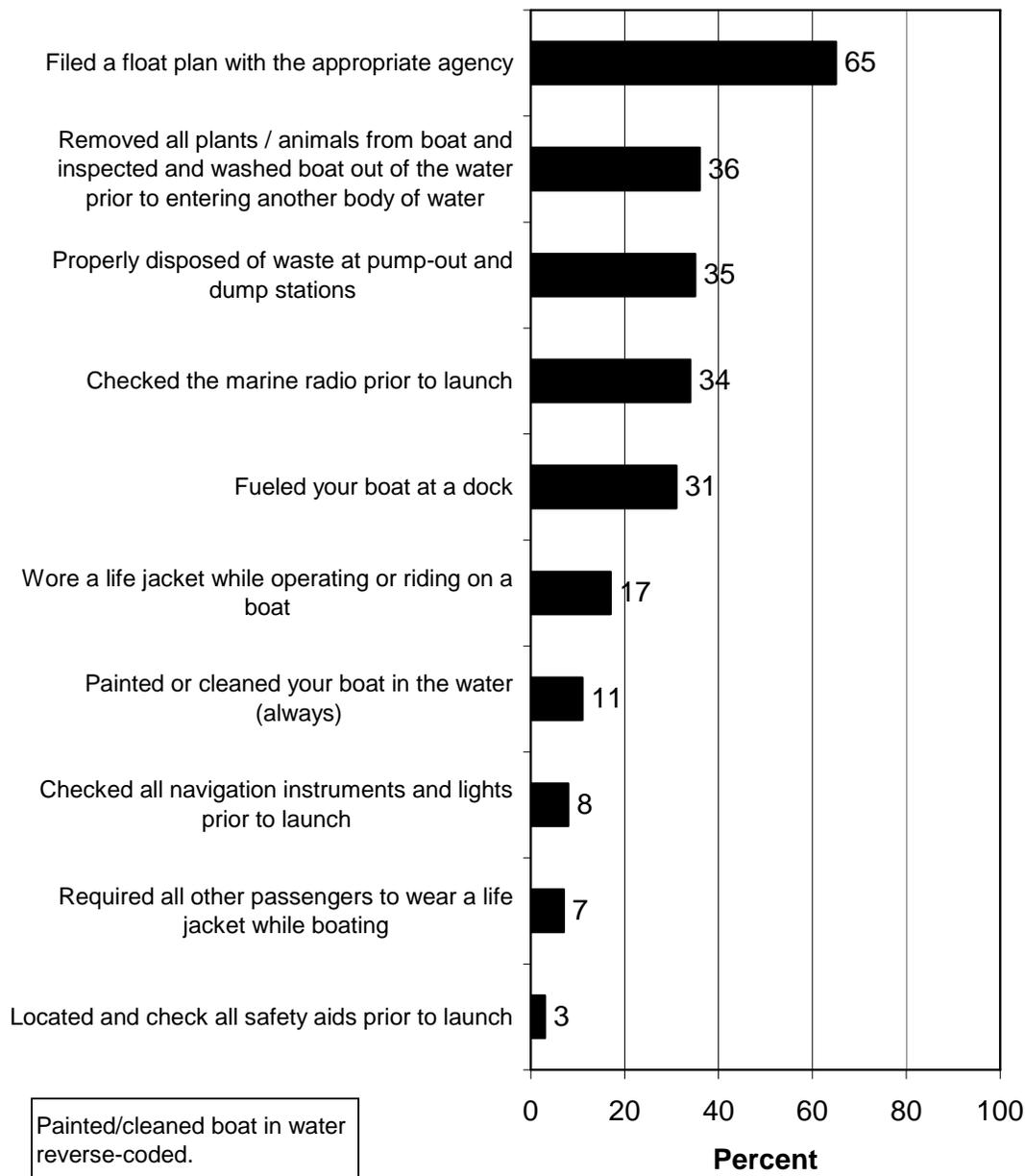
Q149-Q158. Percent who always or sometimes participated in the following after taking the most recent boating safety education course he/she completed. (Asked of those who have taken at least one boating safety education course.)



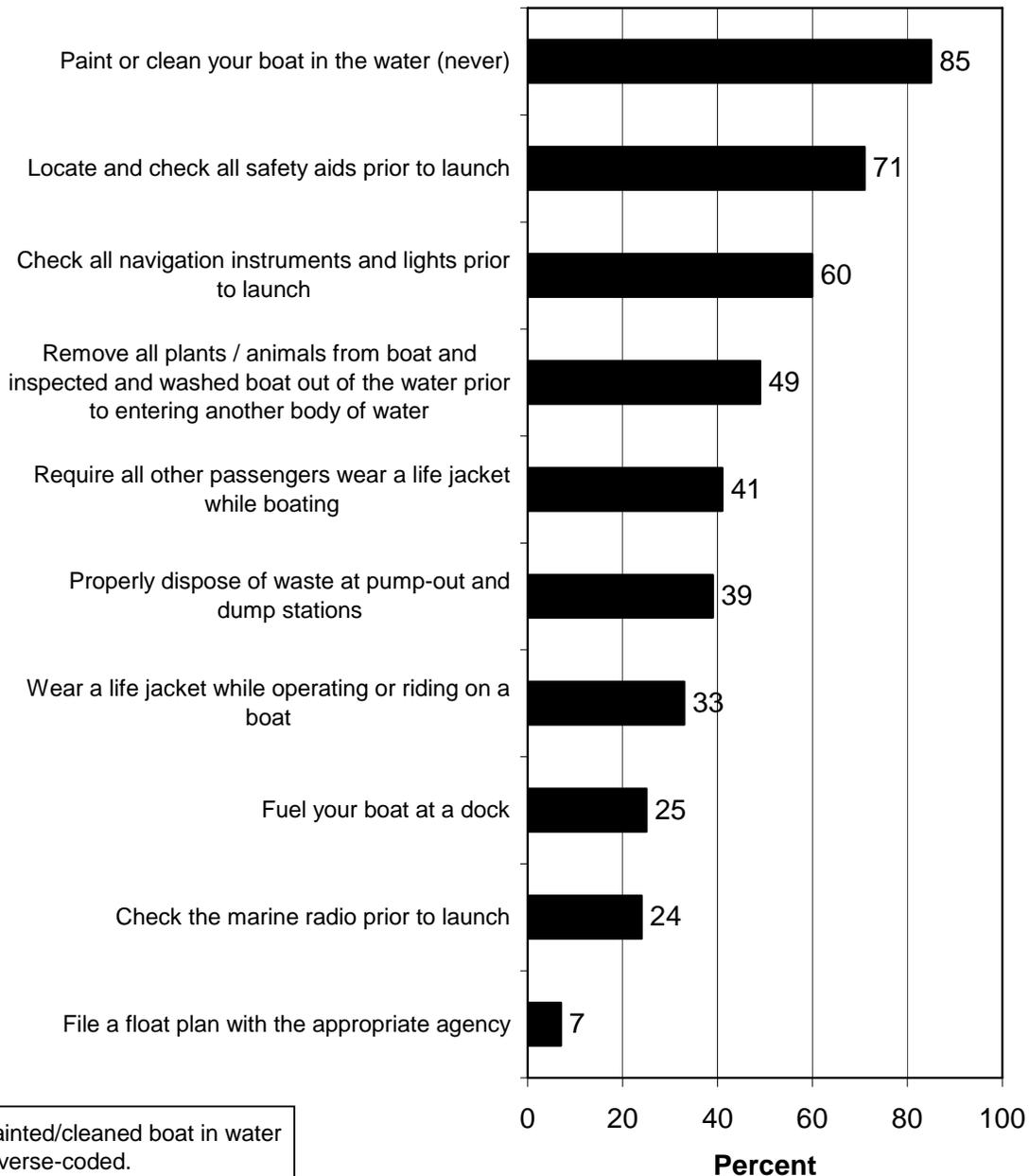
Q149-Q158. Percent who rarely or never participated in the following after taking the most recent boating safety education course he/she completed. (Asked of those who have taken at least one boating safety education course.)



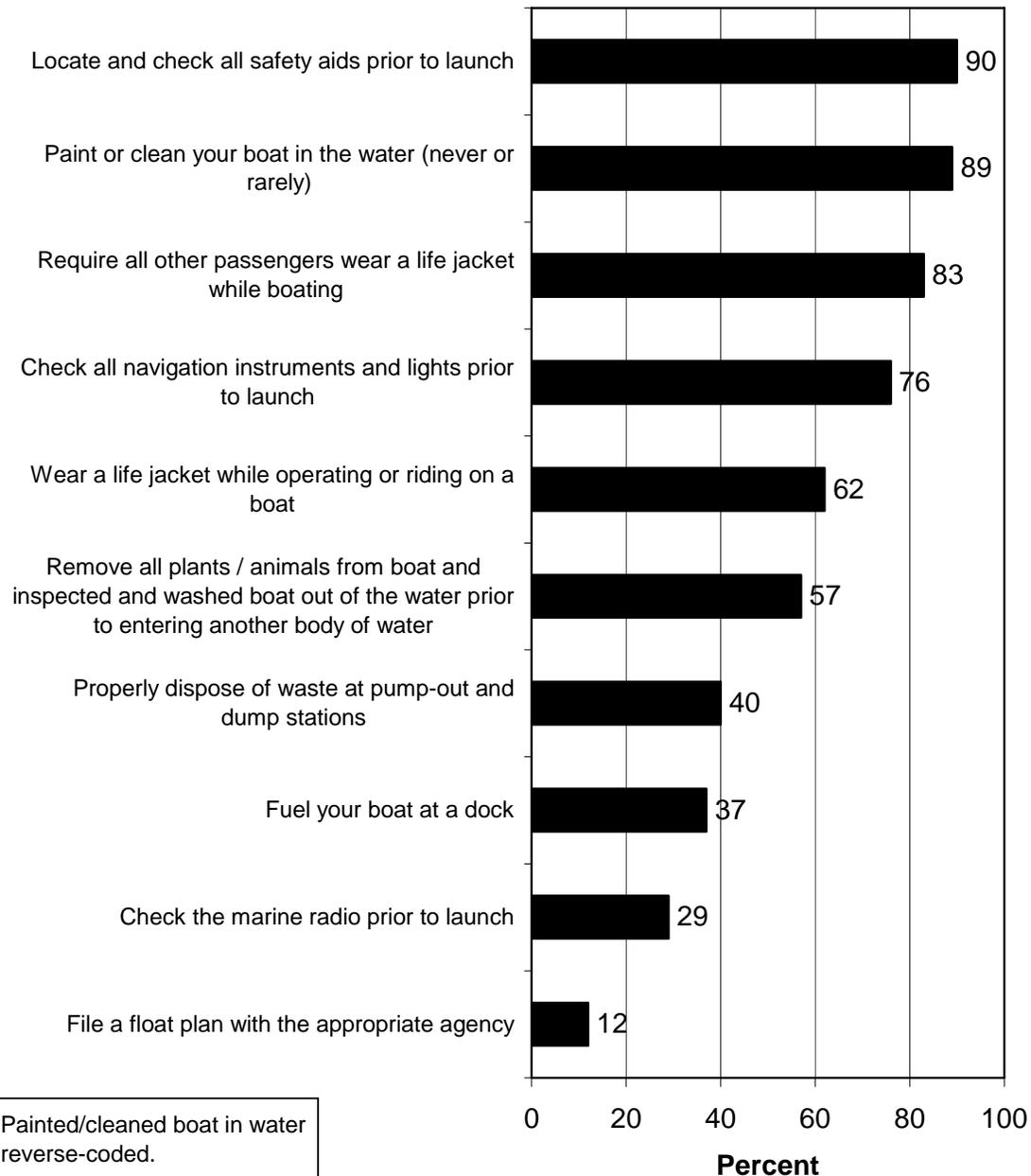
Q149-Q158. Percent who never participated in the following after taking the most recent boating safety education course he/she completed. (Asked of those who have taken at least one boating safety education course.)



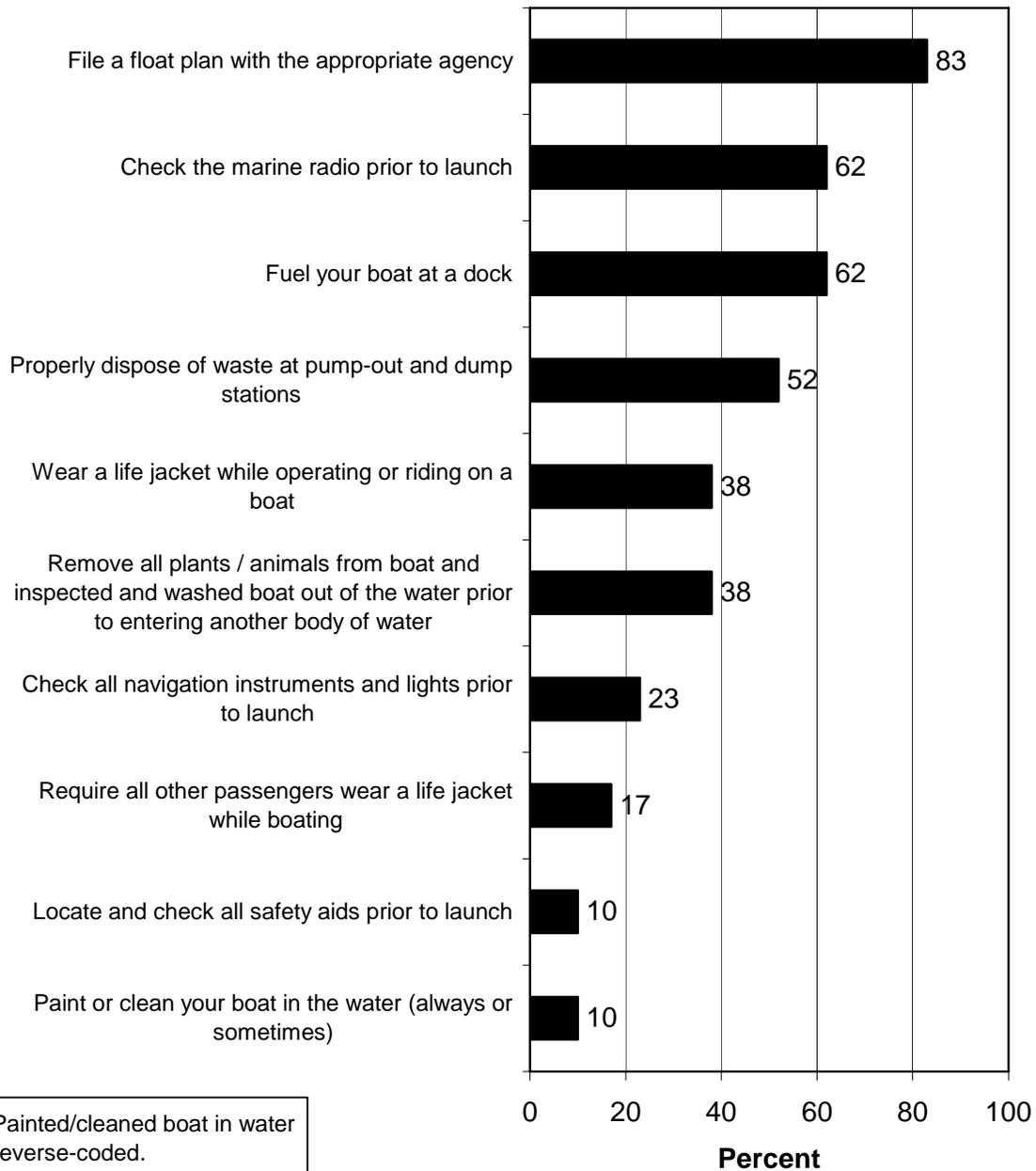
Q161-Q170. Percent who always participate in the following. (Asked of those who never took a boating safety education course and those who took a course that was not state-certified or basic/general.)



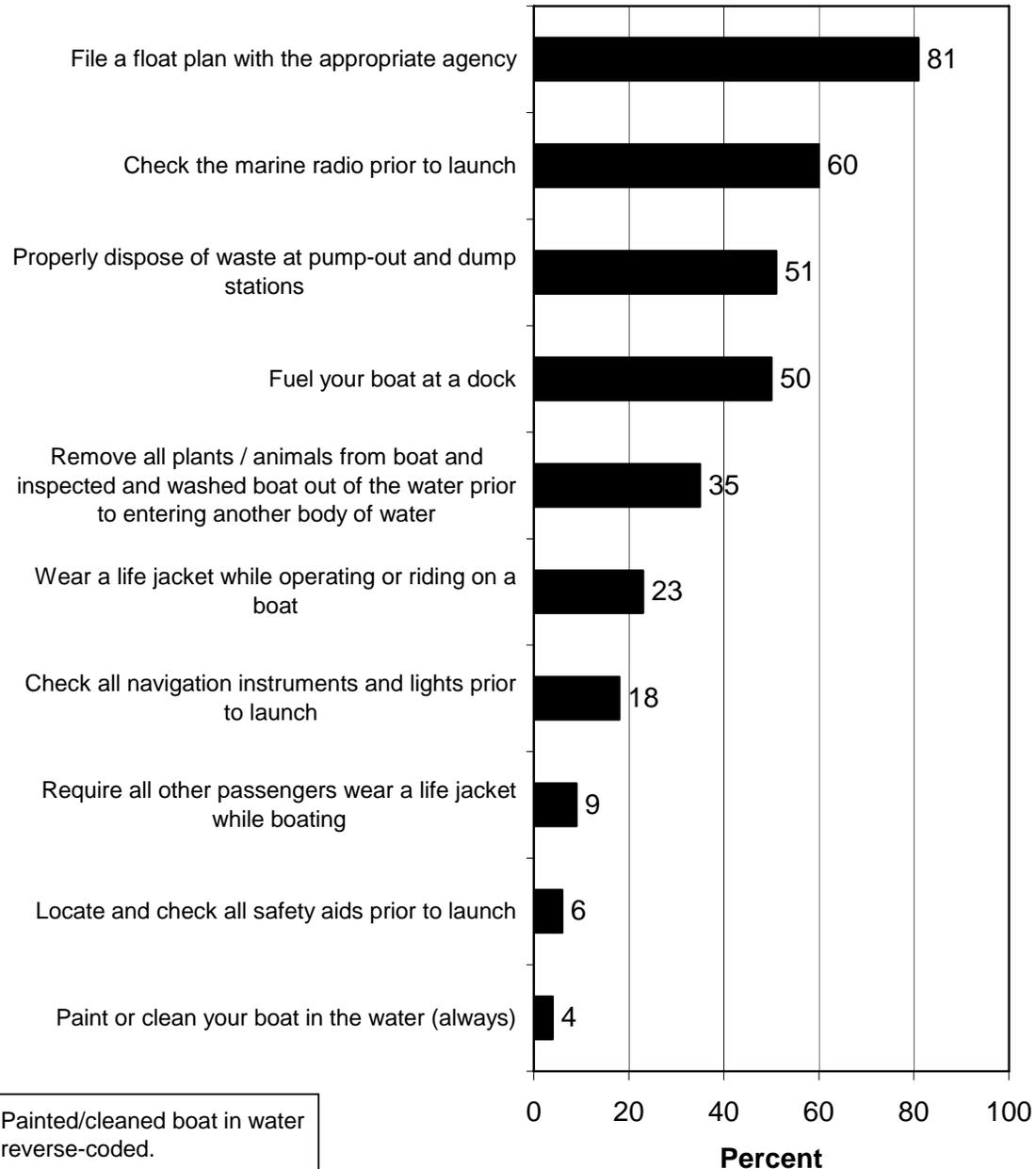
Q161-Q170. Percent who always or sometimes participate in the following. (Asked of those who never took a boating safety education course or those who took a course that was not state-certified or basic/general.)



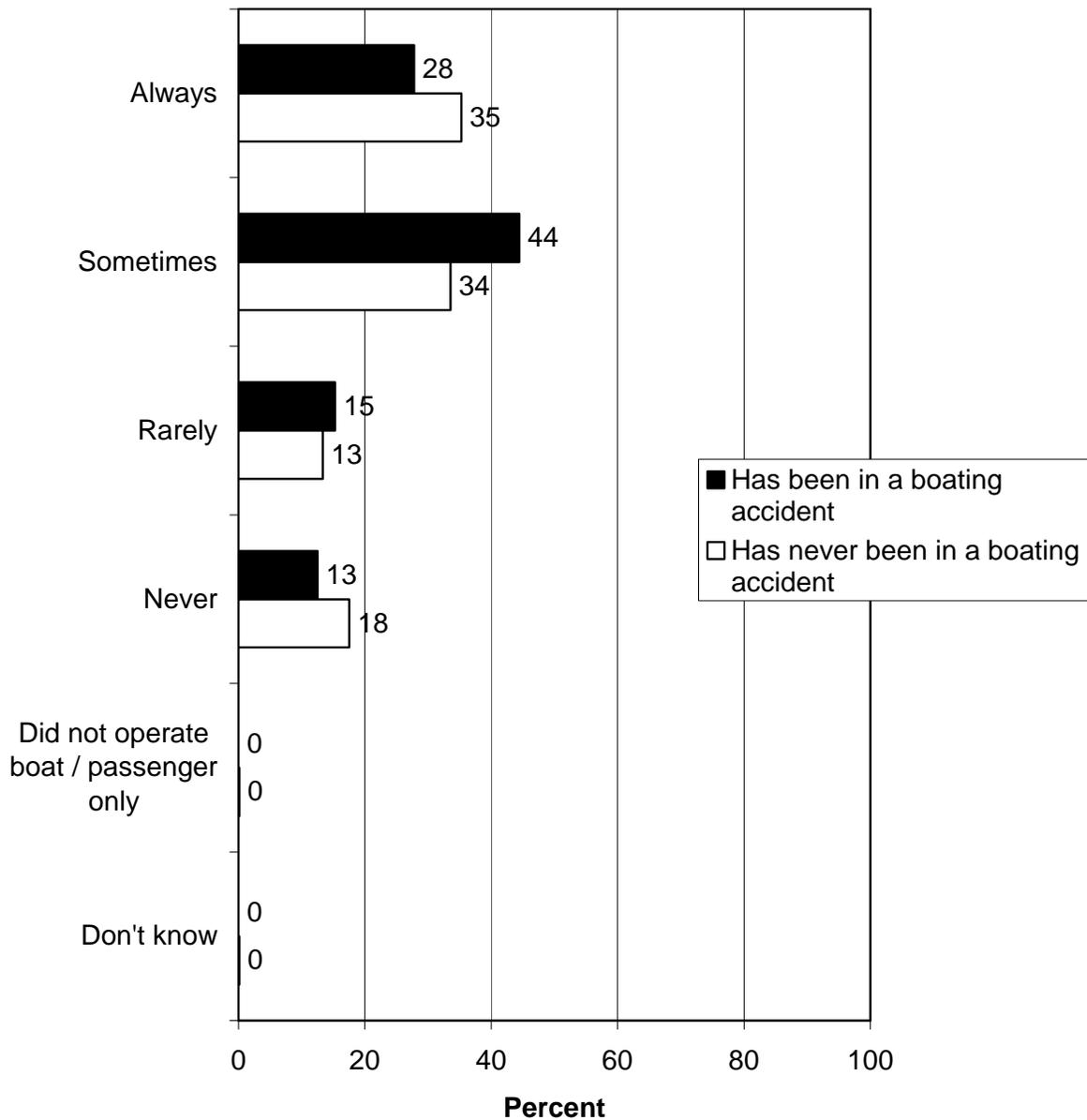
Q161-Q170. Percent who rarely or never participate in the following. (Asked of those who never took a boating safety education course or those who took a course that was not state-certified or basic/general.)



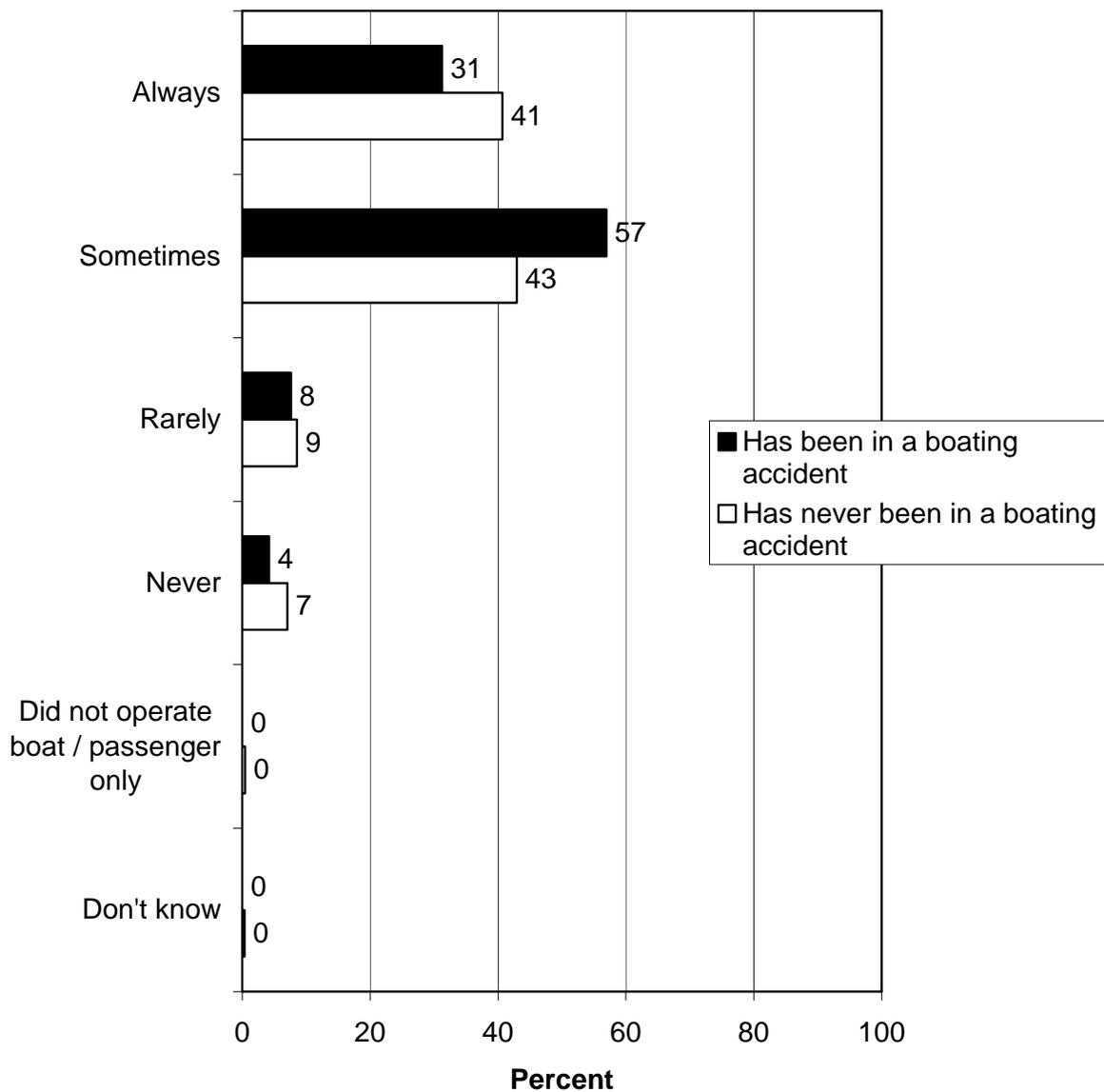
Q161-Q170. Percent who never participate in the following. (Asked of those who never took a boating safety education course or those who took a course that was not state-certified or basic/general.)



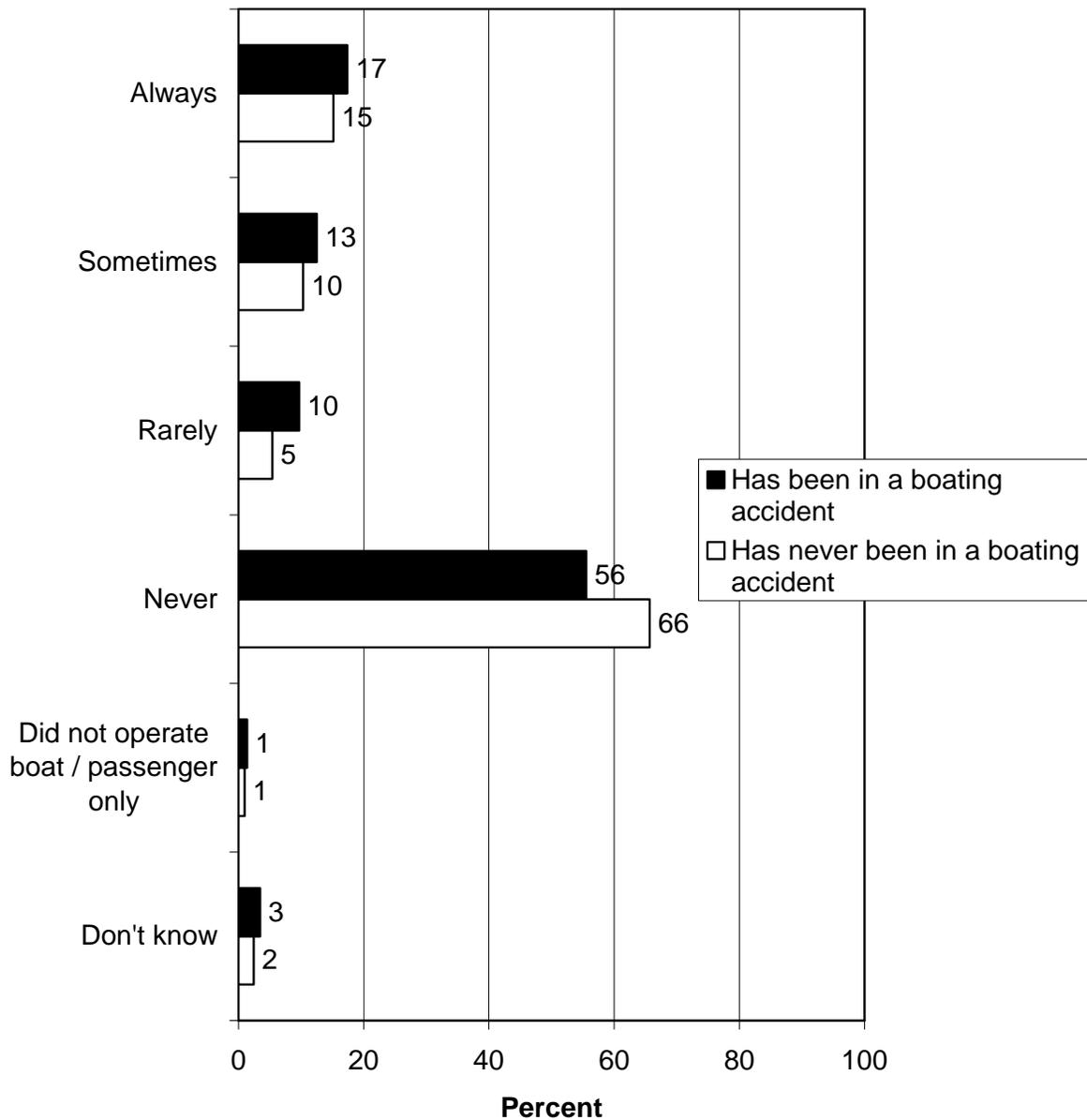
Q149. Would you say you wore a life jacket while operating or riding on a boat always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



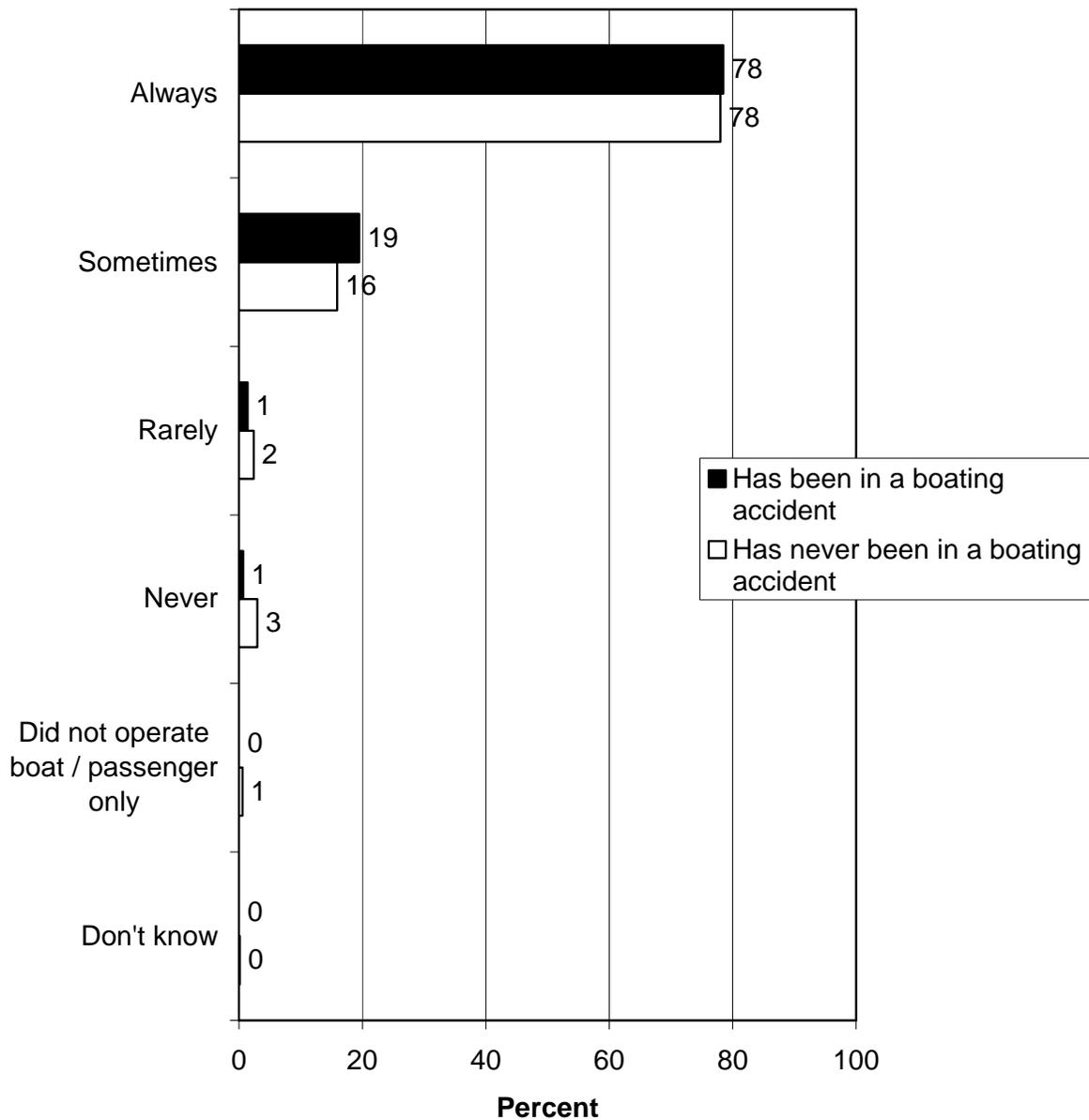
Q150. Would you say you required all other passengers to wear a life jacket while boating always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



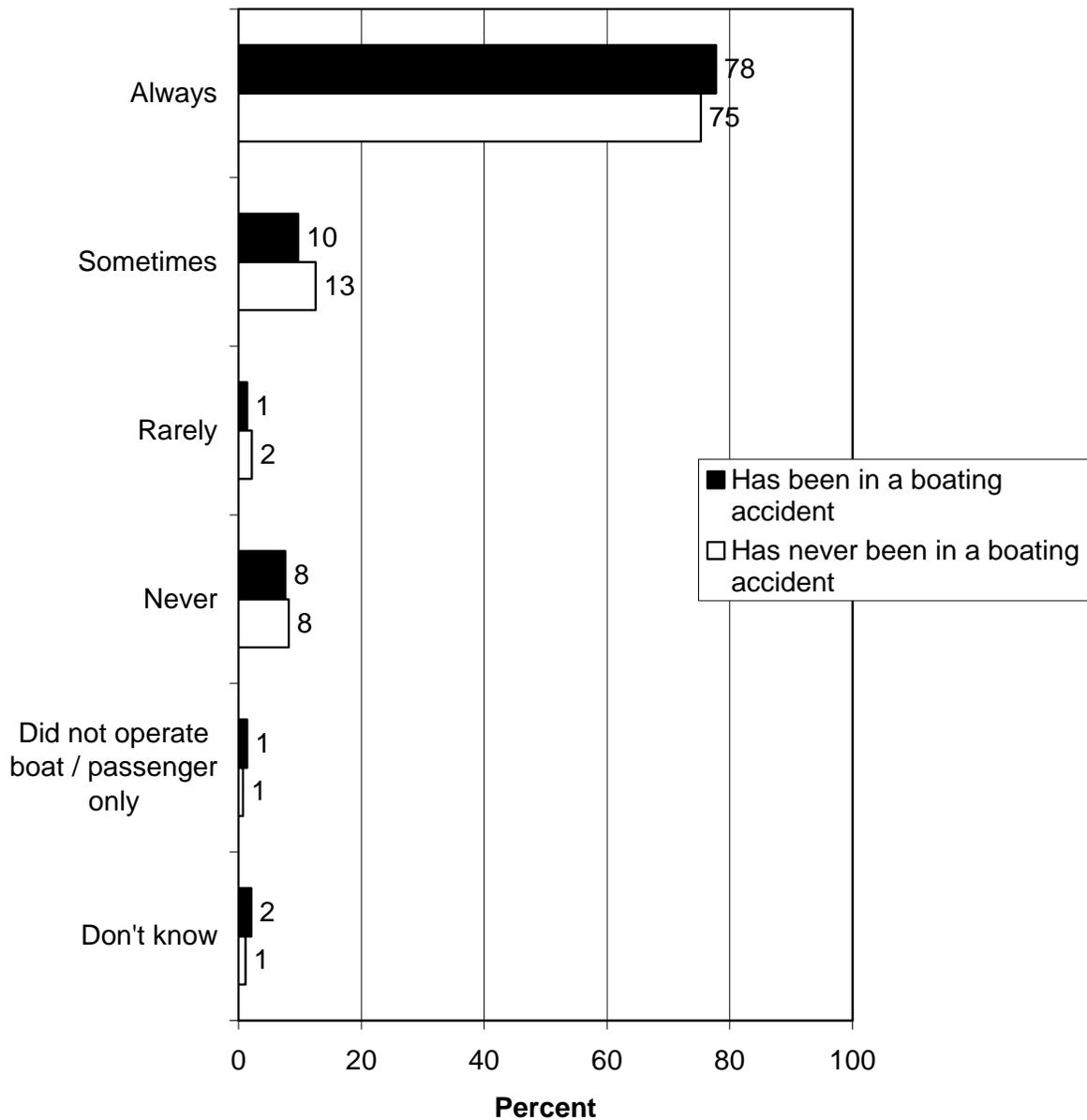
Q151. Would you say you filed a float plan with the appropriate agency always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



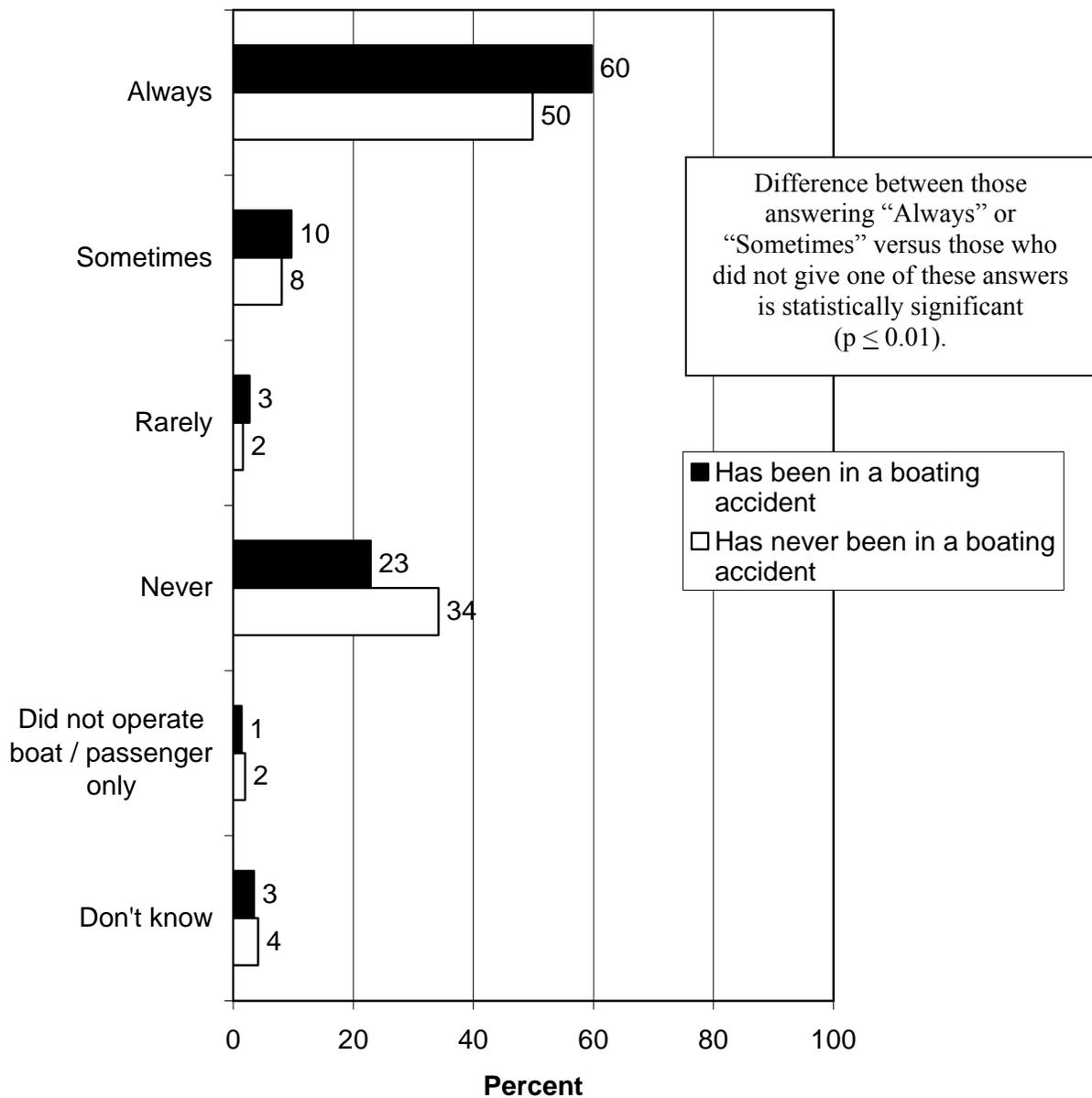
Q152. Would you say you located and check all safety aids prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



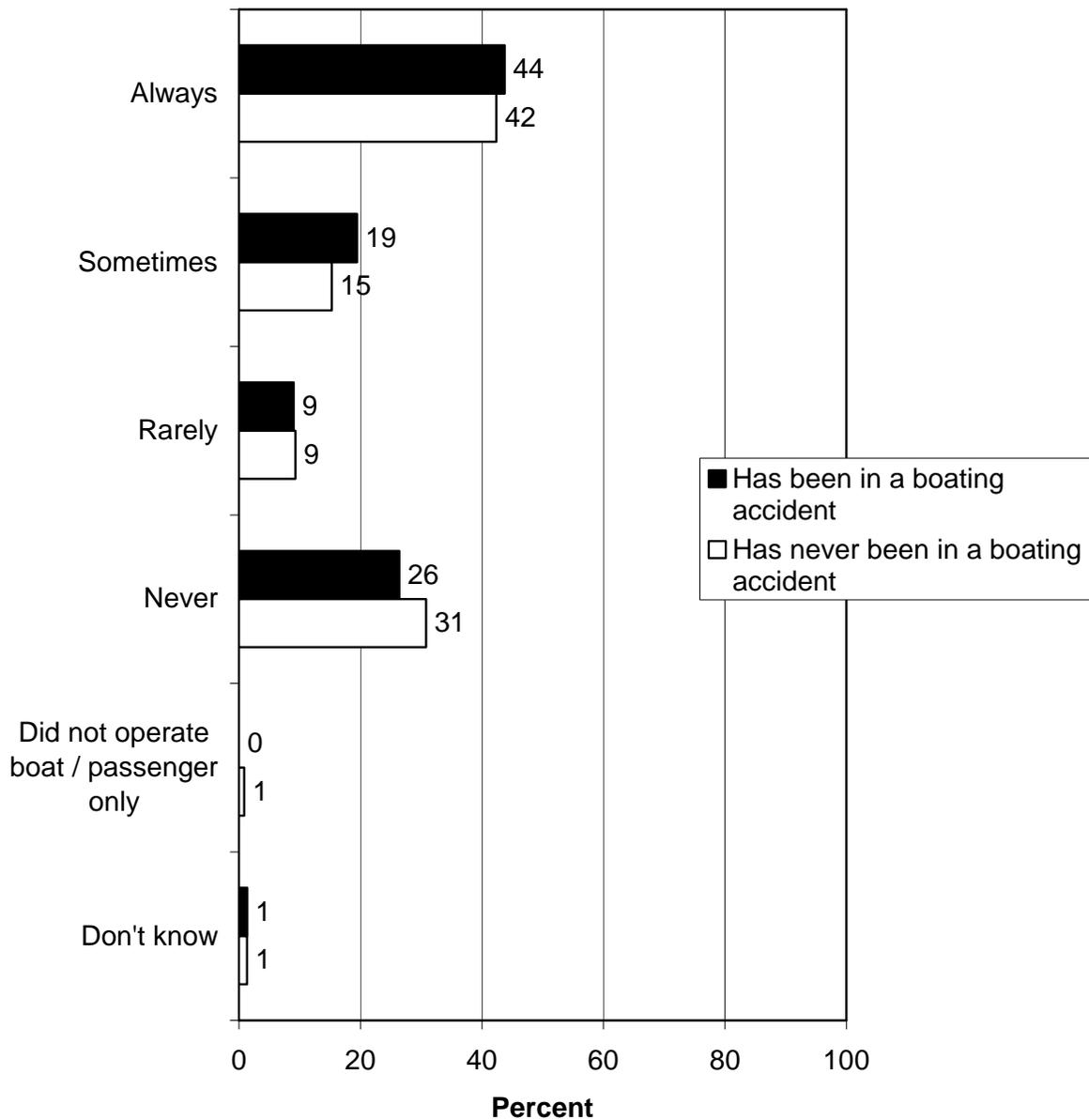
Q153. Would you say you checked all navigation instruments and lights prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



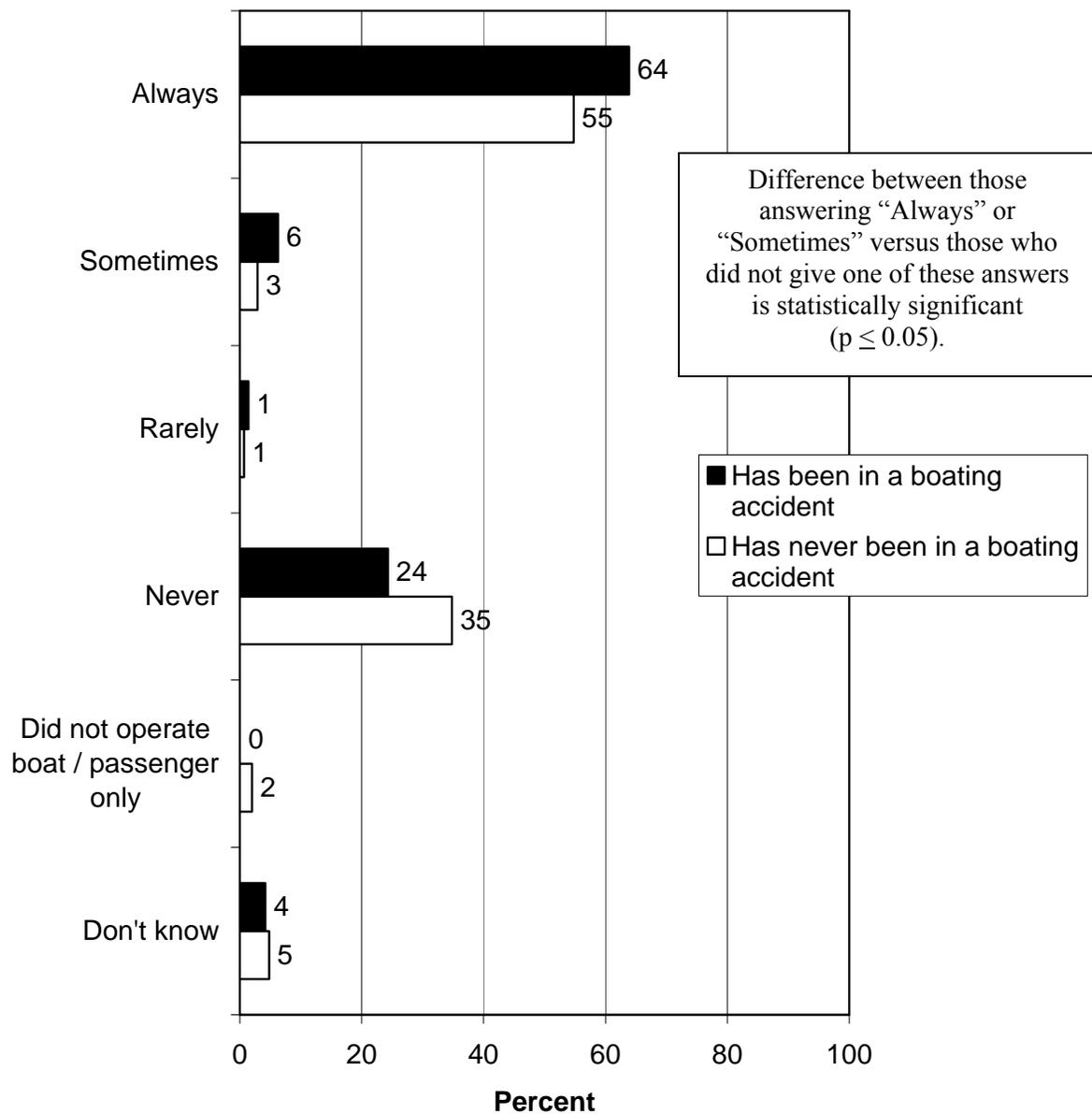
Q154. Would you say you checked the marine radio prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



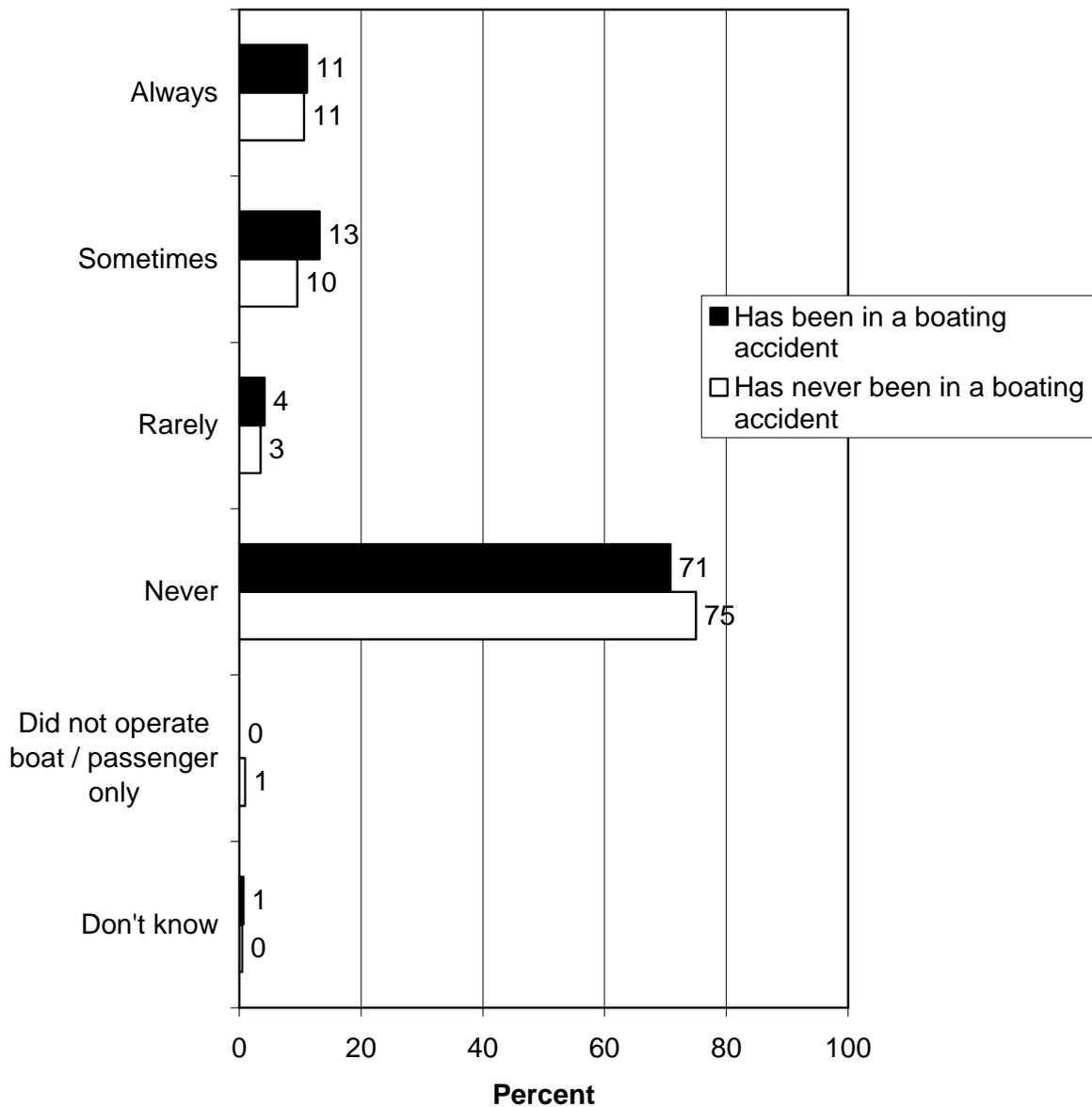
Q155. Would you say you fueled your boat at a dock always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



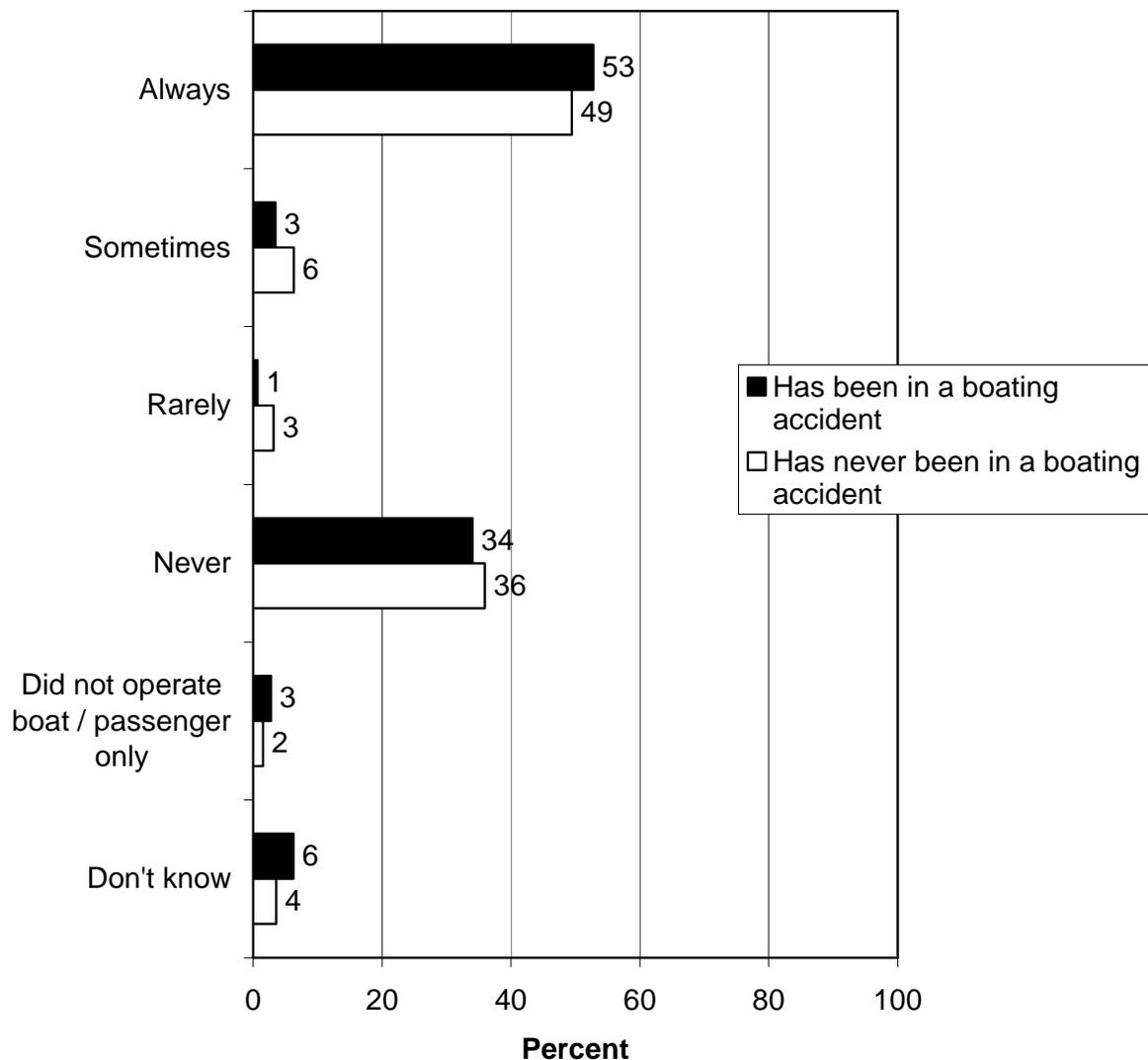
Q156. Would you say you properly disposed of waste at pump-out and dump stations always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



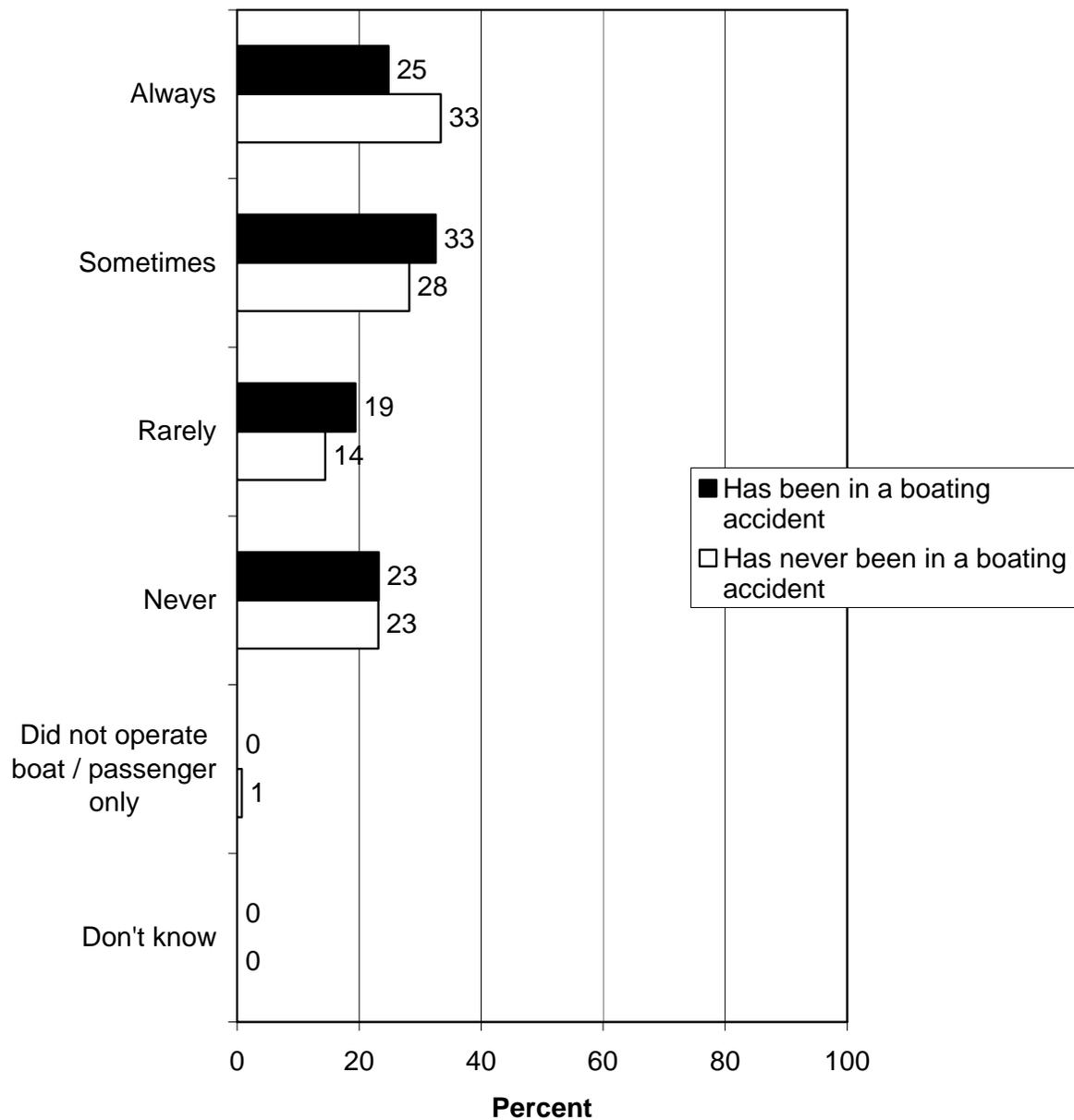
Q157. Would you say you painted or cleaned your boat in the water always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



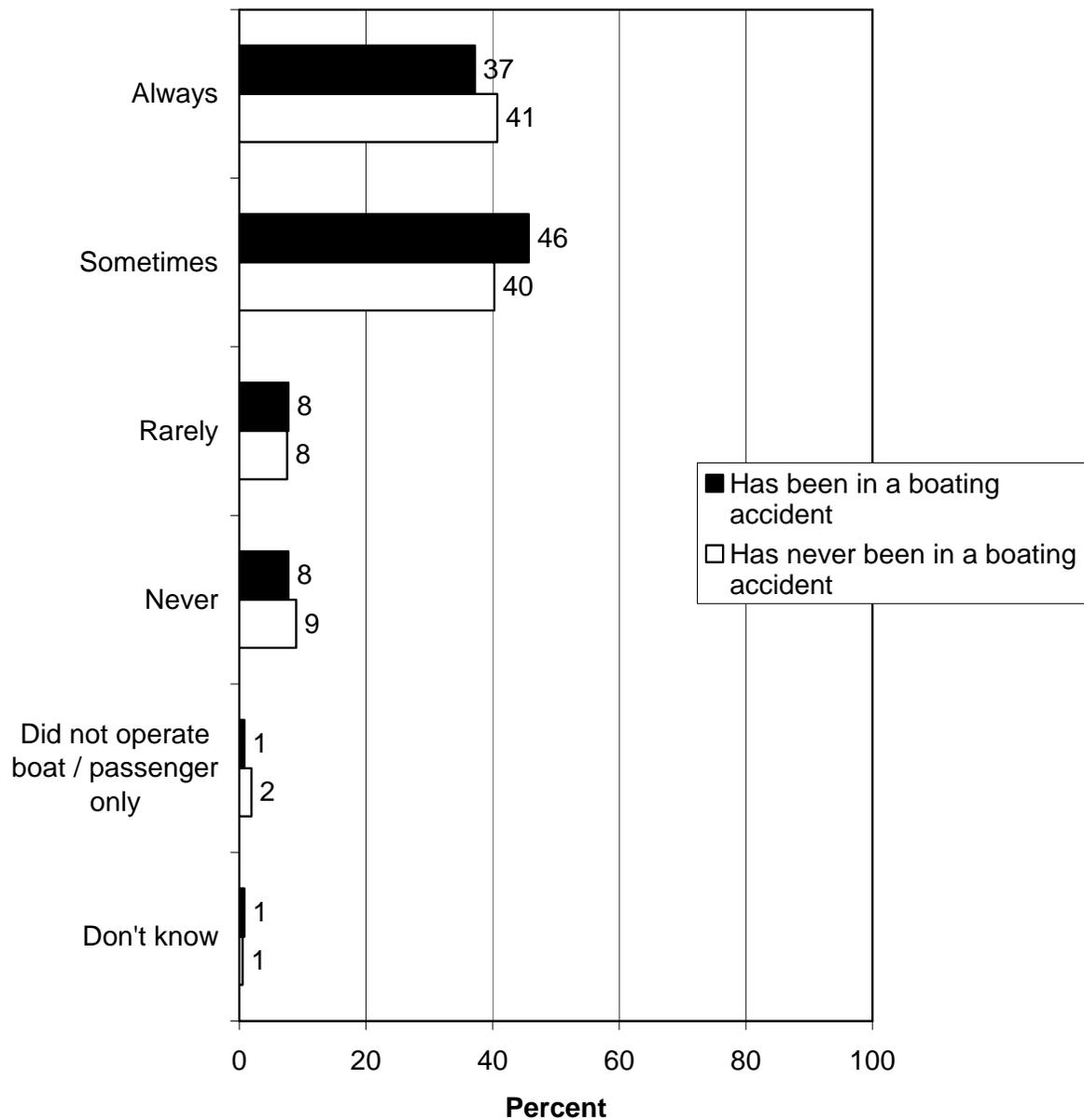
Q158. Would you say you removed all plants and animals from your boat and inspected and washed your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



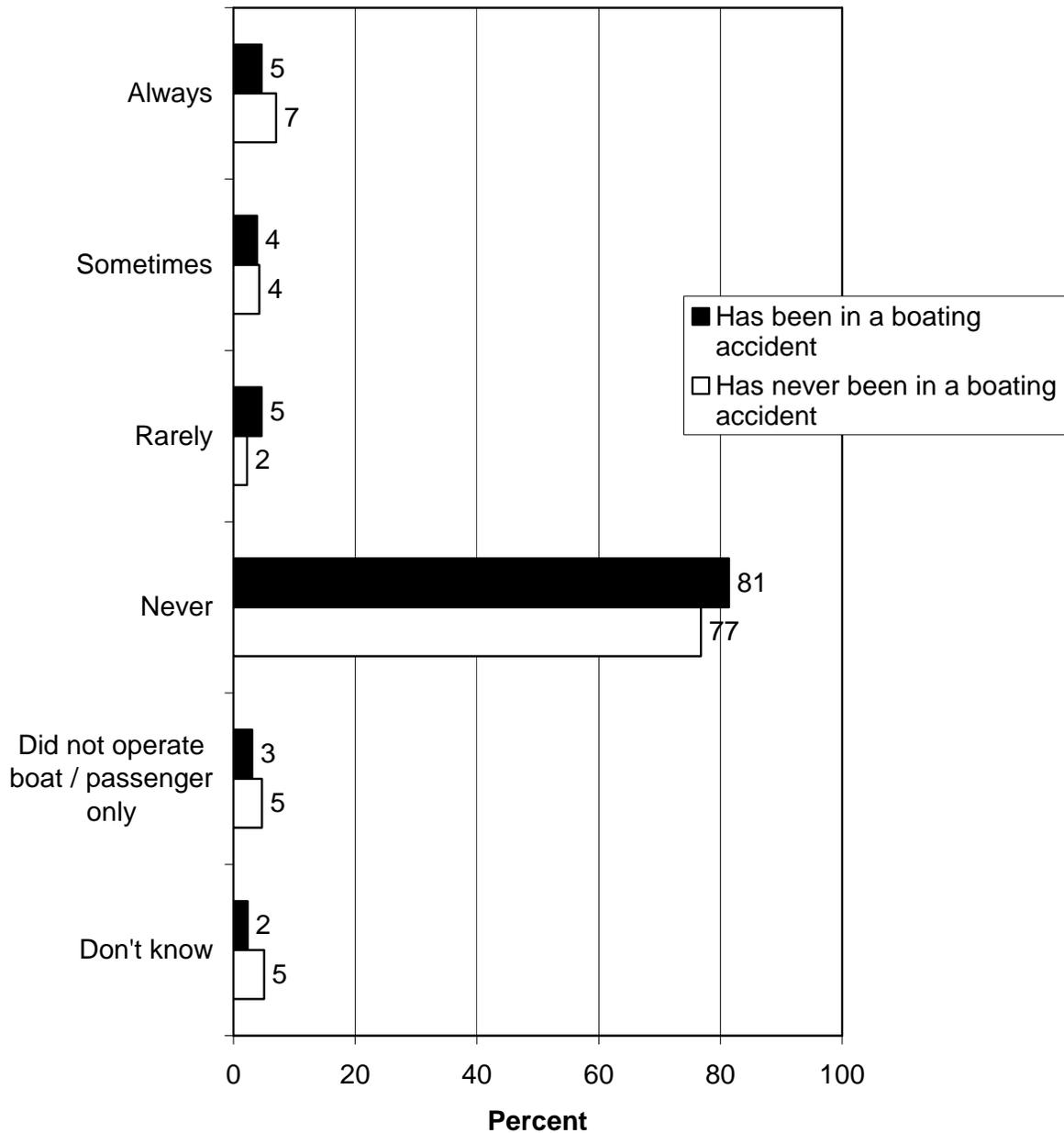
Q161. Would you say you wear a life jacket while operating or riding on a boat always, sometimes, rarely, or never? (Asked of those who never took a boating safety education course and those who took a course that was not state-certified or basic/general.)



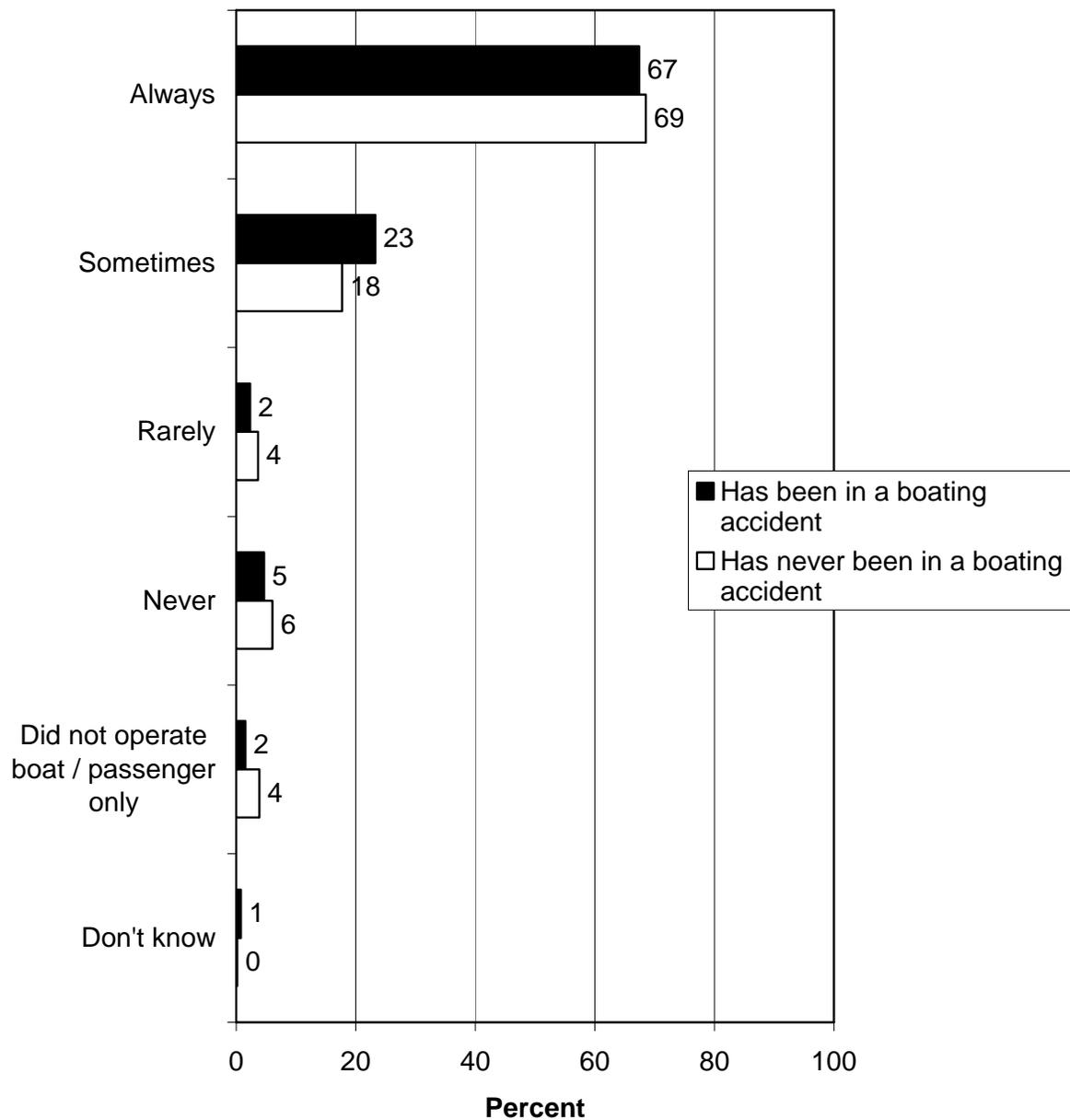
Q162. Would you say you require all other passengers wear a life jacket while boating always, sometimes, rarely, or never? (Asked of those who have never taken a boating safety education course.)



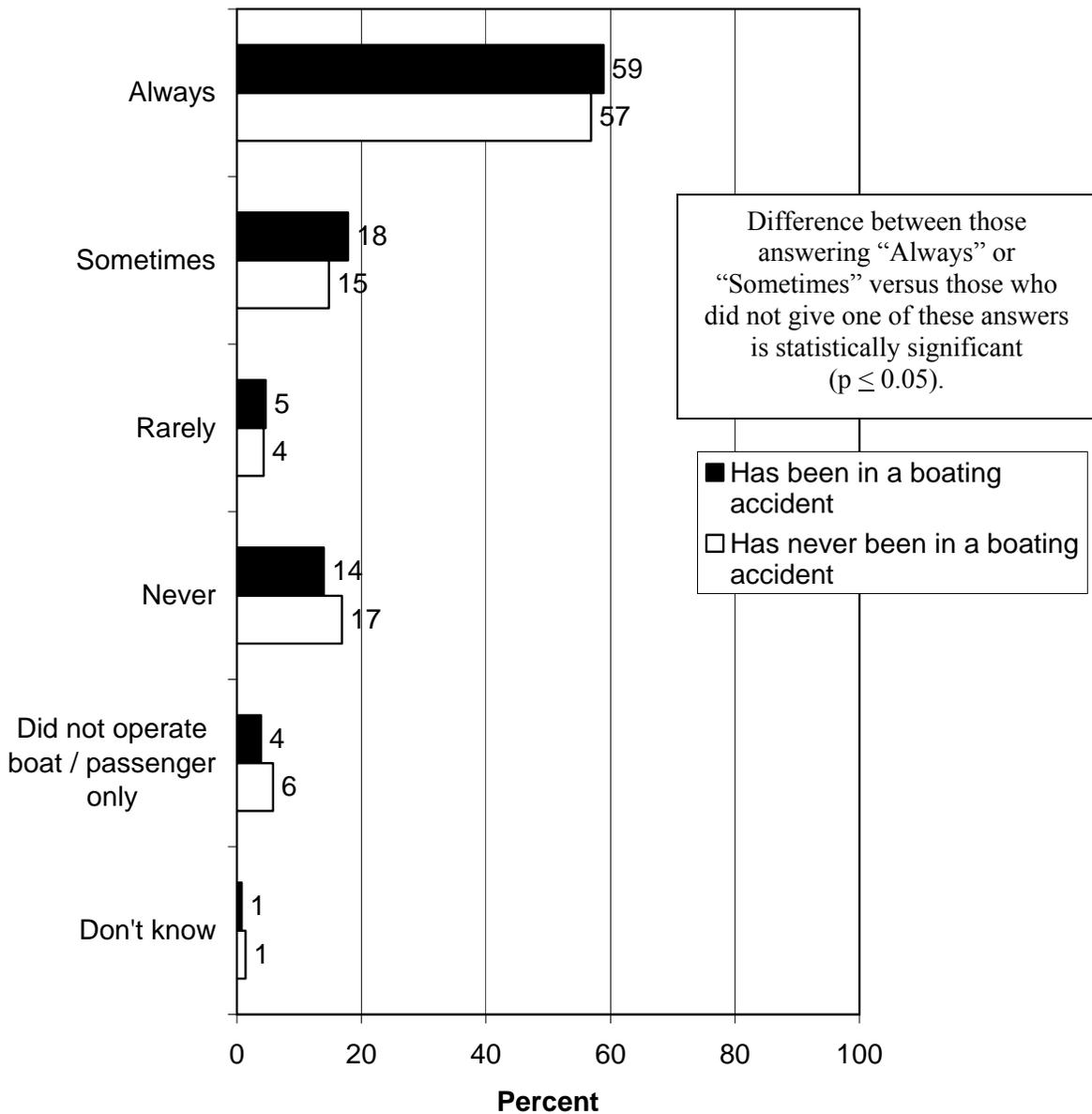
Q163. Would you say you file a float plan with the appropriate agency always, sometimes, rarely, or never? (Asked of those who have never taken a boating safety education course.)



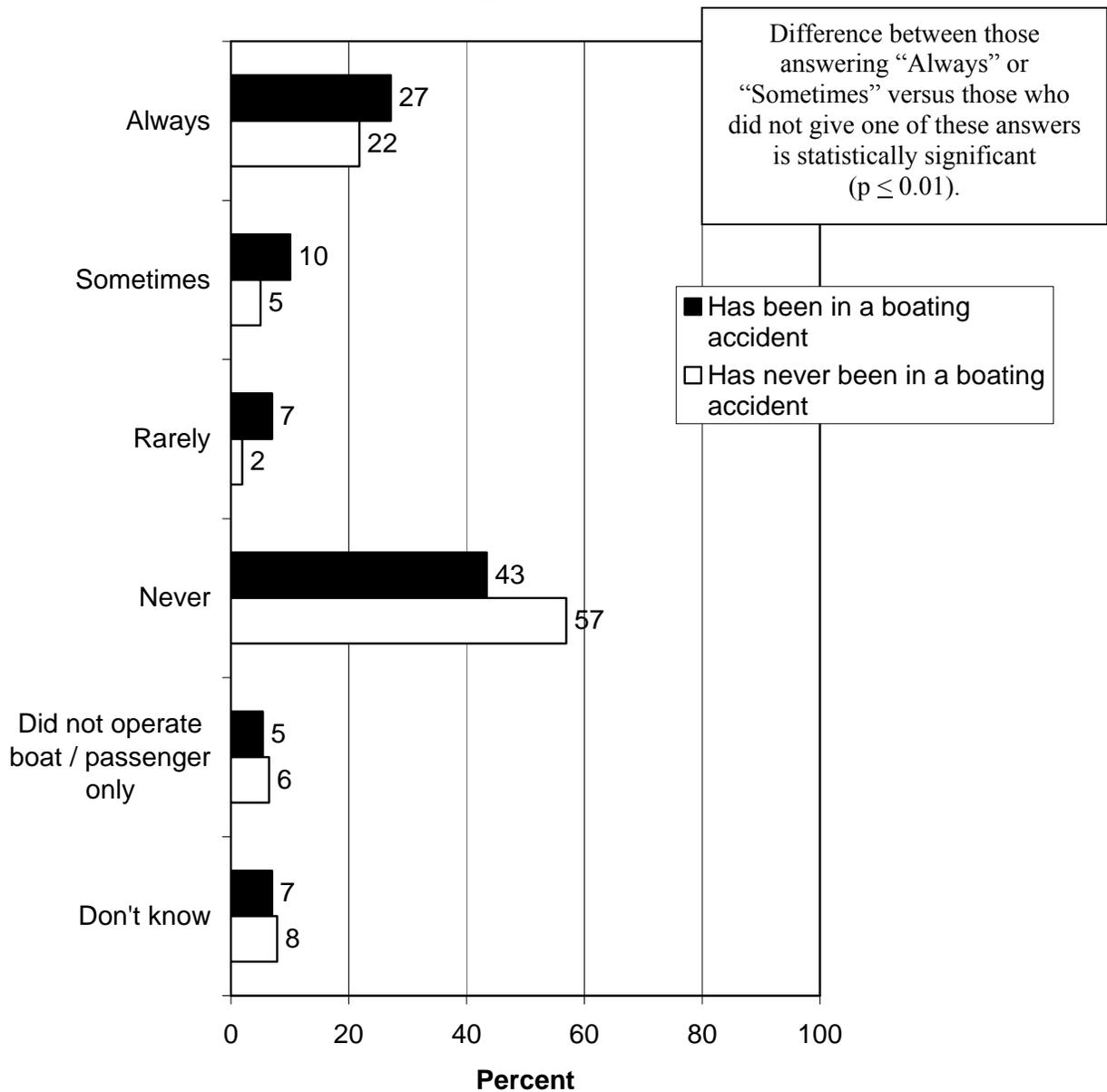
Q164. Would you say you locate and check all safety aids prior to launch always, sometimes, rarely, or never? (Asked of those who have never taken a boating safety education course.)



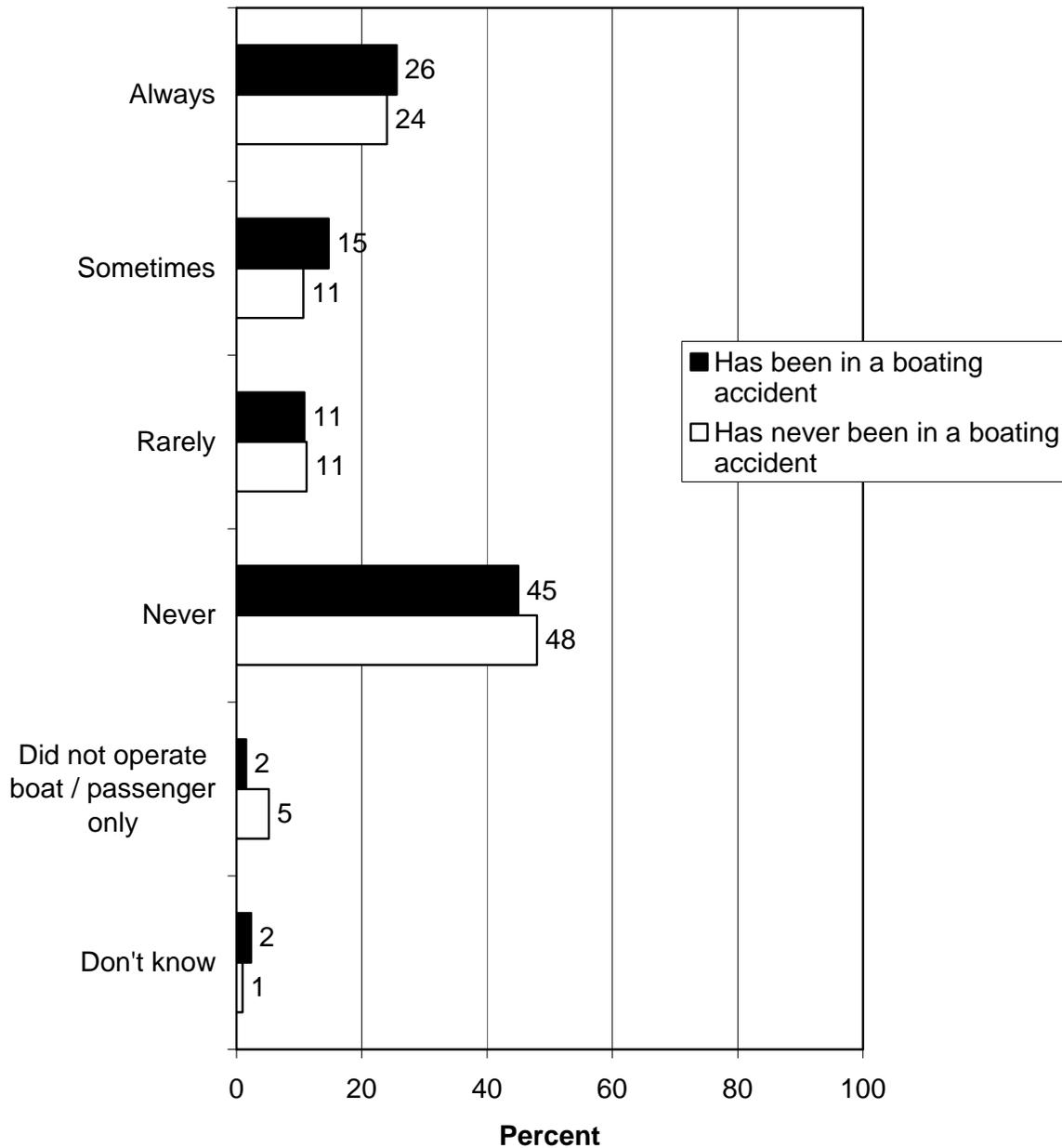
Q165. Would you say you check all navigation instruments and lights prior to launch always, sometimes, rarely, or never? (Asked of those who have never taken a boating safety education course.)



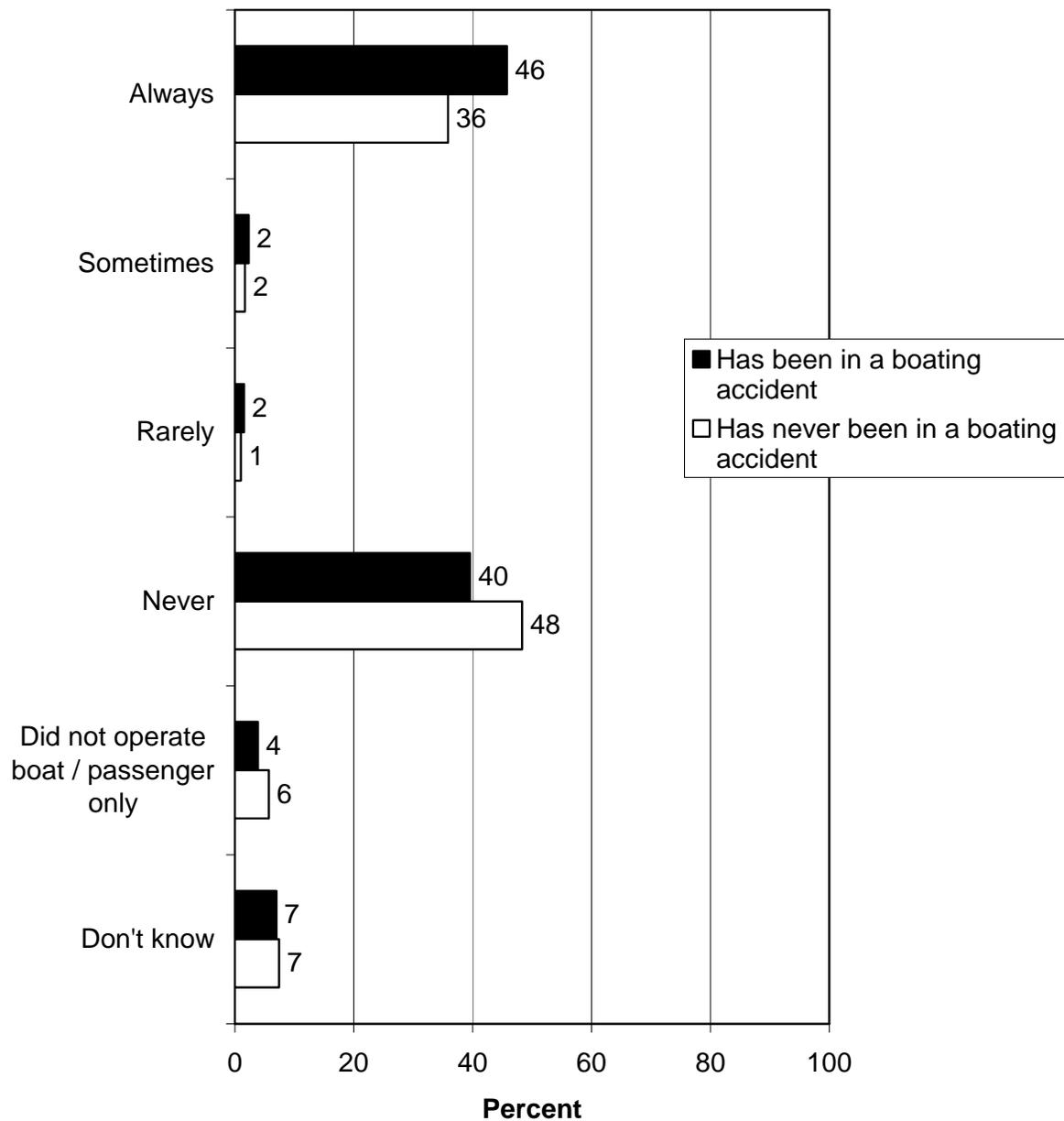
Q166. Would you say you check the marine radio prior to launch always, sometimes, rarely, or never? (Asked of those who never took a boating safety education course and those who took a course that was not state-certified or basic/general.)



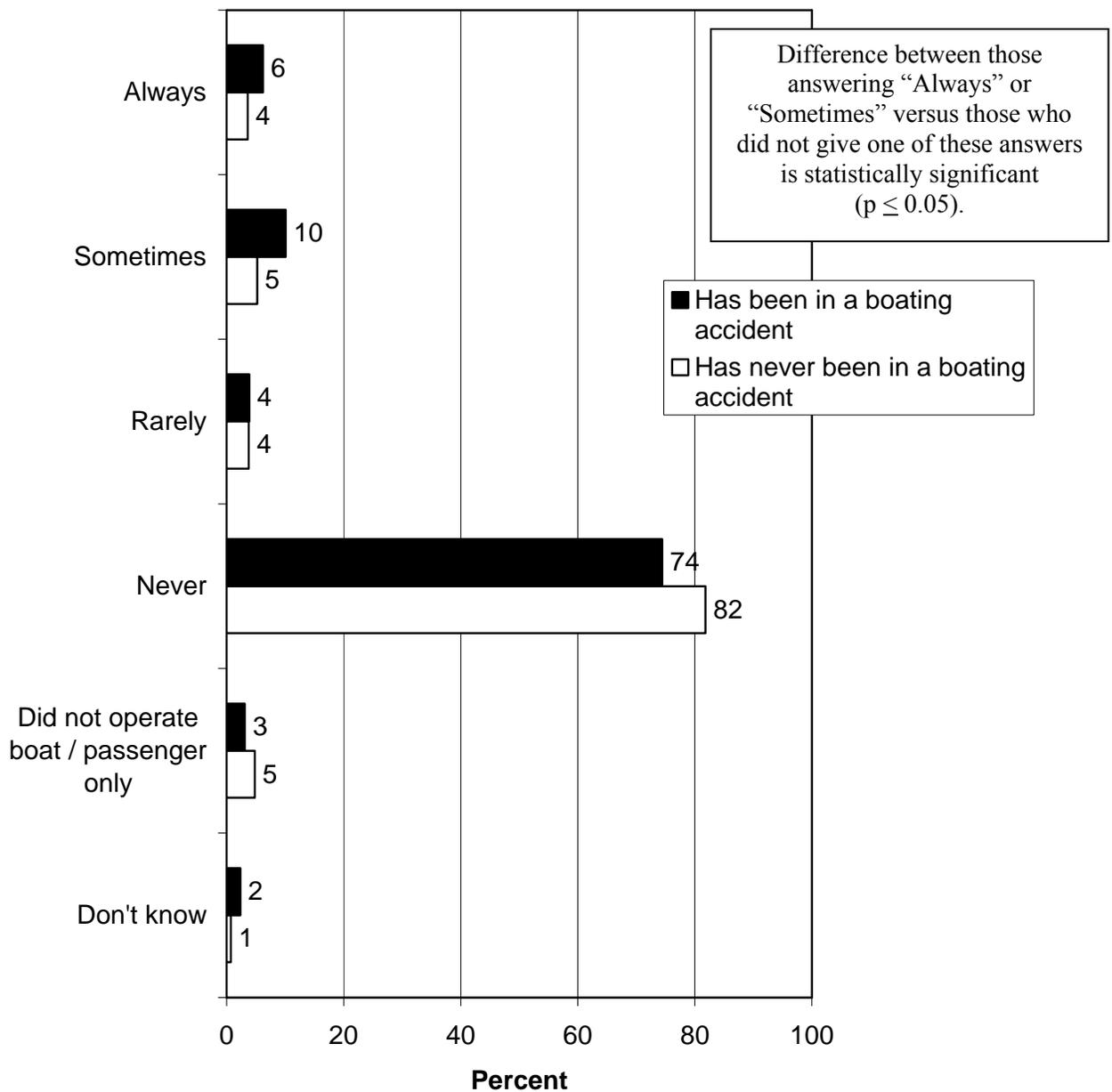
Q167. Would you say you fuel your boat at a dock always, sometimes, rarely, or never? (Asked of those who have never taken a boating safety education course.)



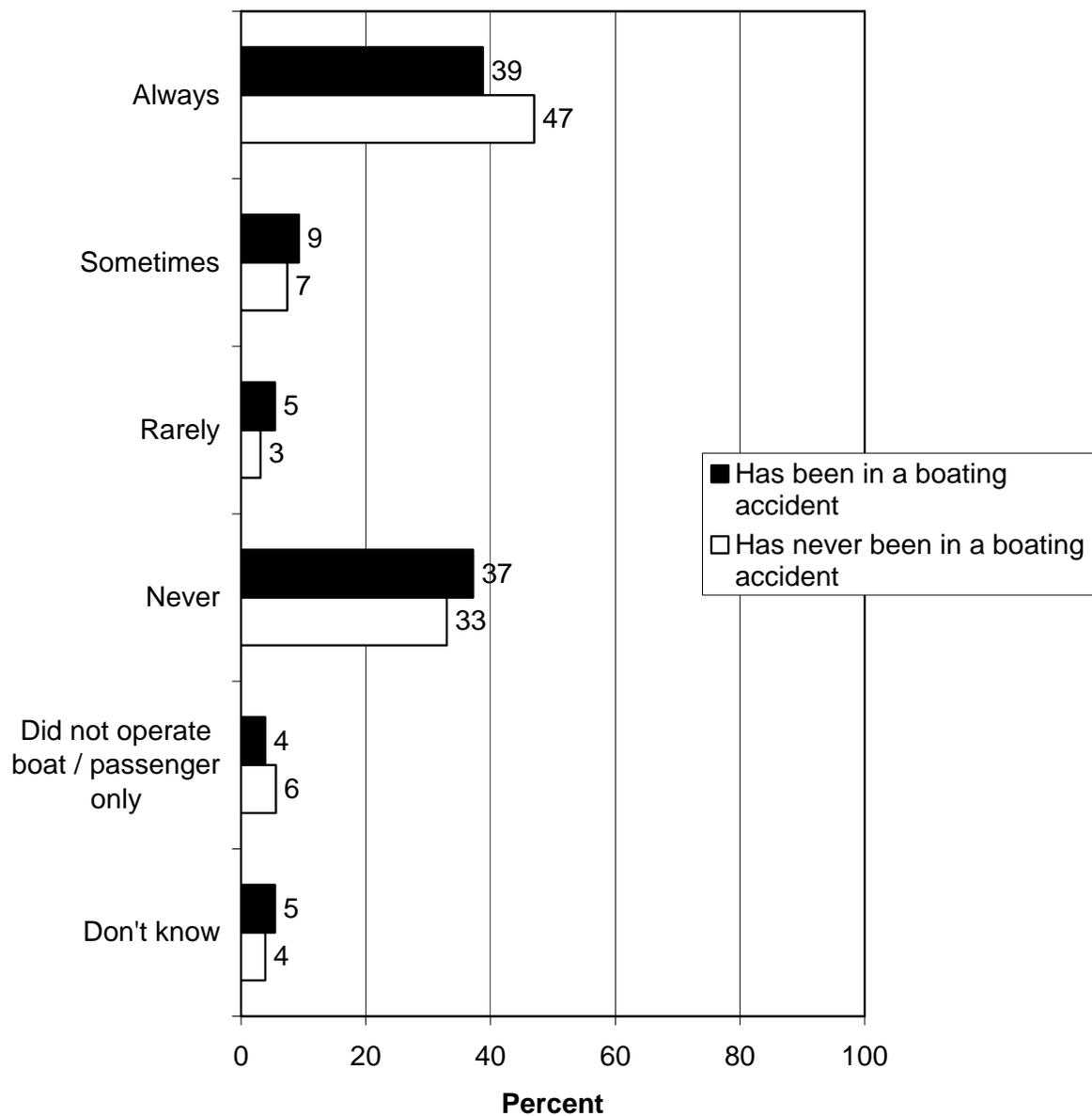
Q168. Would you say you properly dispose of waste at pump-out and dump stations always, sometimes, rarely, or never? (Asked of those who have never taken a boating safety education course.)



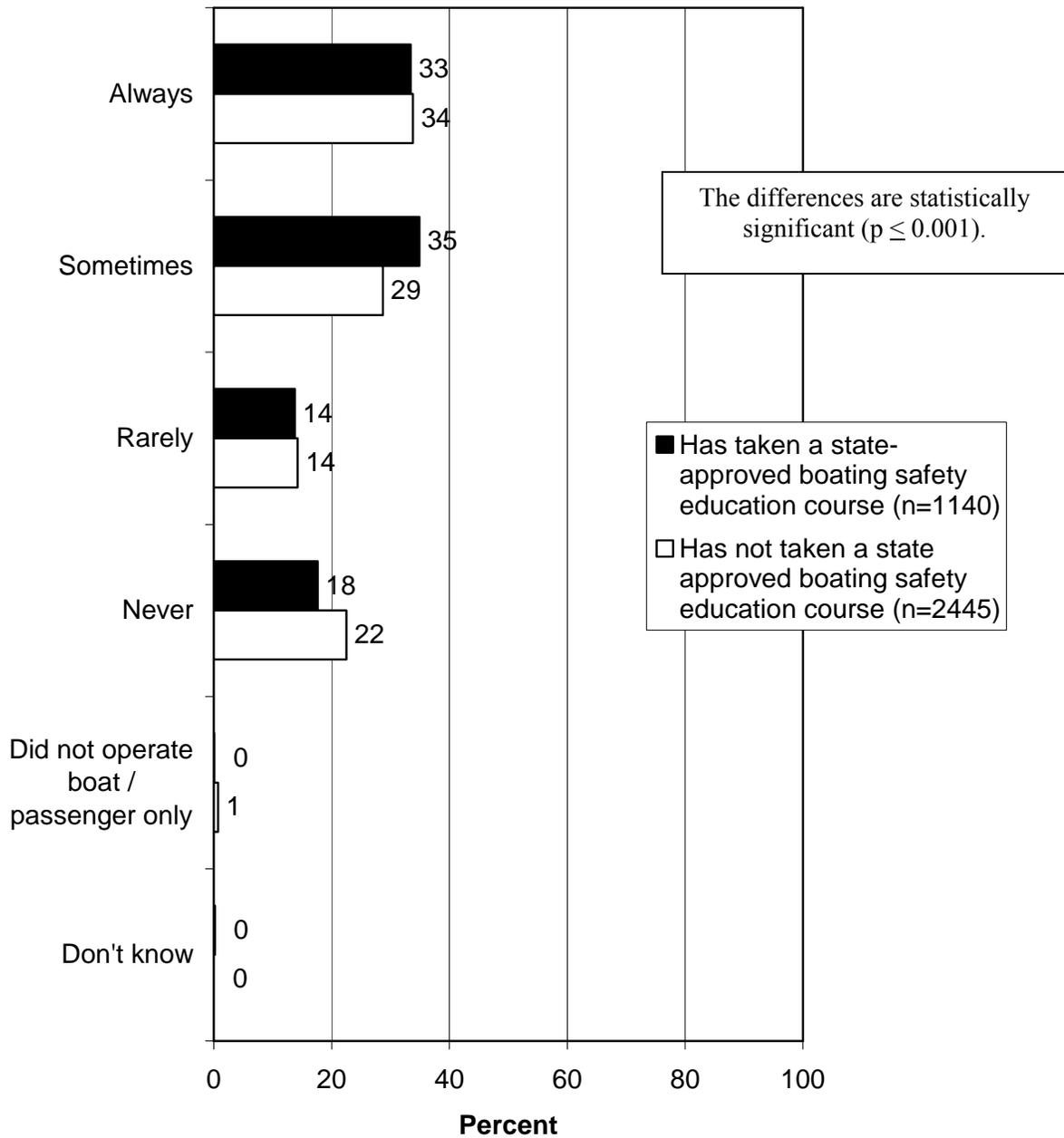
**Q169. Would you say you paint or clean your boat in the water always, sometimes, rarely, or never?
(Asked of those who have never taken a boating safety education course.)**



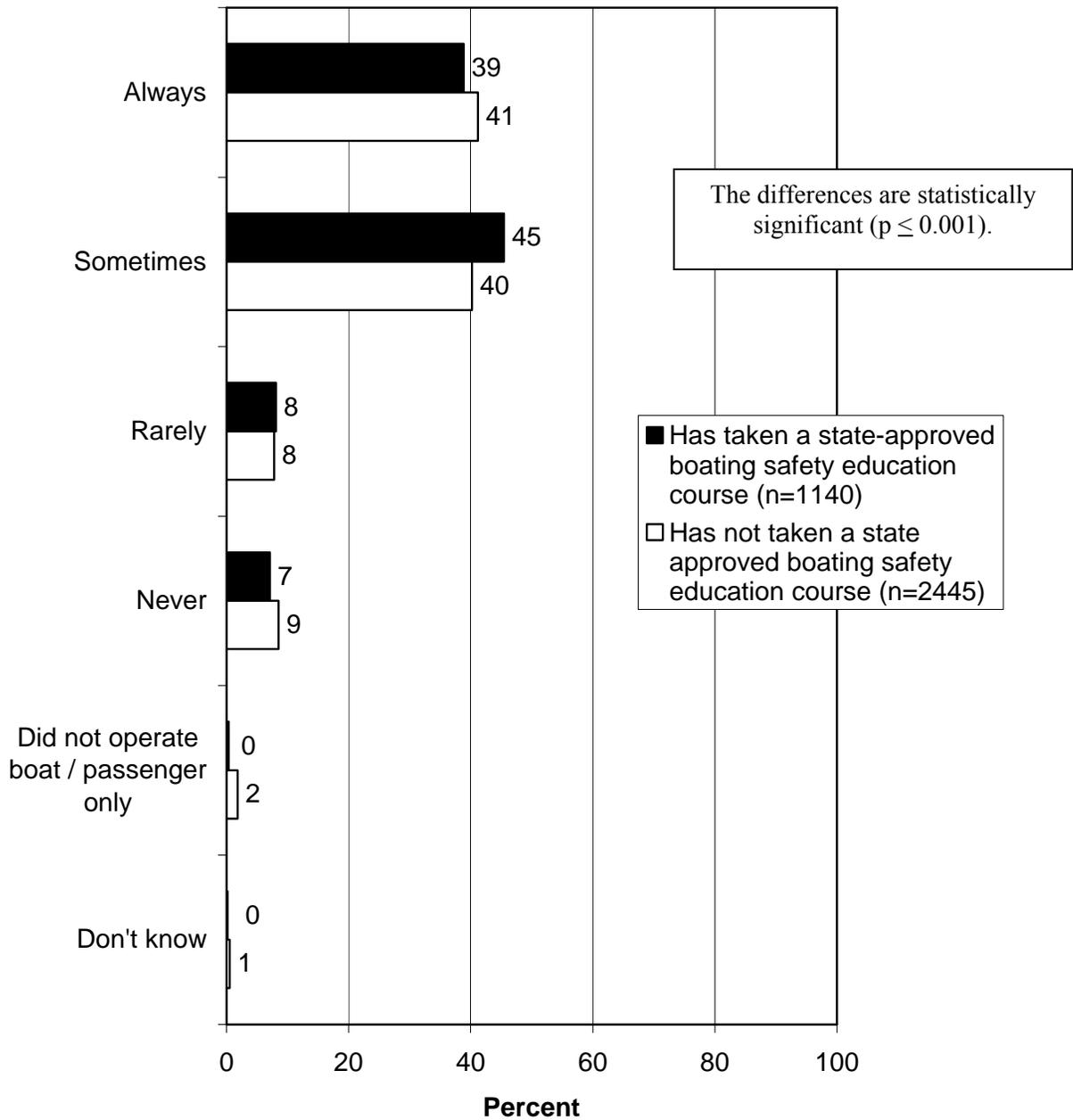
Q170. Would you say you remove all plants and animals from your boat and inspect and wash your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species always, sometimes, rarely, or never? (Asked of those who have never taken a boating safety education course.)



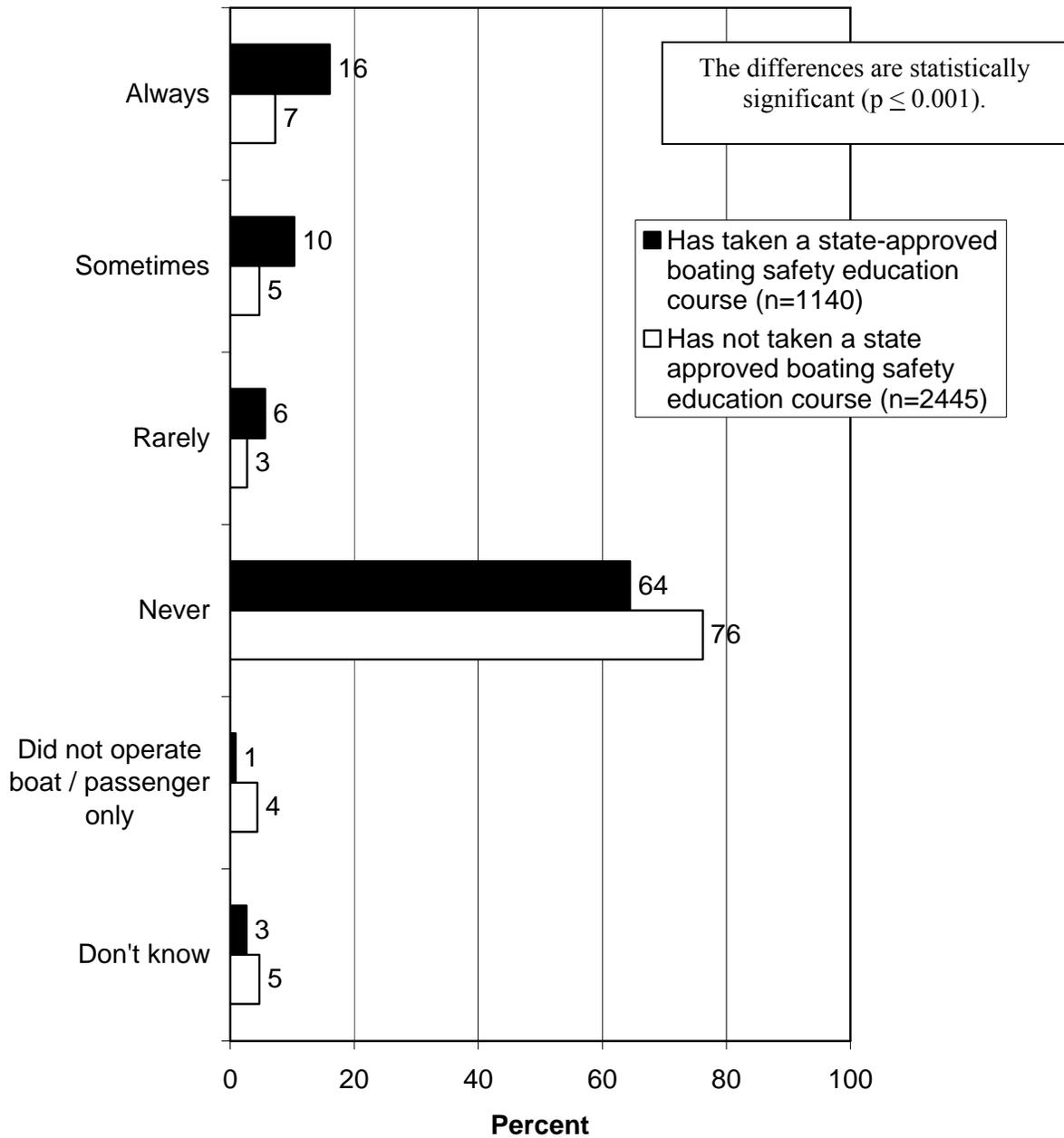
Q149/Q161. Would you say you wear a life jacket while operating or riding on a boat always, sometimes, rarely, or never?



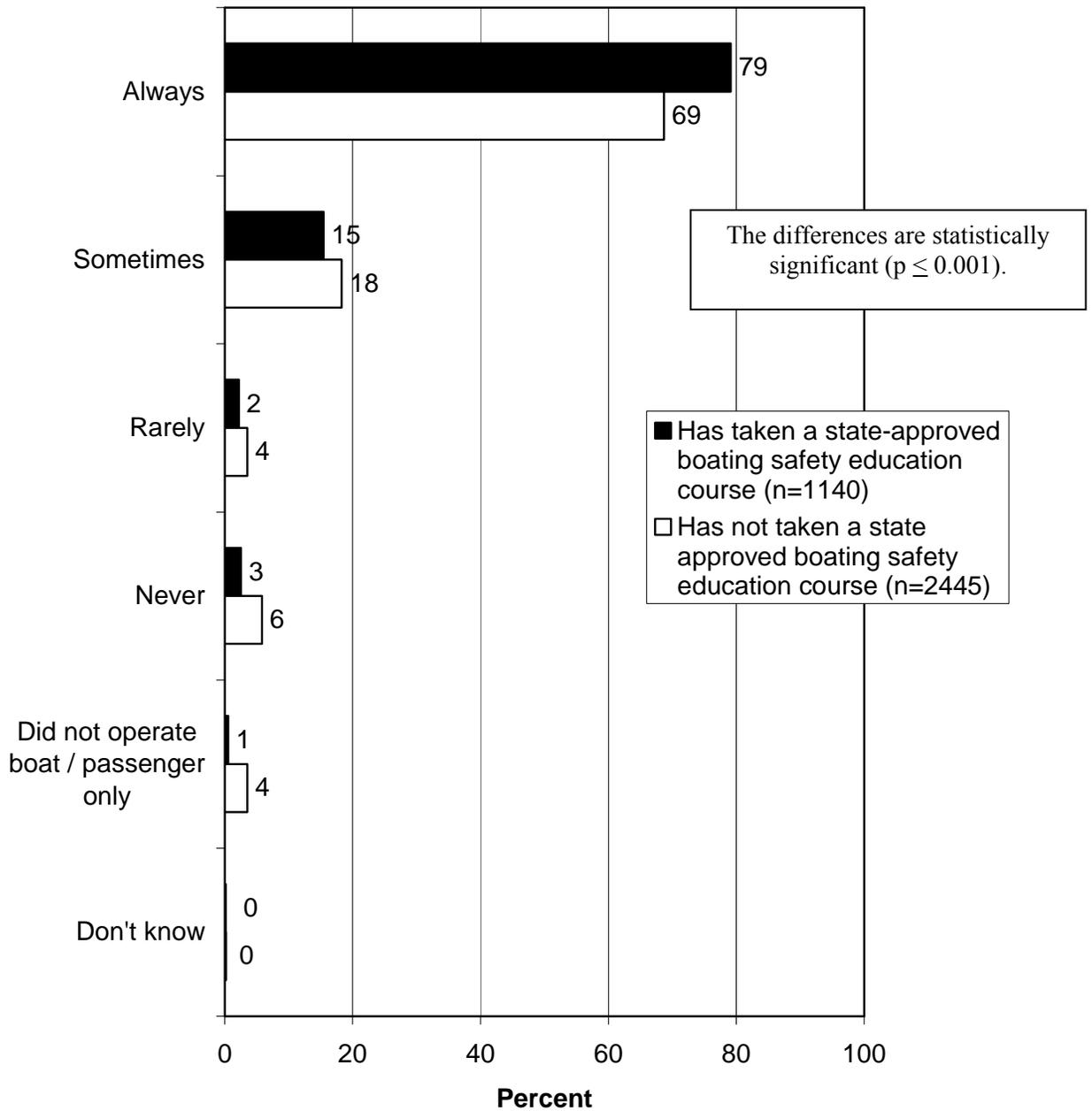
Q150/162. Would you say you require all other passengers wear a life jacket while boating always, sometimes, rarely or never?



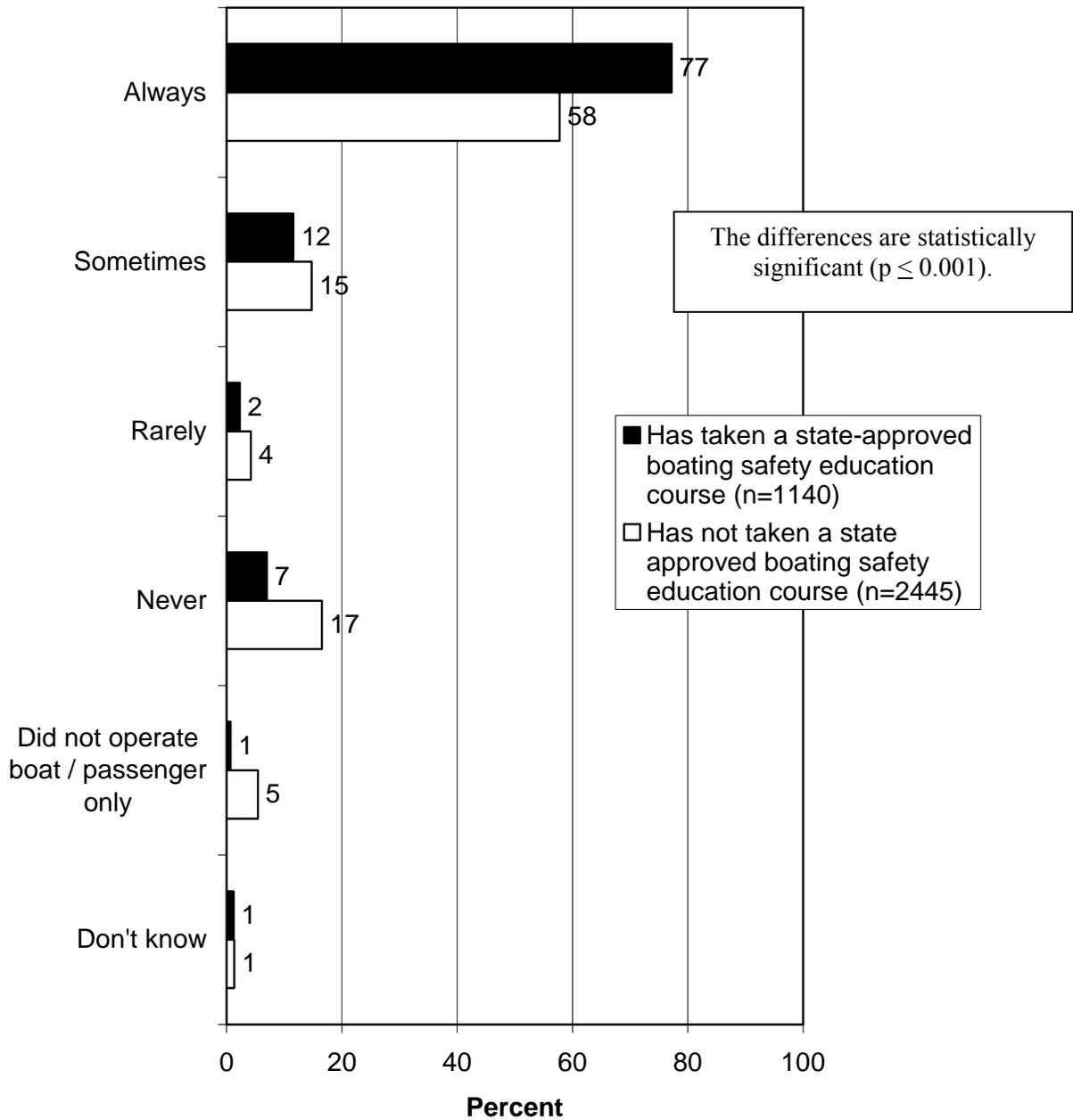
Q151/163. Would you say you file a float plan with the appropriate agency always, sometimes, rarely, or never?



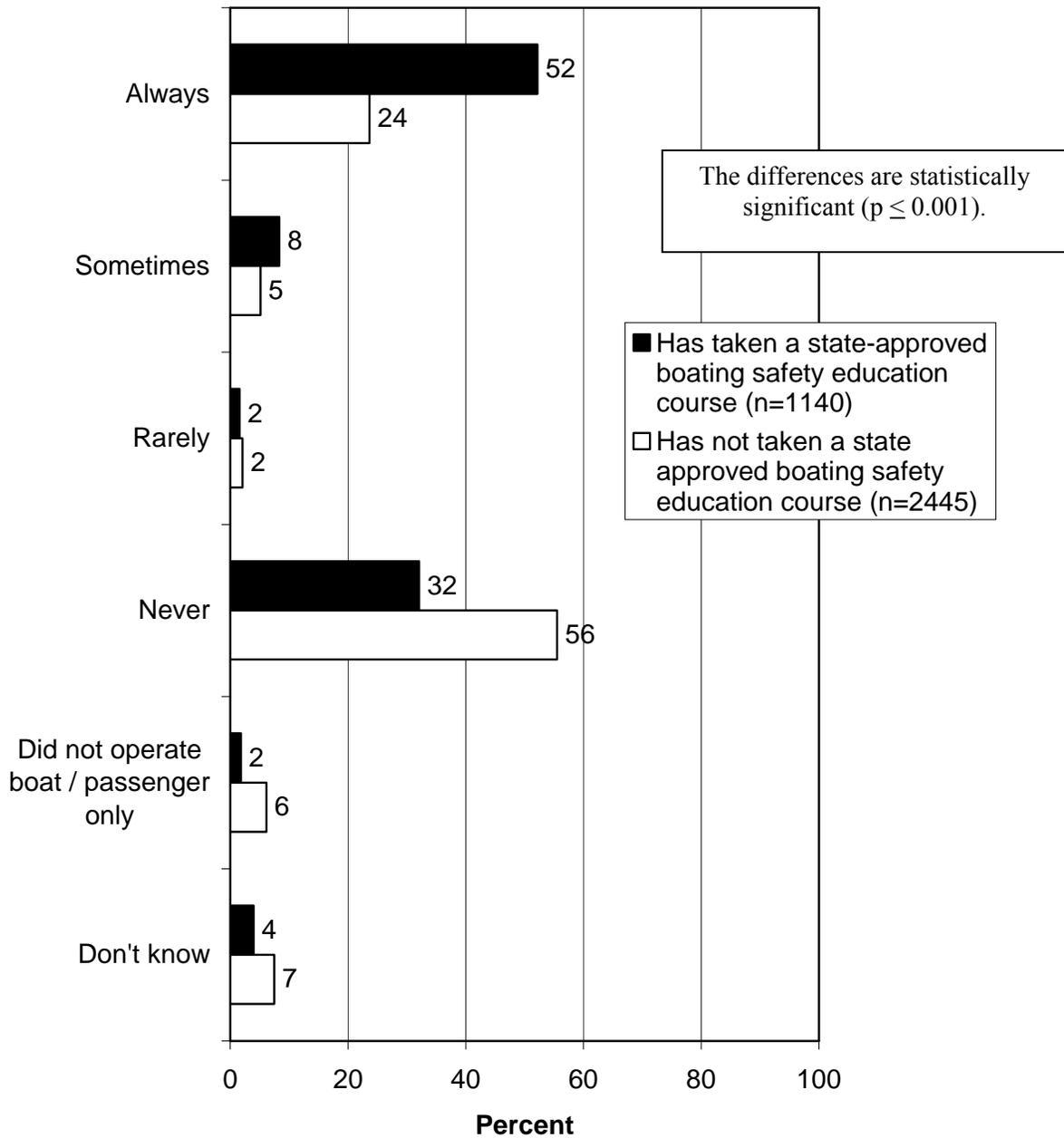
Q152/164. Would you say you locate and check all safety aids prior to launch always, sometimes, rarely or never?



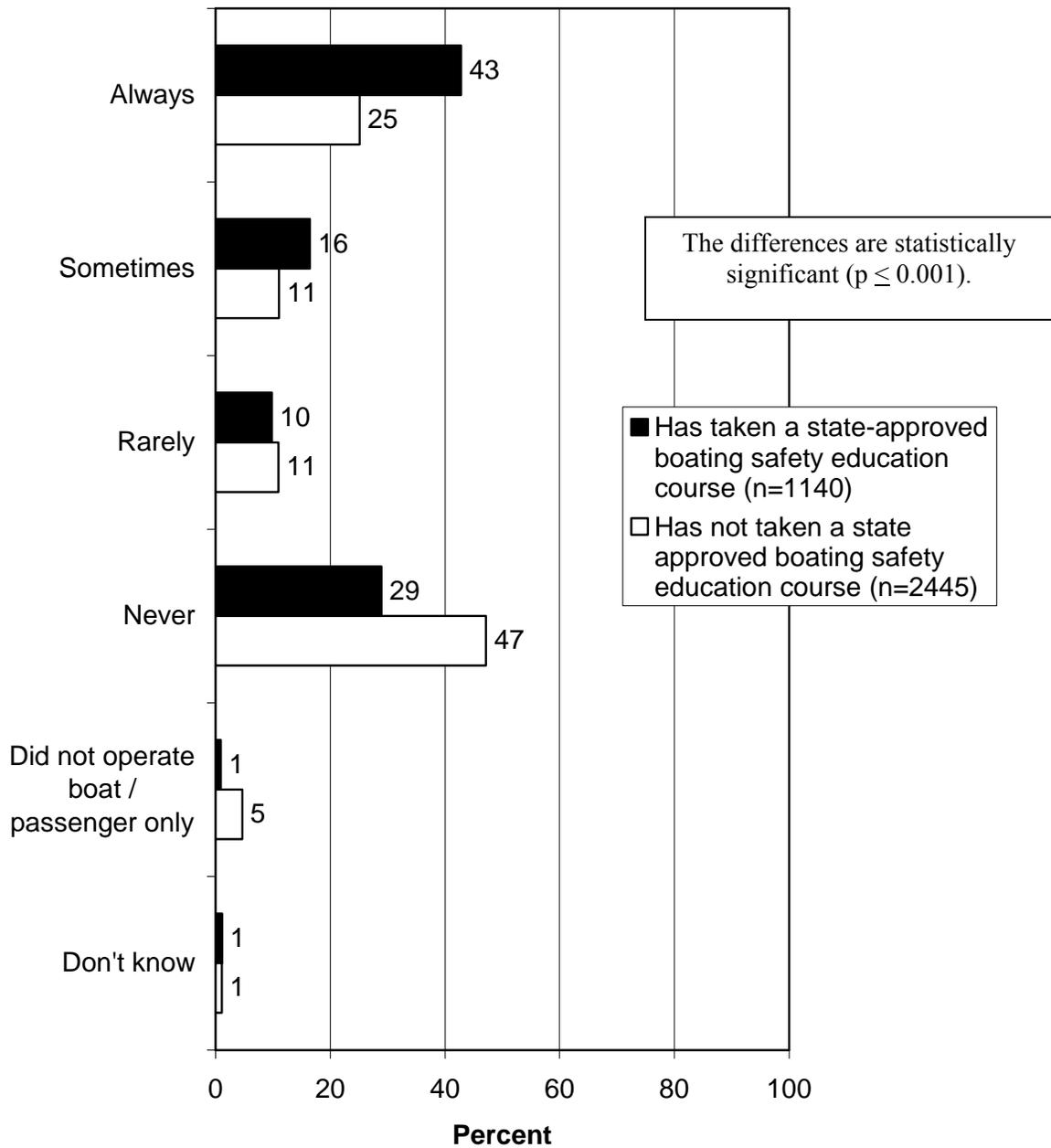
Q153/165. Would you say you check all navigation instruments and lights prior to launch always, sometimes, rarely or never?



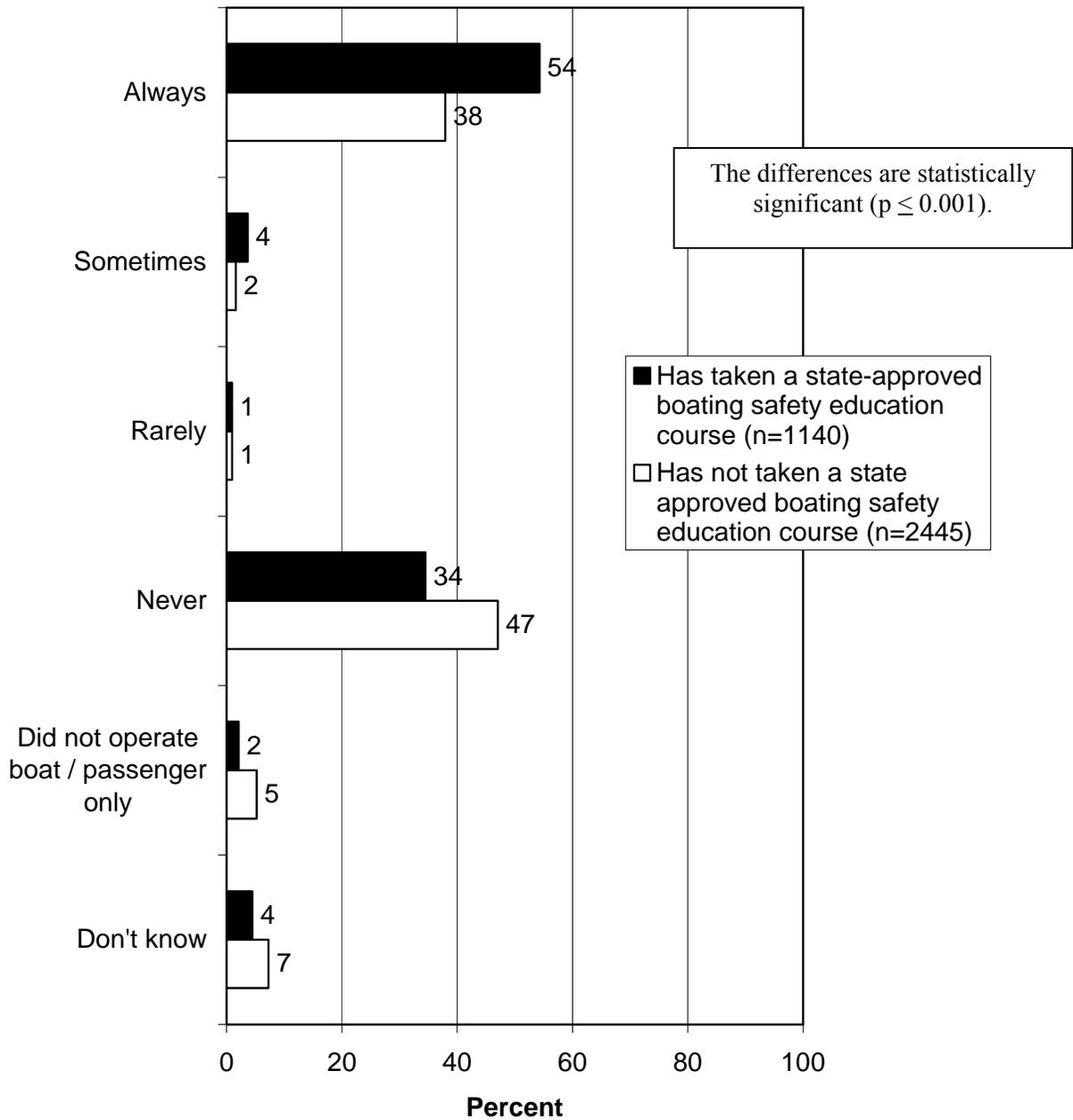
Q154/166. Would you say you check the marine radio prior to launch always, sometimes, rarely or never?



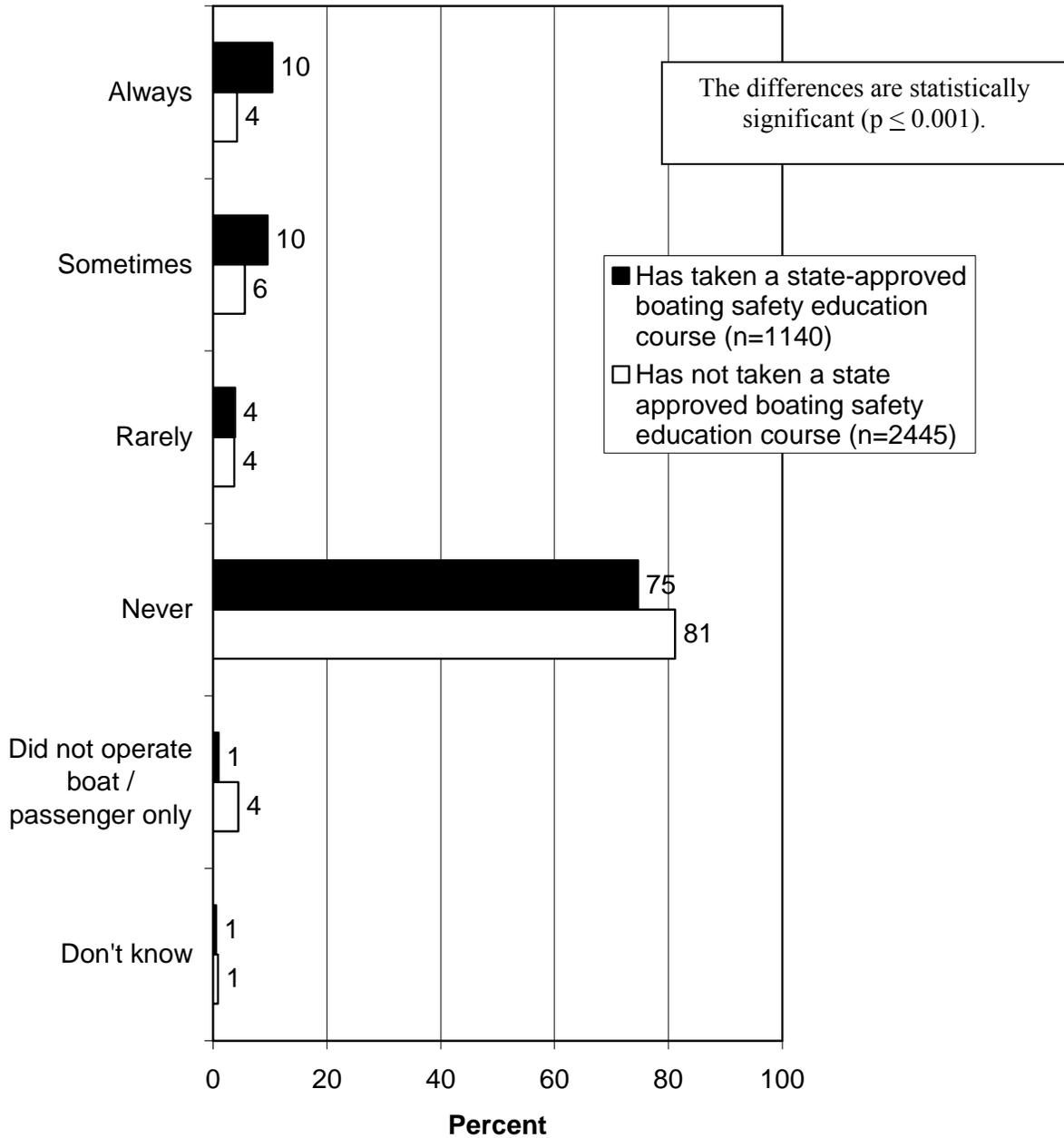
Q155/Q167. Would you say you fuel your boat at a dock always, sometimes, rarely, or never?



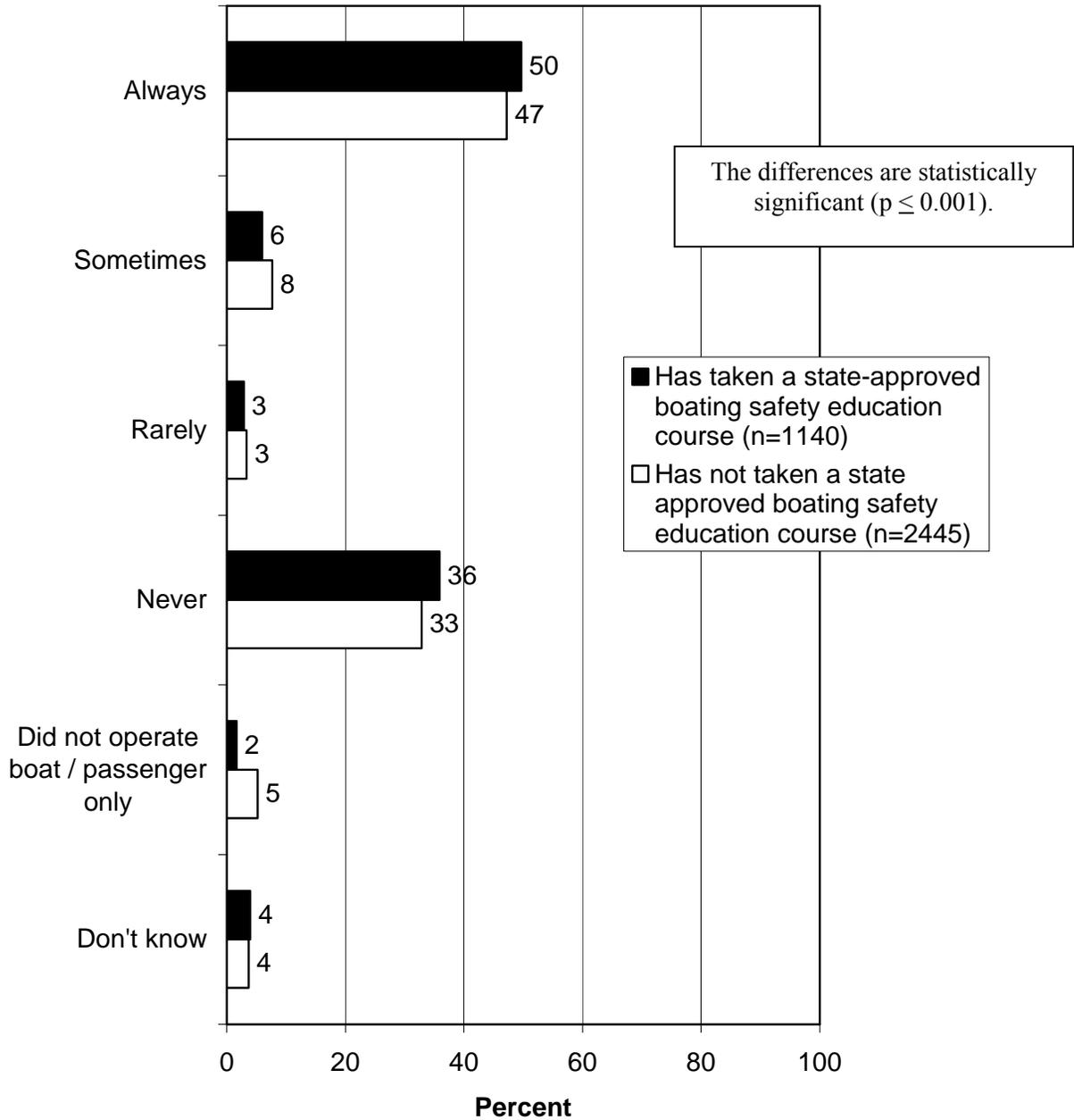
Q156/168. Would you say you properly dispose of waste at pump-out and dump stations always, sometimes, rarely, or never?



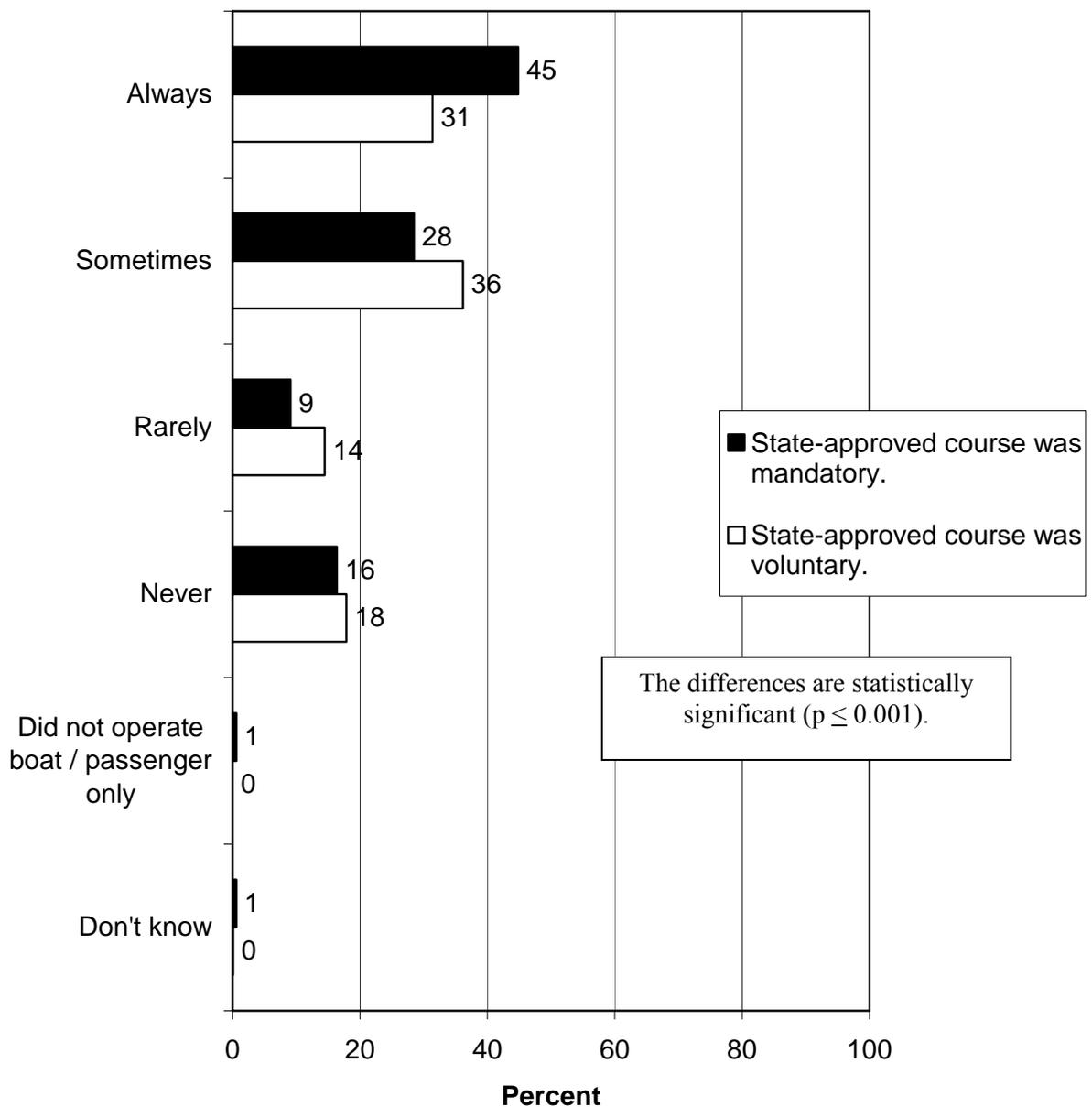
Q157/169. Would you say you paint or clean your boat in the water always, sometimes, rarely or never?



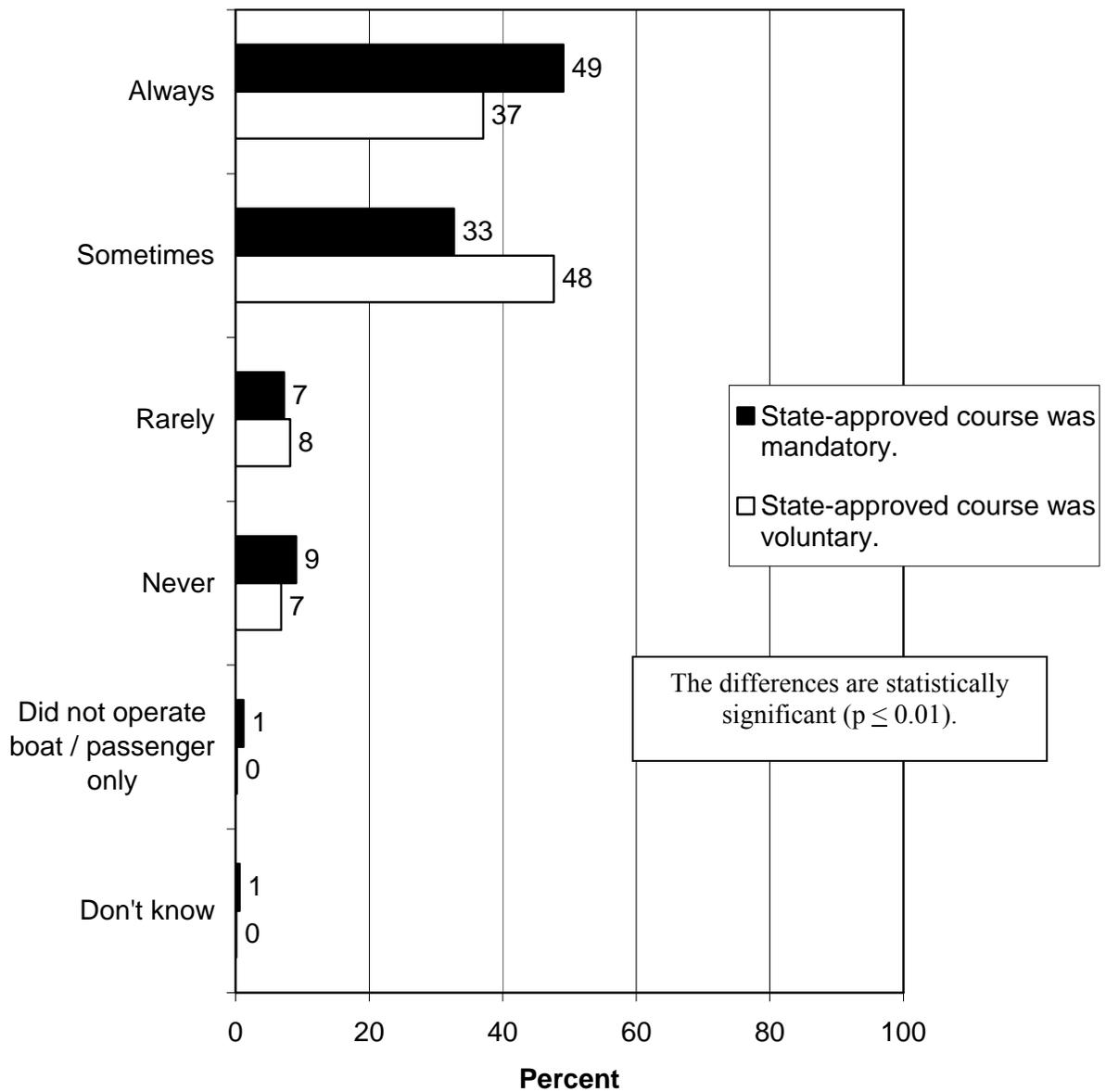
Q158/Q170. Would you say you remove all plants and animals from your boat and inspect and washing your boat out of the water prior to entering another body of water always, sometimes, rarely or never?



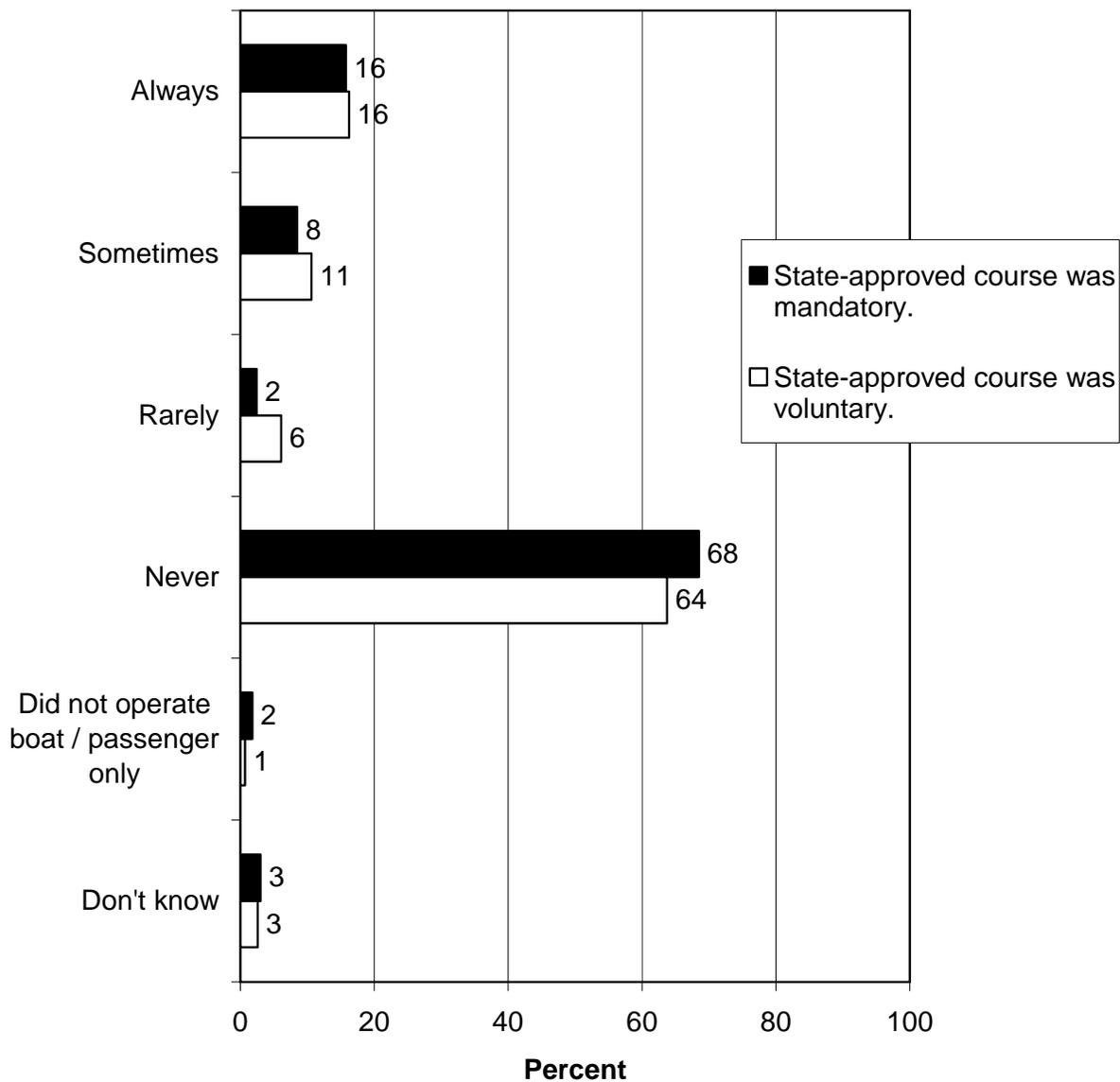
Q149. Would you say you wear a life jacket while operating or riding on a boat always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



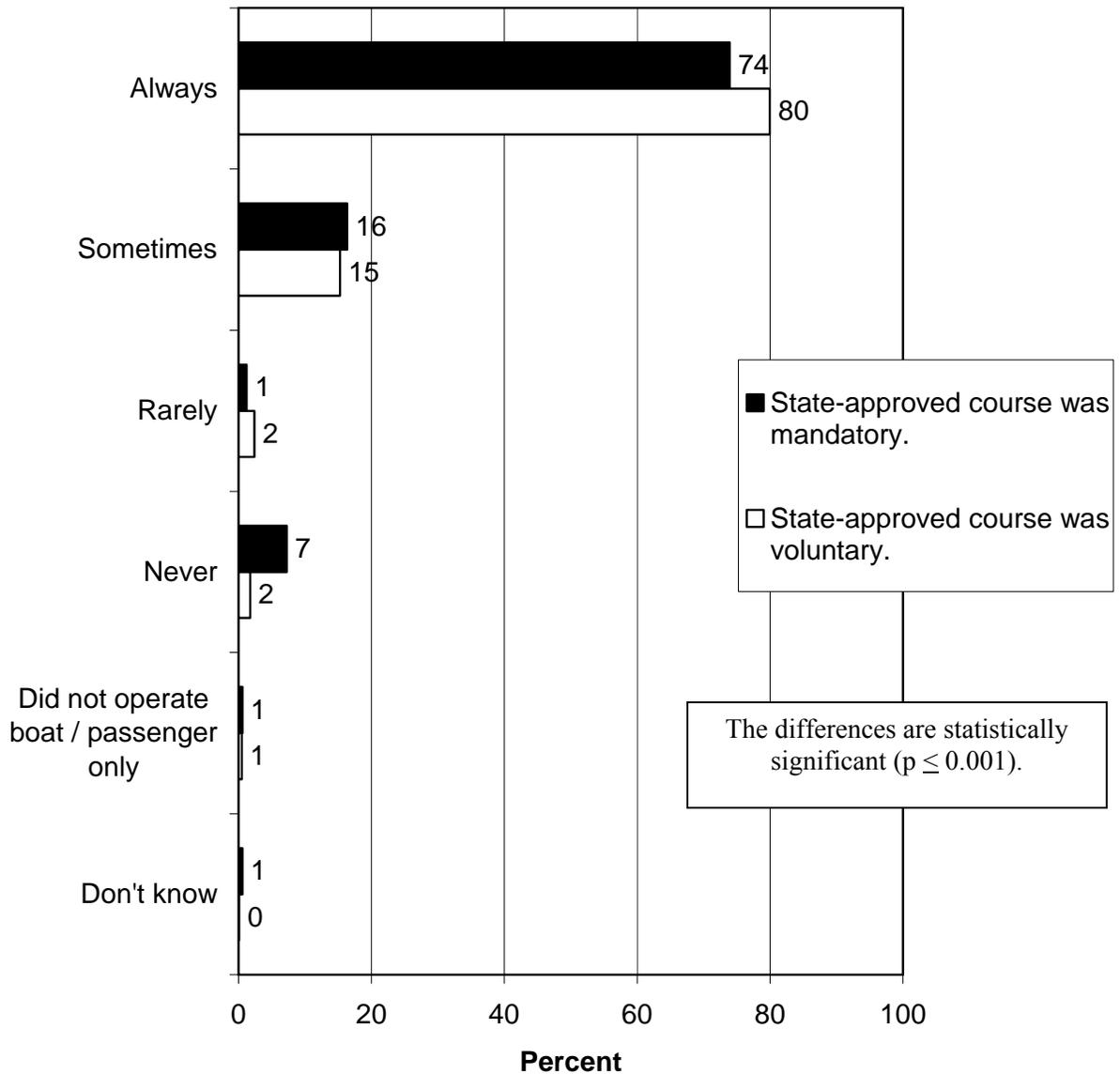
Q150. Would you say you require all other passengers to wear a life jacket while boating always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



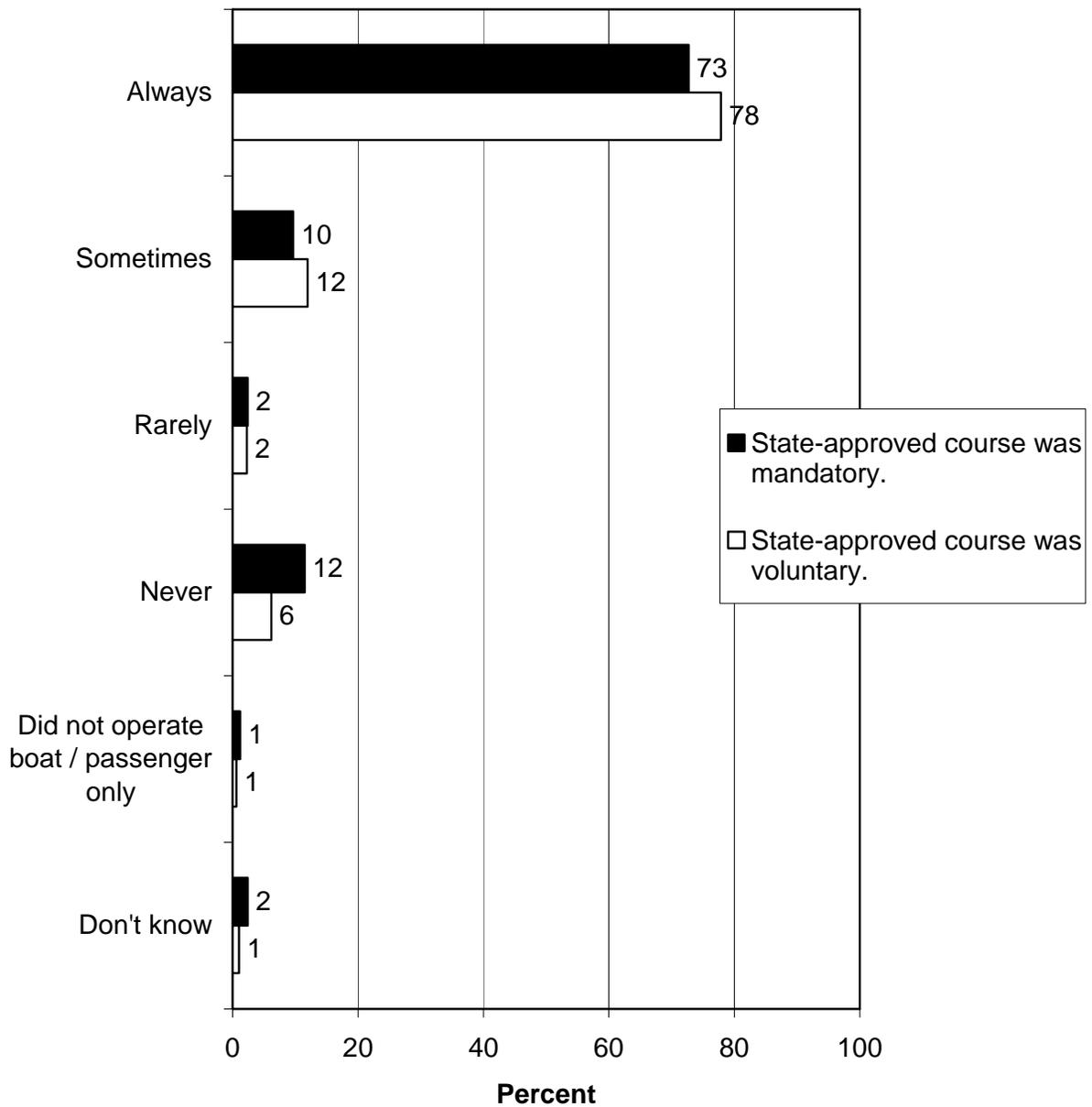
Q151. Would you say you file a float plan with the appropriate agency always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



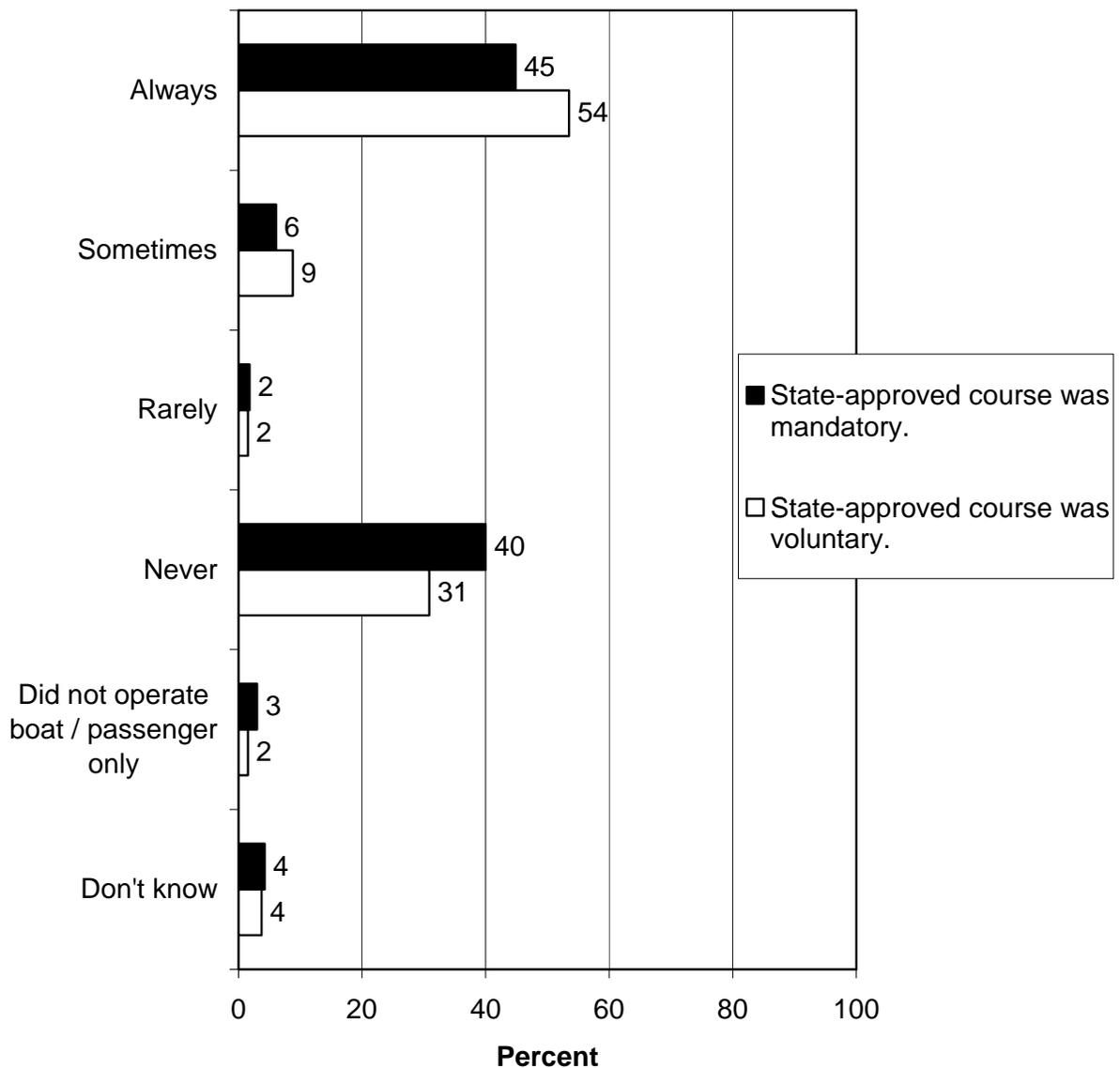
Q152. Would you say you locate and check all safety aids prior to launch always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



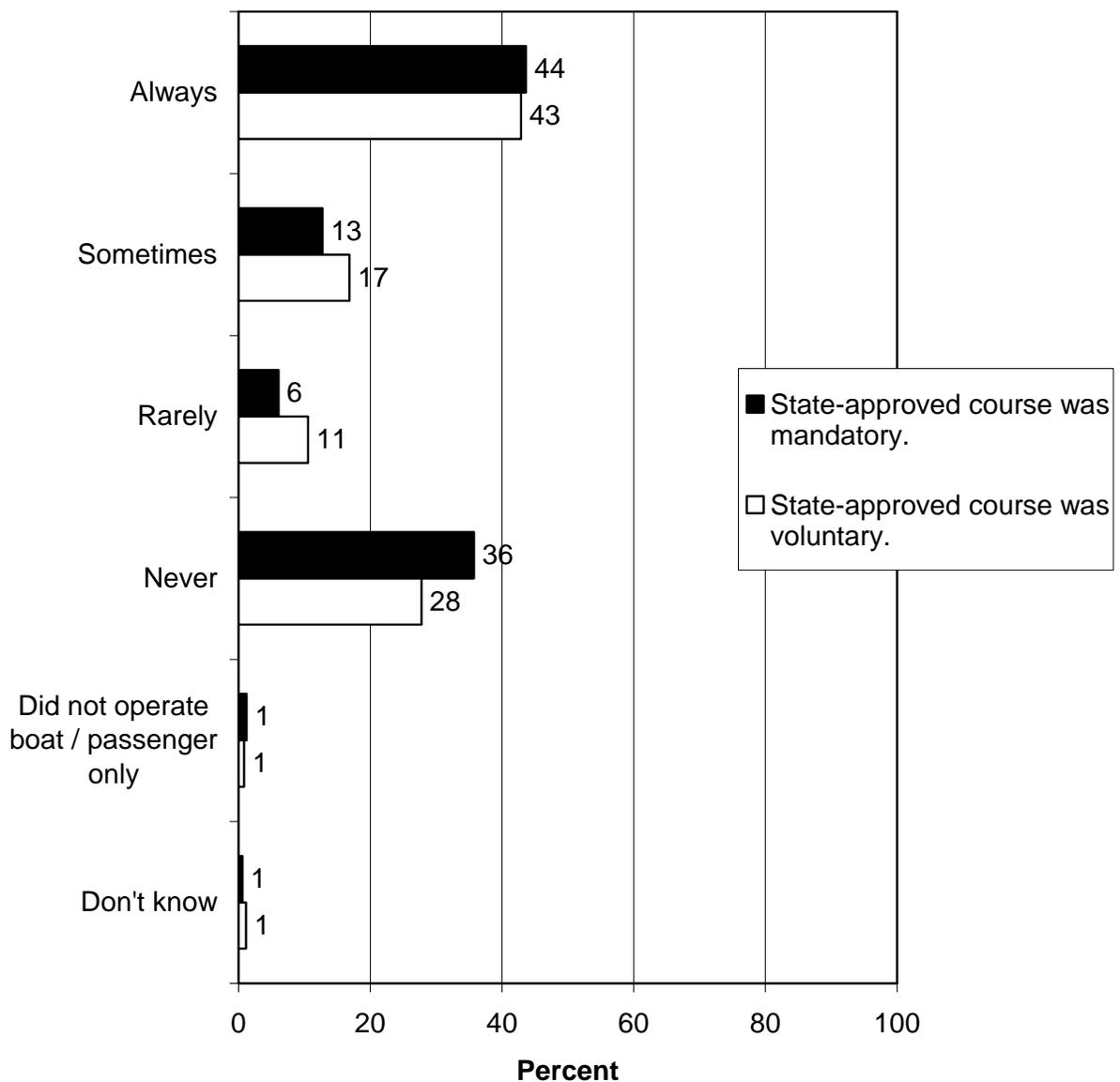
Q153. Would you say you check all navigation instruments and lights prior to launch always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



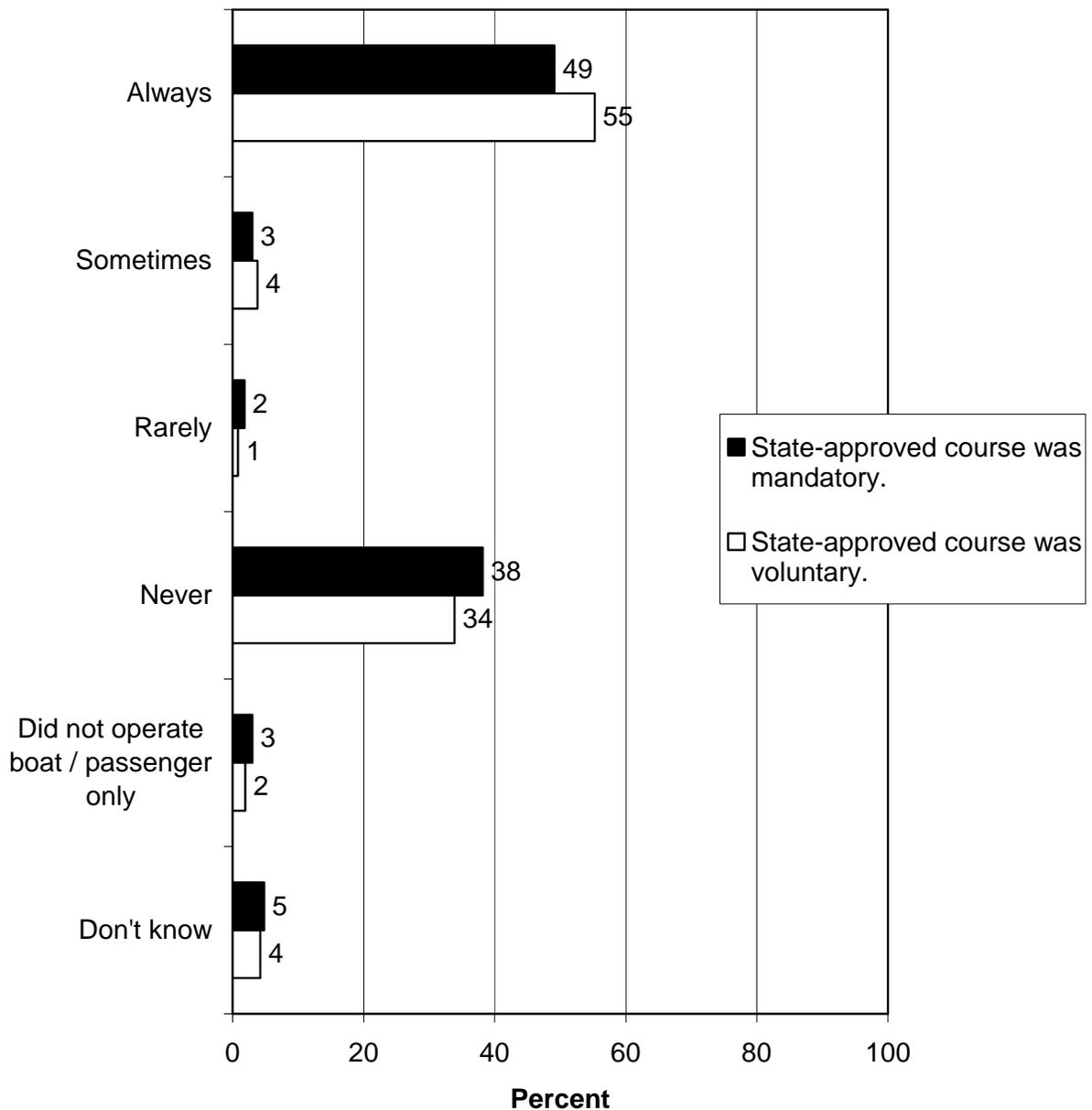
Q154. Would you say you check the marine radio prior to launch always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



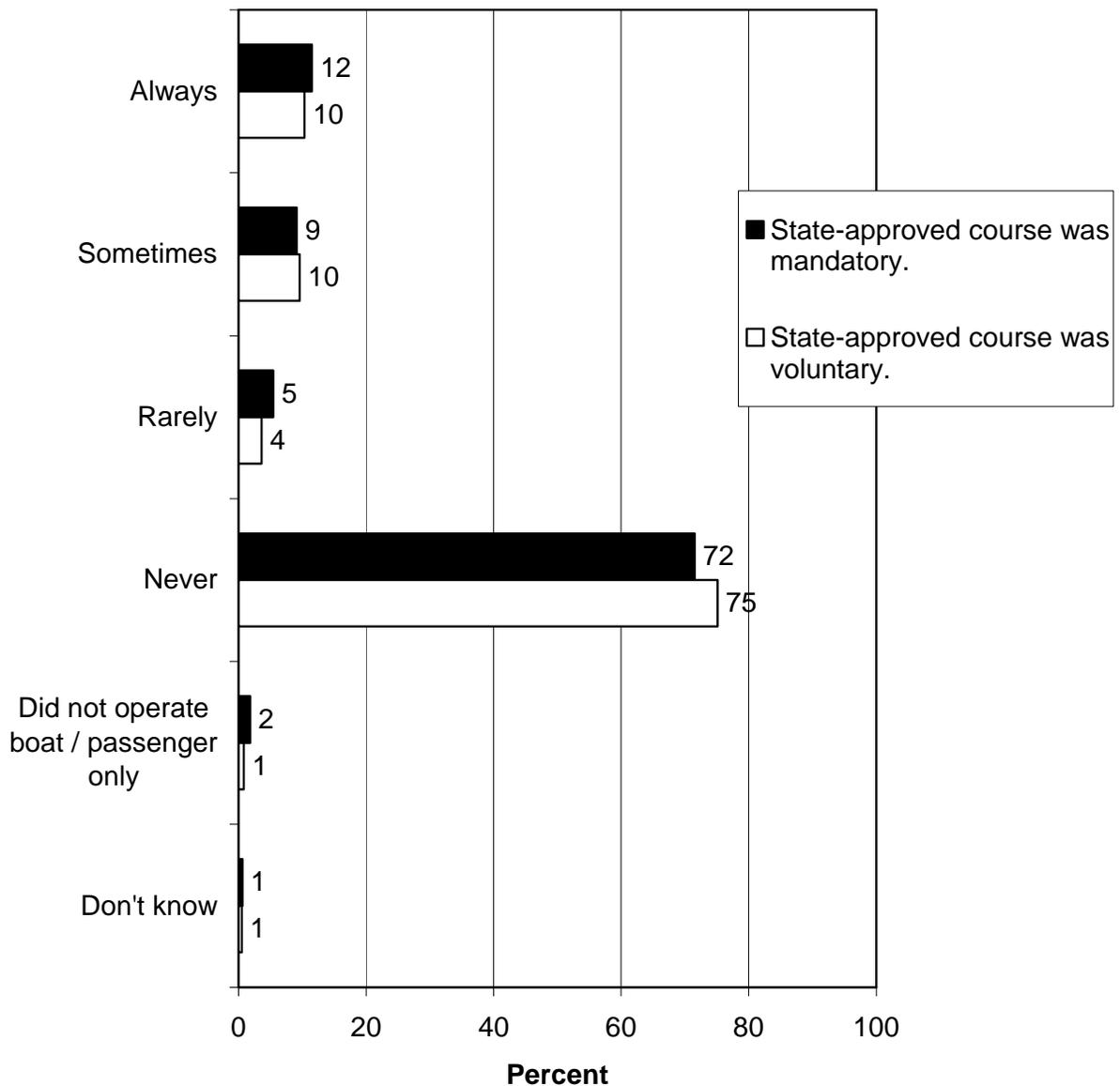
Q155. Would you say you fuel your boat at a dock always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



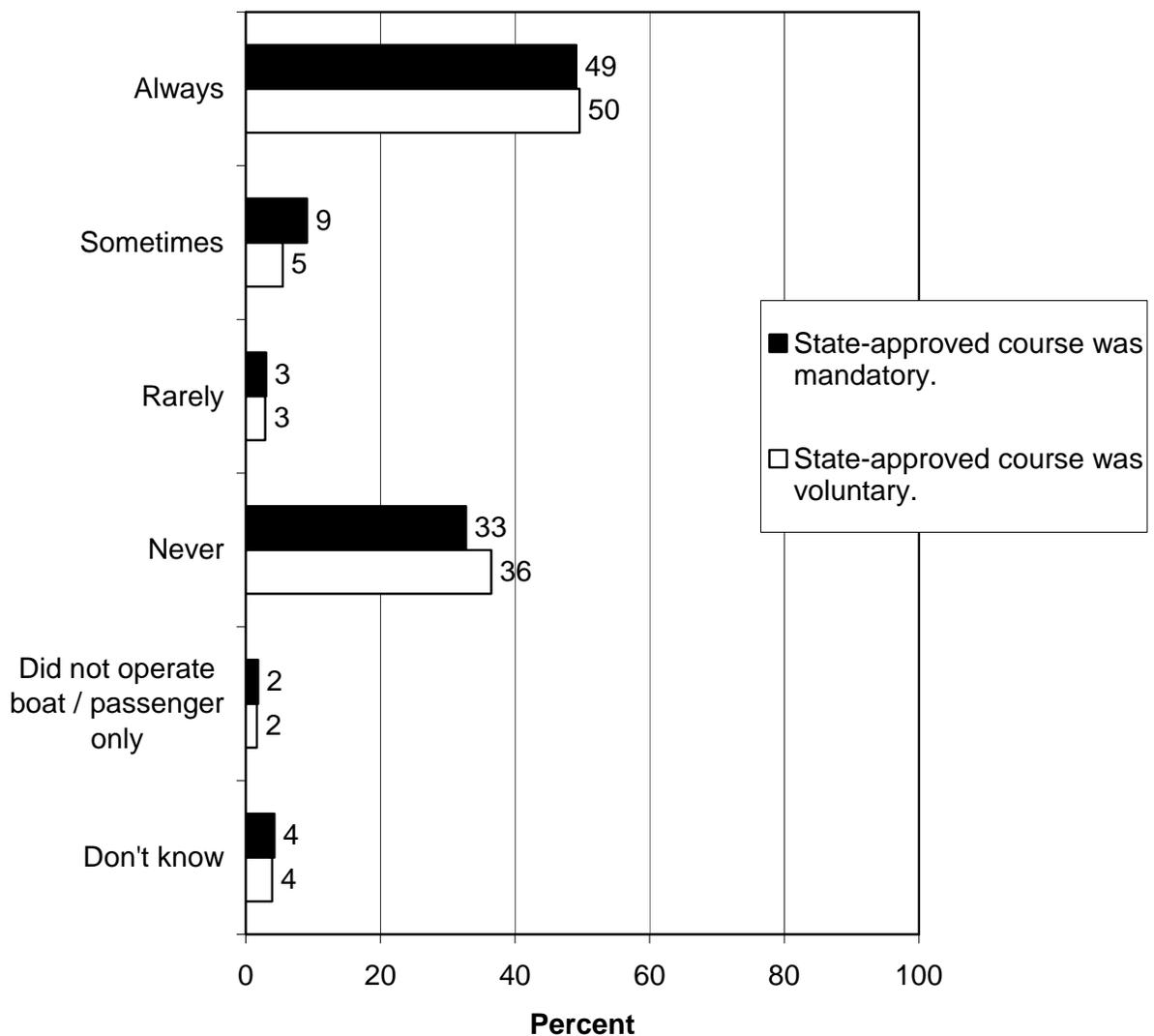
Q156. Would you say you properly dispose of waste at pump-out and dump stations always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



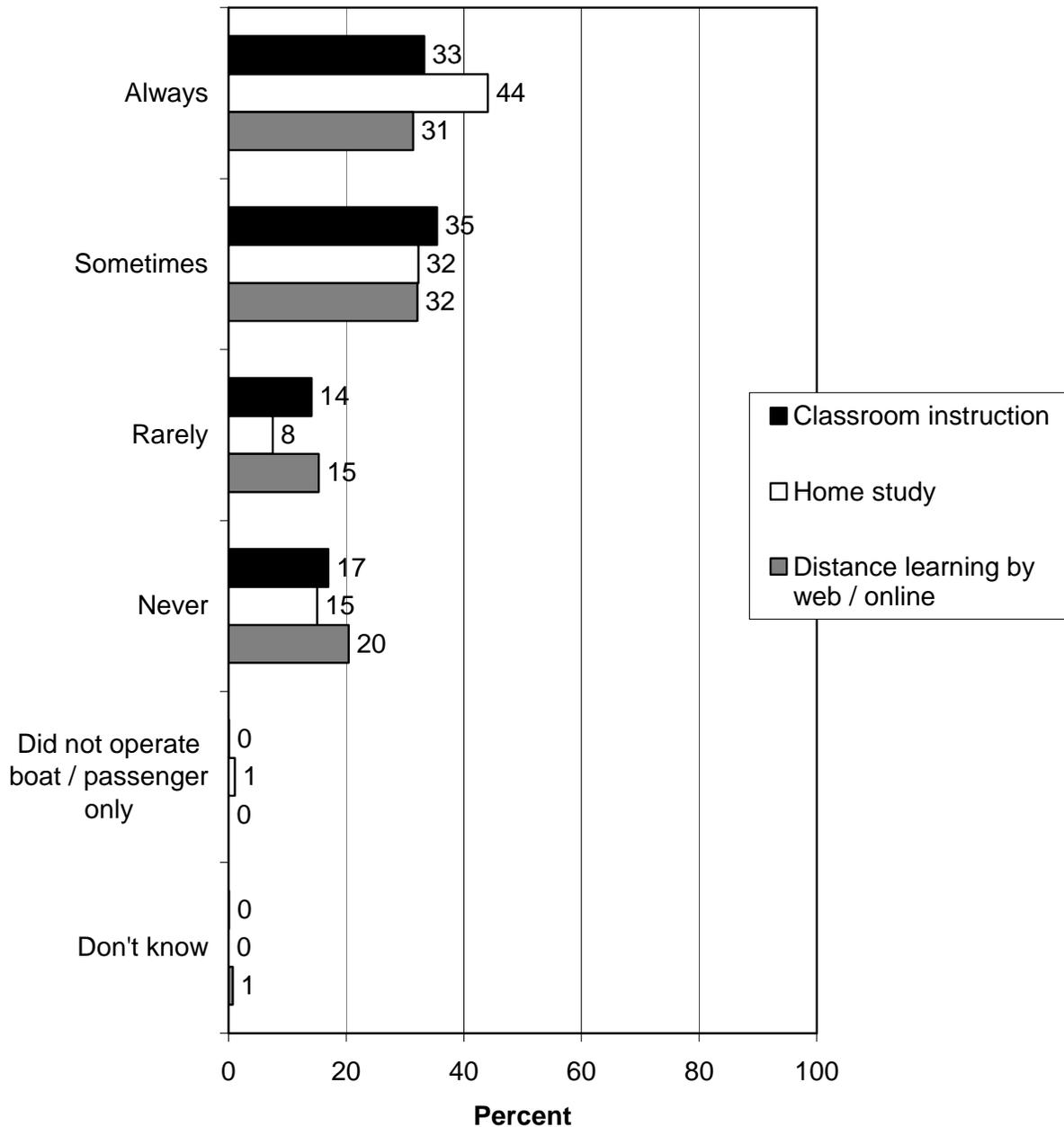
Q157. Would you say you paint or clean your boat in the water always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



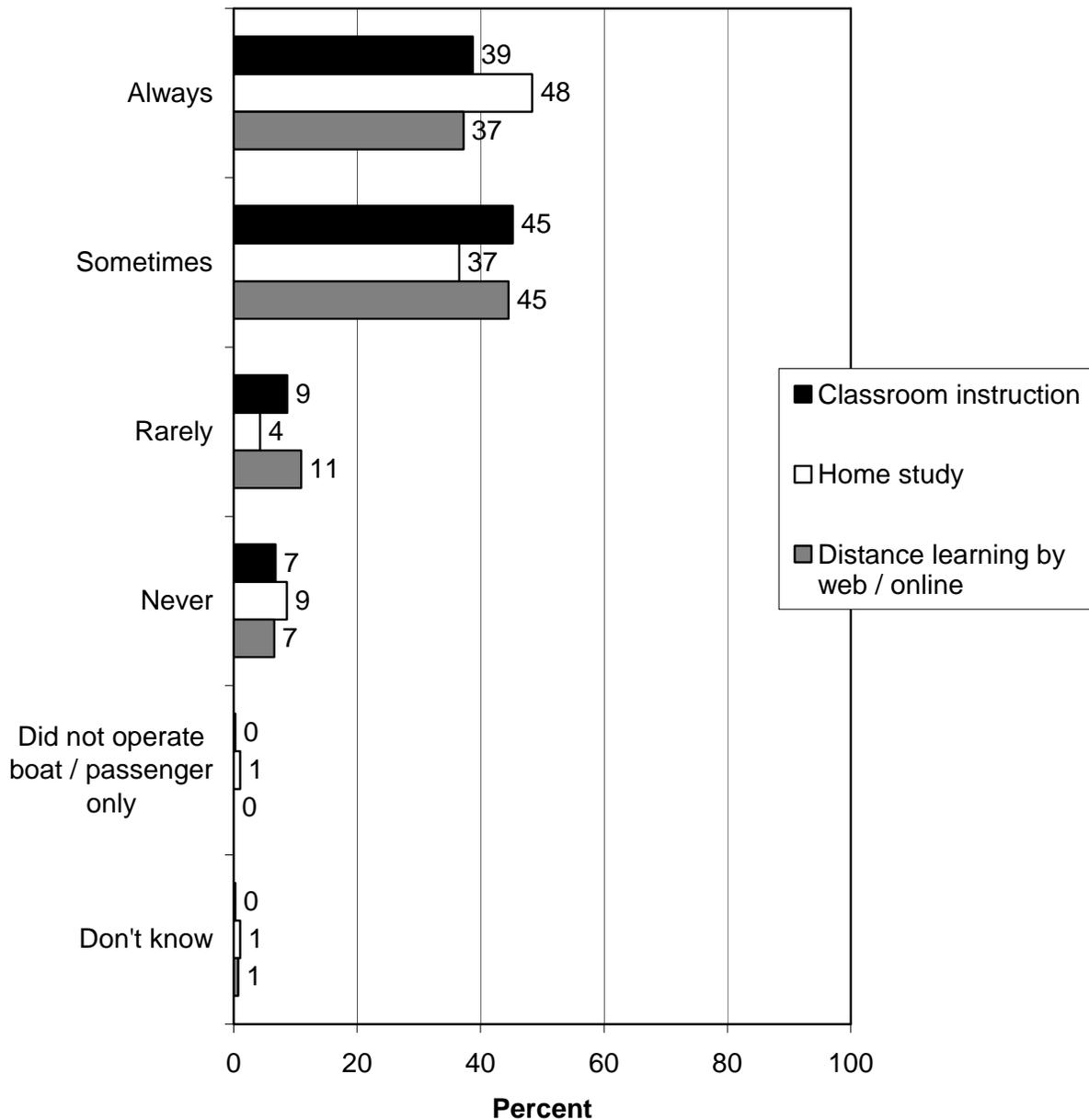
Q158. Would you say you remove all plants and animals from your boat and inspect and wash your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species always, sometimes, rarely, or never since completing the course? (Among those who have taken at least one state-approved certification boating safety course.)



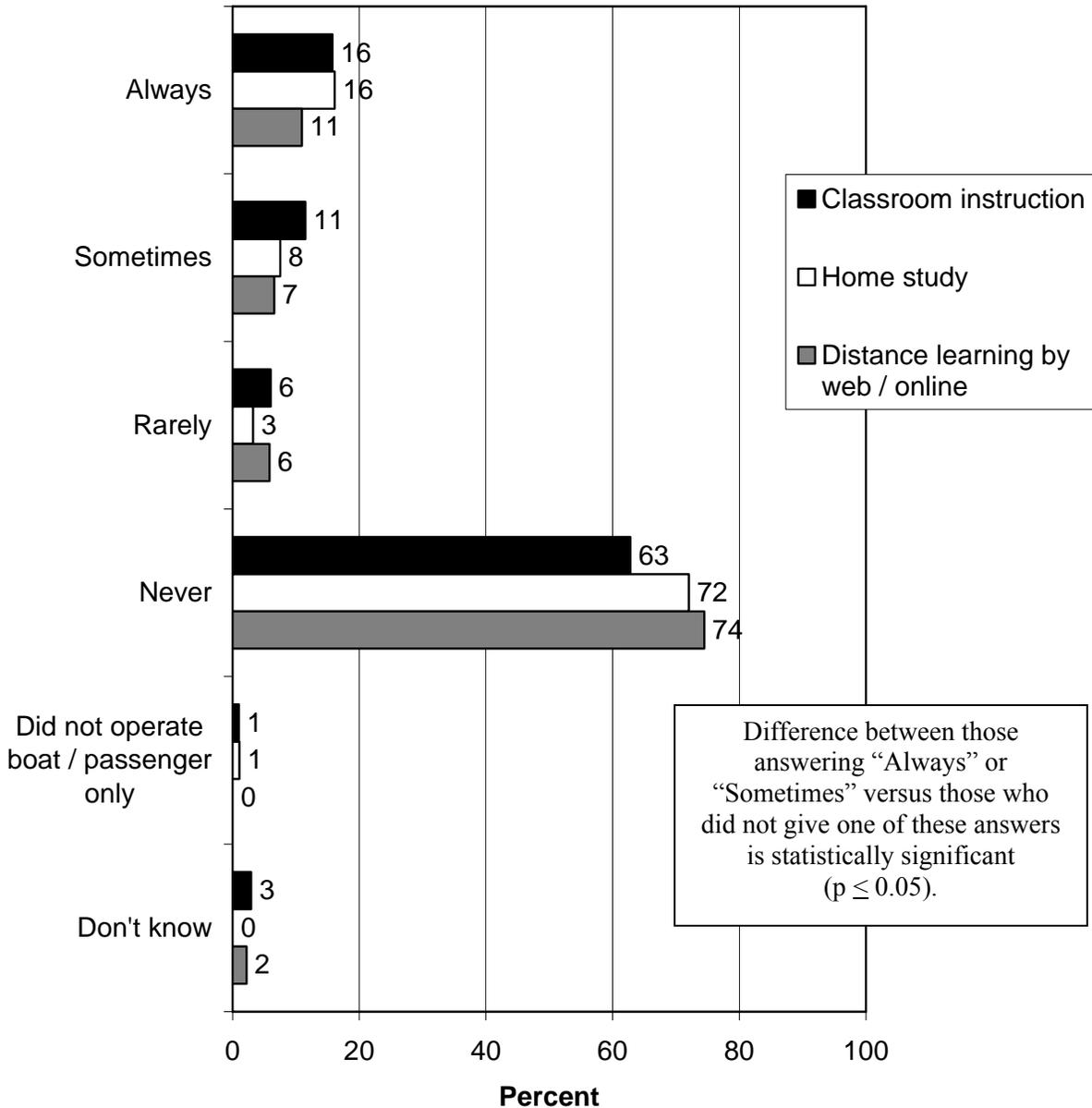
Q149. Would you say you wore a life jacket while operating or riding on a boat always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



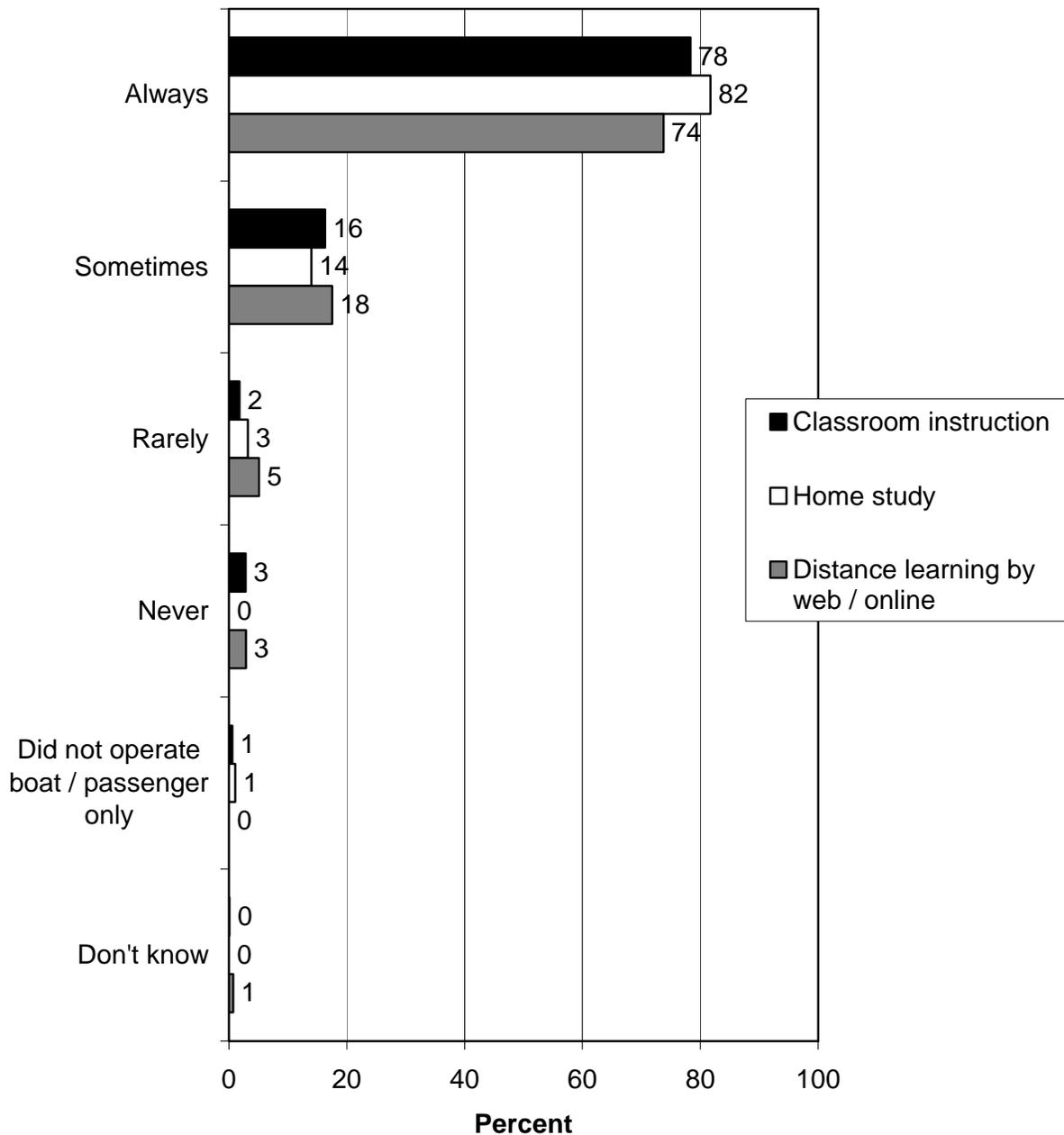
Q150. Would you say you required all other passengers to wear a life jacket while boating always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



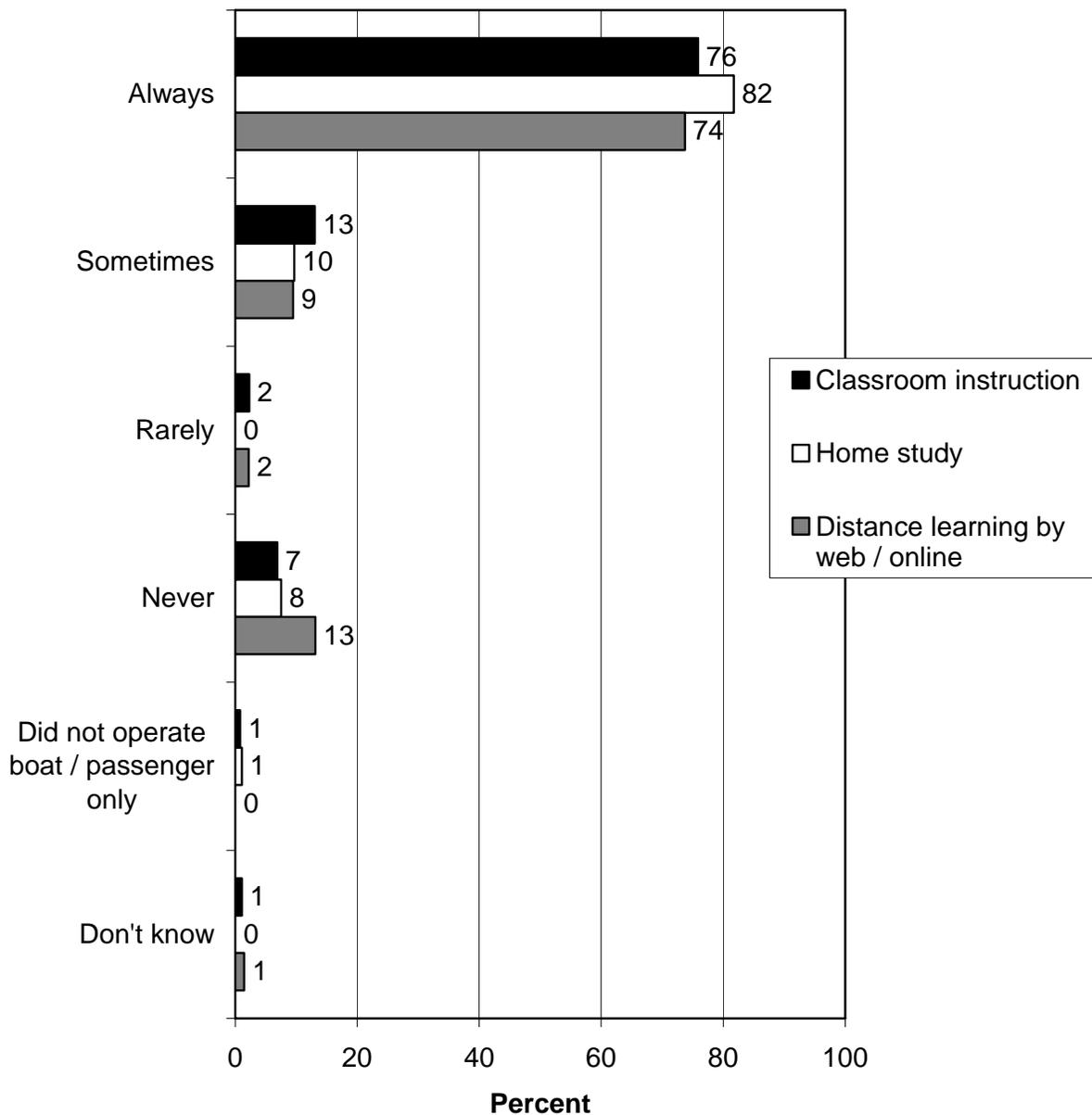
Q151. Would you say you filed a float plan with the appropriate agency always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



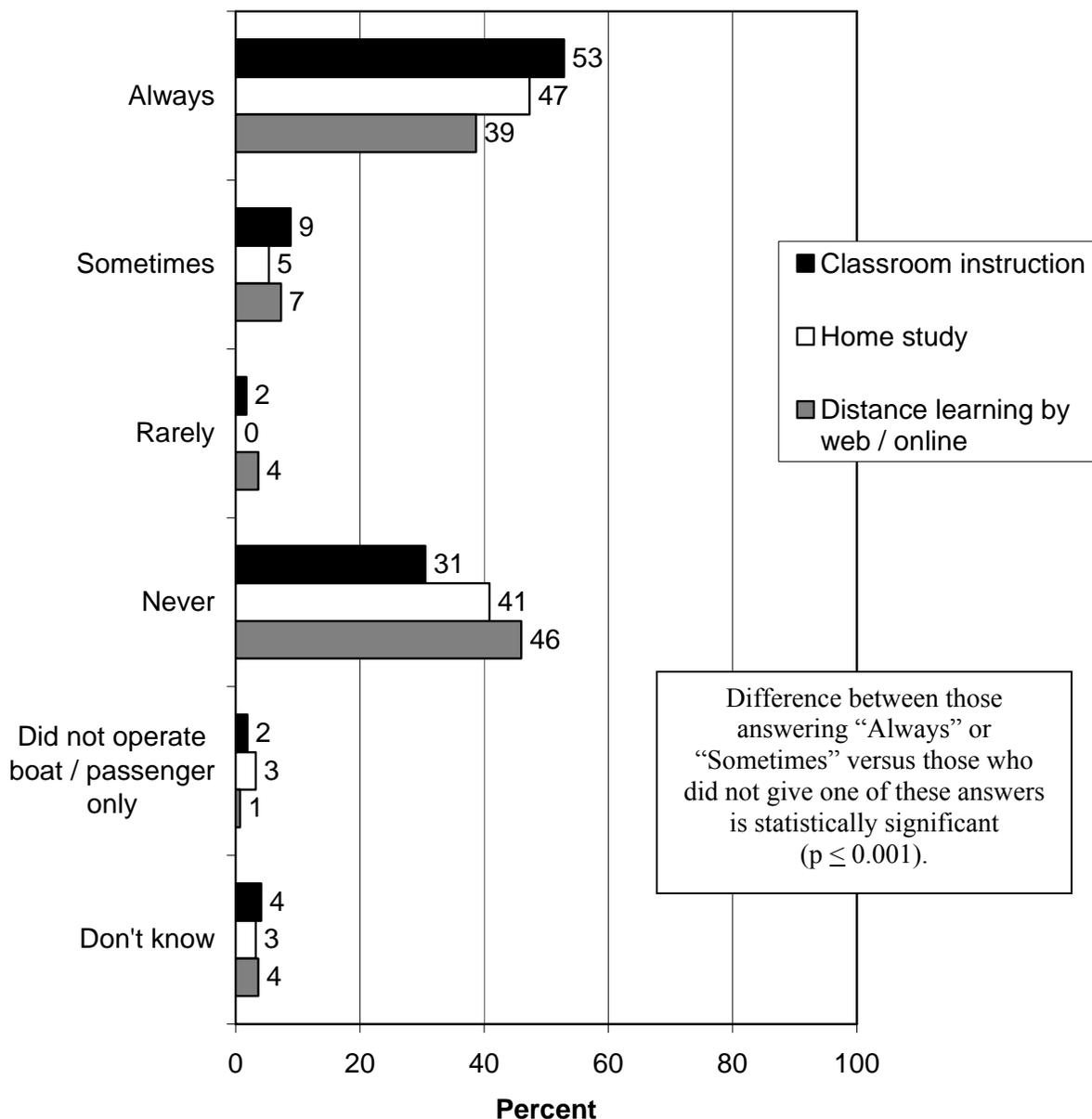
Q152. Would you say you located and checked all safety aids prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



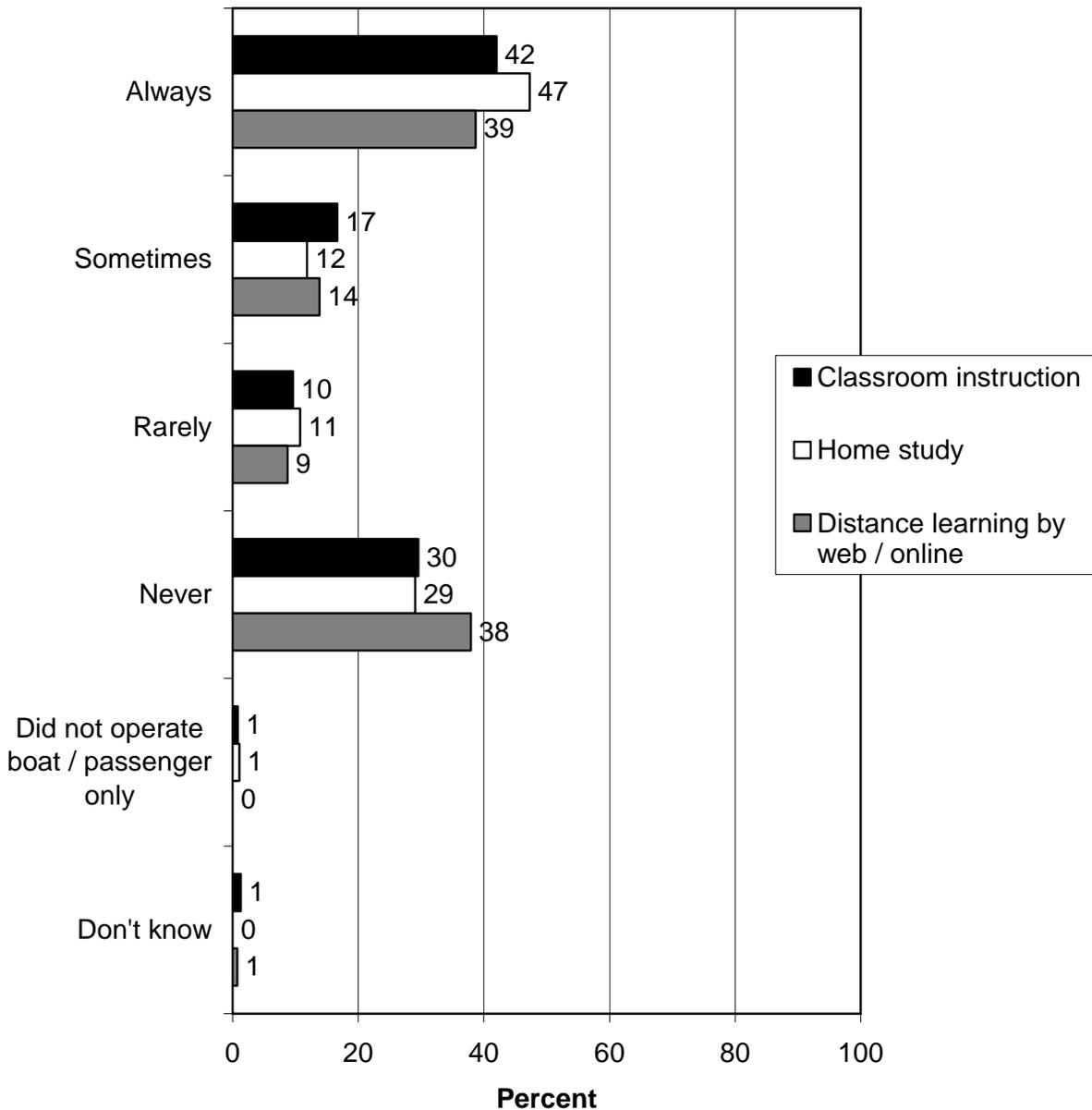
**Q153. Would you say you checked all navigation instruments and lights prior to launch always, sometimes, rarely, or never since completing the course?
(Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)**



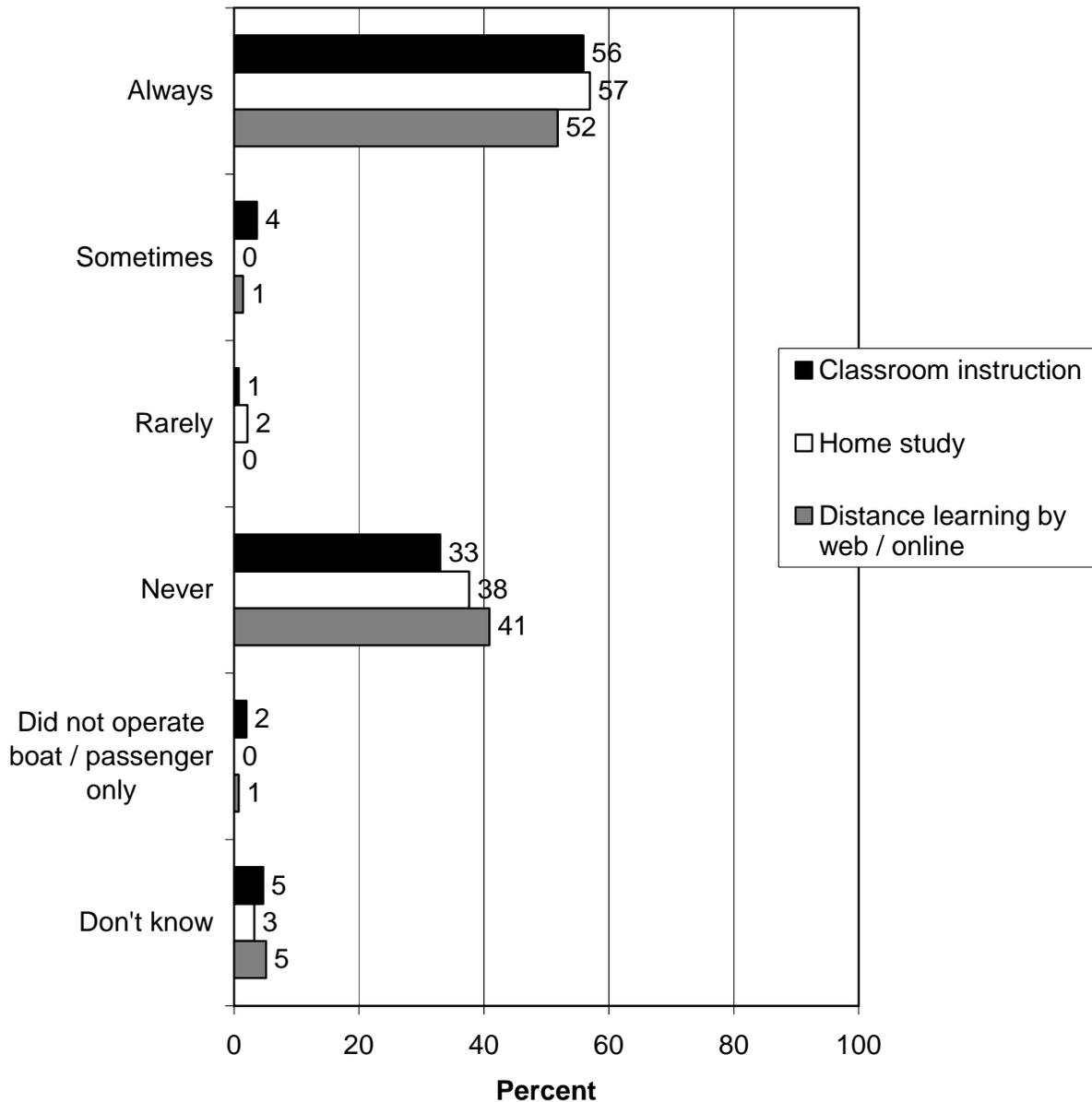
Q154. Would you say you checked the marine radio prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



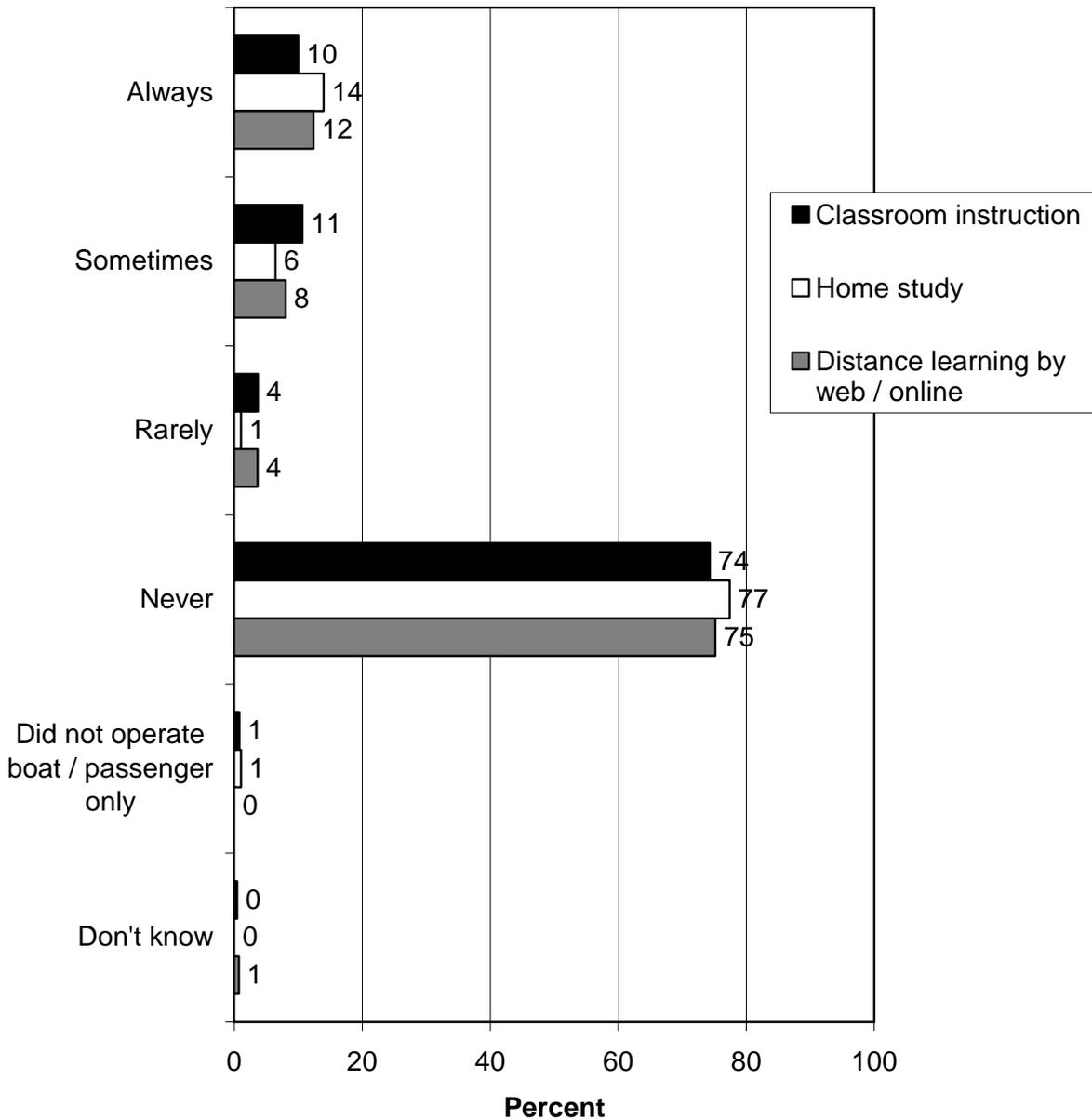
Q155. Would you say you fueled your boat at a dock always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



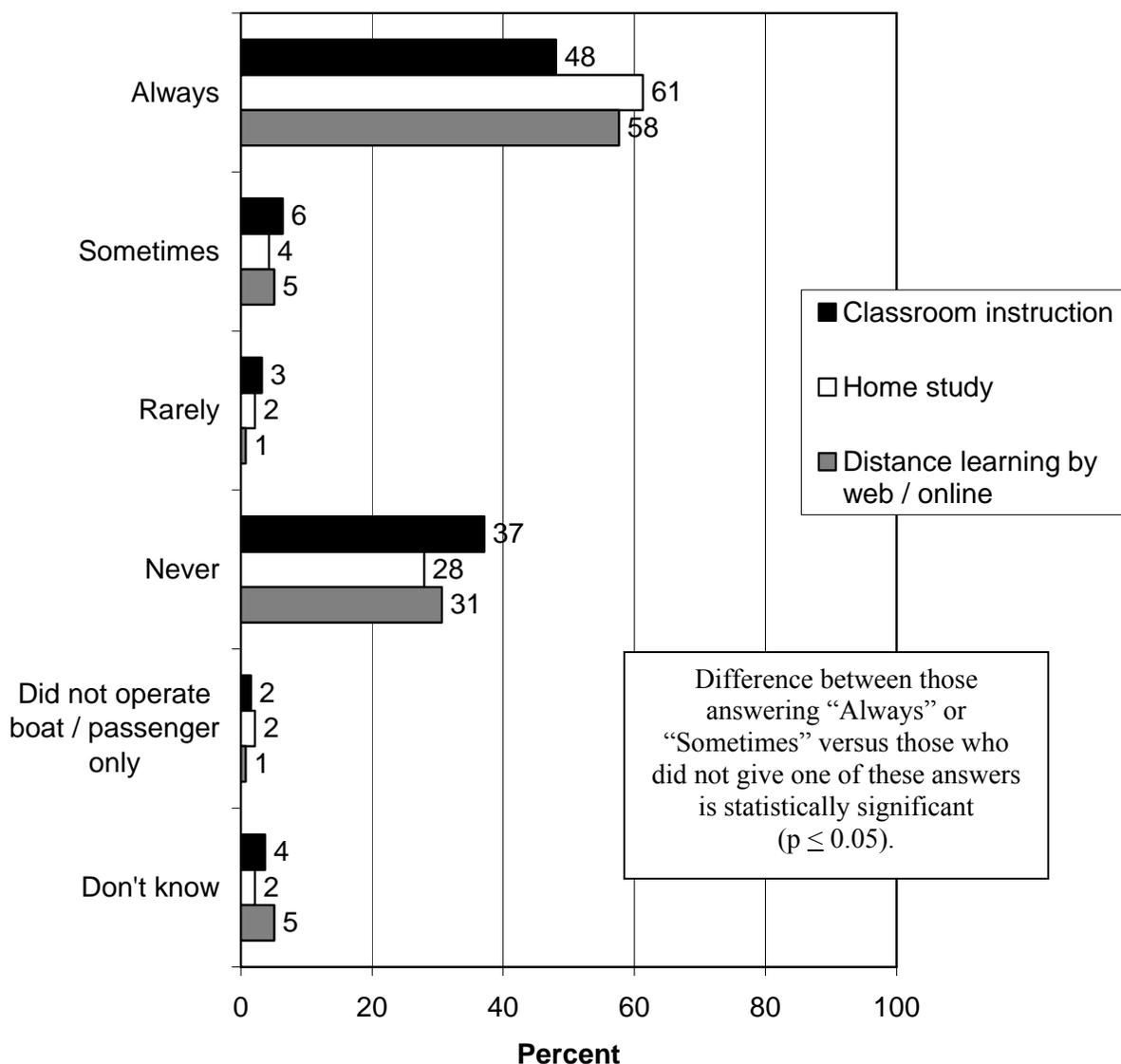
Q156. Would you say you properly disposed of waste at pump-out and dump stations always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



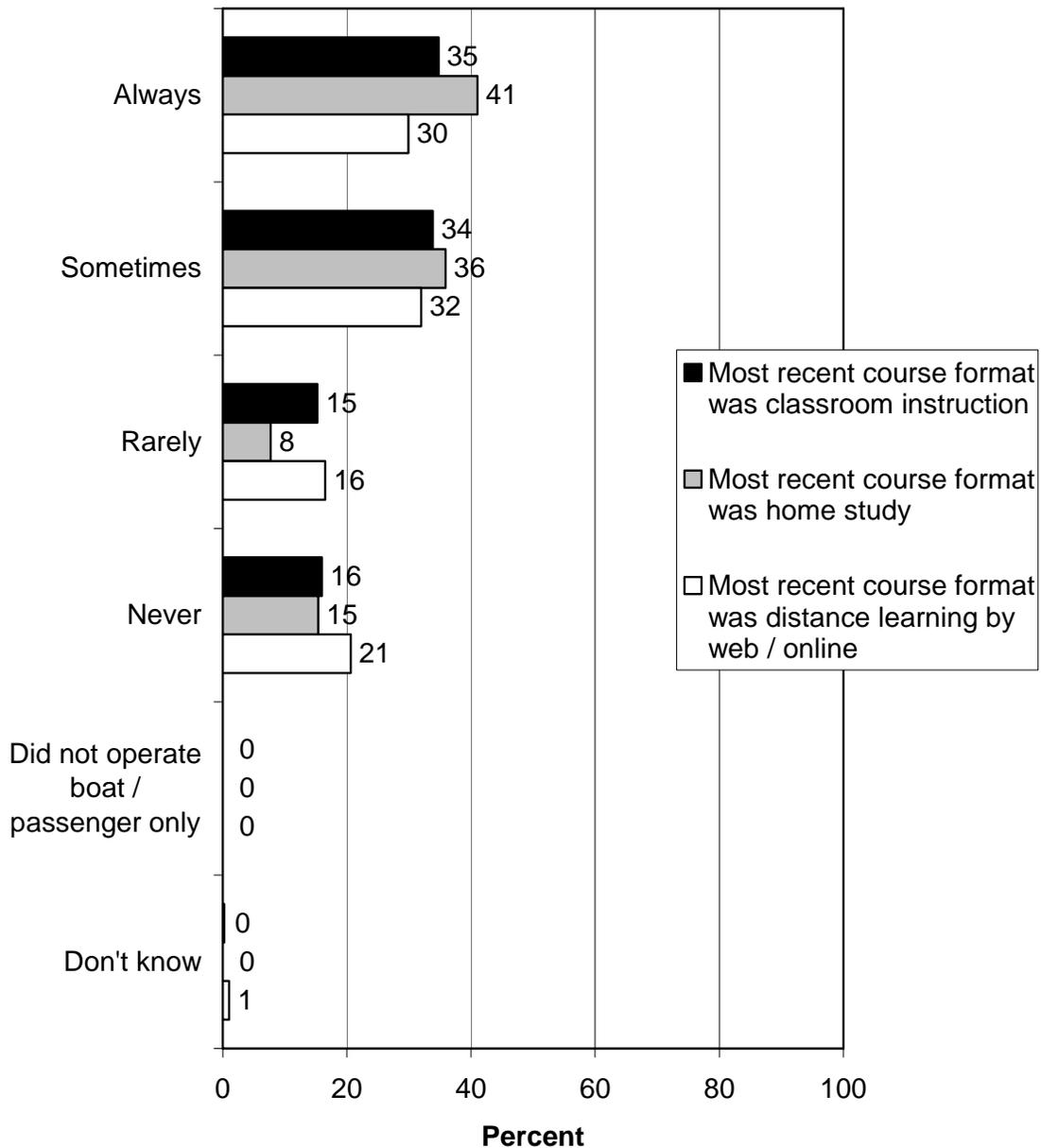
Q157. Would you say you painted or cleaned your boat in the water always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



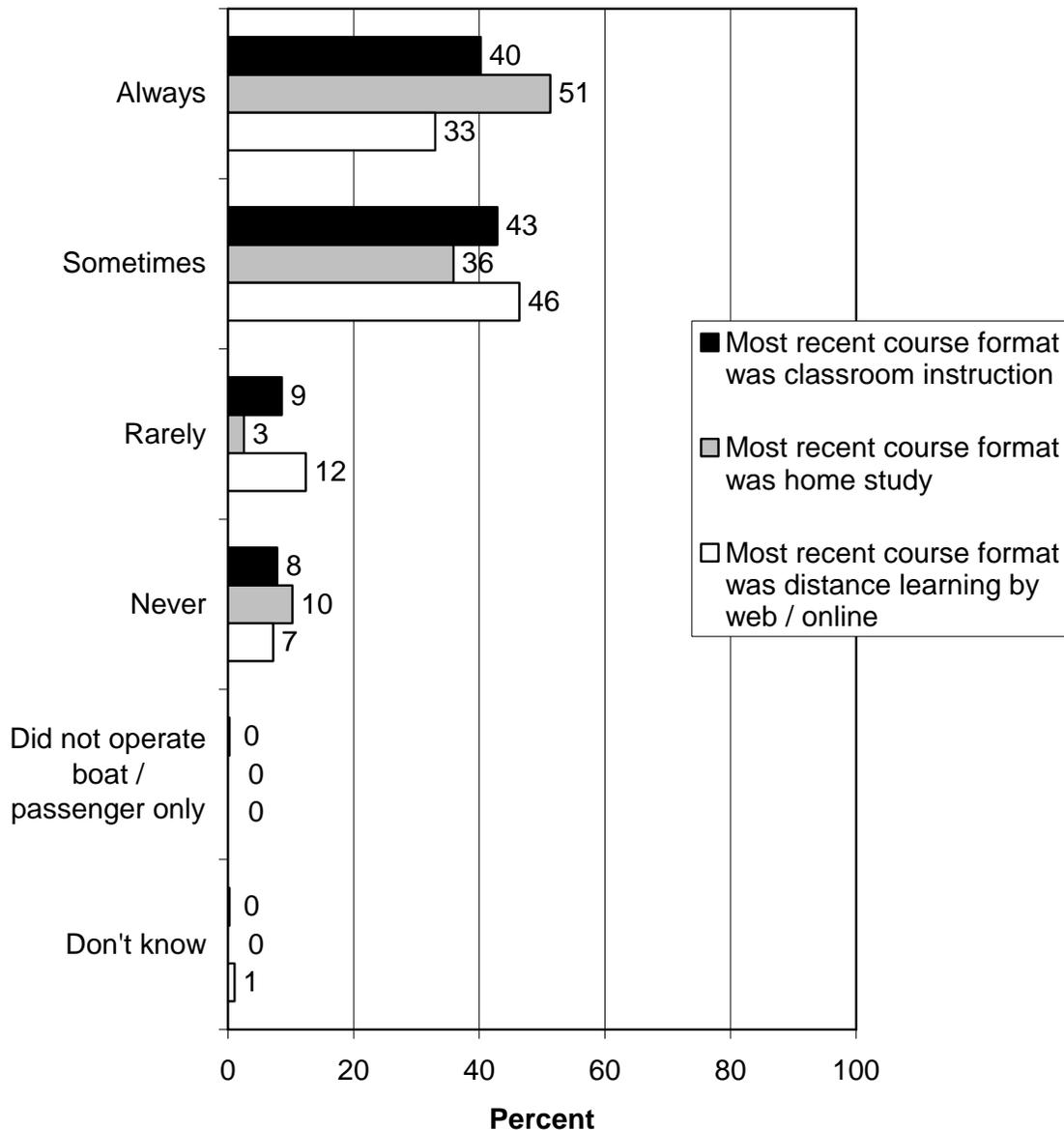
Q158. Would you say you removed all plants and animals from your boat and inspected and washed your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



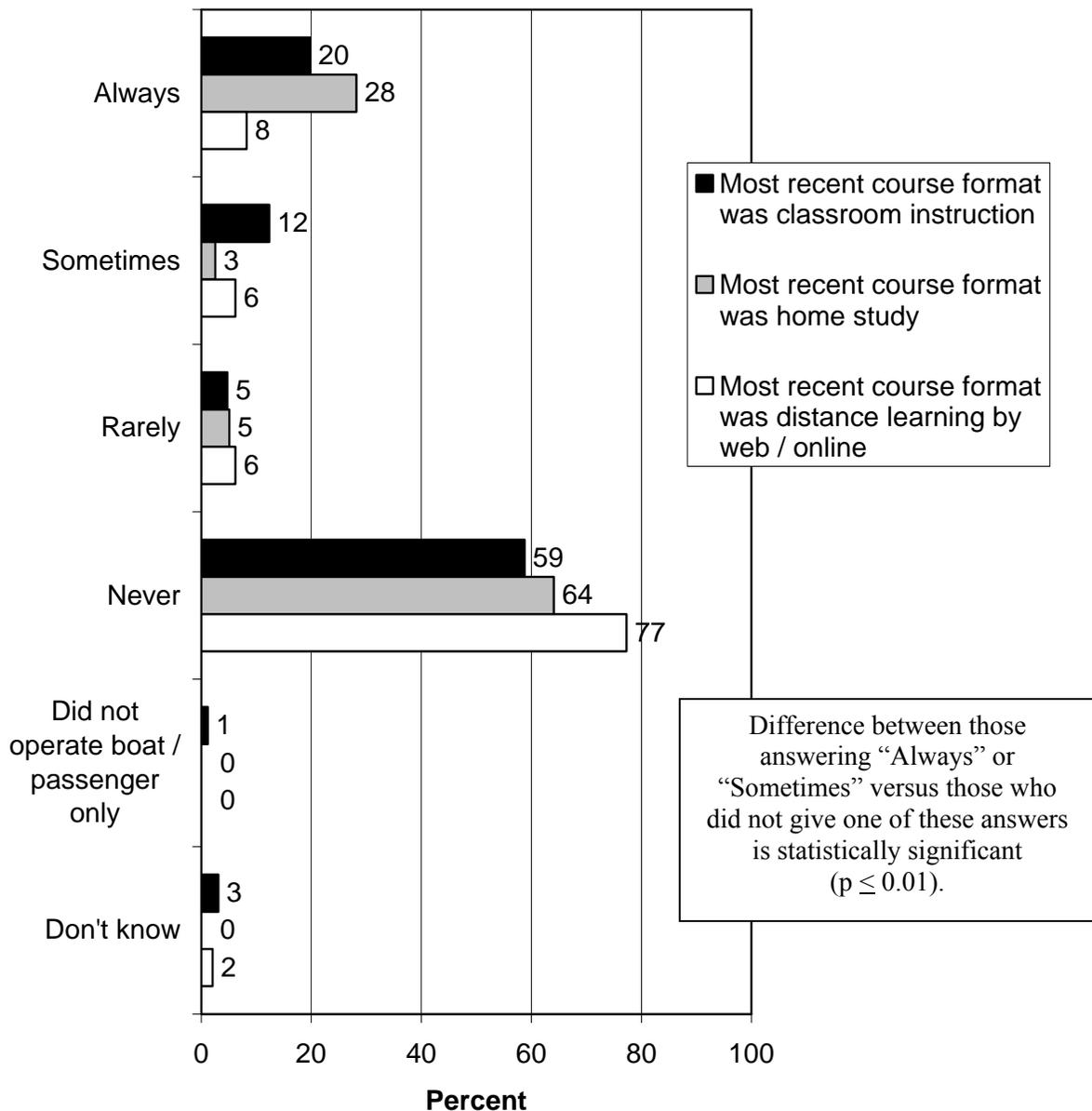
Q149. Would you say you wear a life jacket while operating or riding on a boat always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



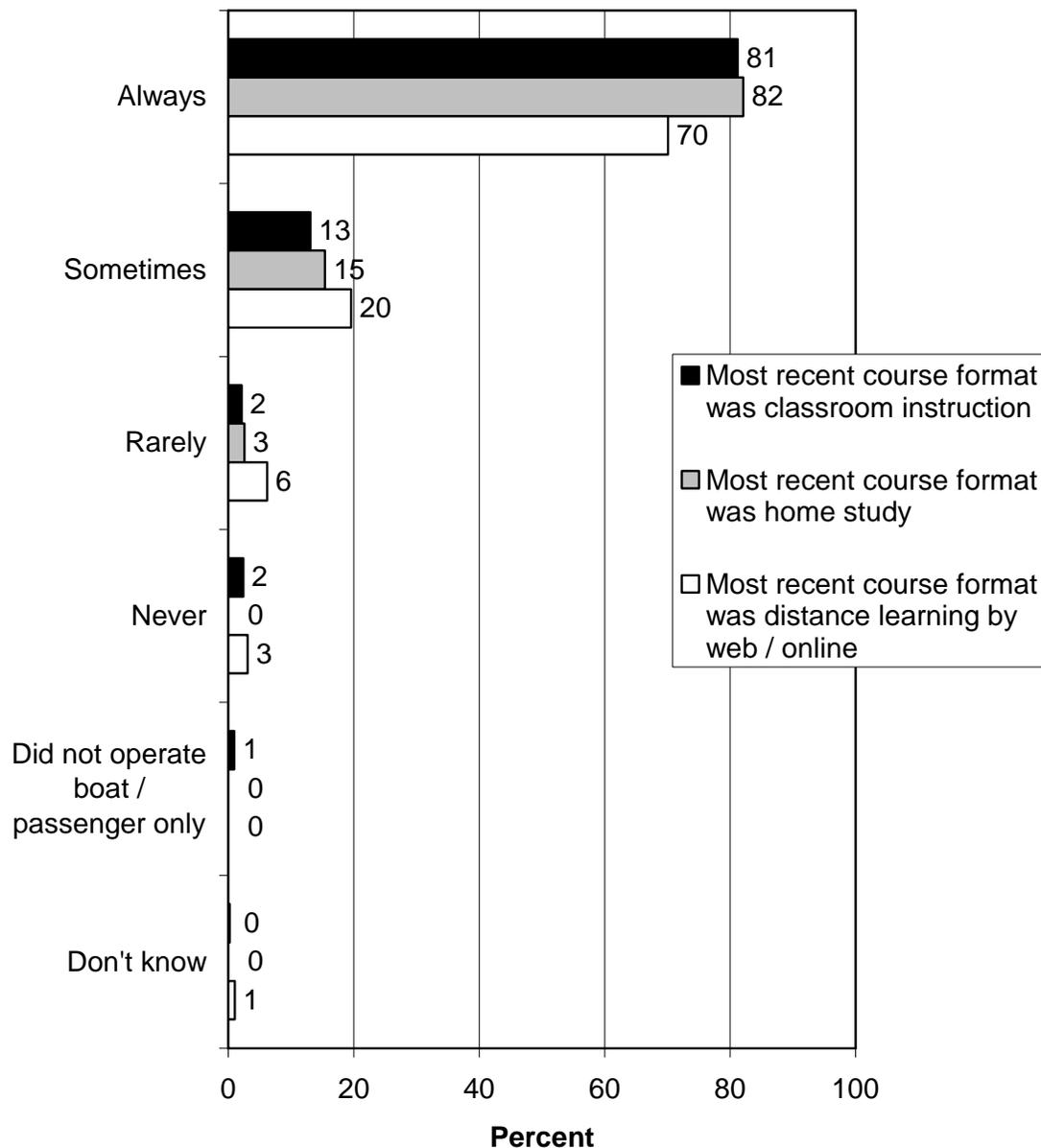
Q150. Would you say you require all other passengers to wear a life jacket while boating always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



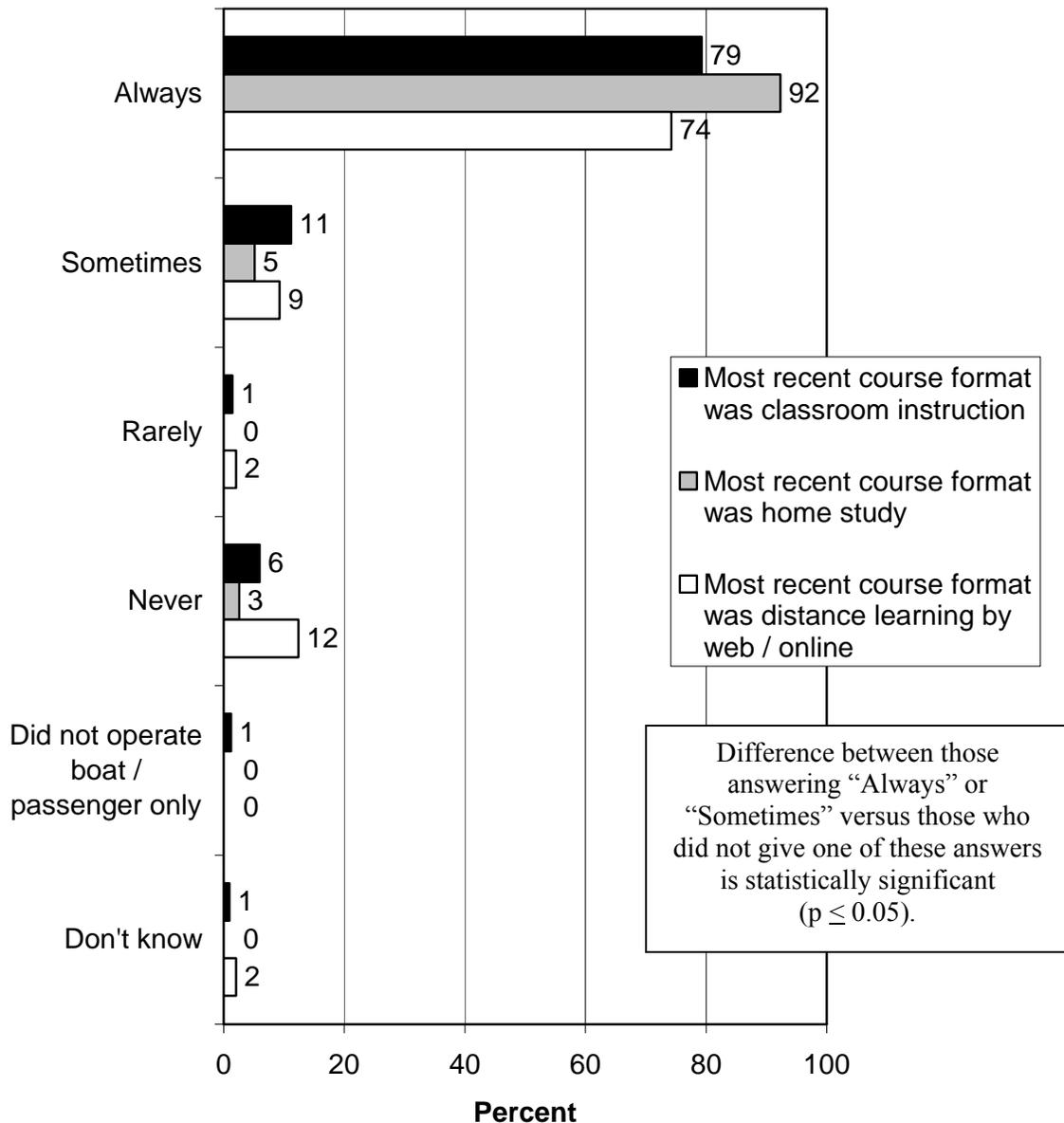
Q151. Would you say you file a float plan with the appropriate agency always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



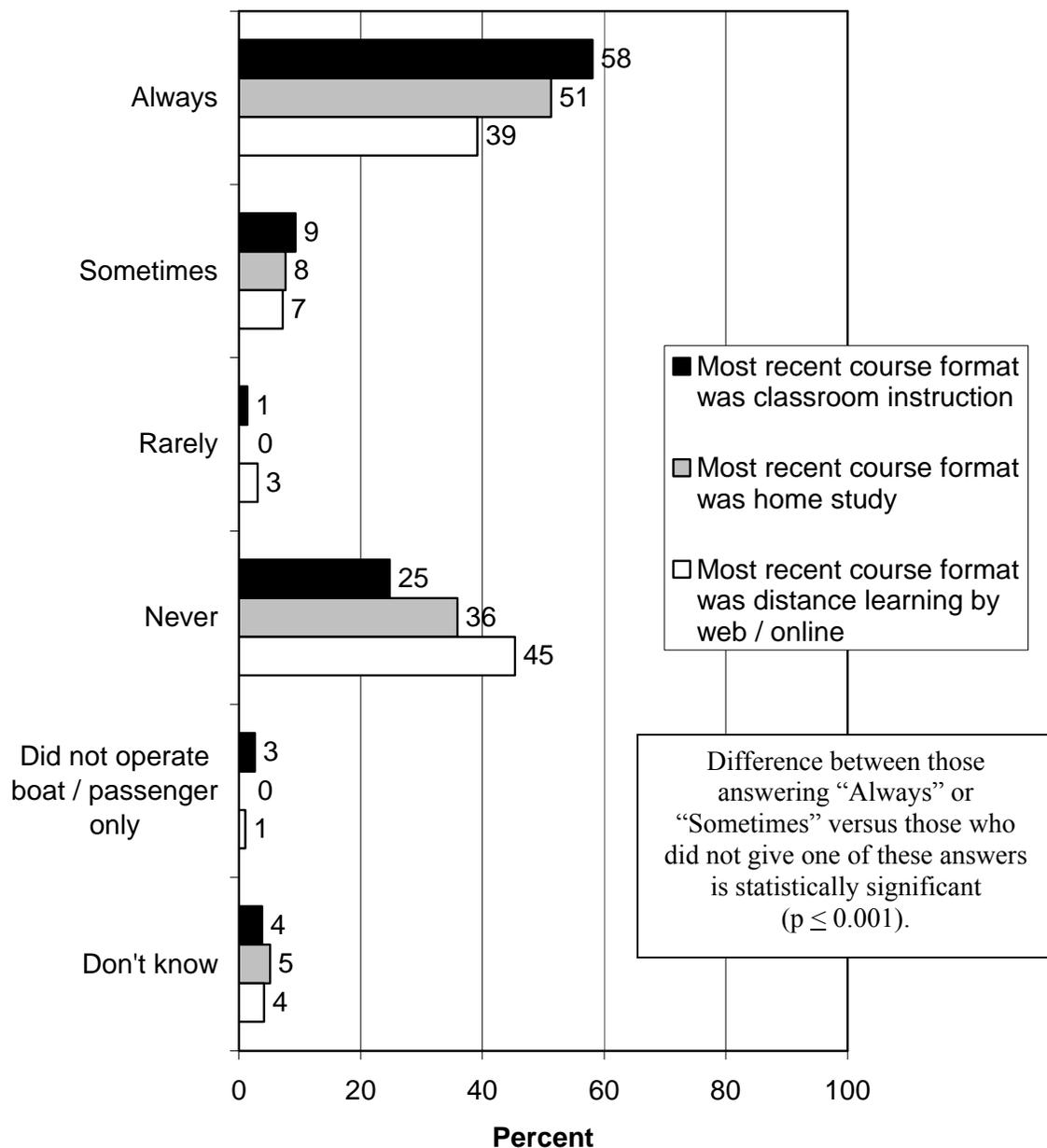
Q152. Would you say you locate and check all safety aids prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



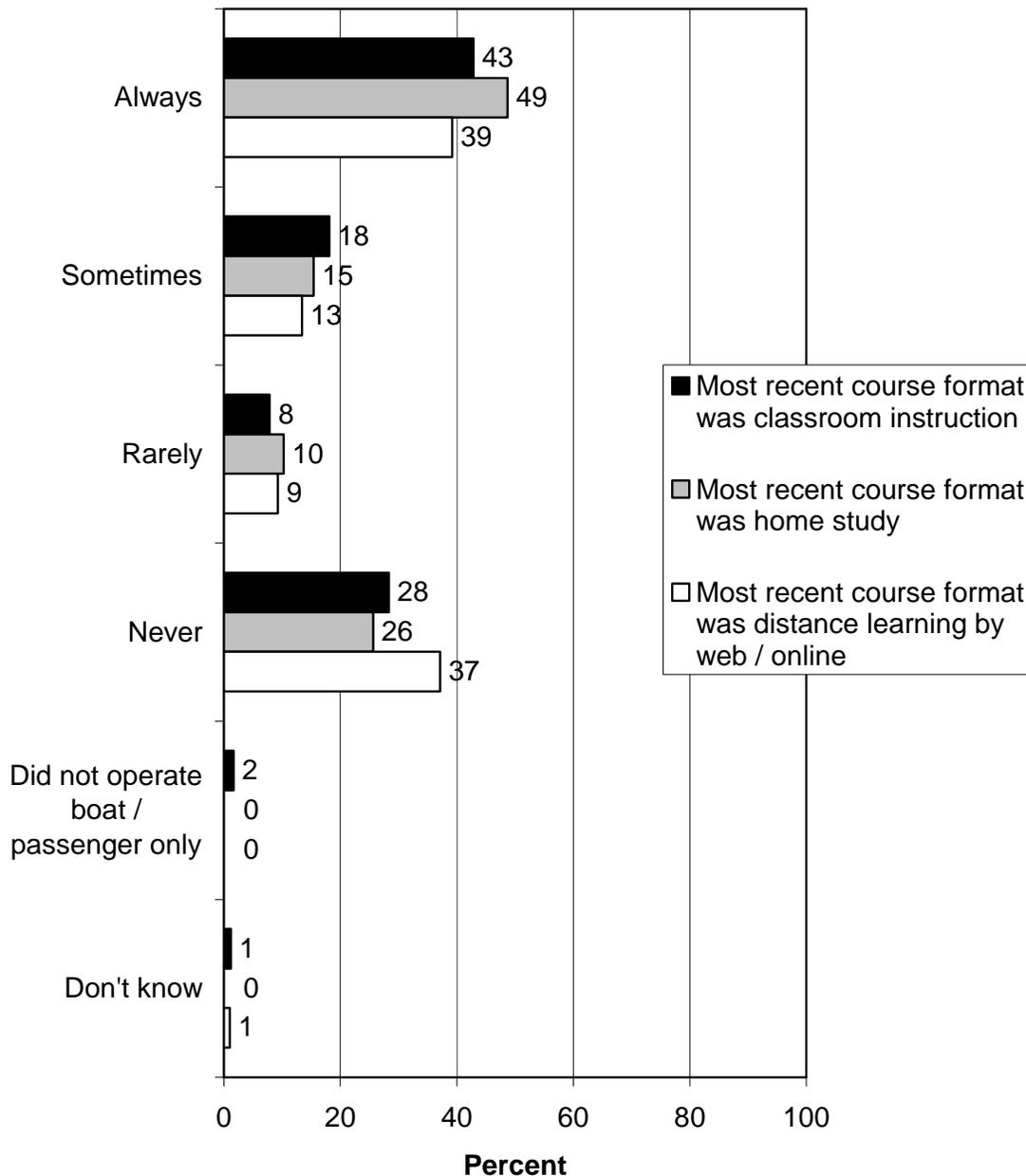
Q153. Would you say you check all navigation instruments and lights prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



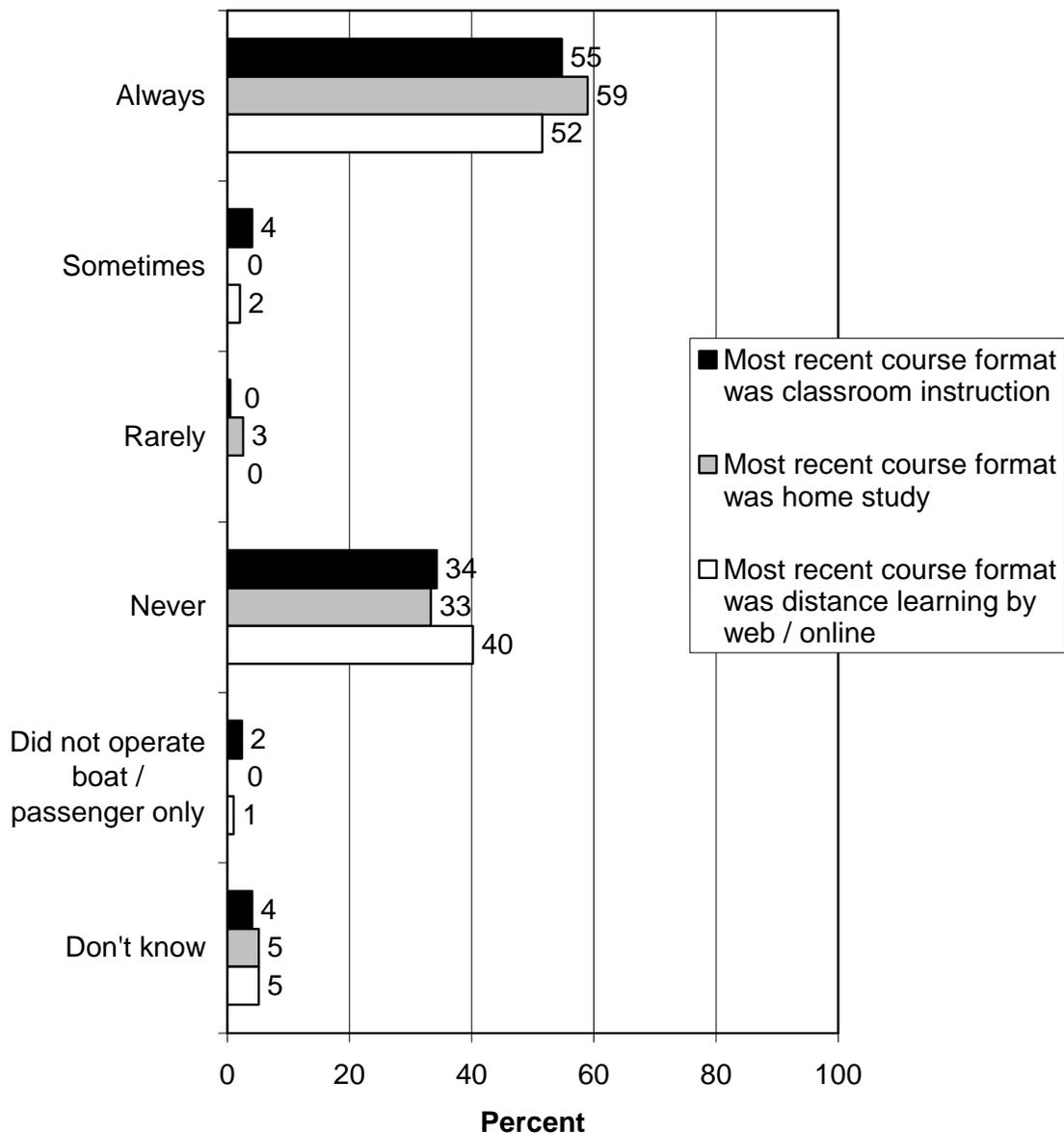
Q154. Would you say you check the marine radio prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



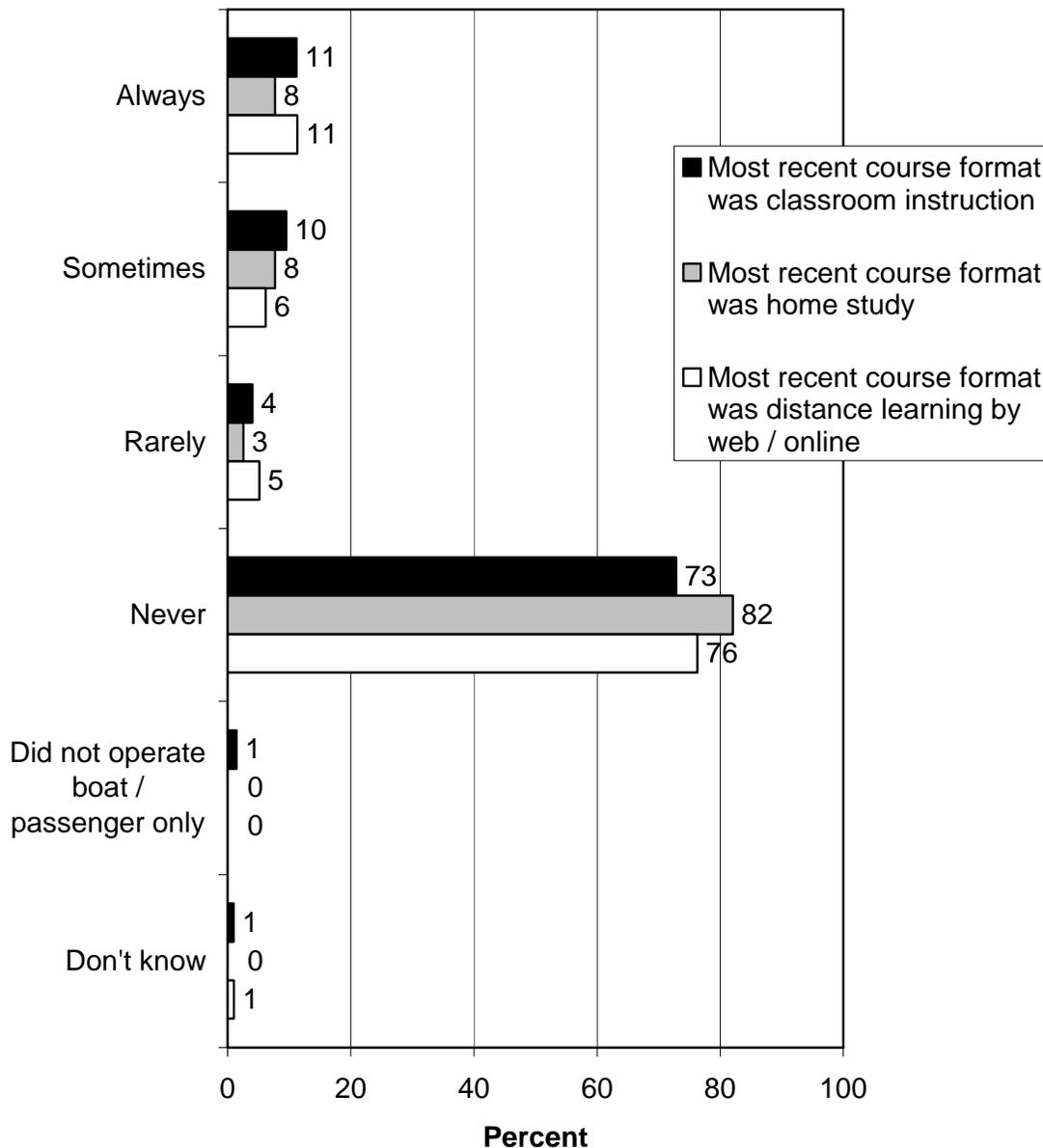
Q155. Would you say you fuel your boat at a dock always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



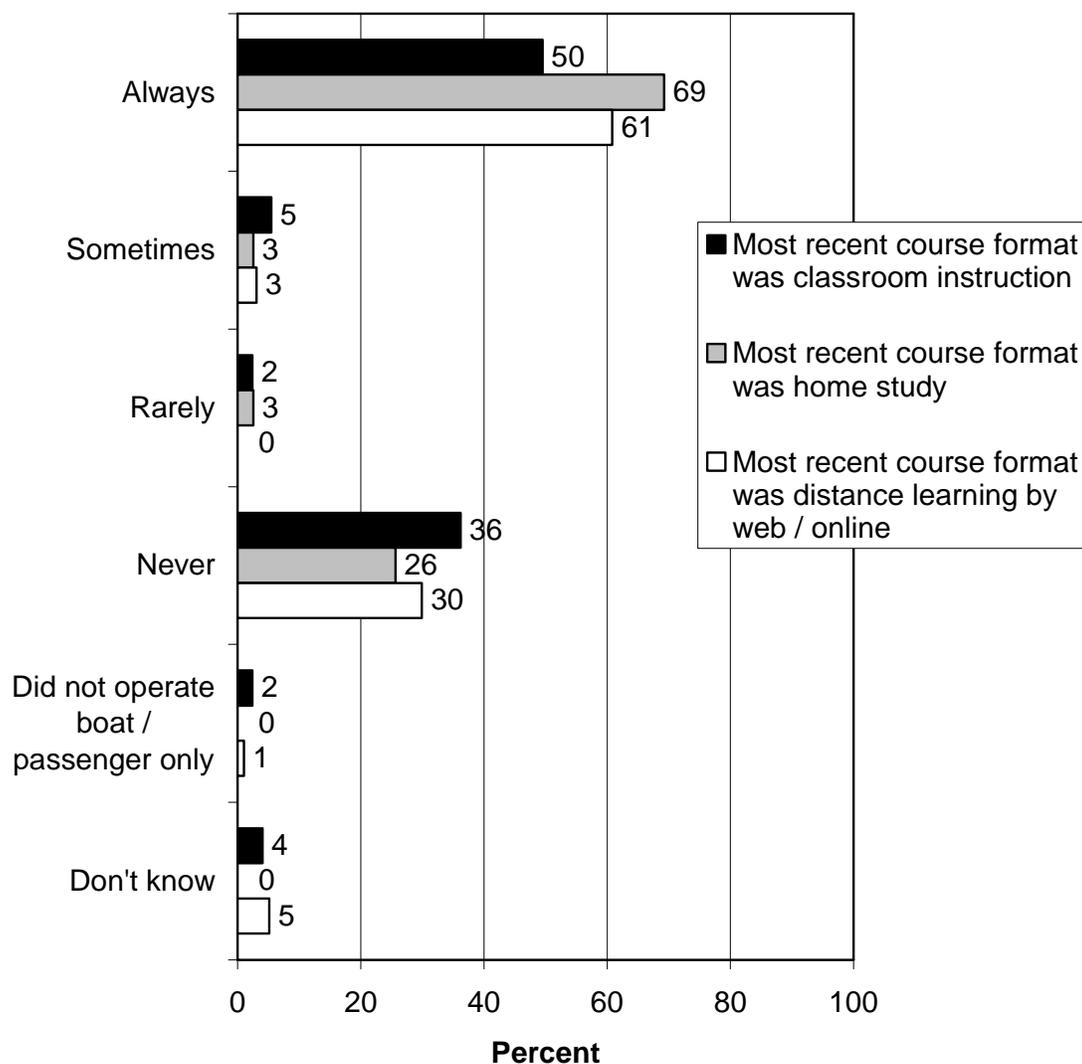
Q156. Would you say you properly dispose of waste at pump-out and dump stations always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



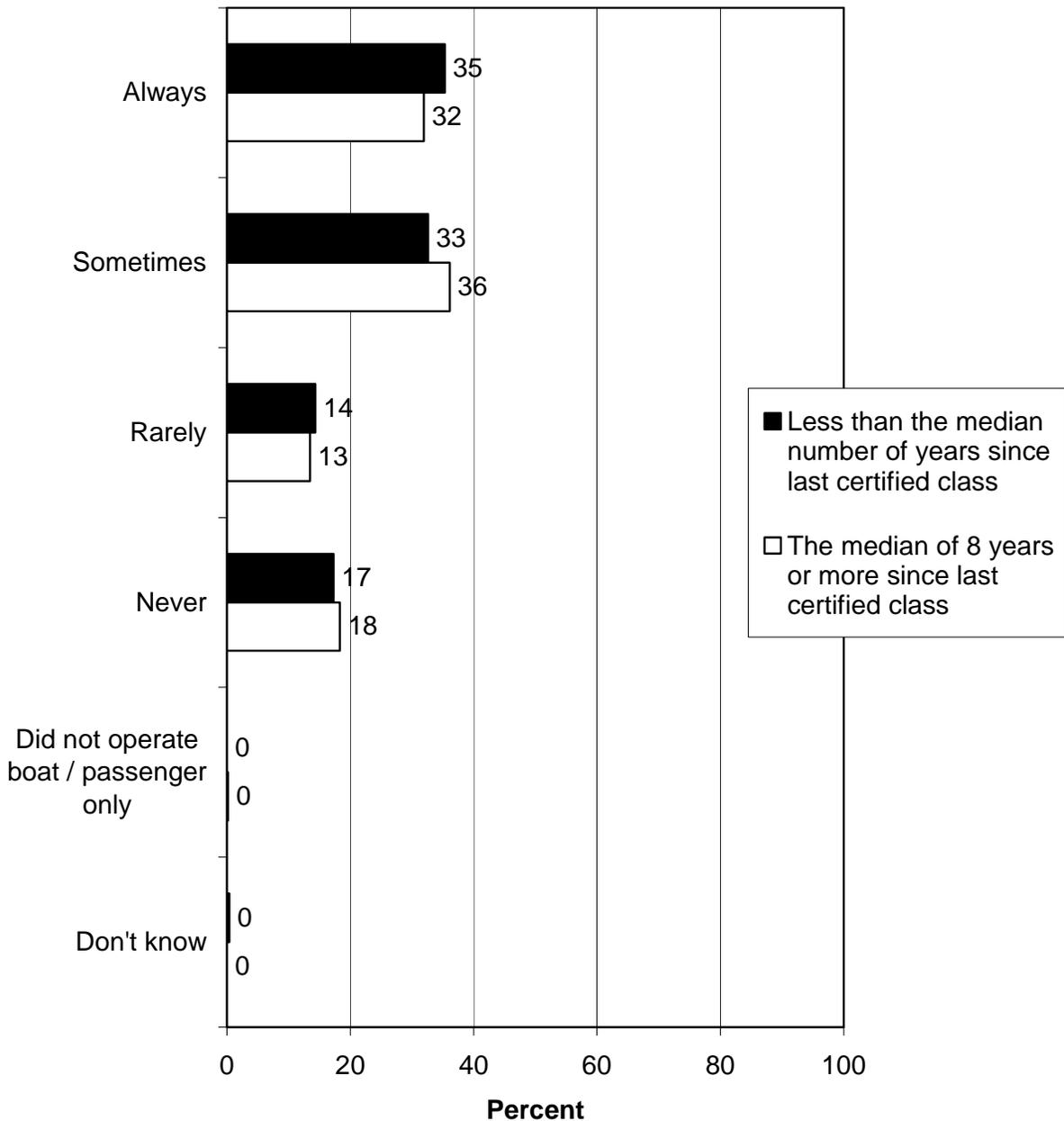
Q157. Would you say you paint or clean your boat in the water always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



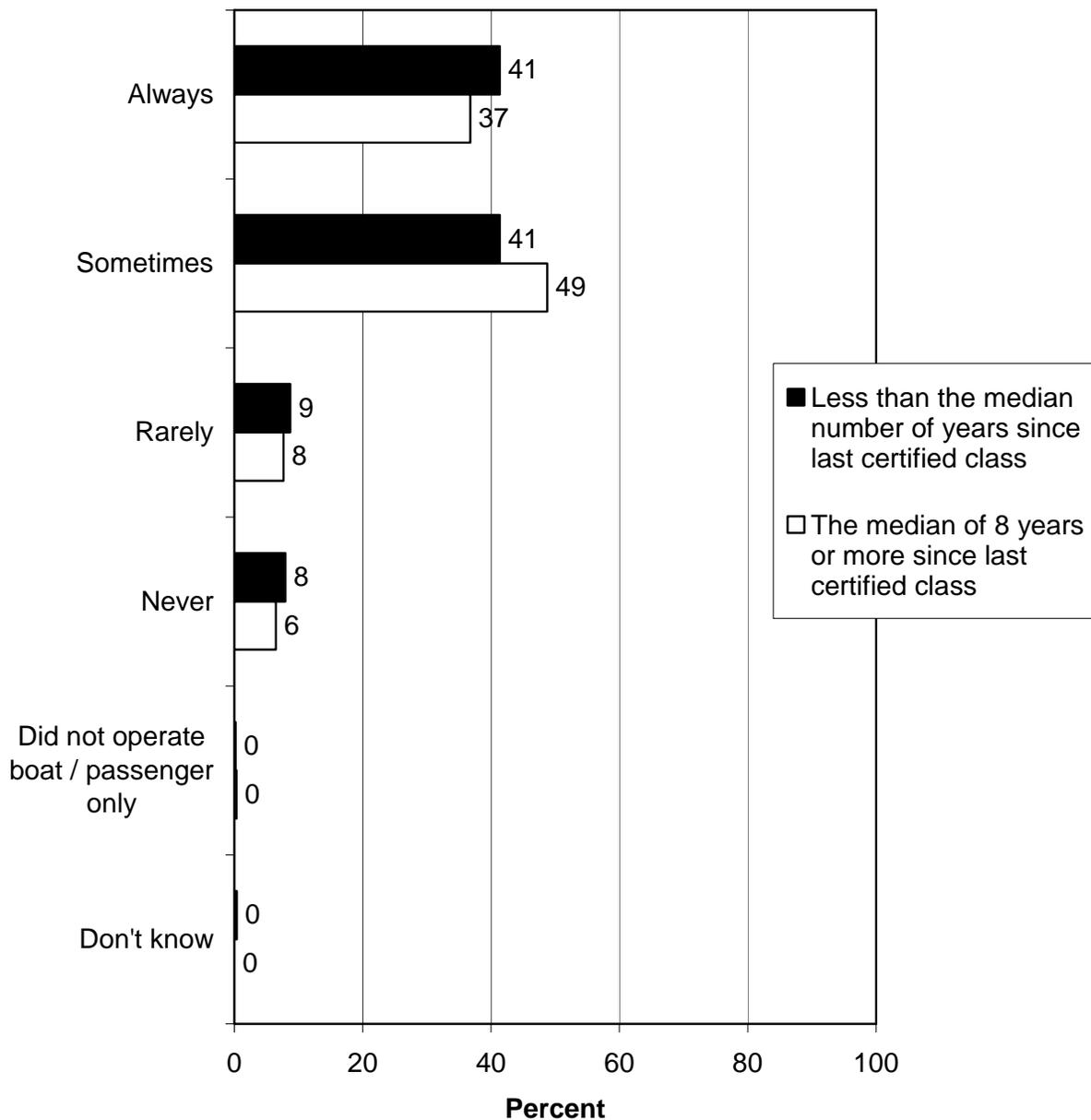
Q158. Would you say you remove all plants and animals from your boat and inspect and wash your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course 8 years ago or less.)



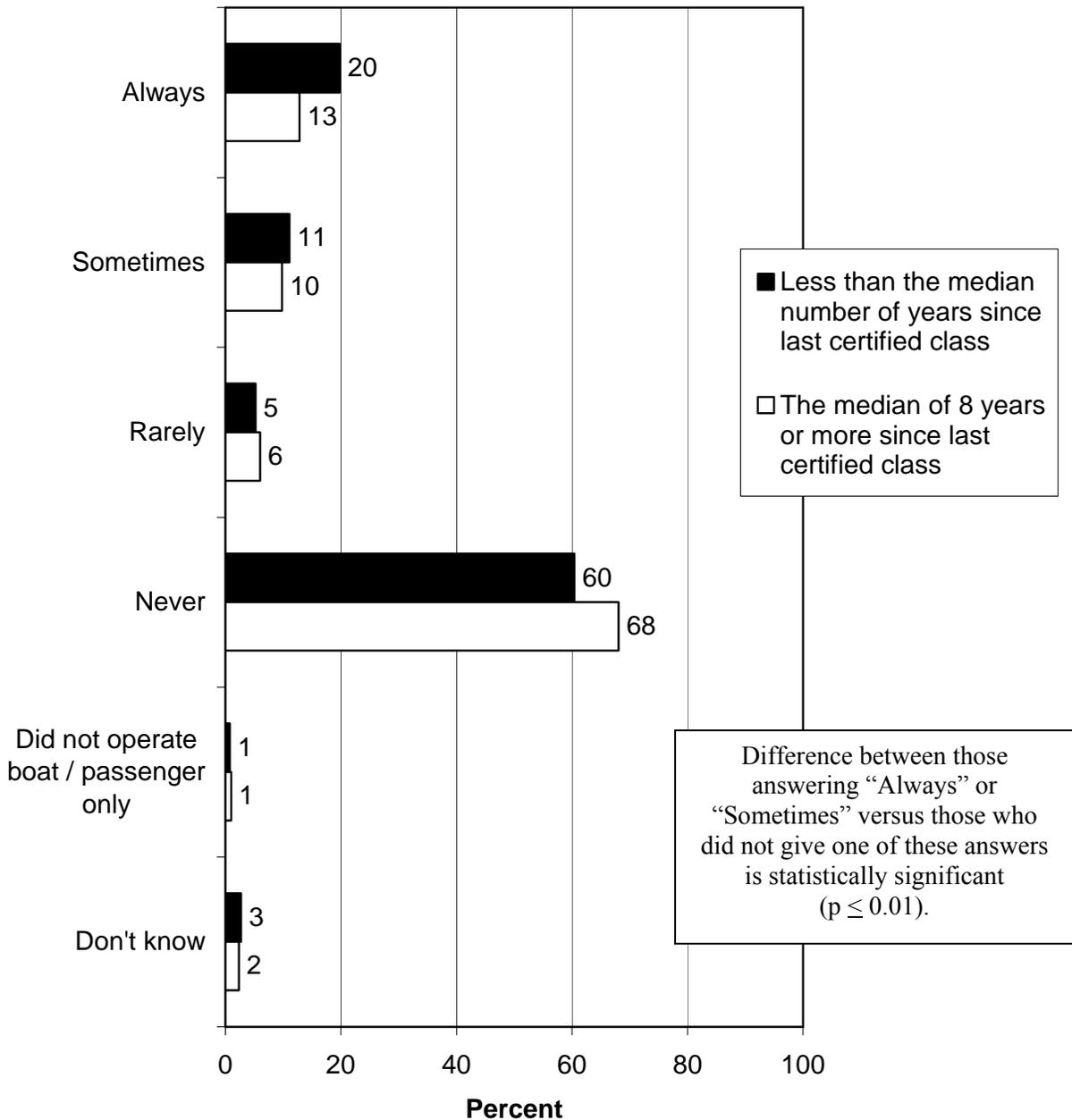
Q149. Would you say you wore a life jacket while operating or riding on a boat always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



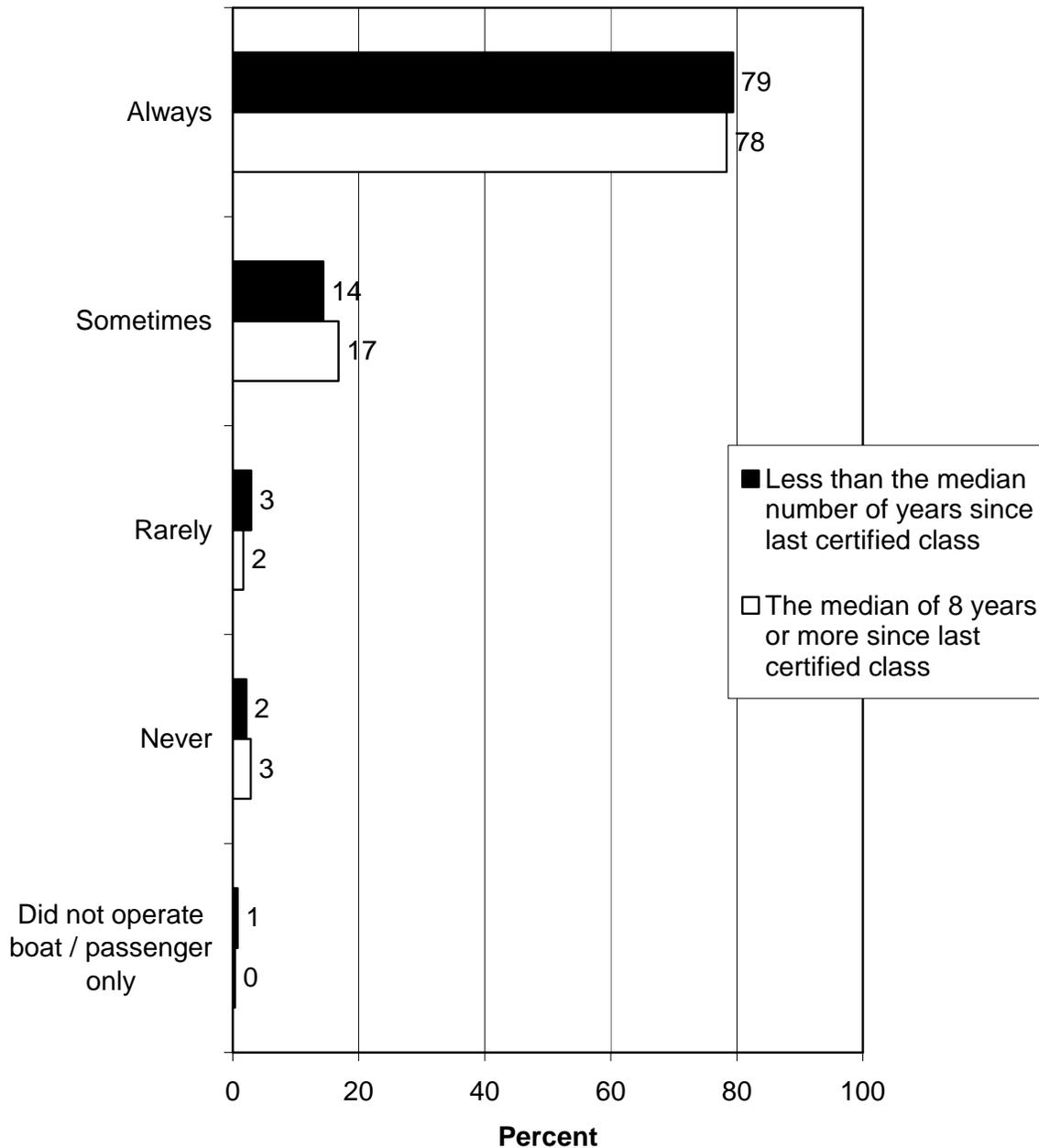
Q150. Would you say you required all other passengers to wear a life jacket while boating always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



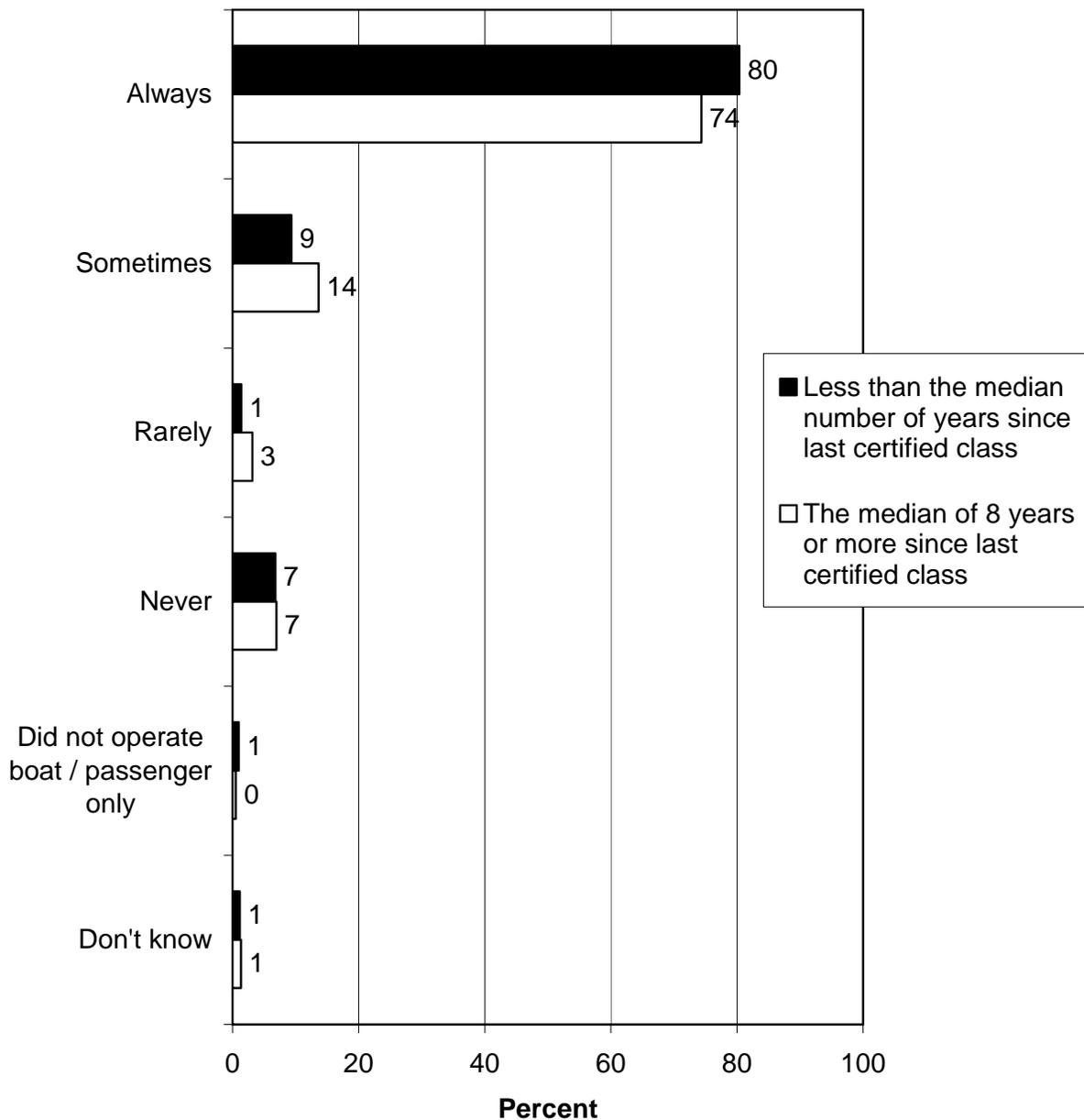
Q151. Would you say you filed a float plan with the appropriate agency always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



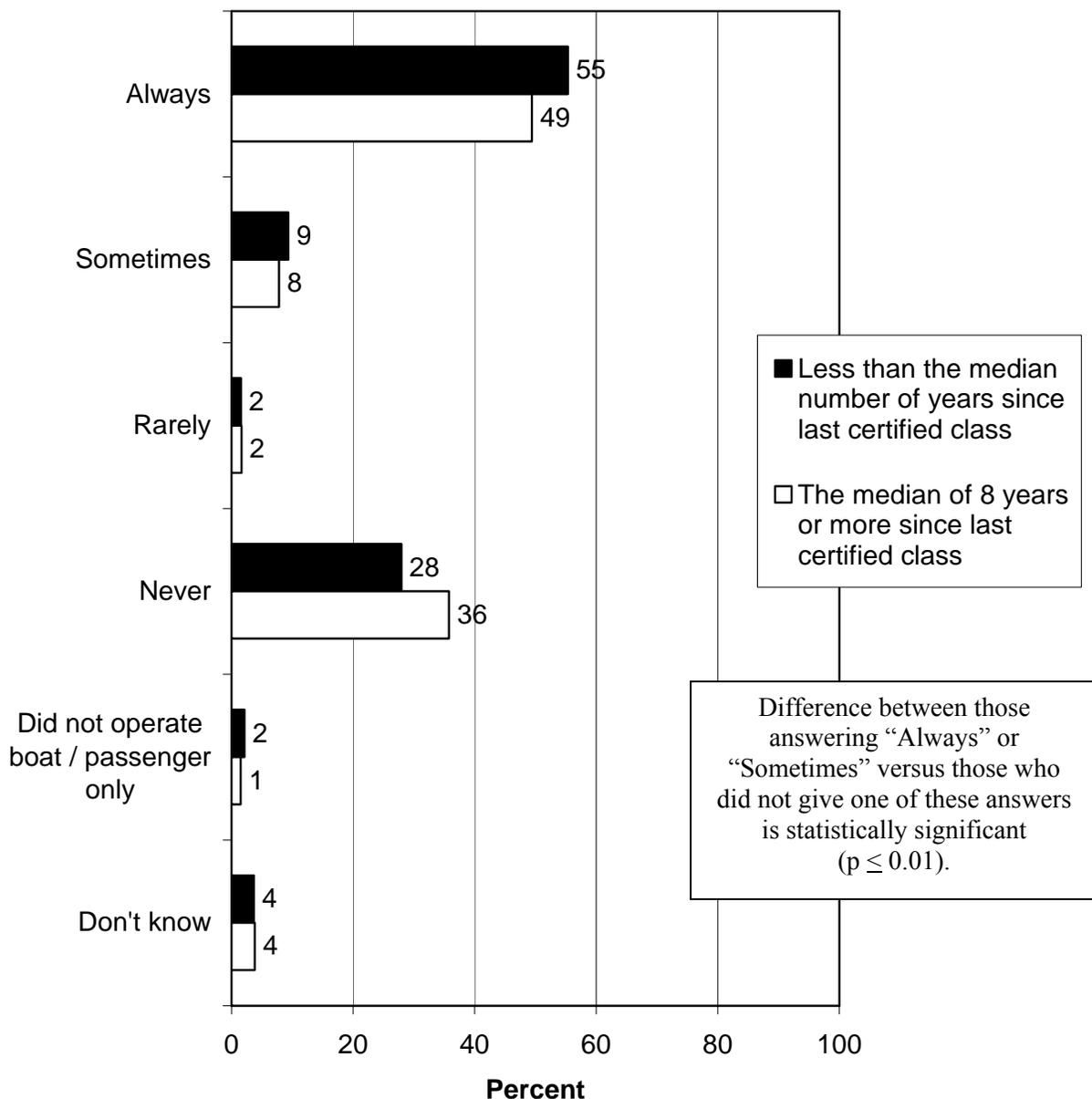
Q152. Would you say you located and checked all safety aids prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



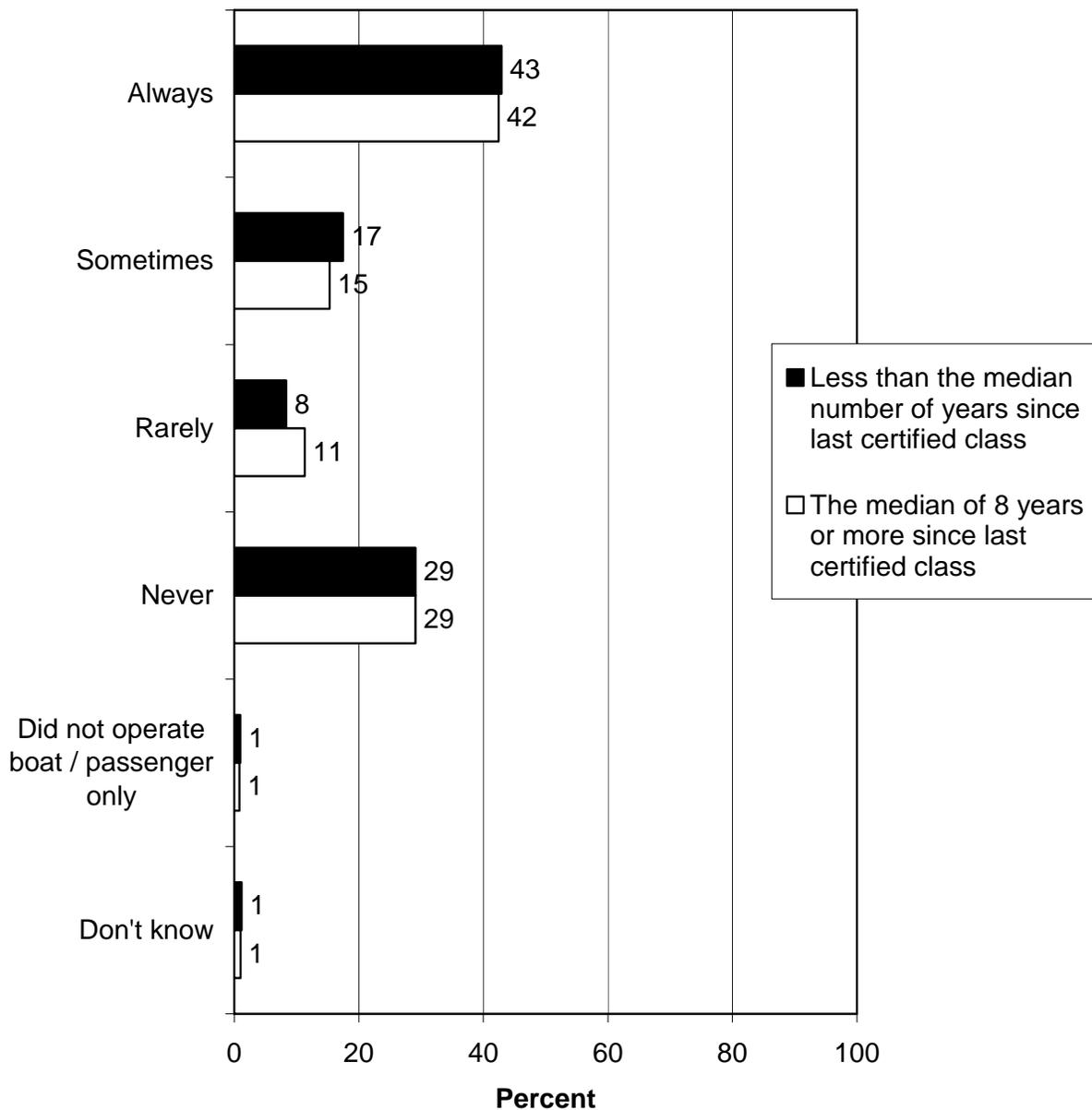
Q153. Would you say you checked all navigation instruments and lights prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



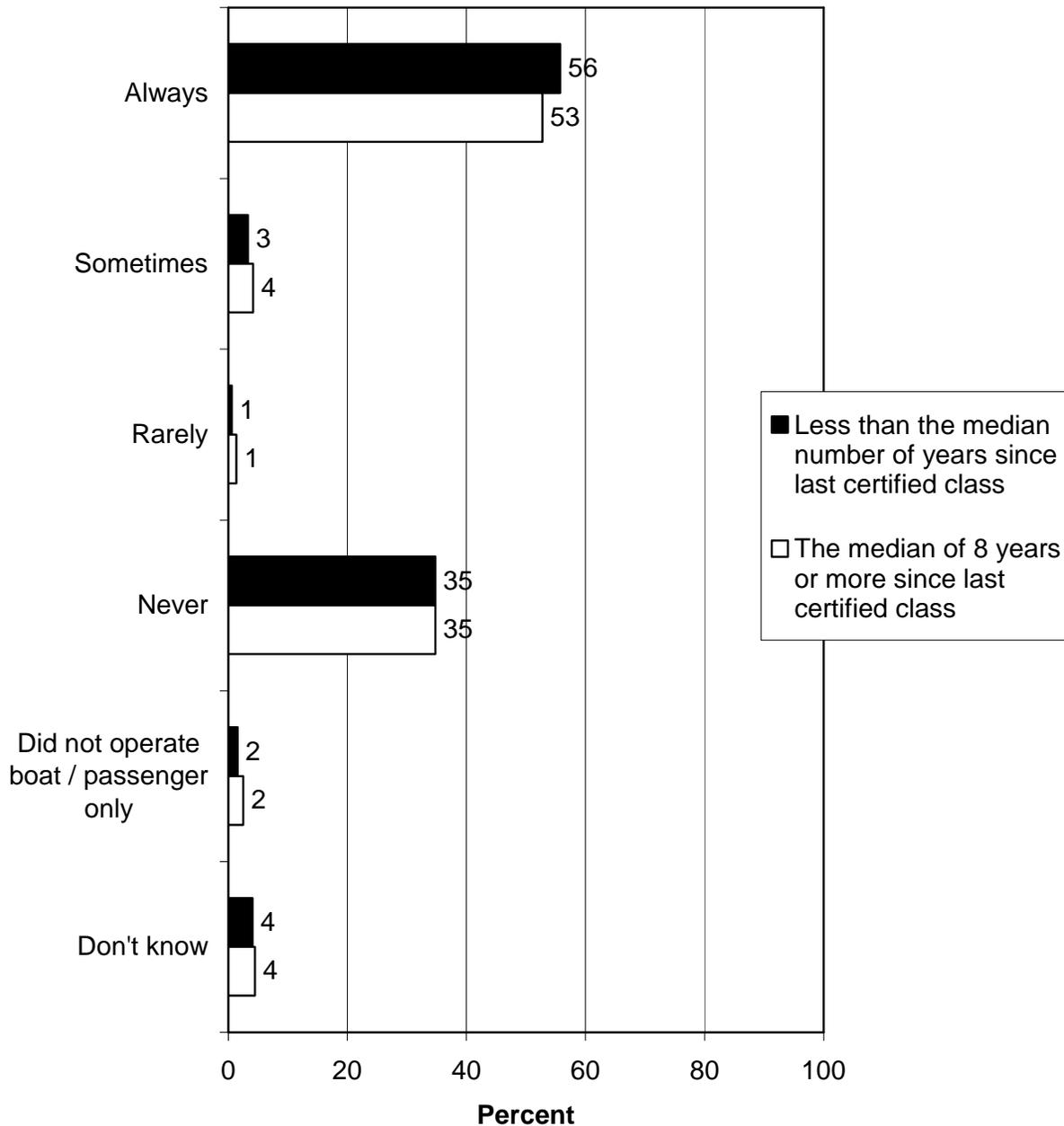
Q154. Would you say you checked the marine radio prior to launch always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



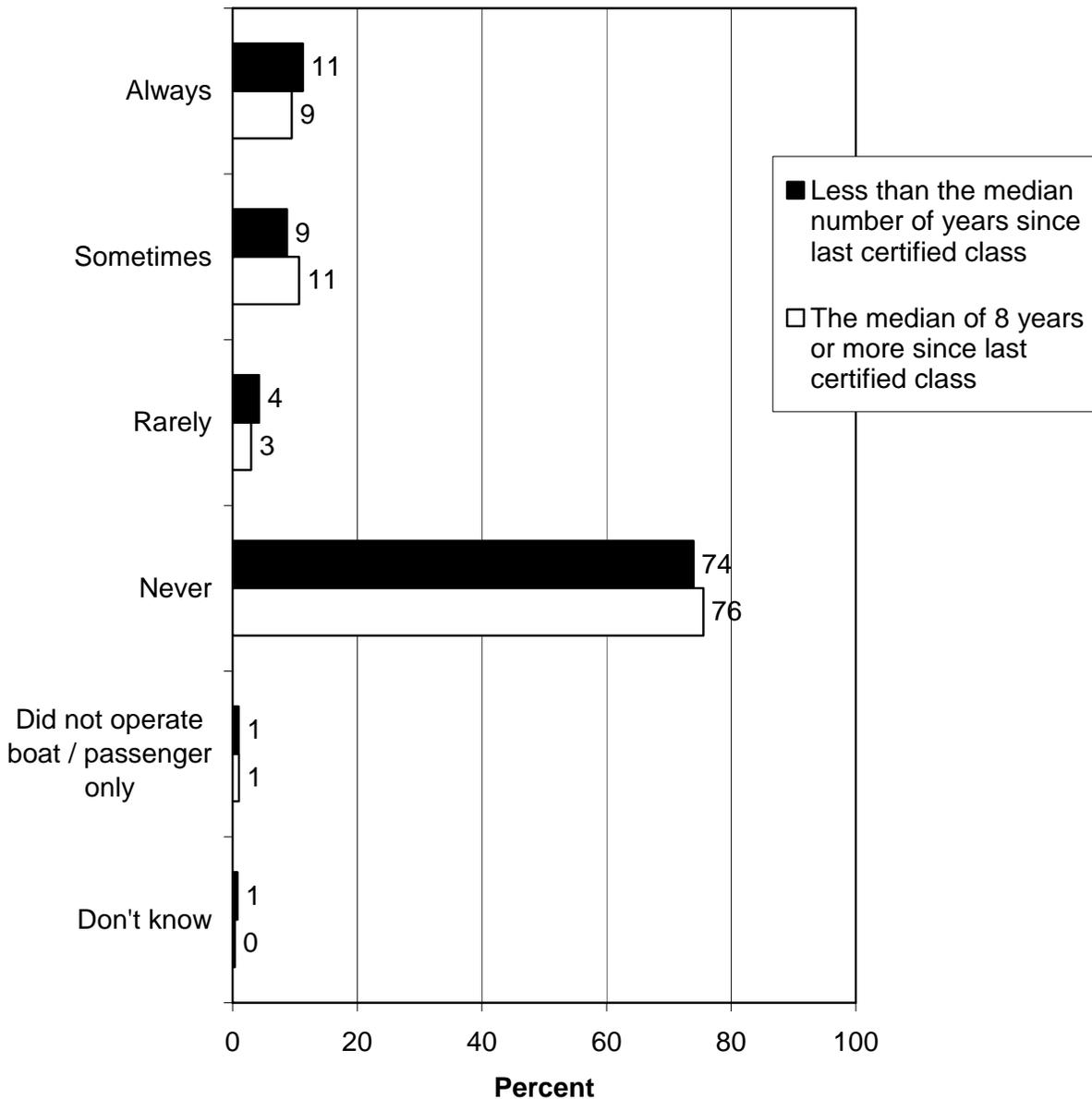
Q155. Would you say you fueled your boat at a dock always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



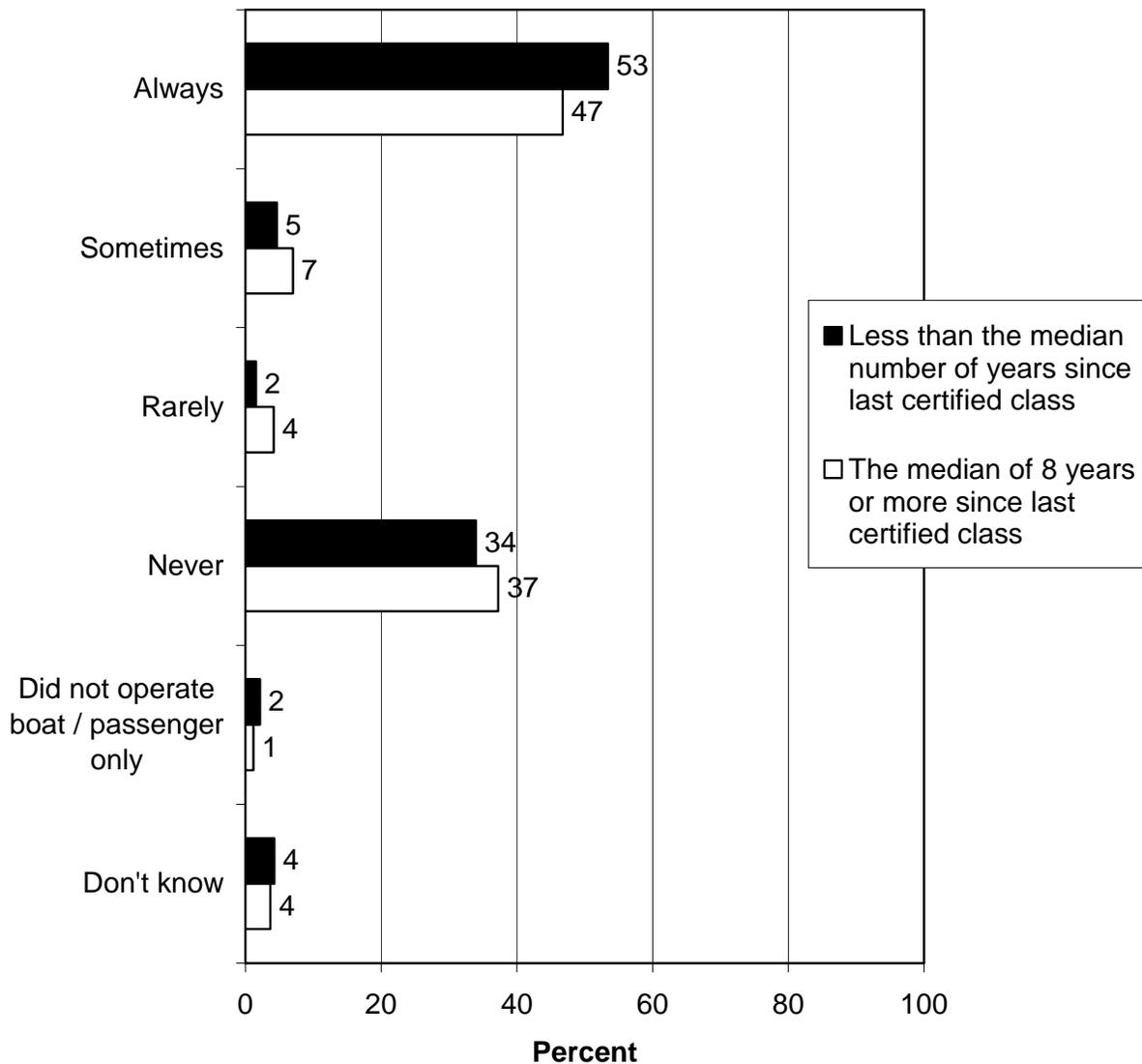
Q156. Would you say you properly disposed of waste at pump-out and dump stations always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



Q157. Would you say you painted or cleaned your boat in the water always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



Q158. Would you say you removed all plants and animals from your boat and inspected and washed your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species always, sometimes, rarely, or never since completing the course? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)

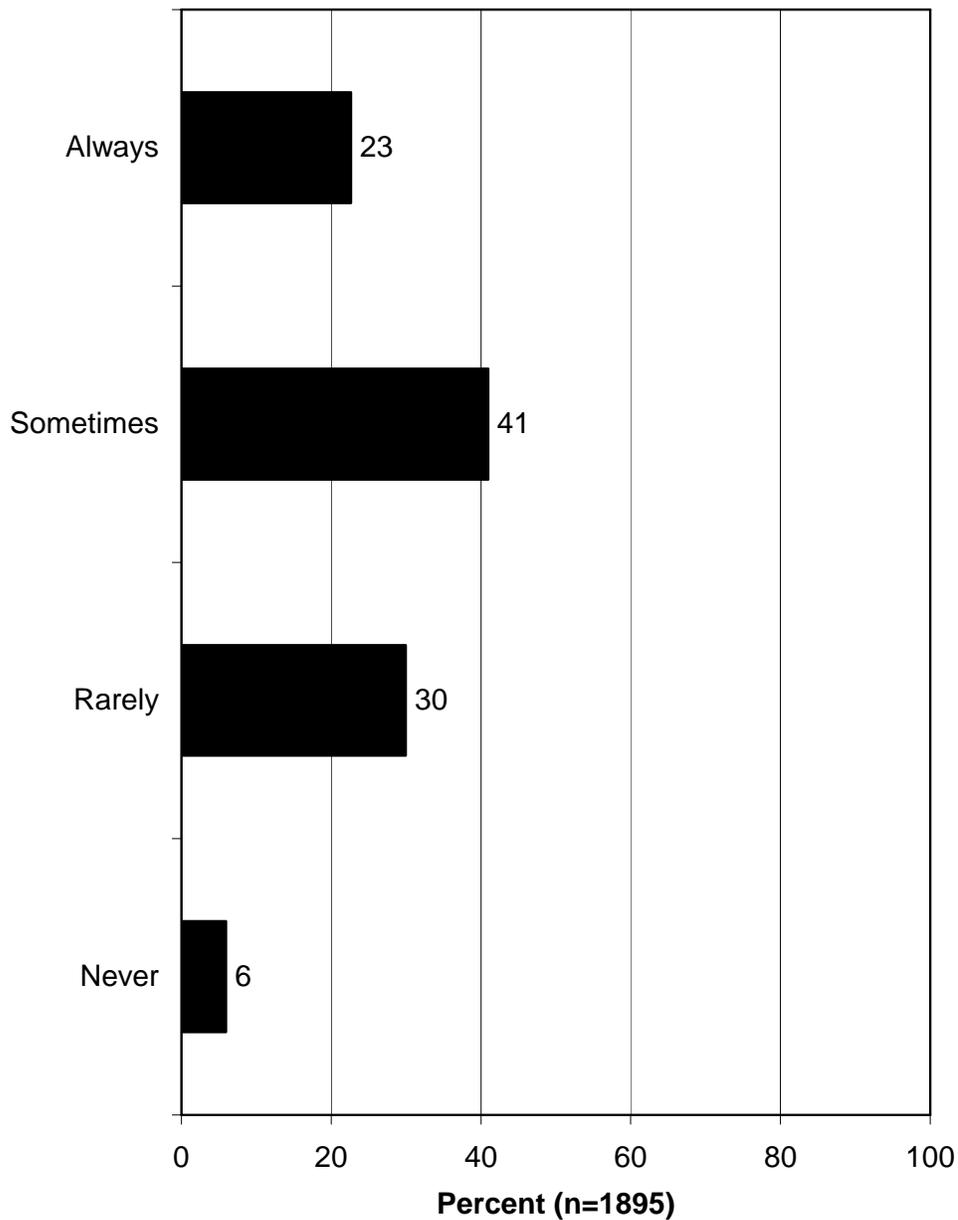


LAW ENFORCEMENT PRESENCE AND BOATING

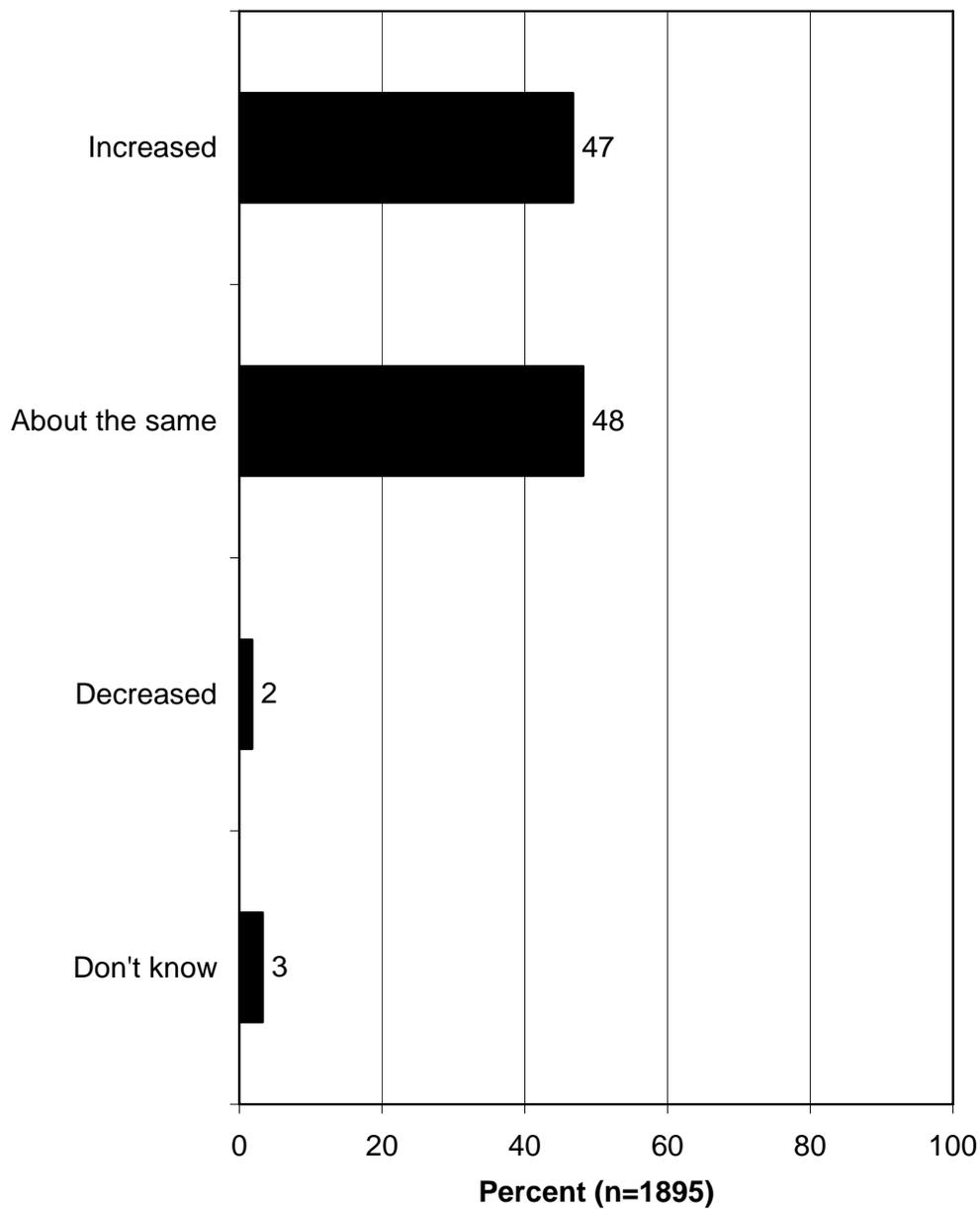
While almost two-thirds of owners of registered boats report seeing law enforcement officers always or sometimes, about a third report seeing them only rarely or never. Regardless of how often they actually see law enforcement officers, boaters are about evenly split between wanting to see the law enforcement presence increased or wanting the presence to remain about the same; almost none want law enforcement presence to be *decreased*. The most prominent law enforcement concerns are addressing reckless/careless operation, alcohol/drug use while boating, the disregard of rules (intentional or out of ignorance), and speeding.

- A majority of owners of registered boats, while they are boating, see law enforcement patrols or officers on the water always or sometimes (64%). On the other end, 30% see them rarely, and 6% see them never. Despite the fact that a majority see them at least sometimes, boaters much more often say that they would like the law enforcement patrols to be increased (47%) than decreased (2%). (Most of the remainder want patrols to remain about the same.)
 - A slight regional variation emerged (based on the regional breakdown as shown in Appendix B): Western Region boaters are just slightly more likely to always see law enforcement patrols on the water, relative to the other regions' boaters, and this difference is statistically significant ($p \leq 0.05$). In follow-up, Southern Region boaters are more likely to say that they would like to see an increase in the number of patrols in their state. This last difference (in wanting an increase in patrols) is statistically significant ($p \leq 0.01$).
 - The most common reasons for wanting patrols to be increased are to address reckless boating, alcohol/drug use among boaters, boaters' disregard of rules, and speeding, as well as simply to maintain a more visible presence as a preventive action.

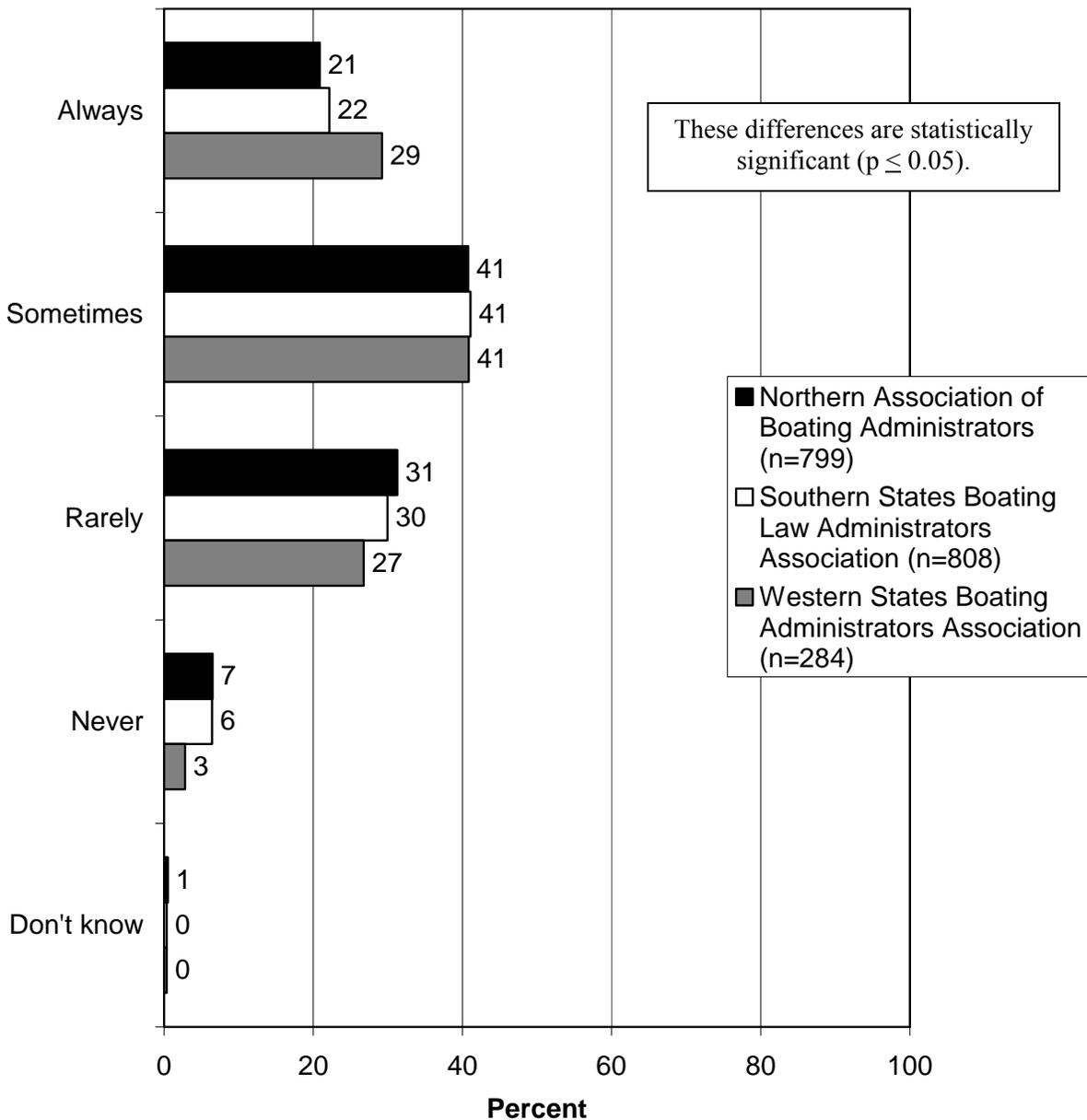
Q52. How often do you see law enforcement patrols or officers on the water while boating in the state you boat most often in? Would you say always, sometimes, rarely, or never?



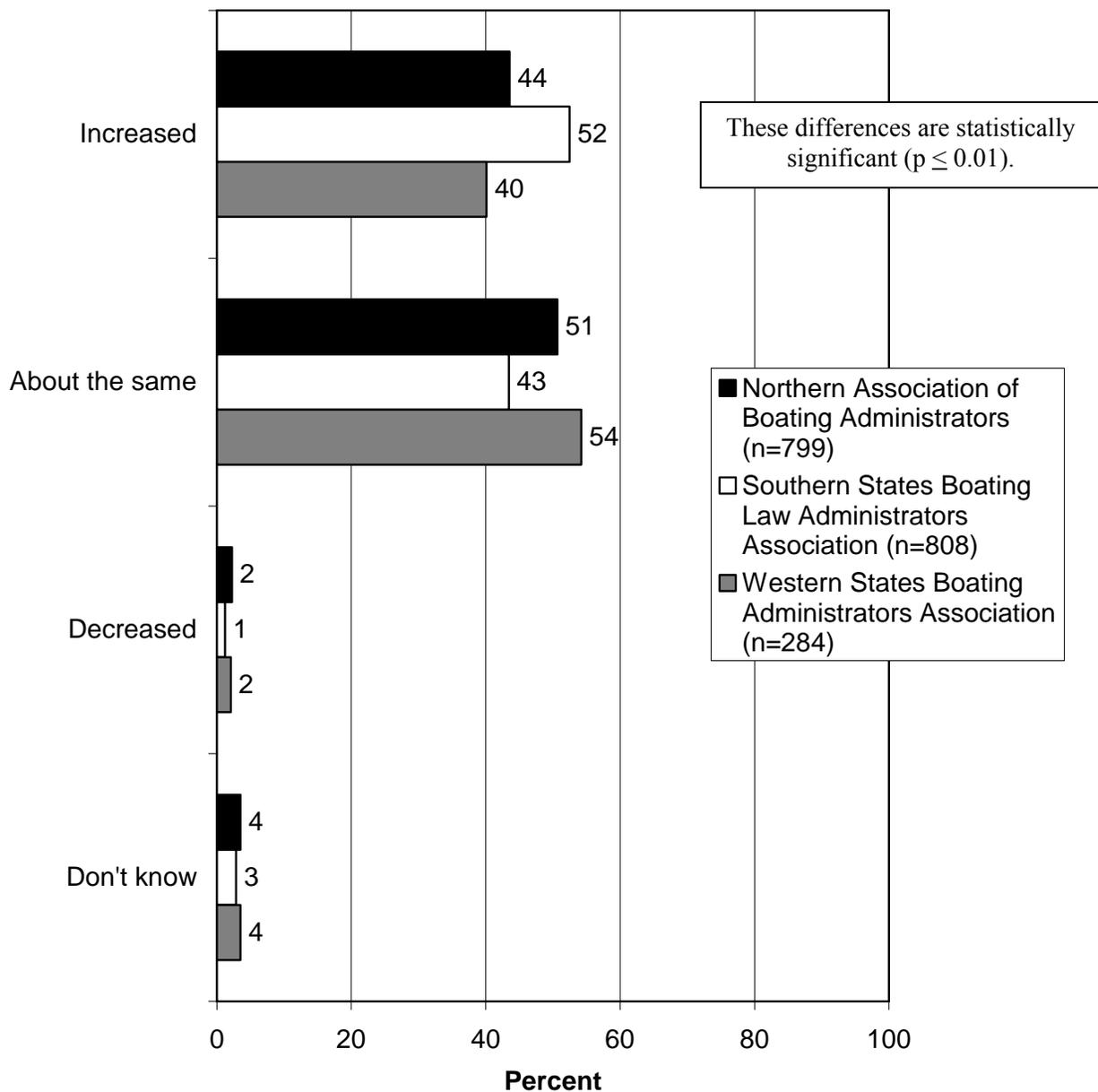
Q53. Do you think the amount of law enforcement patrols on the waters in the state you boat most often in should be increased, stay about the same, or be decreased?



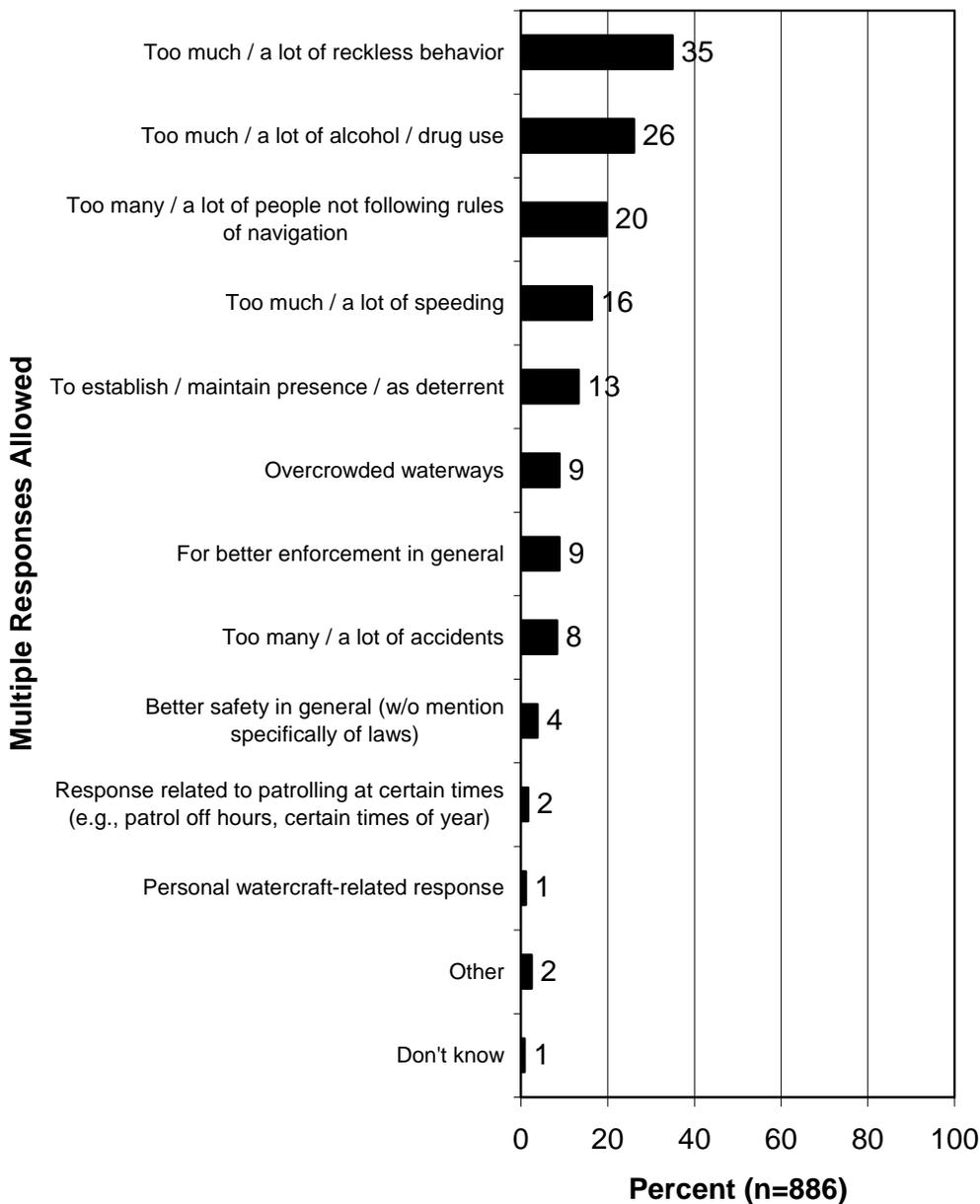
Q52. How often do you see law enforcement patrols or officers on the water while boating in the state you boat most often in? Would you say always, sometimes, rarely, or never?



Q53. Do you think the amount of law enforcement patrols on the waters in the state you boat most often in should be increased, about the same, or decreased?



Q56. Why do you think law enforcement patrols should be increased? (Asked of those who think the amount of law enforcement patrols on waters in their state should be increased.)



BOATING SAFETY COURSES AND PROGRAMS

Several aspects of boating safety courses and programs/campaigns are addressed in this section: awareness of boating safety education programs/campaigns, participation in programs/campaigns and respondents' satisfaction with those programs/campaigns, opinions on format of delivery of boating education, sources of information about boating safety, and opinions on mandatory boating safety education requirements.

This section of the report is broken down into the following subsections:

- Awareness of Various Boating Safety Education Programs or Campaigns
- Participation in Boating Safety Courses and Motivations for Taking Boating Safety Education
- Satisfaction and Dissatisfaction with Boating Safety Education, Ratings of Aspects of Boating Safety Education Programs, and Perceived Effectiveness of Boating Safety Education Programs
- Opinions on Formats and Delivery Methods of Boating Safety Courses
- Sources of Information About Boating Safety Education
- Opinions on Mandatory Boating Safety Education

Awareness of Various Boating Safety Education Programs or Campaigns

The programs/campaigns that owners of registered boats most commonly say that they have heard of are National Safe Boating Week, alcohol/drug prevention boating programs, and the Life Jacket “Wear It” campaign, each program/campaign with more than a quarter of owners of registered boats having heard of it. Avidity in boating appears to be a strong factor that influences a boater’s exposure to any program or campaign.

The seven programs/campaigns that were asked about were:

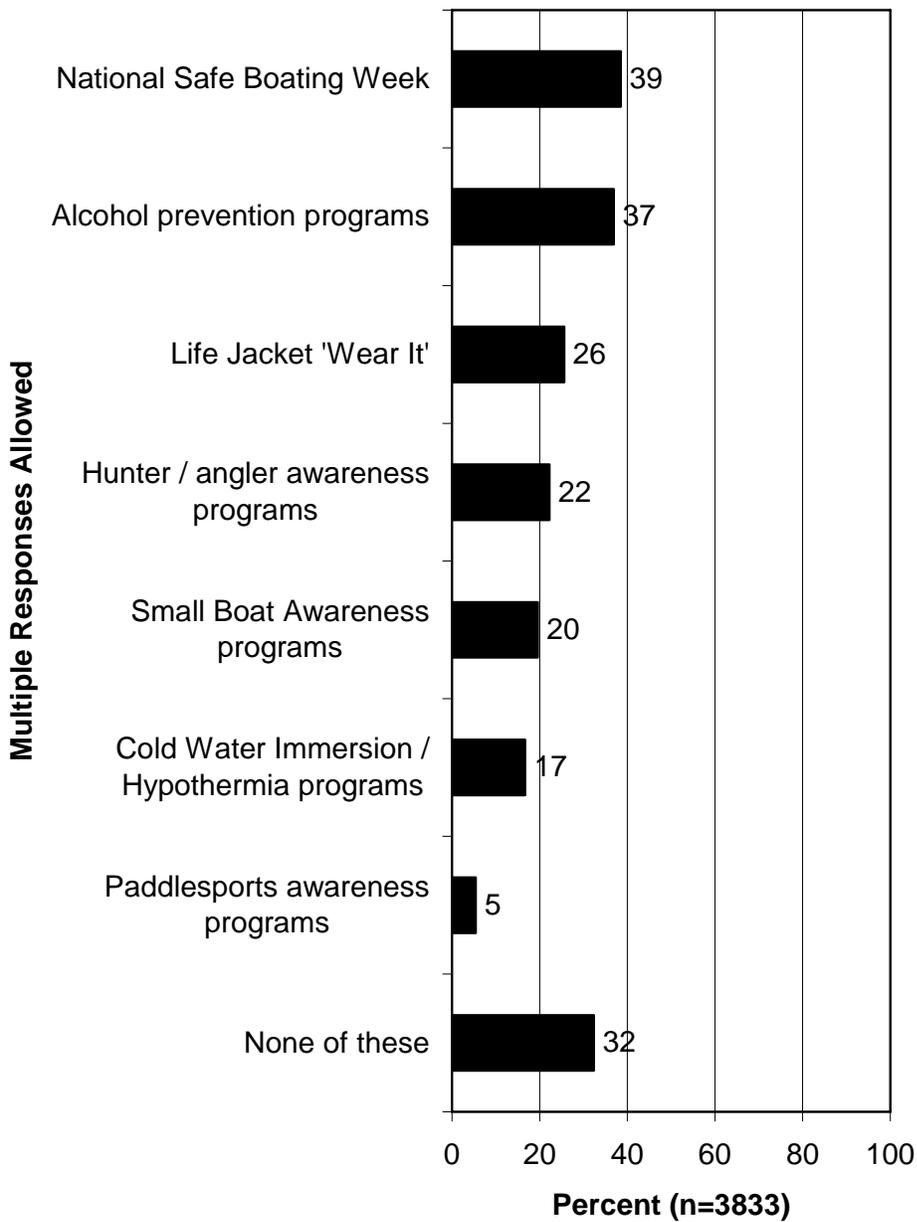
- **National Safe Boating Week**
- **The Life Jacket “Wear It” campaign**
- **The cold water immersion/hypothermia program**
- **Alcohol prevention**
- **Small boat awareness**
- **Hunter/angler awareness**
- **Paddlesports awareness**

- The interviewers read to respondents a list of seven educational programs/campaigns and asked them if they had heard of each. Substantial percentages of owners of registered boats had heard of National Safe Boating Week (39%) and alcohol prevention programs (37%). Lesser percentages, but at least a fifth, had heard of Life Jacket “Wear It” (26%), hunter/angler awareness programs (22%), and small boat awareness programs (20%). (The programs/campaigns are listed above.)
 - The interviewers also asked in an open-ended question whether boaters had heard about any other programs or campaigns: most commonly named were U.S. Coast Guard (including the Coast Guard Auxiliary) programs, basic boating courses, and Power Squadrons programs.
- The z-score analysis found some correlations between having heard of certain programs/campaigns and boating primarily in certain sub-regions (based on the sub-regions that were apportioned by the research team as shown in Appendix B). If the sub-region is not shown

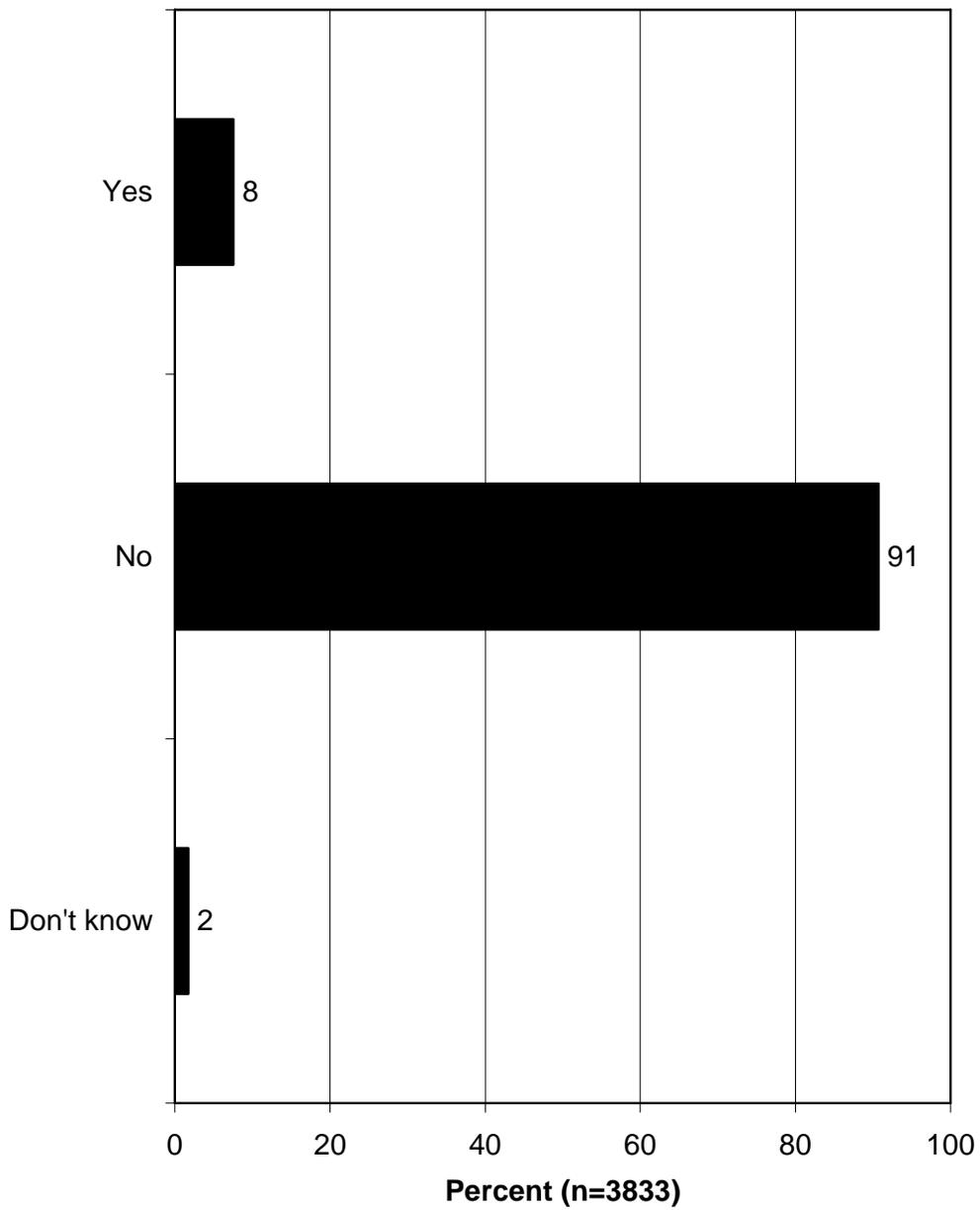
below, no positive correlations were found with having heard of any of the programs/campaigns.

- Those who boated primarily in the Coastal Western Region (AK, CA, HI, OR, WA) are positively correlated with having heard about:
 - Life Jacket “Wear It” campaign ($p \leq 0.01$)
 - Cold Water Immersion/Hypothermia programs ($p \leq 0.01$)
 - Those who boated primarily in the Northeast Northern Region (CT, DE, MA, ME, NH, NJ, NY, PA, RI, VT) are positively correlated with having heard about:
 - National Safe Boating Week ($p \leq 0.01$)
 - Small Boat Awareness program ($p \leq 0.01$)
 - Paddlesports Awareness program ($p \leq 0.05$)
 - Those who boated primarily in the Coastal Southern Region (AL, FL, GA, LA, MD, MS, NC, SC, TX, VA) are positively correlated with having heard about:
 - National Safe Boating Week ($p \leq 0.01$)
- The z-score analysis found that more avid boaters, measured by the number of days they boated in the past 12 months, are more likely to have heard of National Safe Boating Week ($p \leq 0.001$), the Life Jacket “Wear It” campaign ($p \leq 0.001$), and Cold Water Immersion/Hypothermia programs ($p \leq 0.01$). Conversely, less avid boaters are correlated with having heard about *none* of the seven programs/campaigns that were presented to the respondents ($p \leq 0.001$).

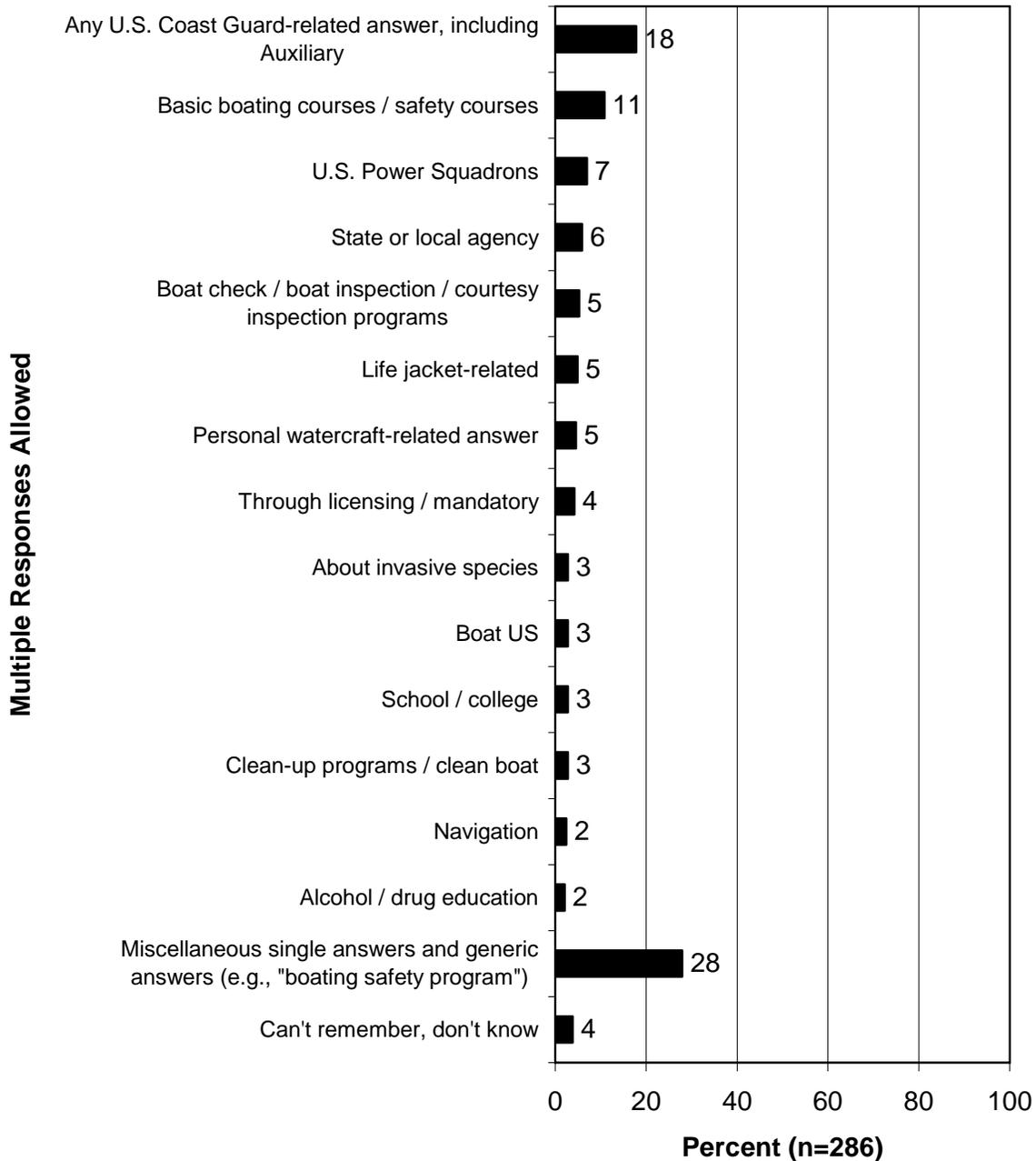
Q234. Next, I would like to know if you have heard about any of the following educational programs or campaigns.



Q235. Have you heard of any other boating safety-related programs or campaigns?



Q236. What programs or campaigns have you heard of? (Asked of those who had heard of other programs or campaigns.)



Participation in Boating Safety Courses and Motivations for Taking Boating Safety Education

While 41% of owners of registered boats in this survey have taken any type of boating safety course at some time, only 30% have taken a *NASBLA-approved* boating safety course. Based on several questions, it appears that 9% of owners of registered boats in the survey have taken a boating safety course that was mandatory.

Most of the boaters surveyed who took a boating safety course took it in the classroom. A small portion took courses with a hands-on component. The U.S. Coast Guard (including the Auxiliary), state agencies, and U.S. Power Squadrons are the most commonly cited providers of courses among those in the survey who took a boating safety education course.

Owners of registered boats who took a course were asked about their motivations for taking the course. Their most common response was that they were motivated because they felt that they needed to know more about boating. This percentage giving this response exceeded the percentage who said that their motivation was because the course was mandated (note that this is their *stated* motivation; this questions does not measure the proportion of boating safety course participants who were *actually* required to take a course). Likewise, the most common reason given for *not* taking a course was that the boater felt that he/she did not need the course.

The data suggest that several demographic characteristics are positively correlated with having taken boating safety education. These include being male, having a bachelor's degree, living in a large city or urban area, *not* being a long-time resident of their state, and being 65 years old or older (this latter demographic correlation may be simply because they have been around longer to take boating safety education). Additionally, avid boaters, those who primarily use boats 16 feet or longer, those who primarily use sailboats, and those who primarily boat in a coastal state are positively correlated with having taken a boating safety course.

Owners of registered boats most commonly say that the following factors are important in their choice to take a boating safety course: location, content, convenience, reputation, whether it is state-certified, and cost.

About 1 in 10 owners of registered boats say it is *very* likely that they will take a boating safety course in the next 2 years. In general, those who most commonly use a longer boat show a greater propensity to say that it is likely that they will take a boating safety course. Sailboat users also have a relatively higher likelihood to say that they will take boating safety education, compared to users of other types of boats.

Finally, the survey found that participation in seven specific programs/campaigns (some of which do *not* entail a course) is low—each program/campaign had a participation rate of no more than 1 in 20 owners of registered boats.

The seven programs/campaigns that were asked about were:

- **National Safe Boating Week**
- **The Life Jacket “Wear It” campaign**
- **The cold water immersion/hypothermia program**
- **Alcohol prevention**
- **Small boat awareness**
- **Hunter/angler awareness**
- **Paddlesports awareness**

- While a substantial percentage of owners of registered boats (41%) have taken any type of boating safety course at some time, only 30% have taken a *NASBLA-approved certification* course. In follow-up, the interviewers asked if the most recent NASBLA-approved certification course was mandatory, and only 4% of owners of registered boats took a NASBLA-approved certification course *and* indicated that the most recent NASBLA-approved certification course was mandatory. Based on this question (whether the most recent NASBLA-approved course was mandatory) and another question (the main reasons the respondent took a boating safety course, in which one of the answers given by some was “the course was mandatory”), it appears that approximately 9% of owners of registered boats in this survey took at least one course that was mandatory.

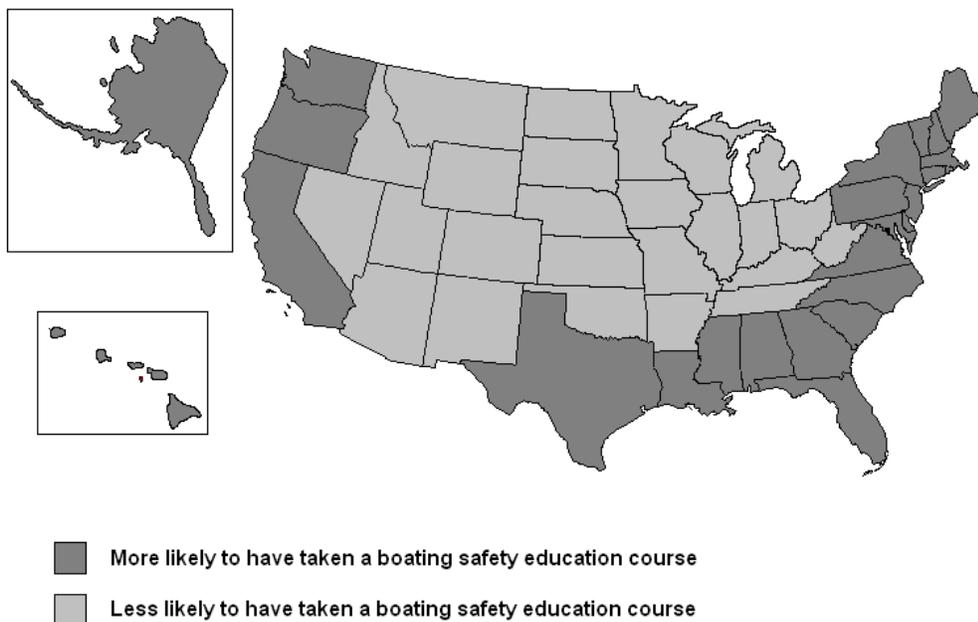
- A crosstabulation of whether the course was mandatory or not by the age of the respondent shows a correlation between age and taking a mandatory course, with younger respondents much more likely to say that the course was mandatory—a finding that is not unexpected because many (but not all) mandatory boating safety education requirements apply to younger and newer boaters.
- Classroom instruction is the format most often taken (82%) among those who took a state-approved boating safety course, although 15% took a home study or distance learning/online course. Another question found that 20% of those who took a state-approved certification course in the classroom said it had a hands-on component.
- The crosstabulations by the three large regions on format of courses found that Northern Region boaters who took a state-approved certification boating safety course were more likely to have taken a classroom course, relative to boaters in the other regions; Western Region boaters were the *most* likely to have taken a distance learning course. These differences are statistically significant ($p \leq 0.001$).
- Common reasons that boaters gave for taking a boating safety course include the feeling that they needed additional training, that they were new to boating, or that the education was mandatory. Among all owners of registered boats (including those who did not take a course or did not take a state-certified course), 7% had taken a course *and* had indicated one of the main reasons for taking a course was that it was mandatory. Based on this question and others, it appears that 9% of owners of registered boats had taken a mandatory boating safety education course at some time.
- The most common reason, by far, for *not* taking a course is that the boater does not think he/she needs a course. Otherwise, lack of time, that the course is inconvenient, that the course is not mandatory, and that the boater never pilots the boat are common reasons given by boaters for *not* taking a course.
- When asked to tell interviewers the name or title of the course that they took, in an open-ended question, most respondents gave non-specific answers (e.g., “basic boating safety”) or gave an answer specific to an organization but not specifically its name (e.g., “a U.S. Coast Guard course”). Very few gave a specific name (e.g., “100 Ton Master/Mate course”). Nevertheless, common answers included U.S. Coast Guard courses/Coast Guard Auxiliary, U.S. Power Squadrons, and state-specific courses (e.g., “Alabama

boating safety”). Because so many items were said by less than 1% of respondents, the percentages on this graph are shown at one decimal place.

- In follow-up to the question asking the name or title of the course that they took, the interviewers asked respondents to indicate the provider of the course. Top answers are the U.S. Coast Guard Auxiliary, state agencies (e.g., “DNR”), and U.S. Power Squadrons. Because so many items were said by less than 1% of respondents, the percentages on this graph are shown at one decimal place.
- The z-score analysis found the following characteristics positively correlated with ever having taken a boating safety course:
- Is male ($p \leq 0.001$); has at least a bachelor’s degree ($p \leq 0.001$); lives in a large city/urban area ($p \leq 0.001$); is not a long-time resident of his/her state ($p \leq 0.001$); is 65 years old or older ($p \leq 0.001$).
 - Is an avid boater (measured in number of days spent boating in the past 12 months) ($p \leq 0.001$); primarily used a boat more than 16 feet long ($p \leq 0.001$); primarily used a sailboat ($p \leq 0.001$); primarily used a non-motorized boat ($p \leq 0.001$).
 - Boated most often in a coastal sub-region (based on the sub-regions that were apportioned by the research team as shown in Appendix B): Northeast Northern Region (CT, DE, MA, ME, NH, NJ, NY, PA, RI, VT) ($p \leq 0.001$), Coastal Southern Region (AL, FL, GA, LA, MD, MS, NC, SC, TX, VA) ($p \leq 0.01$), and Coastal Western Region (AK, CA, HI, OR, WA) ($p \leq 0.001$) (see the map that follows).
- The z-score analysis found the following characteristics positively correlated with *not* indicating having taken a boating safety course (this includes those who said that they do not *know* if they took a course as well as those who did not take a course).
- Is female ($p \leq 0.001$); does *not* have a bachelor’s degree ($p \leq 0.001$); is a resident of a small city/town ($p \leq 0.001$); is a long-time resident of his/her state ($p \leq 0.001$); is 35-64 years old ($p \leq 0.05$).
 - Is *not* an avid boater ($p \leq 0.001$); primarily used a boat less than 16 feet long ($p \leq 0.001$); primarily used a motorized boat ($p \leq 0.001$).

- Boated most often in an interior sub-region: Great Lakes Northern Region (IL, IN, MI, MN, OH, WI) ($p \leq 0.001$), Interior Southern Region (AR, KY, MO, OK, TN, WV) ($p \leq 0.001$), Mountain West Region (AZ, CO, ID, MT, NM, NV, UT, WY) ($p \leq 0.001$), and Plains Northern Region (IA, KS, ND, NE, SD) ($p \leq 0.001$) (see the map that follows).

Z-SCORE ANALYSIS FINDINGS REGARDING HAVING TAKEN A BOATING SAFETY EDUCATION COURSE



- Most respondents who took a boating safety course said the course (or one of the courses if they took multiple courses) was a NASBLA-approved certification course: 72% of those who have taken a course indicated that the course (or at least one of the courses if they have taken more than one) was a NASBLA-approved certification course. (As previously stated, this results in a breakdown of respondents as follows: 41% of owners of registered boats took any type of boating safety course; and this 41% includes 25% who took a NASBLA-approved certification boating safety course that was voluntary; 4% who took a NASBLA-approved certification boating safety course that was mandatory; 6% who took a boating safety course that was *not* a NASBLA-approved certification course; and 6% who took a

boating safety course but do not know if it was a NASBLA-approved certification course.)

As stated before, based on this question and another question about mandatory requirements, it appears that 9% of respondents were required to take a boating safety course at some time.

- Owners of registered boats who had obtained boating safety education certification were asked to indicate in which states they had obtained this certification. The most commonly named states include Florida, Michigan, New York, and California—all with more than 7.0% of those who obtained boating safety education certification having done so in that state. Because so many states were said by less than 1% of respondents, the percentages on this graph are shown at two decimal places.

- The interviewers asked owners of registered boats who had taken a NASBLA-approved certification course to indicate how long it had been since they took their most recent course. While this question was intended for use in crosstabulations, the results on their own are of some interest. The large majority of those who had taken a state-approved certification course (63%) had taken it within the past 10 years; the mean is 11.78 years ago, and the median is 8 years ago. (An analogous question was asked of those who took a course that was *not* state-approved, with similar results. As the analogous question was primarily intended for use in crosstabulations and does not add new information to this section, the graph for that question is not shown.)
 - A crosstabulation on length of time since taking a course by the format of the course shows that distance learning courses are skewed to the more recent time periods, a function of their lack of availability years ago.

- One question asked owners of registered boats to indicate the factors that they consider most important in choosing a boating safety course (were they to take a course). The top factors are the course's location, the content of the course, the ease of taking the course (i.e., the convenience), the reputation of the course, whether it is a state-approved course, and the cost. This suggests that an important motivation for taking a course is to learn about aspects of boating that the boater does not presently know, as the second answer is that the course content is an important factor for them. However, this is not to say that practical

motivations—such as the need to get certification or a discount on insurance—are unimportant, as one of the top answers is that the course must be state-approved. (This graph is shown in the section of this report titled “Opinions on Formats and Delivery Methods of Boating Safety Courses.”)

- The likelihood of taking a boating safety course in the near future was assessed by the survey. A third of owners of registered boats (33%) said that it is likely that they will take a boating safety course within the next 2 years. However, only 10% indicated that it is *very* likely. Many crosstabulations of this question were run to help determine who is likely to take boating safety education in the next 2 years, as discussed below.
 - A crosstabulation of likelihood to take a boating safety course by gender shows no difference between males and females on likelihood to take a boating safety course.
 - When this question is crosstabulated by age of respondent, there is a slight difference among groups, with the youngest age groups (those under 45 years old) being the most likely to take a course and the oldest age group the least likely to take a course. The differences are statistically significant ($p \leq 0.001$).
 - The crosstabulation of likelihood to take a boating safety course by educational attainment shows no marked differences between the educational groups on likelihood to take a boating safety course.
 - A crosstabulation of likelihood to take boating safety education by the type of boat most commonly used shows that, in general, those using longer boats have greater percentages saying it is *very* likely that they will take a boating safety course. Also, those most often using various categories of sailboats have greater percentages saying it is *very* likely that they will take a boating safety course in the next 2 years. These results are tabulated rather than shown in a graph for ease of readability. Related to this, a crosstabulation was run of the four types of boat ownership of the boats that respondents used in the previous year (from Question 36—owned the boat, friend/acquaintance owned the boat, chartered the boat, rented the boat) by likelihood to take a boating safety course in the next 2 years, but there were no marked differences.
 - Another crosstabulation of likelihood to take boating safety education by whether the respondent had *already* taken any boating safety course shows that those who have

already taken a course have a higher percentage saying that it is likely that they will take a boating safety course in the next 2 years. The difference is statistically significant ($p \leq 0.001$).

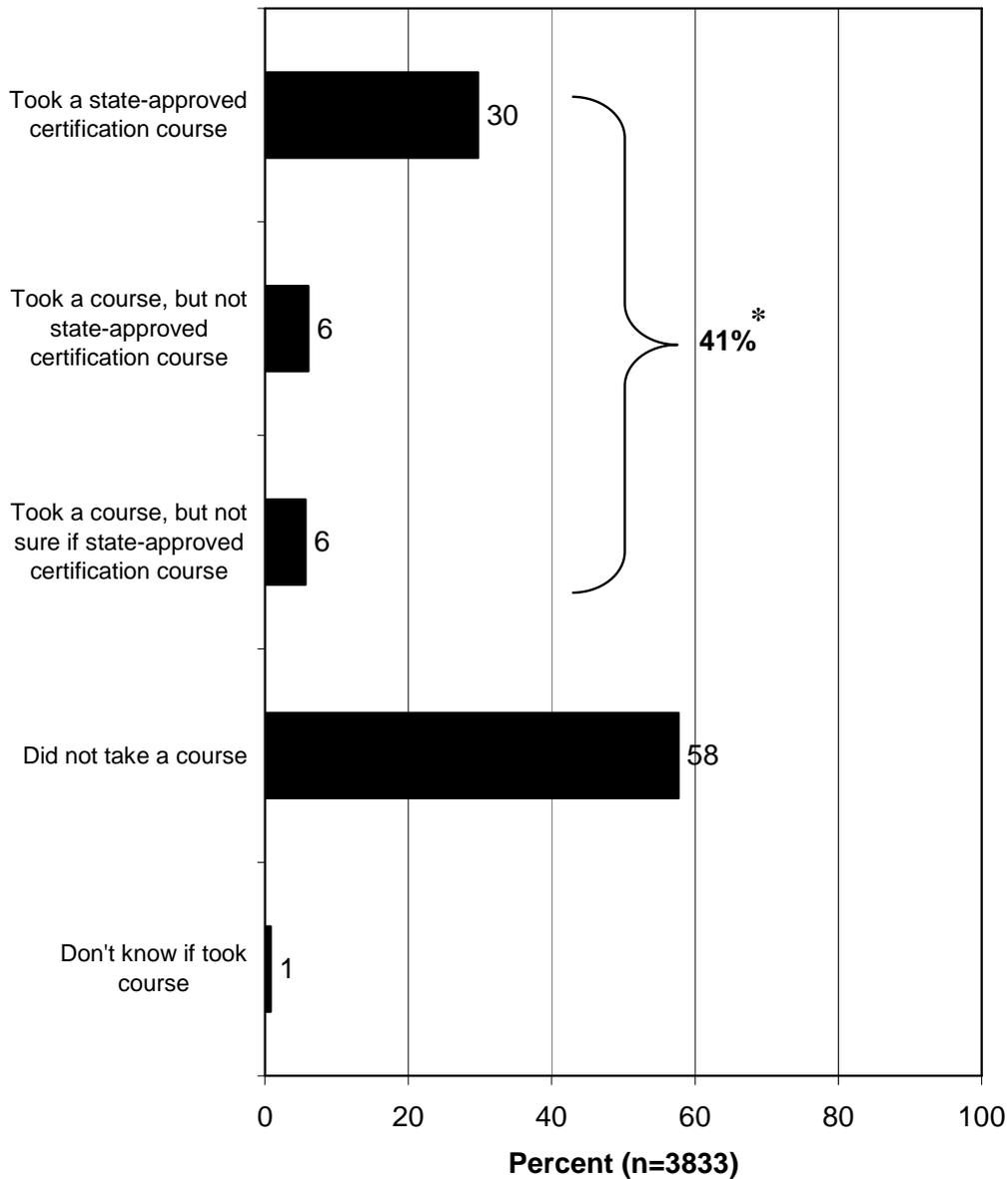
- A final crosstabulation of likelihood to take boating safety education by whether the respondent had been in an accident shows no marked difference between the groups.
 - When those who answered that they are not at all likely to take a boating safety course were asked to indicate their reasons for not being likely, the majority of them said that it was because they are experienced and, therefore, don't need a course, and the next response is that they already took a course.
 - A related question (open-ended) asked those not likely to take a course to say what would encourage them to take a course. The top answer (in line with the majority above who said that they did not need a course) is that nothing would encourage them to take a course. Otherwise, top answers are that they would take a course if it were mandatory or if they bought a different boat than they currently have that would necessitate learning new things. Because so many items were said by less than 1% of respondents, the percentages on this graph are shown at one decimal place.
- Finally, the survey directly asked owners of registered boats about their participation in each of seven specific programs or campaigns, some of which do not entail a course. For each program/campaign, less than 5% had participated in it. Hunter/angler awareness programs and the Life Jacket "Wear It" campaign were the top two programs/campaigns. Because the programs/campaigns had participation rates that were so low, the percentages on this graph are shown at one decimal place.

The seven programs/campaigns that were asked about were:

- National Safe Boating Week
- The Life Jacket "Wear It" campaign
- The cold water immersion/hypothermia program
- Alcohol prevention
- Small boat awareness
- Hunter/angler awareness
- Paddlesports awareness

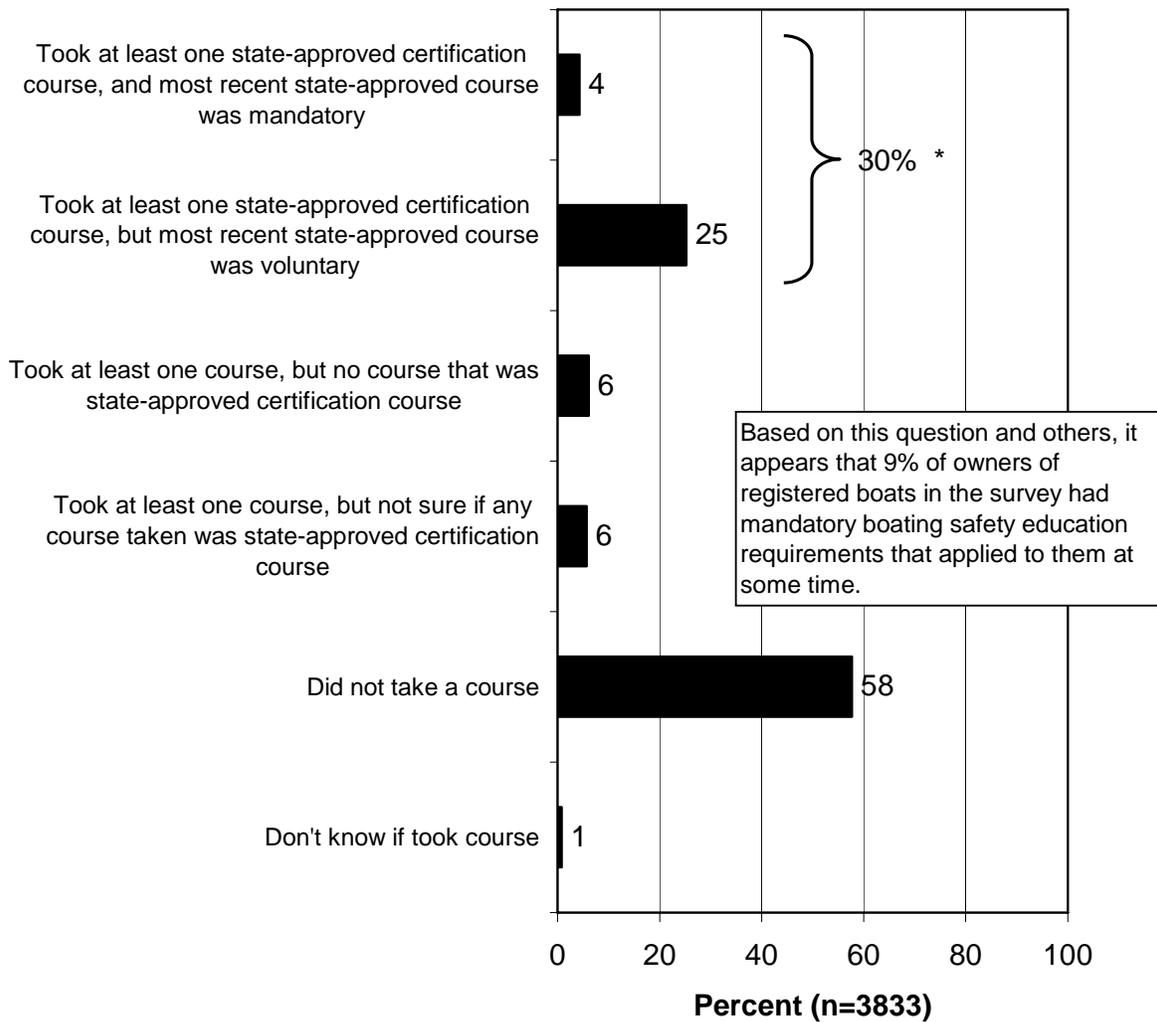
- The z-score analysis found various demographic and behavioral correlations to having participated in each of the programs/campaigns.
 - National Safe Boating Week:
 - Most used boat is 16 or more feet long ($p \leq 0.001$); most used boat is a sailboat ($p \leq 0.05$)
 - Boated most often in the Coastal Southern Region (AL, FL, GA, LA, MD, MS, NC, SC, TX, VA) ($p \leq 0.01$)
 - Is an avid boater (as measured by the days boated in the previous year) ($p \leq 0.01$)
 - Has been in a boating accident ($p \leq 0.05$)
 - Is male ($p \leq 0.01$)
 - Life Jacket “Wear It” campaign:
 - Most used boat is 16 or more feet long ($p \leq 0.05$)
 - Cold Water Immersion/Hypothermia program:
 - Is male ($p \leq 0.001$)
 - Alcohol Prevention program:
 - No important demographic and behavioral correlations found
 - Small Boat Awareness program:
 - Is male ($p \leq 0.01$)
 - Most used boat is 16 or more feet long ($p \leq 0.05$)
 - Boated most often in the Northeast Northern Region (CT, DE, MA, ME, NH, NJ, NY, PA, RI, VT) ($p \leq 0.05$)
 - Hunter/Angler Awareness program:
 - Is male ($p \leq 0.001$)
 - Is 35 to 64 years old ($p \leq 0.05$)
 - Most used boat is motorized ($p \leq 0.05$)
 - Paddlesports Awareness program:
 - Boated most often in the Coastal Western Region (AK, CA, HI, OR, WA) ($p \leq 0.05$)
 - Is male ($p \leq 0.05$)

Q63. Have you ever taken a boating safety education course? Q76. (Were any of the courses/Was the course) a state-approved certification course?



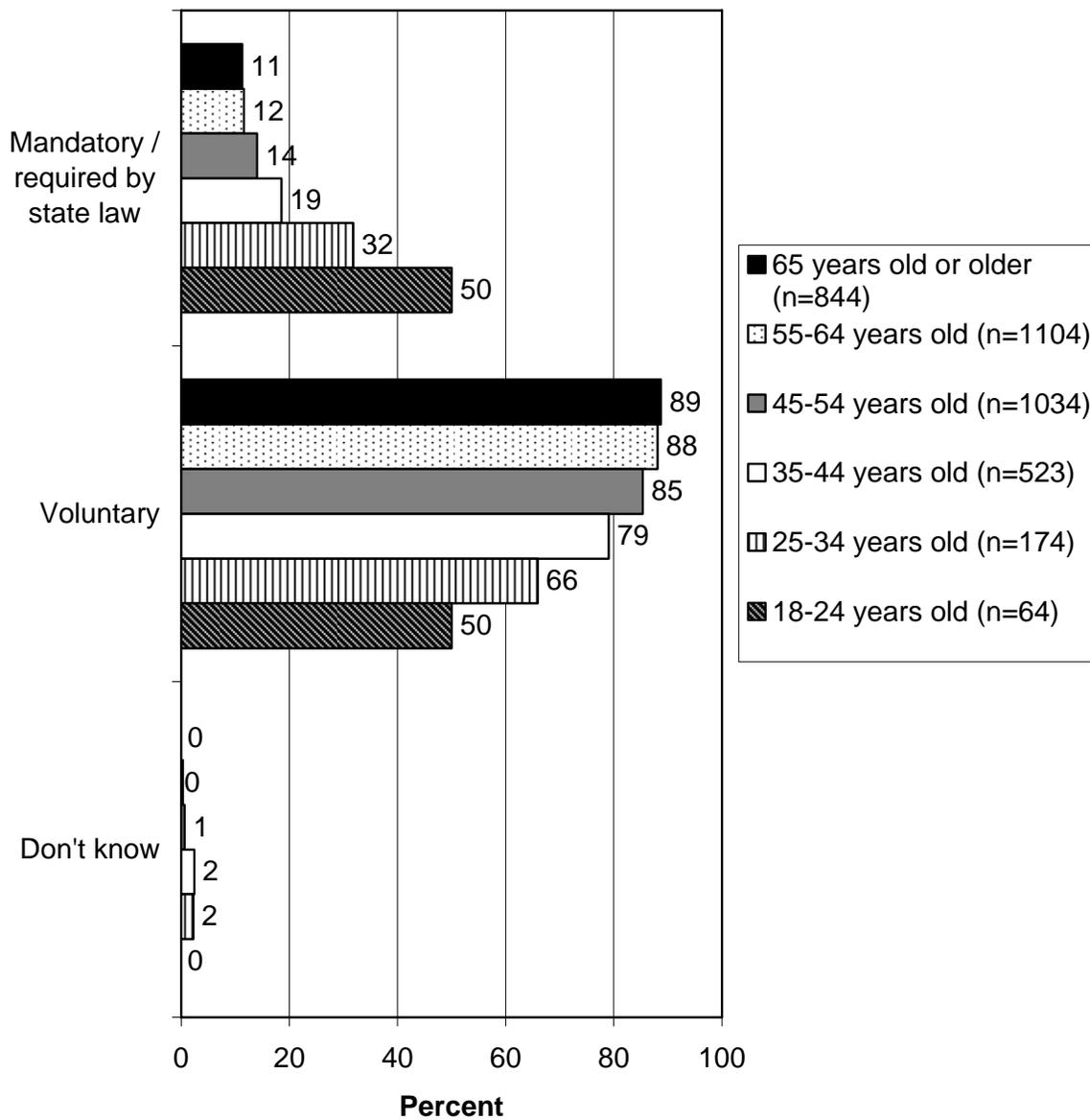
*Rounding causes apparent 1 percentage point discrepancy in sum.

Q63. Have you ever taken a boating safety education course? Q76. (Were any of the courses/Was the course) a state-approved certification course? Q94. At the time you took this course, were you required by state law to complete a state-approved certification course or did you voluntarily take the course?

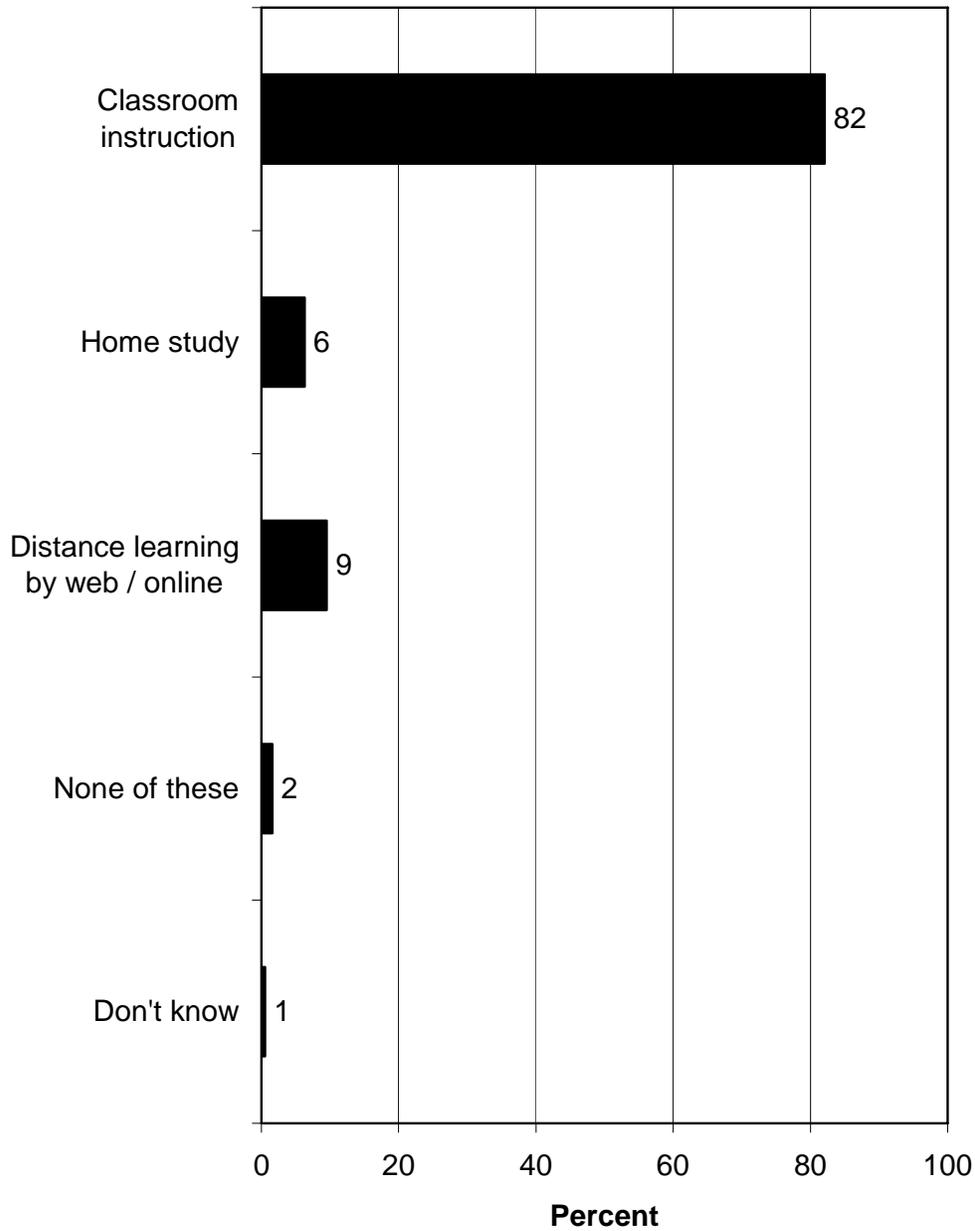


* Rounding causes apparent percentage point discrepancy in sum.

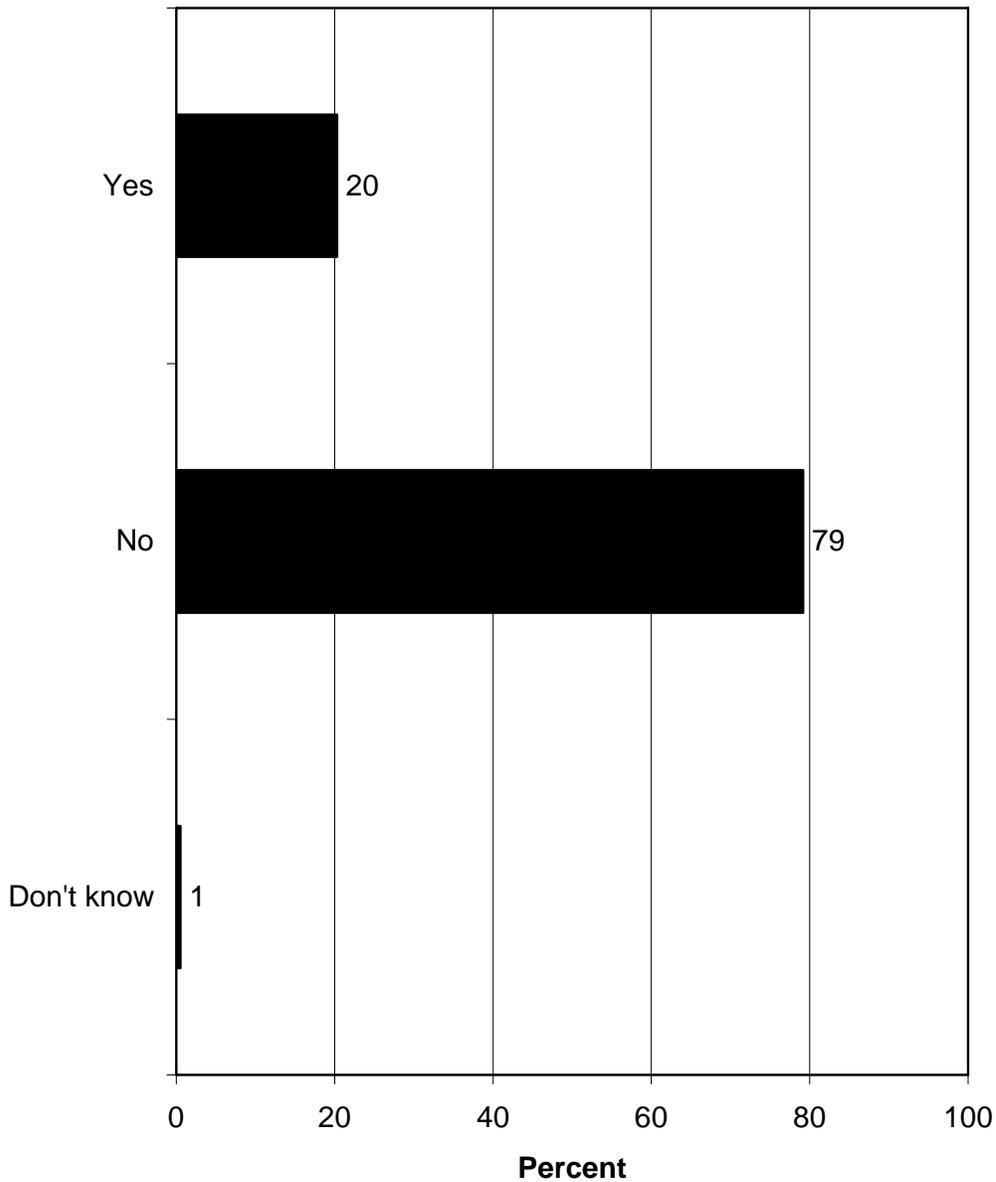
Q94. At the time you took this course, were you required by state law to complete a state-approved certification course or did you voluntarily take the course? (Asked of those who have taken at least one state-approved certification boating safety course; "this course" refers to the most recent course taken.)



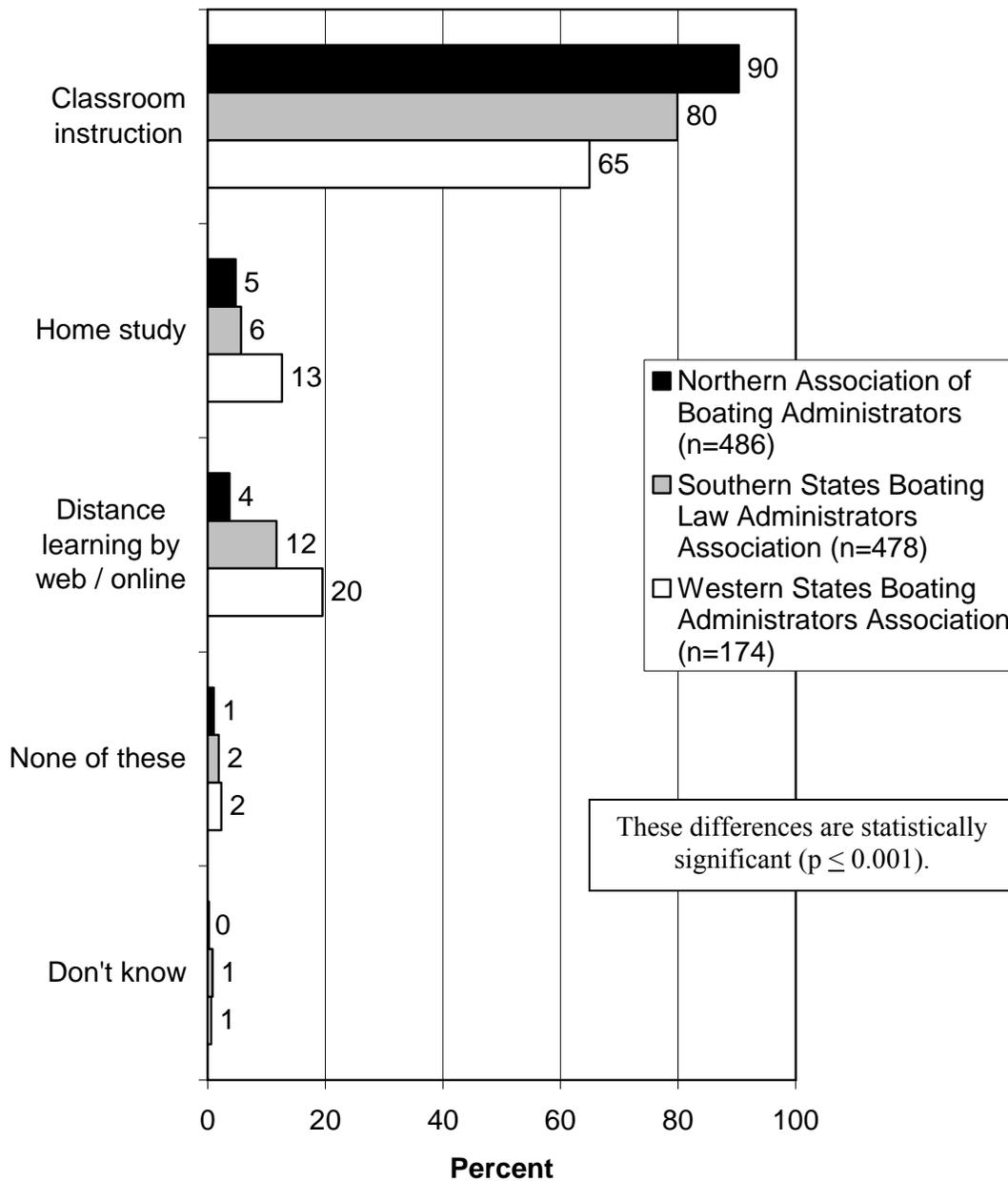
Q116. What was the format of the most recent state-approved boating safety education certification course you completed? (Among those who took a state-approved course.)



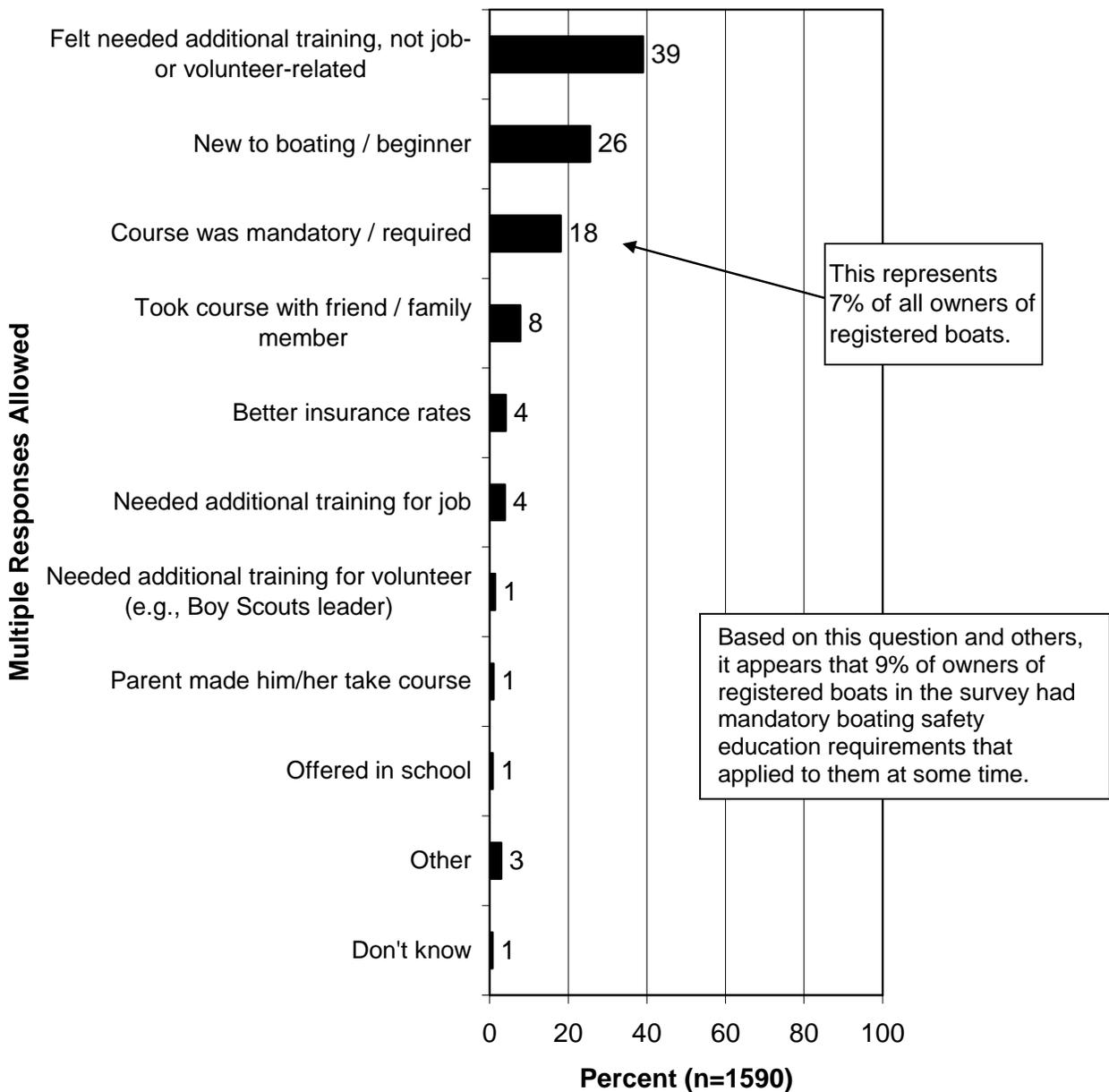
Q122. Did the course you completed have a "hands-on" or "on-the-water" component? (Among those whose most recent state-approved certification boating safety course was classroom instructed; note that only those whose course was *state-approved* are included.)



Q116. What was the format of the most recent state-approved boating safety education certification course that you completed? (Among those who took at least one state-approved boating safety education course.)



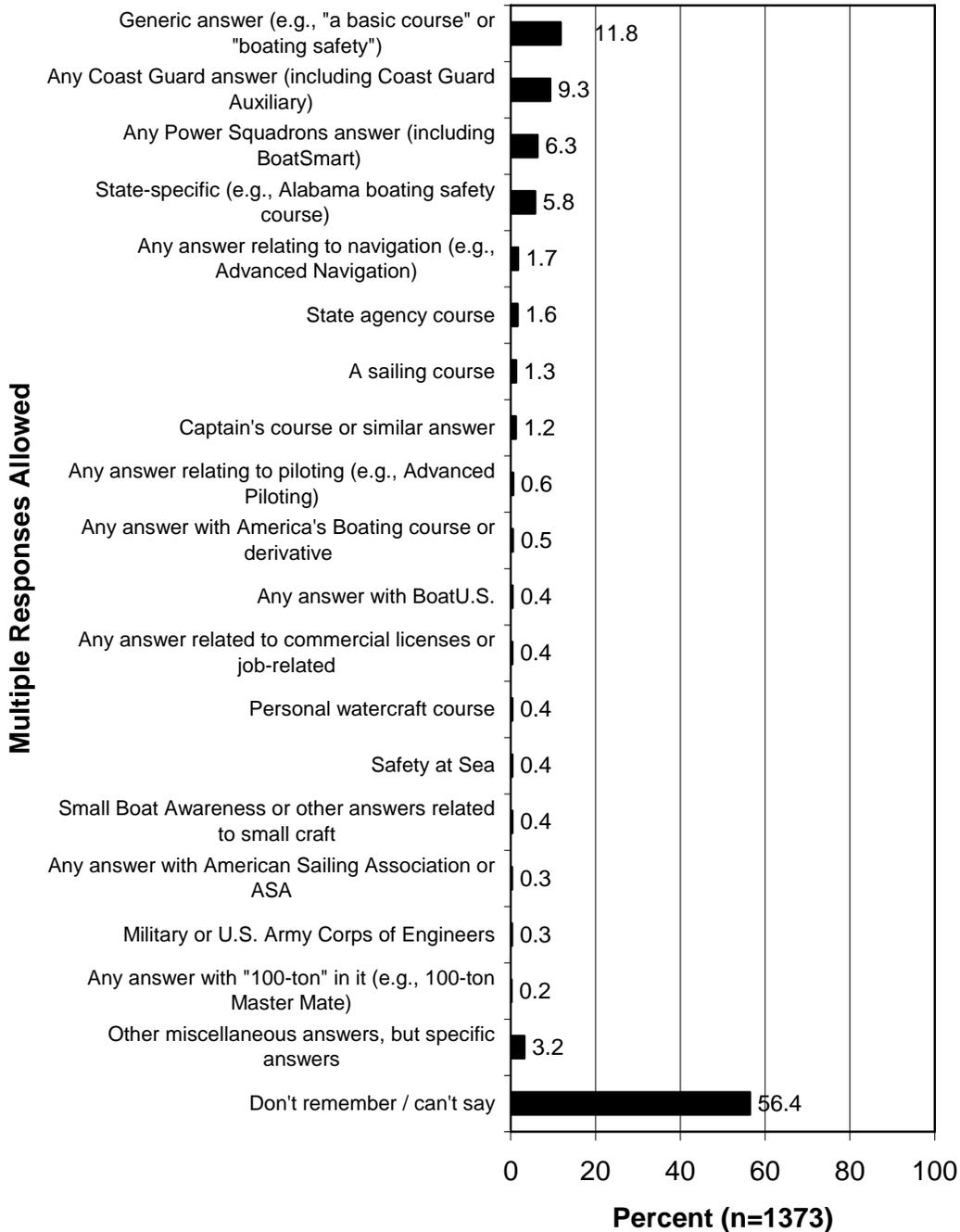
Q70. What are the main reasons you took a boating safety education course? (Asked of those who have taken at least one boating safety education course.)



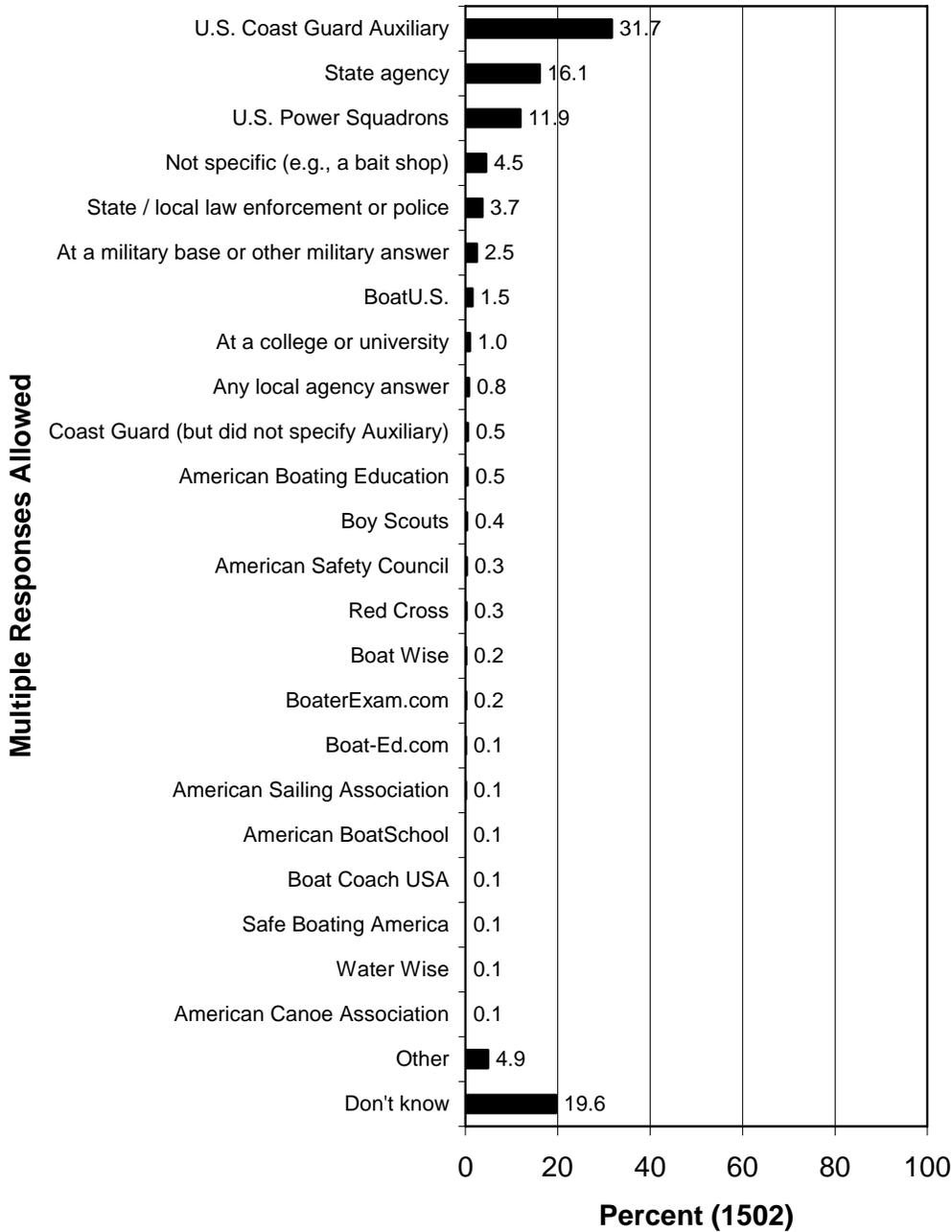
Q66. What are the main reasons you have not taken a boating safety education course? (Asked of those who have never taken a boating safety education course.)



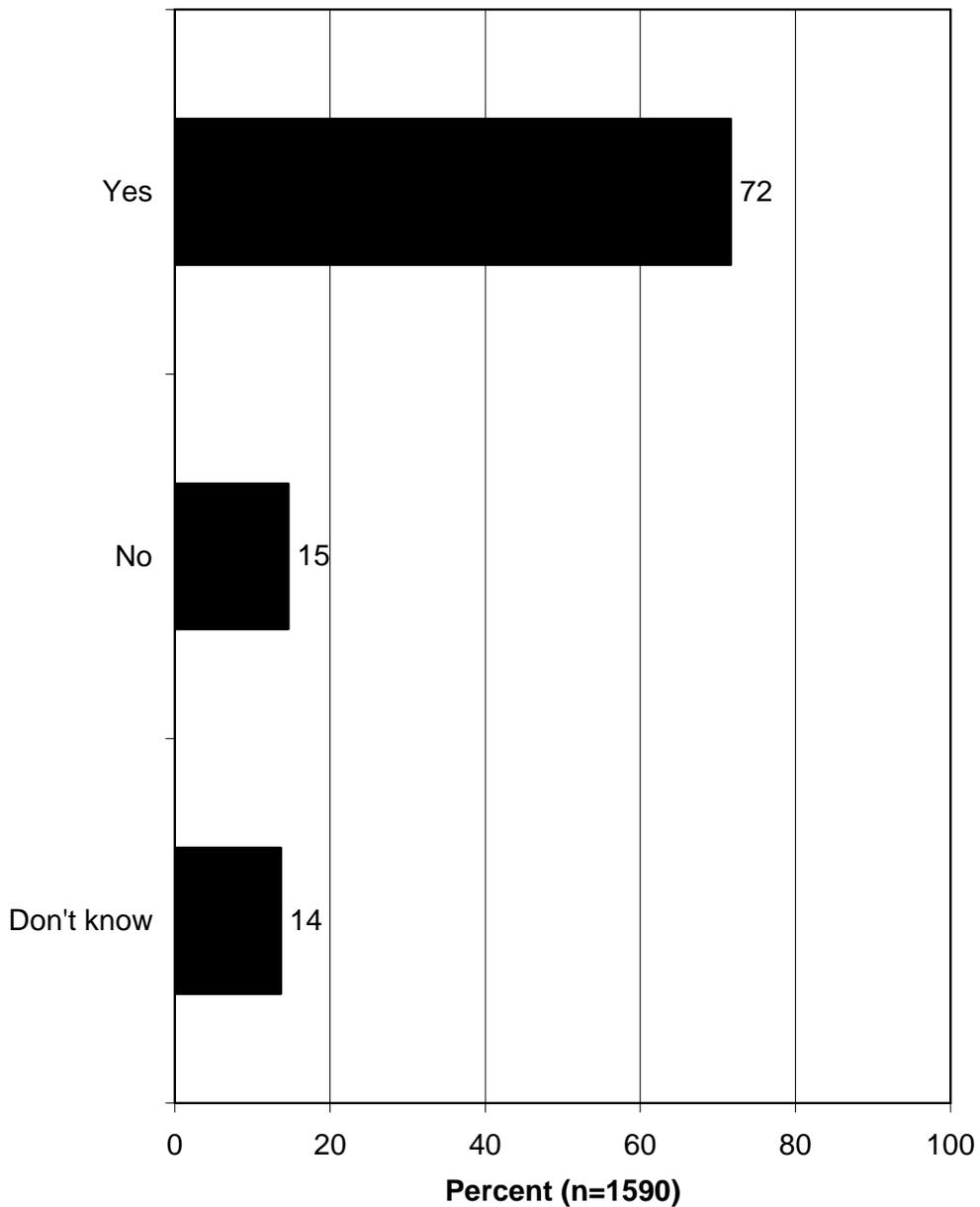
**Q109. What was the name or title of this course?
(Asked of those who took a boating safety course
that was state-certified or basic/general.)**



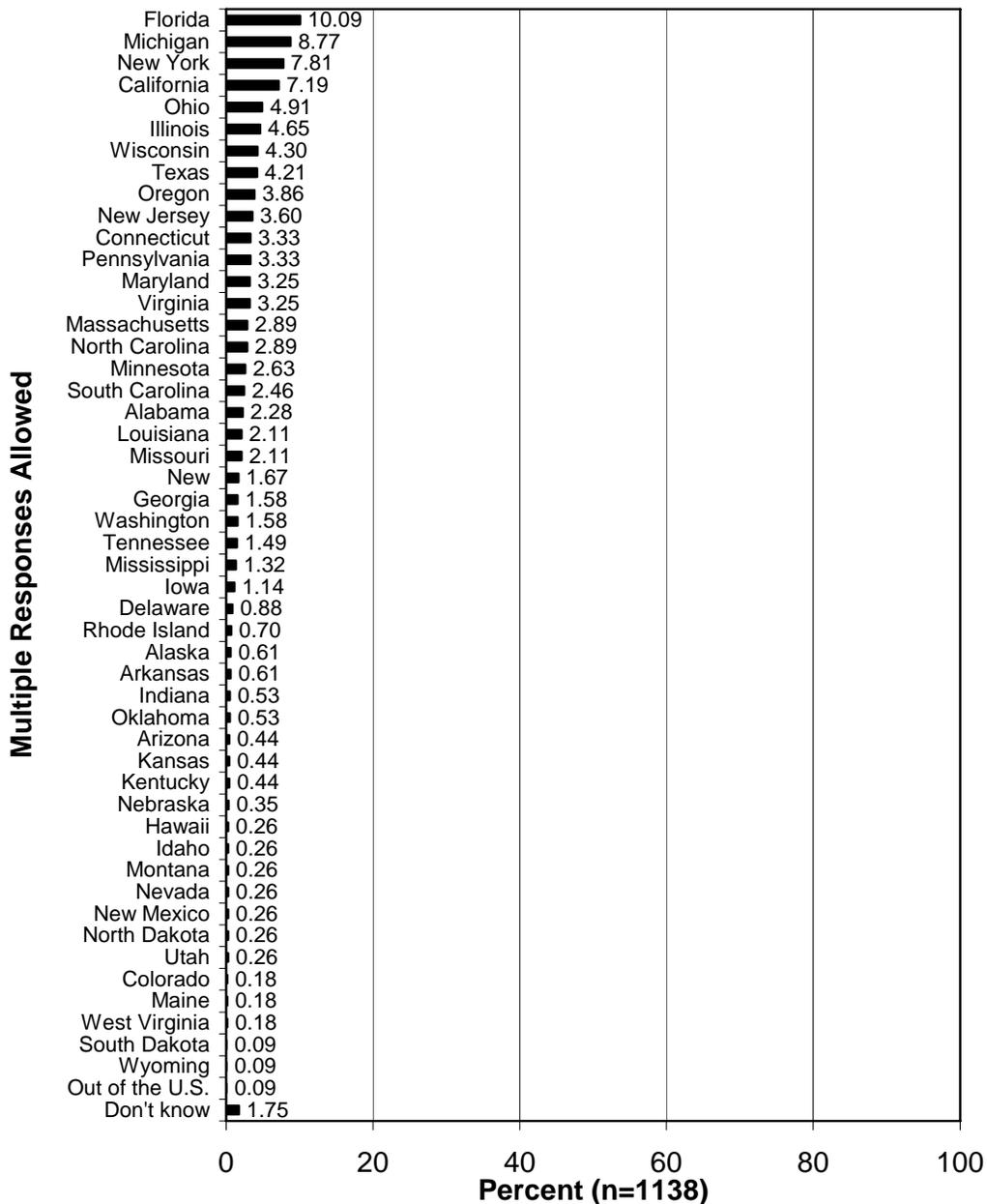
Q112. Who was the provider of this course? (Asked of those who took a course that was state-certified or basic/general.)



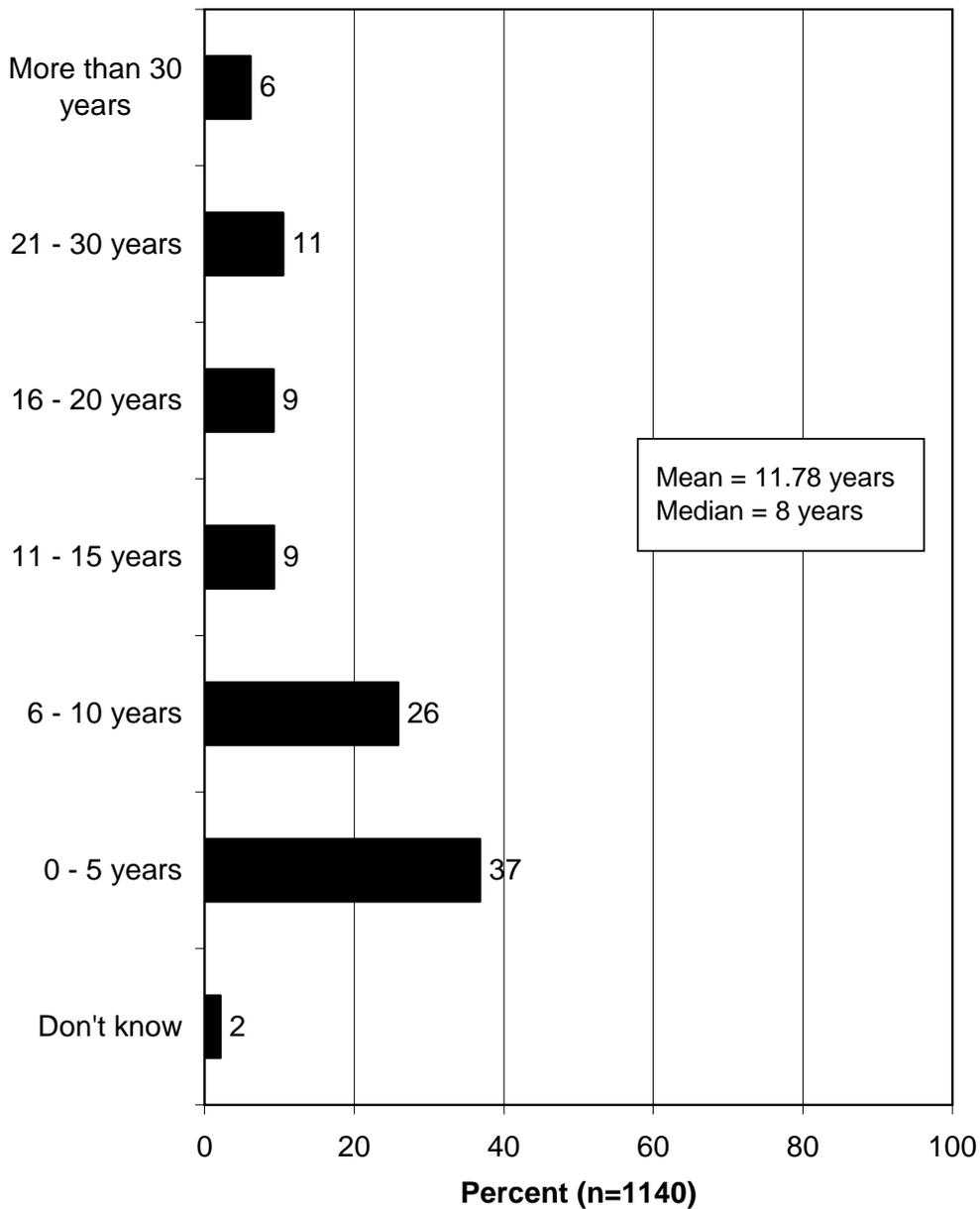
Q76. (Were any of the courses/Was the course) a state-approved certification course? (Asked of those who have taken at least one boating safety education course.)



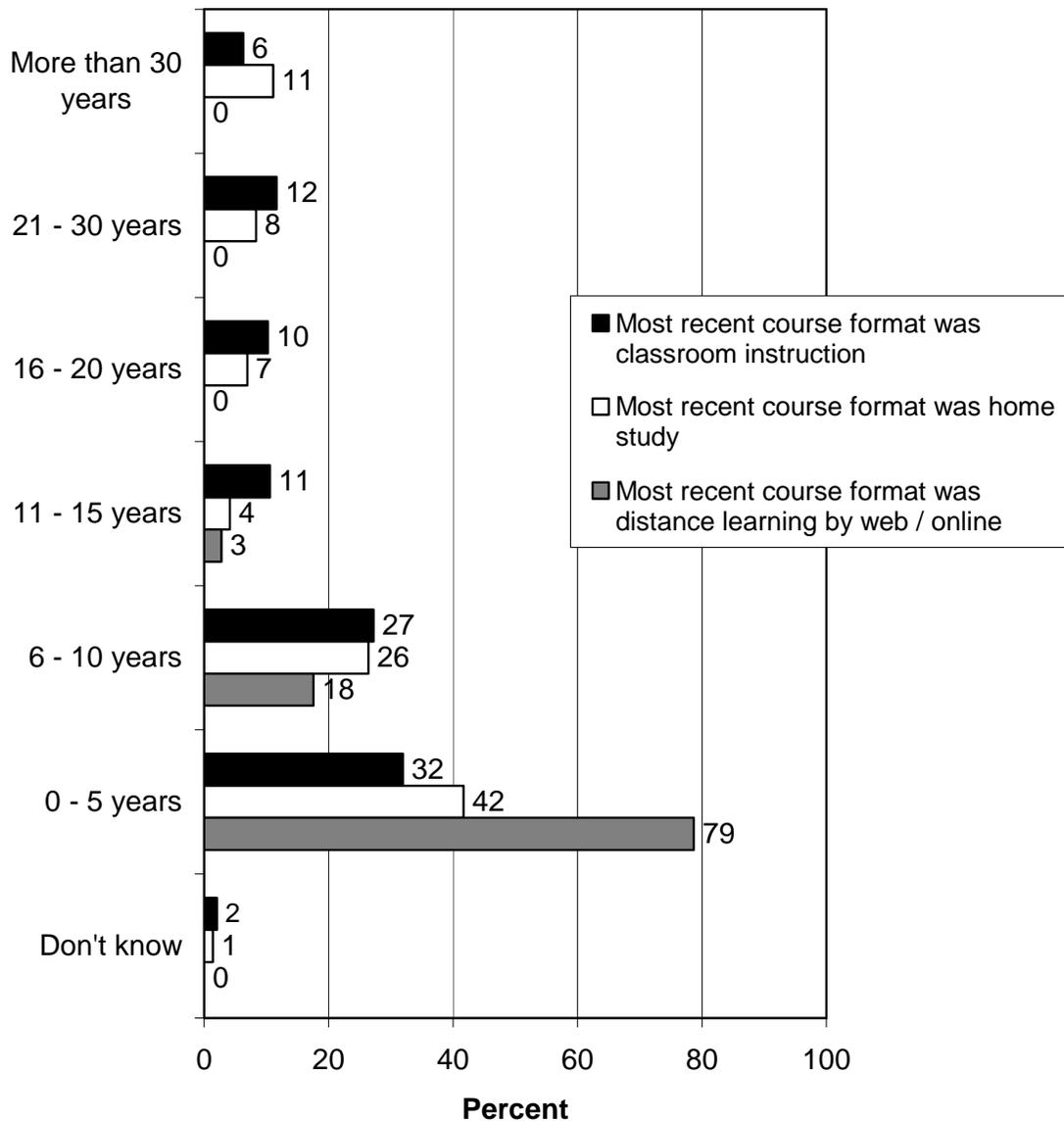
Q77/Q79/Q83/Q85/Q87. For which state have you obtained your boating safety education certification? (Asked of those who have taken at least one state-approved boating safety education course.)



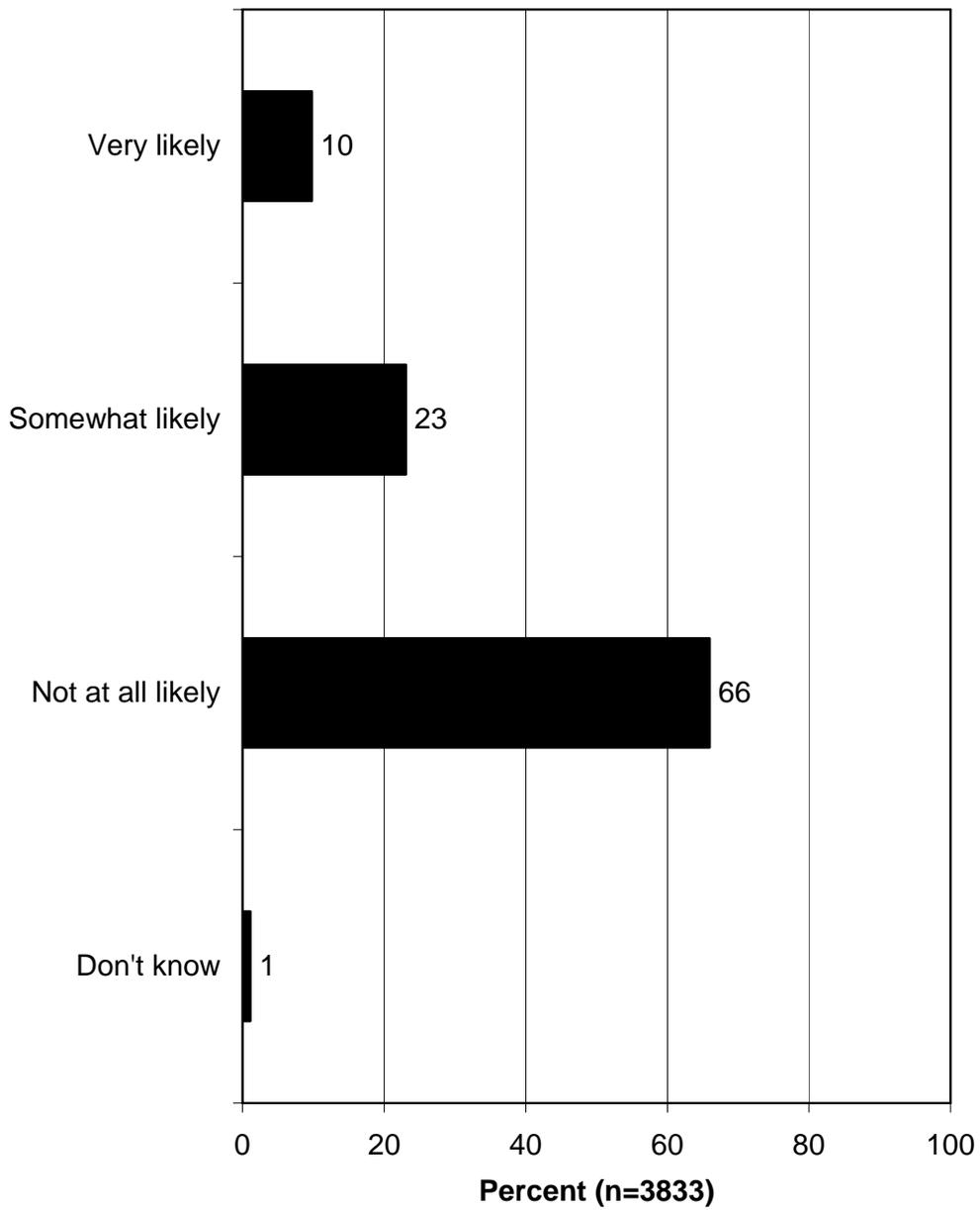
Q88. In years, how long has it been since you successfully completed your most recent state-approved certification course? (Asked of those who have taken at least one state-approved certification boating safety education course.)



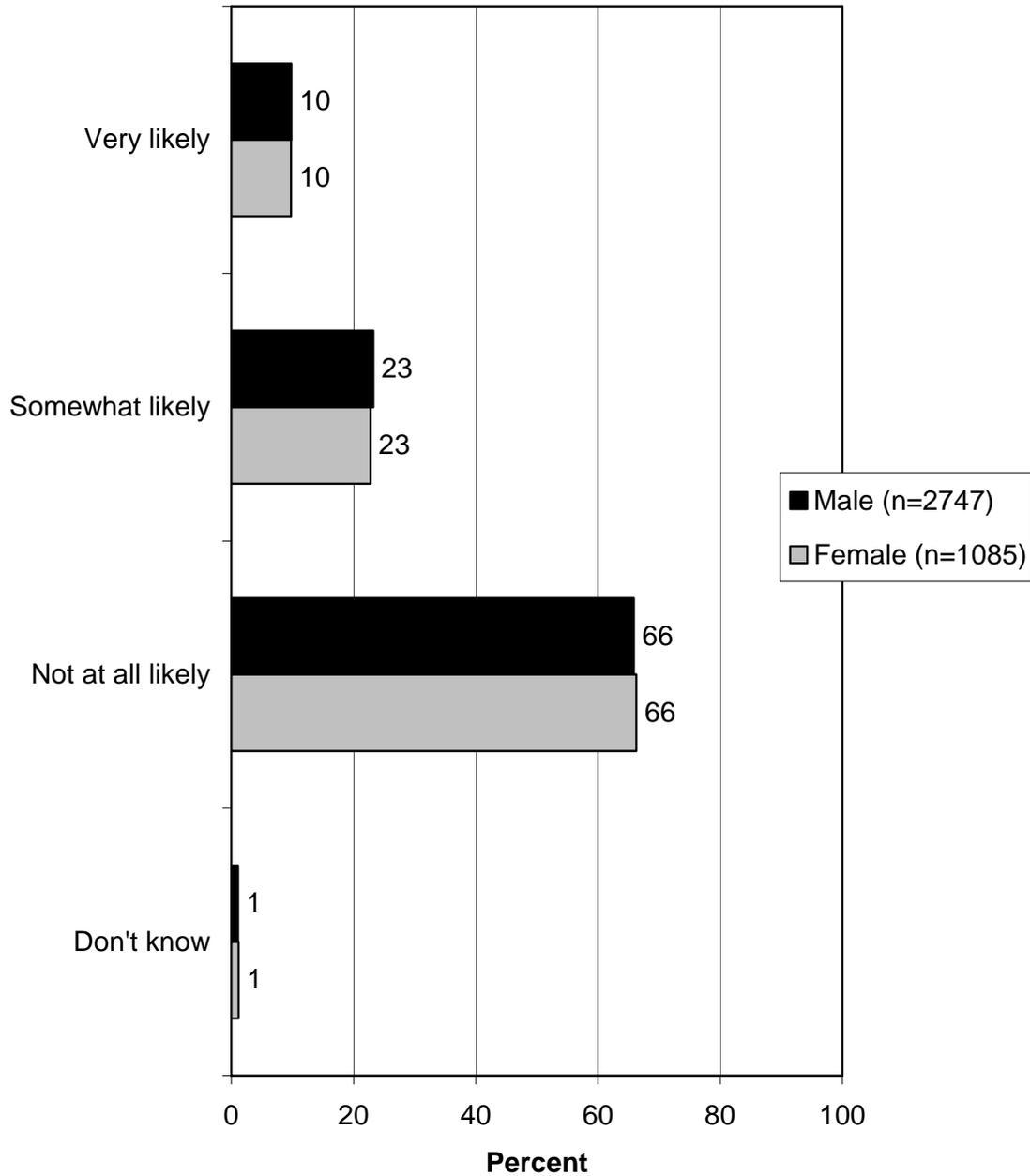
Q88. In years, how long has it been since you successfully completed your most recent state-approved certification course? (Asked of those who have taken at least one state-approved certification boating safety course.)



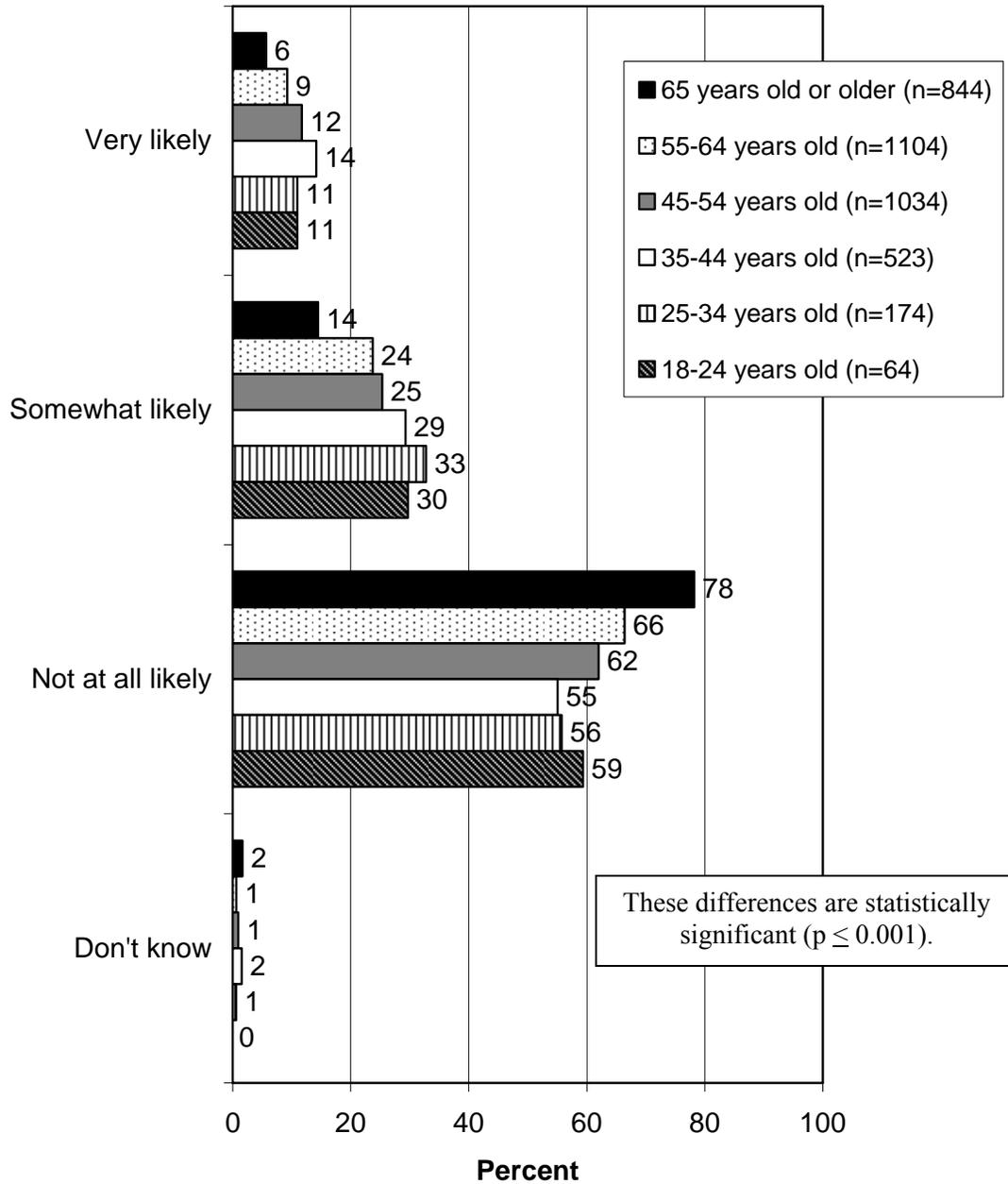
Q210. How likely or unlikely are you to take a boating safety education course in the next 2 years?



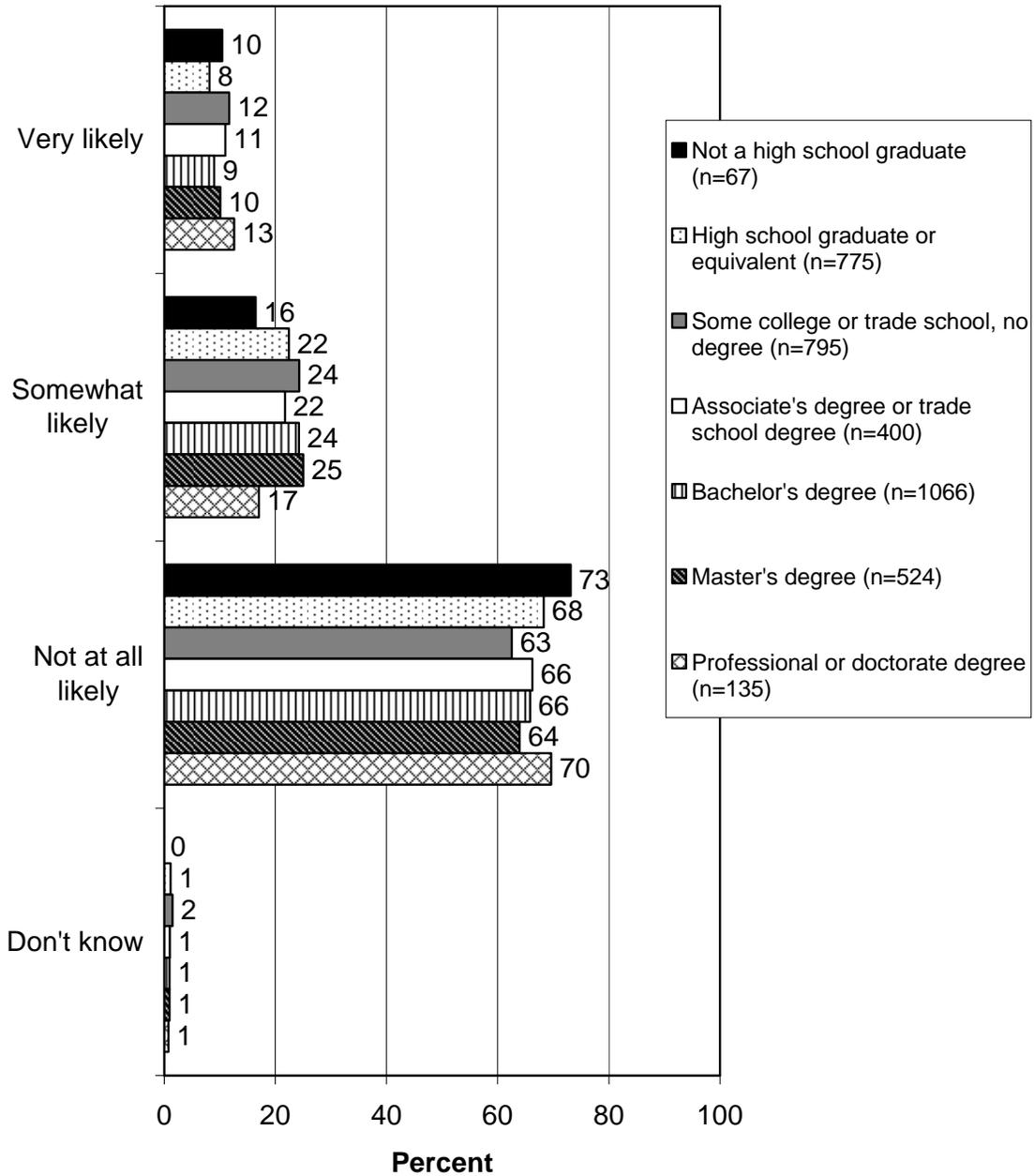
Q210. How likely or unlikely are you to take a boating safety education course in the next 2 years?



Q210. How likely or unlikely are you to take a boating safety education course in the next 2 years?

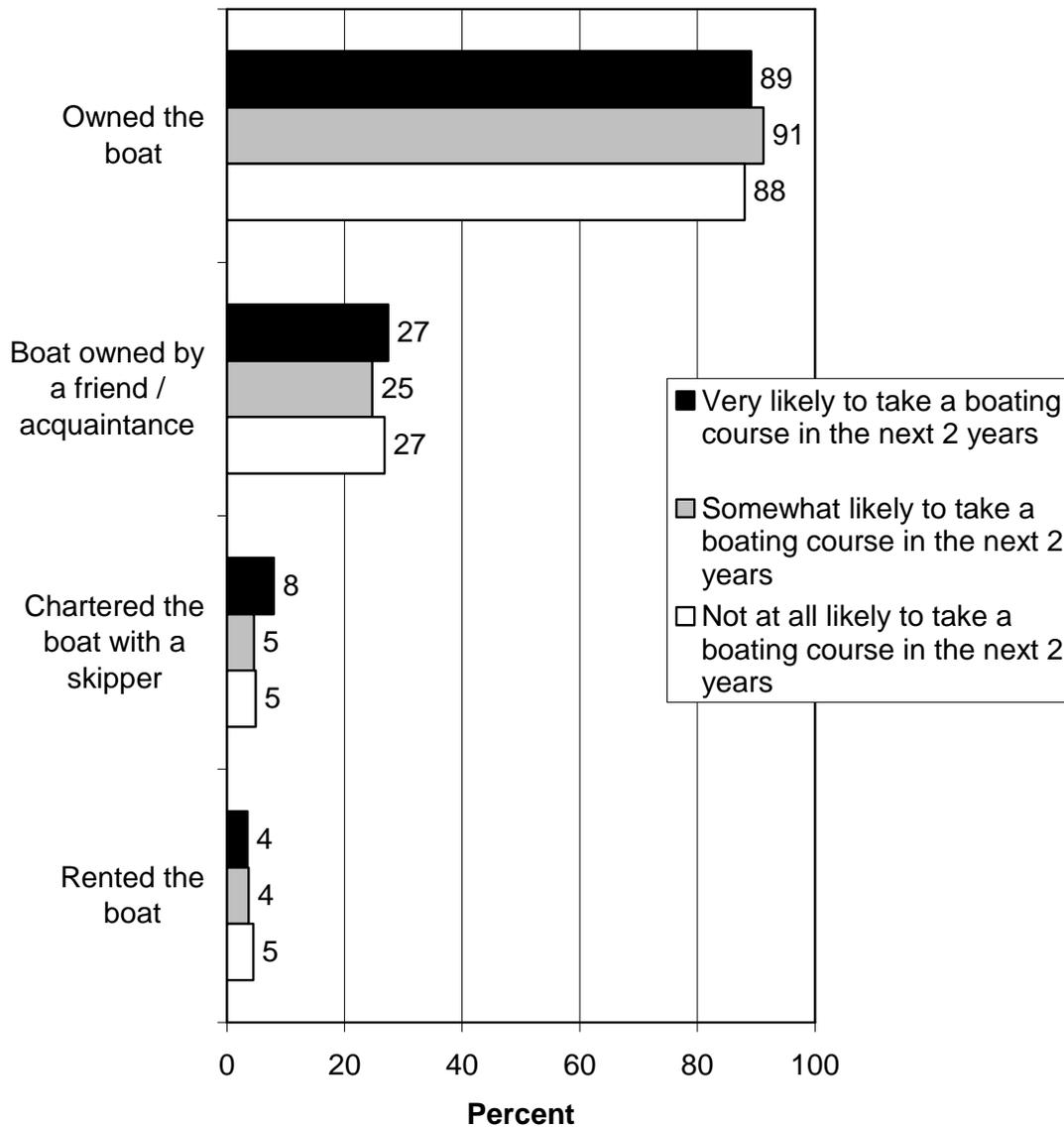


Q210. How likely or unlikely are you to take a boating safety education course in the next 2 years?

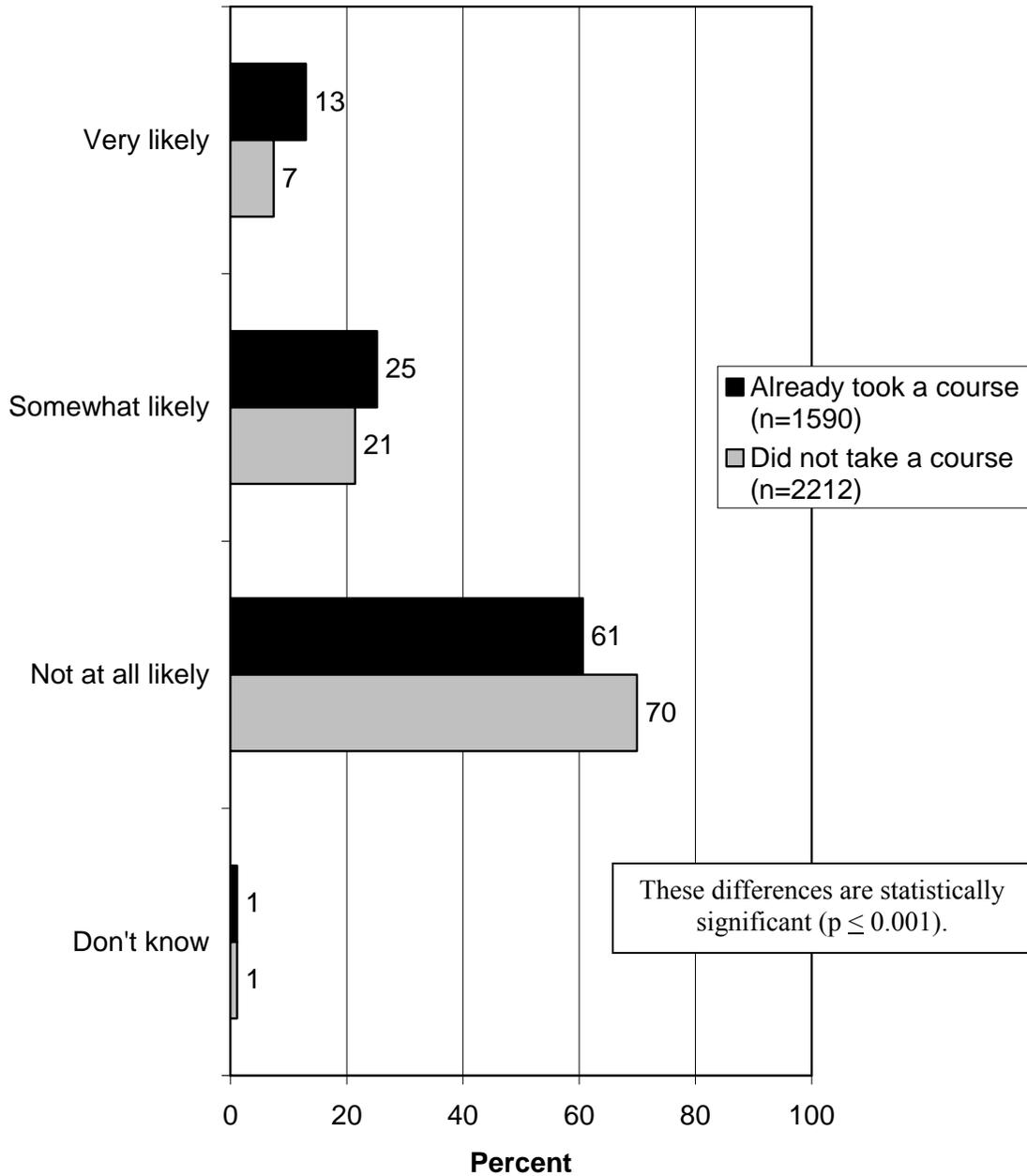


Q210. How likely or unlikely are you to take a boating safety education course in the next 2 years?				
Type of boat used most often in the past 12 months	Very likely	Somewhat likely	Not at all likely	Don't know
Open motorboat (less than 16 ft)	5%	22%	73%	0%
Open motorboat (16-26 ft)	10%	24%	65%	1%
Cabin or open motorboat (26-40 ft)	14%	27%	58%	1%
Cabin motorboat (40-65 ft)	19%	15%	64%	3%
Sailboat (less than 16 ft)	10%	35%	55%	0%
Sailboat (16-40 ft)	11%	28%	60%	1%
Sailboat (more than 40 ft)	24%	18%	58%	0%
Flat-bottomed drift fishing boat	10%	12%	78%	0%
Canoe	5%	22%	72%	2%
Kayak	15%	18%	67%	0%
Rowboat with troller	0%	20%	80%	0%
Pontoon boat	6%	23%	70%	1%
Personal watercraft, including jet skis, dinghies	9%	22%	68%	0%

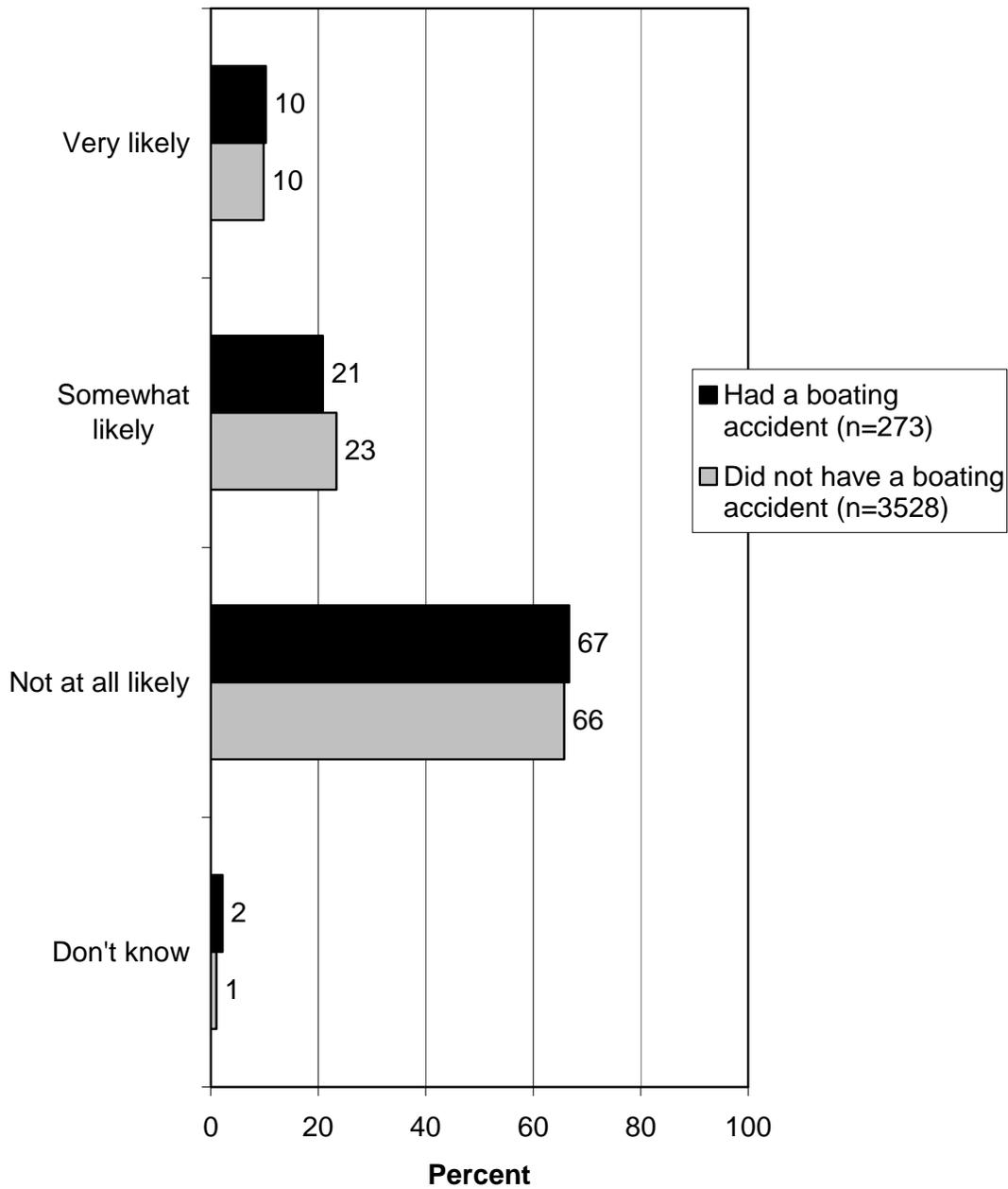
Q36. While boating in the past 12 months, did you use a boat that you or your family owned, did you or a member of your party rent a boat, did you or a member of your party charter a boat with a skipper, or were you a guest on a boat owned by a friend?



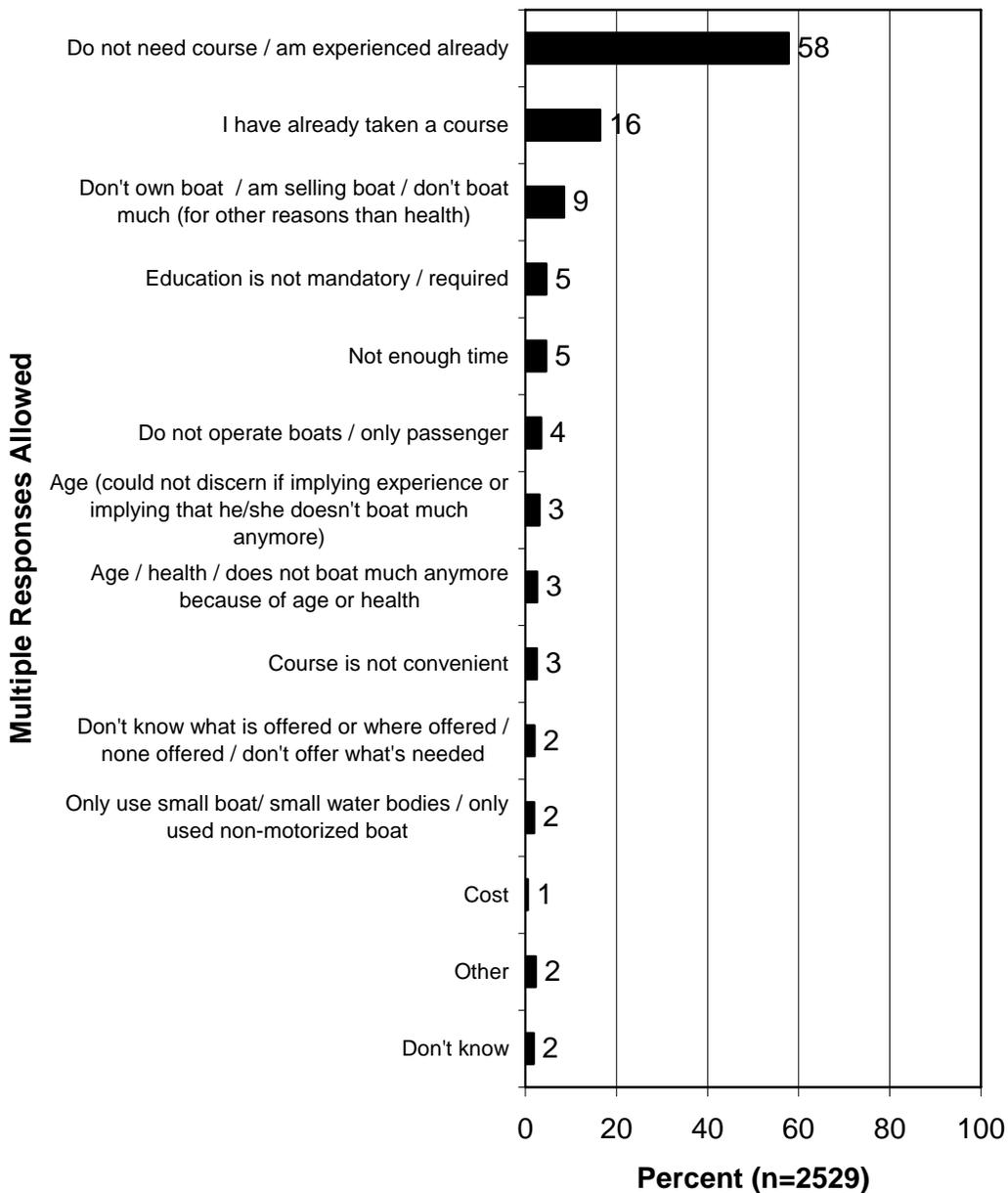
Q210. How likely or unlikely are you to take a boating safety education course in the next 2 years?



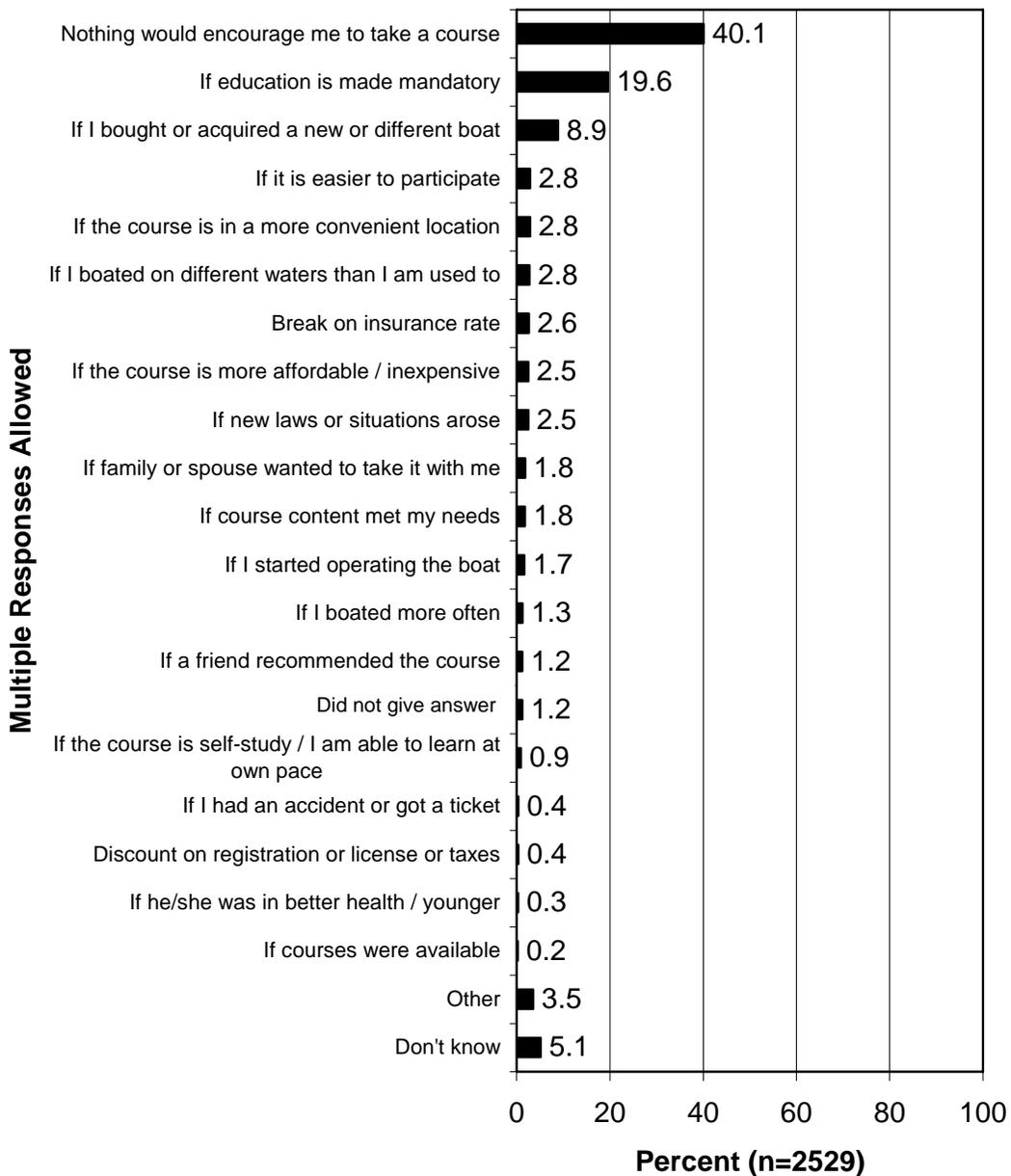
Q210. How likely or unlikely are you to take a boating safety education course in the next 2 years?



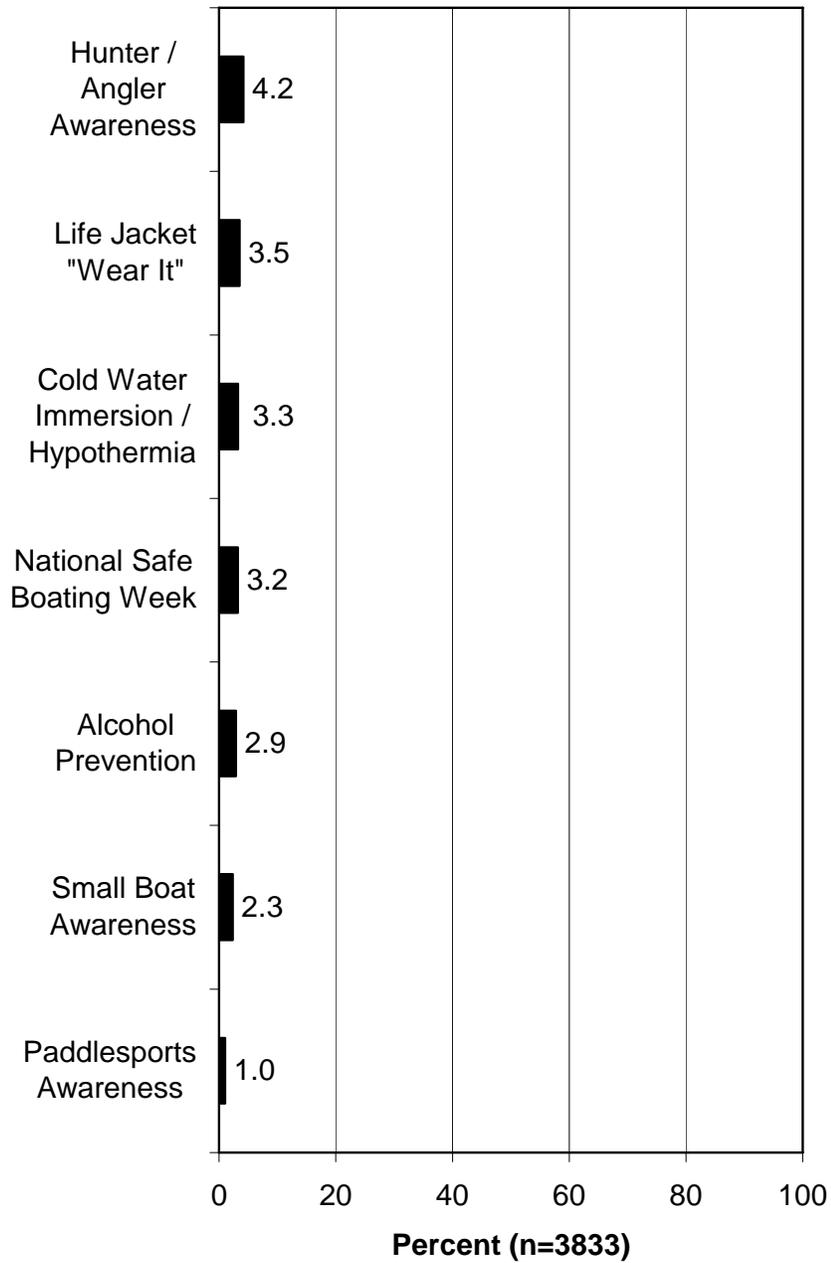
Q213. What are the main reasons you are not likely to take a boating safety education course in the next 2 years? (Asked of those who are not at all likely to take a boating safety education course in the next 2 years.)



**Q217. What would encourage you to take a boating safety education course in the next 2 years?
(Asked of those who are not at all likely to take a boating safety education course in the next 2 years.)**



Q242, Q249, Q256, Q263, Q270, Q277, Q284.
Participation in various programs.



Satisfaction and Dissatisfaction with Boating Safety Education, Ratings of Aspects of Boating Safety Education Programs, and Perceived Effectiveness of Boating Safety Education Programs

This section concerns the perceptions of owners of registered boats regarding boating safety courses, including their satisfaction with boating safety education, their ratings of various aspects of boating safety education, and the perceived effectiveness of boating safety education programs.

Overall, satisfaction with boating safety courses is high—nearly all course participants were very or somewhat satisfied with their course. Also, the overwhelming majority of participants rated their course as excellent or good, and registered boat owners overwhelmingly say that boating safety courses are effective (note that the definition of “effective” was left up to the respondent, and note that these are respondents’ perceptions). In general, those who took a course using a classroom format give higher ratings of the course relative to those who took other formats. The most prominent dissatisfaction with courses is a mismatch between course content and the boater’s needs; nonetheless, ineffective instruction is also a dissatisfaction to some.

Most owners of registered boats feel that they practice safer boating behavior after taking a course. Boaters also feel that eight specific behaviors about which the interviewers asked are improved by boating safety education. In particular, boating safety education is perceived to be effective at increasing awareness of boating safety issues, increasing participation in safe boating practices, and in reducing unsafe/reckless boating. On the other hand, boating safety education is *not* perceived as being effective at addressing alcohol and drug use while boating.

The eight behaviors asked about were:

- Being aware of boating safety issues
- Participating in safe boating
- Using life jackets
- Practicing unsafe and reckless boating
- Using alcohol and drugs while boating
- Being aware of environmental boating issues
- Properly disposing of waste from boats
- Engaging in boating practices that are unsafe for the environment

The data analysis included a comparison of behaviors/actions by owners of registered boats before taking a course and after taking a course to help assess the effectiveness of boating safety education in influencing behavior. This was done by asking boaters to indicate the frequency at which they had participated in various behaviors/actions *prior* to taking their course and then asking them to indicate the frequency at which they now participate in the various behaviors/actions *after* their course. While this approach is limited by respondents' recall in answering questions about the frequency at which they did or now do various behaviors, it is a reasonable and cost-effective approach in a survey and can give an indication of the perceived effectiveness of boating safety education.

The ten behaviors/actions asked about were:

- Wearing a life jacket while operating or riding on a boat
- Requiring all other passengers to wear a life jacket
- Filing a float plan with the appropriate agency
- Locating and checking all safety aids prior to launch
- Checking all navigation instruments and lights prior to launch
- Checking the marine radio prior to launch
- Fueling the boat at a dock
- Properly disposing of waste at pump-out and dump stations
- Painting or cleaning the boat in the water
- Removing all plants/animals from the boat and inspecting/washing the boat out of the water prior to entering another body of water

The data suggest that the following behaviors/actions (based on boaters' responses regarding how often that they participated in these behaviors prior to taking NASBLA-approved boating safety education and how often that they participate in these behaviors after taking NASBLA-approved boating safety education) may be influenced by boating safety education: locating and checking safety aids prior to launch and checking navigation instruments and lights prior to launch. Most other behaviors/actions appear to be positively influenced a little by boating safety education, again based on boaters' responses regarding their behaviors. Note that this analysis was conducted only among those who got both sets of questions (it eliminated those who had not boated before taking a NASBLA-approved certification boating safety course and were, therefore, asked only the post-course set of questions).

The format of boating safety courses appears to affect *perceptions* of effectiveness. Those who took a classroom course give better ratings of the course’s effectiveness, relative to those who took other formats. Note that the definition of effectiveness is left up to the respondent, and note that these are respondents’ perceptions; more objective measurements of effectiveness were not feasibly attainable in this study.

Regardless of course format, the lack of a hands-on component of many courses is a common criticism among boaters. Furthermore, in a direct question, owners of registered boats indicate that a hands-on component is important. Also, those who had a course with a hands-on component give quite high ratings to the quality of the hands-on component.

The topics of boating safety education that boaters most commonly want more of include navigation/running lights/rules of the road, personal watercraft, alcohol/drugs, first aid/emergencies, hazardous conditions, and etiquette.

The interviewers also asked about the effectiveness of seven specific programs/campaigns, some of which do *not* involve a course. Those considered by respondents to be the most effective include cold water immersion/hypothermia programs, hunter/angler awareness, and paddlesports awareness. Conversely, National Safe Boating Week and alcohol/drug programs are not considered as effective. Again, this question measures perceptions of effectiveness from the boaters’ perspective, not an objective measurement of effectiveness.

The programs/campaigns that were:

- National Safe Boating Week
- The Life Jacket “Wear It” campaign
- The cold water immersion/hypothermia program
- Alcohol prevention
- Small boat awareness
- Hunter/angler awareness
- Paddlesports awareness

- Satisfaction with state-approved and/or basic boating safety courses is high: 78% of those who took a NASBLA-approved certification course were *very* satisfied with their most recent such course, and another 17% were *somewhat* satisfied (for a total of 95% being satisfied). Results were nearly the same among those who took boating safety education that was not NASBLA-approved. Similarly, ratings of their most recent state-approved certification course were positive: 55% rated it excellent, and 38% rated it good, for a total of 93% giving a rating in the top half of the scale. Again, results were nearly the same among those who took boating safety education that was not NASBLA-approved. Furthermore, those who took a classroom format course gave high ratings of the course instructor: 55% rated the instructor excellent, and 36% rated the instructor good (a total of 91% giving a rating in the top half of the scale). Finally, ratings of the overall effectiveness of boating safety courses, as perceived by the respondents, are highly positive, with the overwhelming majority of owners of registered boats (82%) saying that boating safety courses are effective, mostly *very* effective.
- A crosstabulation of course rating by type of format shows that classroom instruction receives better ratings than do courses using the other formats: 59% of those who took a classroom course rated the course as excellent, compared to 42% and 41% of those who took courses of the other formats. The differences in the results to this question are statistically significant ($p \leq 0.001$).
 - Top reasons for being dissatisfied with state-approved certification courses are that the course did not apply to the boaters' needs, that the course was not in-depth or advanced enough, and/or that the course was not effectively taught. Note that so few were dissatisfied with the course that the sample size on this question is low.
 - Similarly, those who rated their most recent NASBLA-approved certification or basic/general course as fair or poor were asked why they gave that rating: their top answers were that the course was not in-depth enough, that they disliked the teaching method, and that the course did not pertain to them.
 - Those who rated the instructor of their most recent state-approved certification or basic/general course (those whose most recent course was in a classroom) as fair or poor most commonly gave as their reasoning that the teacher was not dynamic or that the instructor was not experienced/knowledgeable.

- In a question asked of those who had taken a NASBLA-approved and/or basic/general course, the overwhelming majority of those who took a NASBLA-approved certification course (89%) agree that they practice safer boating behavior as a result of their most recent course, with most of them *strongly* agreeing (with results that are nearly identical among those who took a basic/general course that was not a NASBLA-approved certification course).

- The interviewers asked all respondents (even those who had not taken boating safety education) eight questions about the effectiveness of boating safety education in prompting or preventing certain behaviors, shown in the bulleted list immediately below. For every behavior, a large majority of boaters (from 69% to 88%) think that boating safety education is very or somewhat effective at influencing the behavior. In particular, boating safety education is perceived to be highly effective at increasing awareness of boating safety issues, increasing participation in safe boating practices, and in reducing unsafe/reckless boating. At the bottom of the ranking (but still with a majority saying that education is very or somewhat effective at influencing it) is reducing alcohol and drug use while boating.

The eight behaviors asked about were:

- Being aware of boating safety issues
 - Participating in safe boating
 - Using life jackets
 - Practicing unsafe and reckless boating
 - Using alcohol and drugs while boating
 - Being aware of environmental boating issues
 - Properly disposing of waste from boats
 - Engaging in boating practices that are unsafe for the environment
- These eight questions were crosstabulated by three groups: those who had taken a NASBLA-approved certification course, those who had taken a course that was not a NASBLA-approved certification course, and those who had not taken any course. For all eight behaviors, those who had taken a boating safety course gave higher ratings of effectiveness than did those who had not taken a course. Furthermore, those who had taken a NASBLA-approved certification course gave higher ratings, for the most part, than did those who had taken a course that was not a NASBLA-approved certification course. These differences are statistically significant for all the behaviors ($p \leq 0.001$).

- There were two sets of questions about the frequency that owners of registered boats participated in ten specific behaviors/actions, listed below. One set of questions asked how often owners of registered boats had participated in certain behaviors/actions *before* taking a boating safety course, and the second set of questions asked them how often they participated in the behaviors/actions *after* taking boating safety education. The results suggest that boaters' perceptions of their own behavior improved after the boaters took courses. For each action (with the one exception), the percentage of boaters who say that they participated in the behavior *always* is greater after the course.
- *Wore a life jacket while operating or riding on a boat:* The perceived frequency of this action increased a little after the course.
 - *Required all other passengers to wear a life jacket while boating:* The perceived frequency of this action increased a little after the course.
 - *Filed a float plan with the appropriate agency:* The perceived frequency of this action increased a little after the course.
 - *Located and checked all safety aids prior to launch:* The perceived frequency of this action increased substantially after the course.
 - *Checked all navigation instruments and lights prior to launch:* The perceived frequency of this action increased substantially after the course.
 - *Checked the marine radio prior to launch:* The perceived frequency of this action increased moderately after the course.
 - *Fueled the boat at a dock:* The perceived frequency of this action increased just slightly after the course.
 - *Properly disposed of waste at pump-out and dump stations:* The perceived frequency of this action increased a little after the course.
 - *Painted or cleaned the boat in the water* (note that this is the exception, as *less* frequently is better): The perceived frequency of this action was not much changed after the course. (There was a slight increase in the percentage who did this never after the course—which is good; however, there was also a slight increase in the percentage who did this always after the course—which is bad.)

- *Removed all plants and animals from the boat and inspected and washed the boat out of the water prior to entering another body of water:* The perceived frequency of this action increased moderately after the course.
 - Note that graphs are shown of the entire series of questions pre- and post-course, and then each question is shown individually, to compare perceptions of the respondents' pre- and post-course behavior. Each action (including the exception) is discussed below. Significance tests were not run on these because these are not two different groups being asked; rather, the same group of people were asked about their behaviors. Note that this analysis was conducted *only among those who got both sets of questions* (it eliminated those who had not boated before taking a state-approved certification boating safety course and were, therefore, asked only the post-course set of questions).
- Owners of registered boats who had taken a NASBLA-approved certification boating safety course were asked to rate the effectiveness of the *format* of their most recent NASBLA-approved course. While ratings are positive for all formats (regardless of format, a majority—from 53% to 78%—rate it *very* effective, and an overwhelming majority—from 95% to 99%—rate it either *very* or *somewhat* effective), classroom instruction format has the top ratings.
- In follow-up, those who indicated that their most recent course format was not at all effective (which was very few respondents) were asked to indicate why it was not effective, and again this was crosstabulated by type of format. Lack of a hands-on component within the course is the leading reason given for the course's ineffectiveness among those who took a classroom course; sample sizes for the other formats were too small for meaningful analysis.
- Regarding the format of courses, a hands-on component of a classroom course is deemed to be highly important, as an overwhelming majority of those whose most recent NASBLA-approved certification boating safety course was a classroom format (94%) said that a hands-on component is *extremely* important, *very* important, or *somewhat* important. In fact, 74% said it is *extremely* important or *very* important. Note that this is among only those whose course was a NASBLA-approved certification course and was in the classroom. (This graph

is shown in the section of this report titled “Opinions on Formats and Delivery Methods of Boating Safety Courses.”)

- Among those whose most recent course was in a classroom and contained a hands-on component, the overwhelming majority (93%) rated the quality of the hands-on component as excellent or good, with excellent leading good by more than 2 to 1.

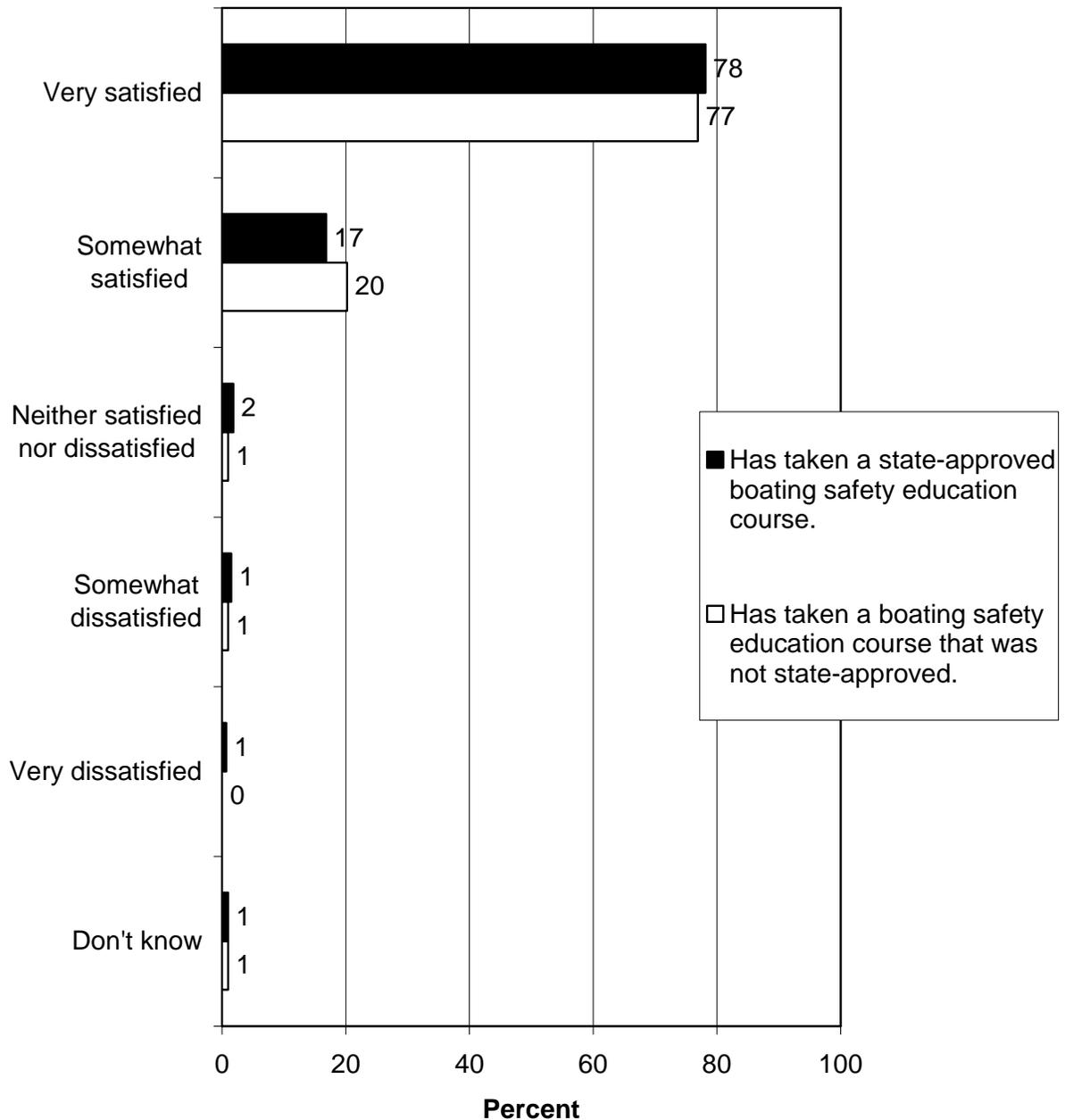
- Owners of registered boats who had taken a NASBLA-approved or basic/general boating safety course were asked to name any topics or additional information that should be covered in boating safety education. While the large majority of those respondents indicated that there are no other topics that need to be covered, other topics mentioned pertain to navigation/running lights/rules of the road, personal watercraft, alcohol/drugs, first aid/emergencies, hazardous conditions, and etiquette. A format rather than a topic was also mentioned: having courses that include a hands-on component.

- The interviewers asked those who had heard of the programs/campaigns about their perceptions of overall effectiveness of the boating safety education programs/campaigns, some of which do not entail a course.
 - The seven programs/campaigns that were asked about were:
 - National Safe Boating Week
 - The Life Jacket “Wear It” campaign
 - The cold water immersion/hypothermia program
 - Alcohol prevention
 - Small boat awareness
 - Hunter/angler awareness
 - Paddlesports awareness
 - Three programs top the list in the ranking by the percentage of registered boat owners (those who had heard of the program/campaign) who say that they think the program/campaign is *very* effective, with more than a third saying each is *very* effective: cold water immersion/hypothermia programs (42%), hunter/angler awareness (36%), and paddlesports awareness (also 36%).
 - National Safe Boating Week (18%) and alcohol prevention programs (21%) are at the bottom of the ranking of programs/campaigns. This latter result suggests that people think alcohol and boating is a problem that outreach is not currently greatly affecting

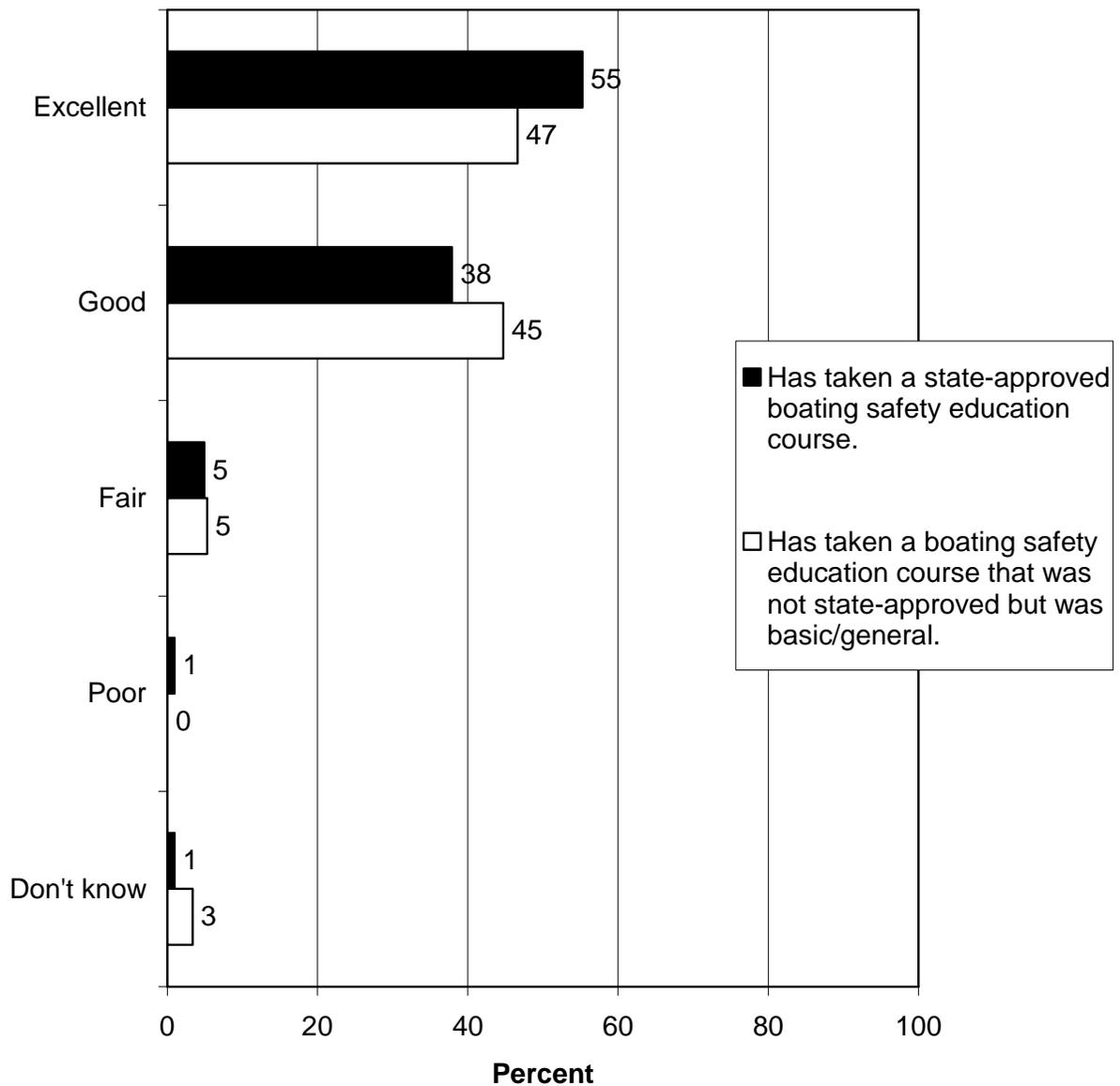
(alcohol prevention is at the top of the ranking by the percentage saying not at all effective).

- Note that only those who had heard of the program/campaign were asked to rate its effectiveness. The graph of the percentages who had heard of the programs/campaigns is shown in the section of this report titled “Awareness of Various Boating Safety Education Programs or Campaigns.”

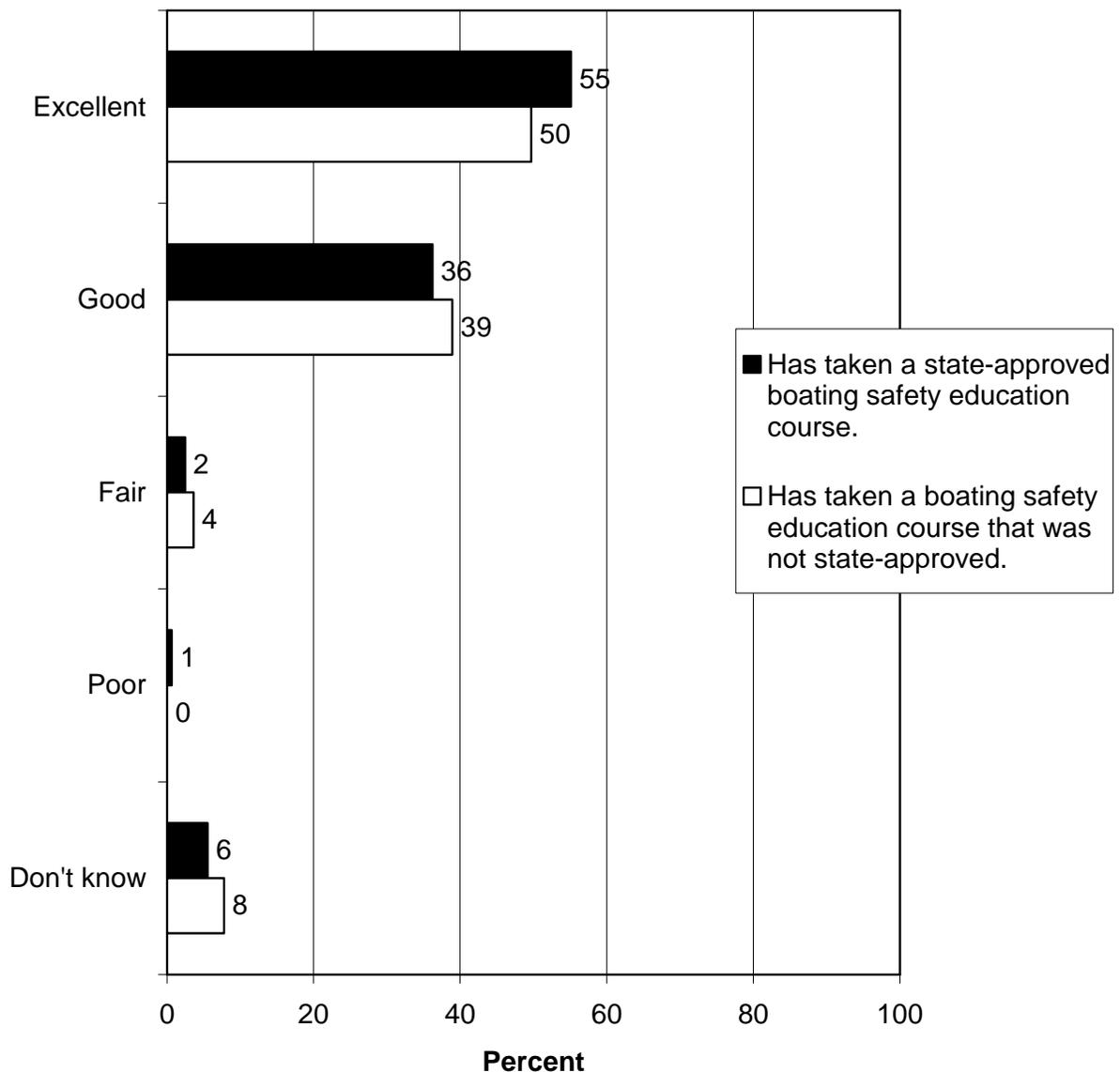
Q102. In general, how satisfied were you with the course? (Asked of those who have taken at least one boating safety education course that was state-approved or was basic/general.)



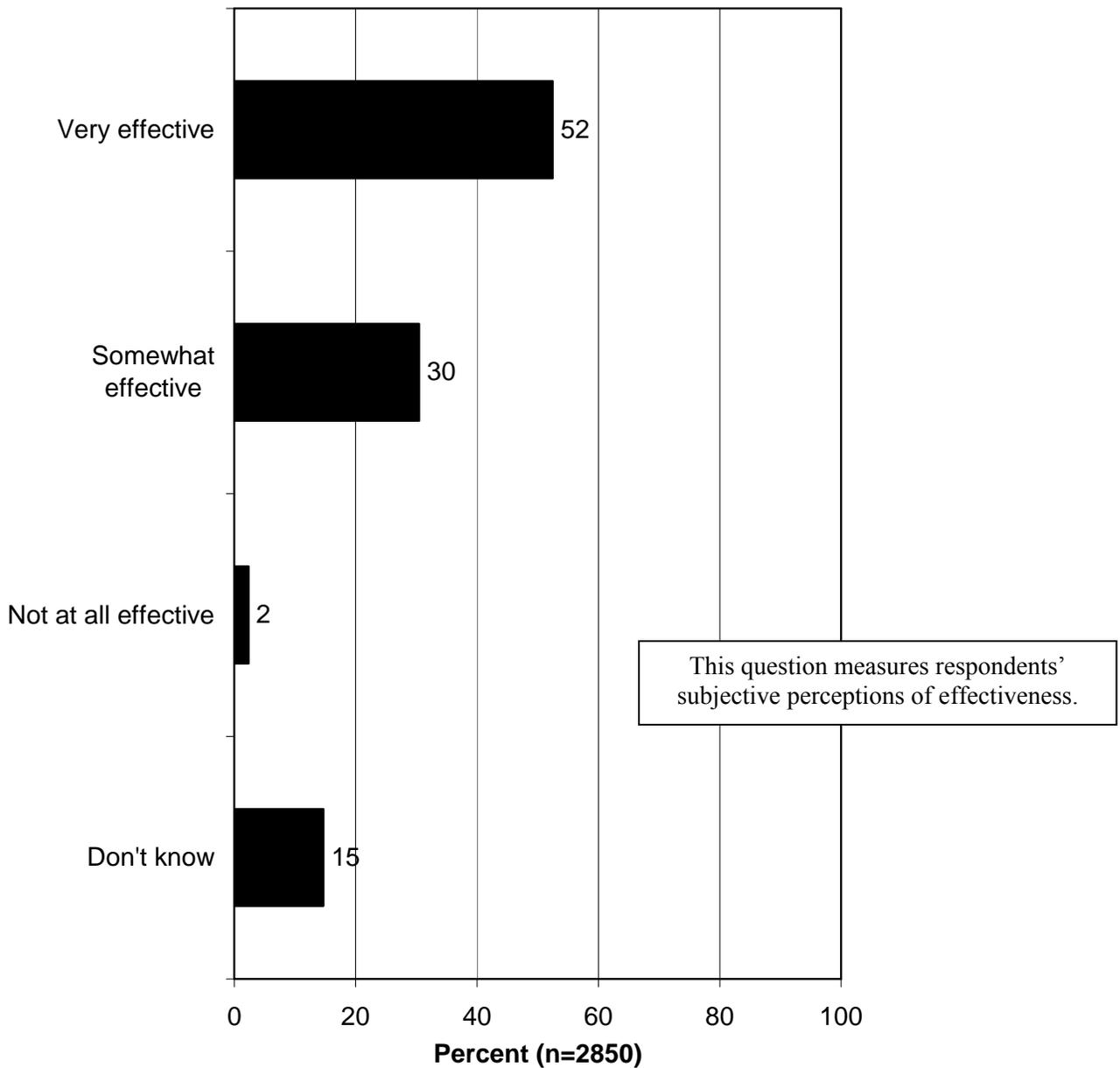
Q114. Overall, how would you rate the most recent course you completed as a boating safety education course? (Asked of those who have taken at least one boating safety education course that was state-approved or was basic/general.)



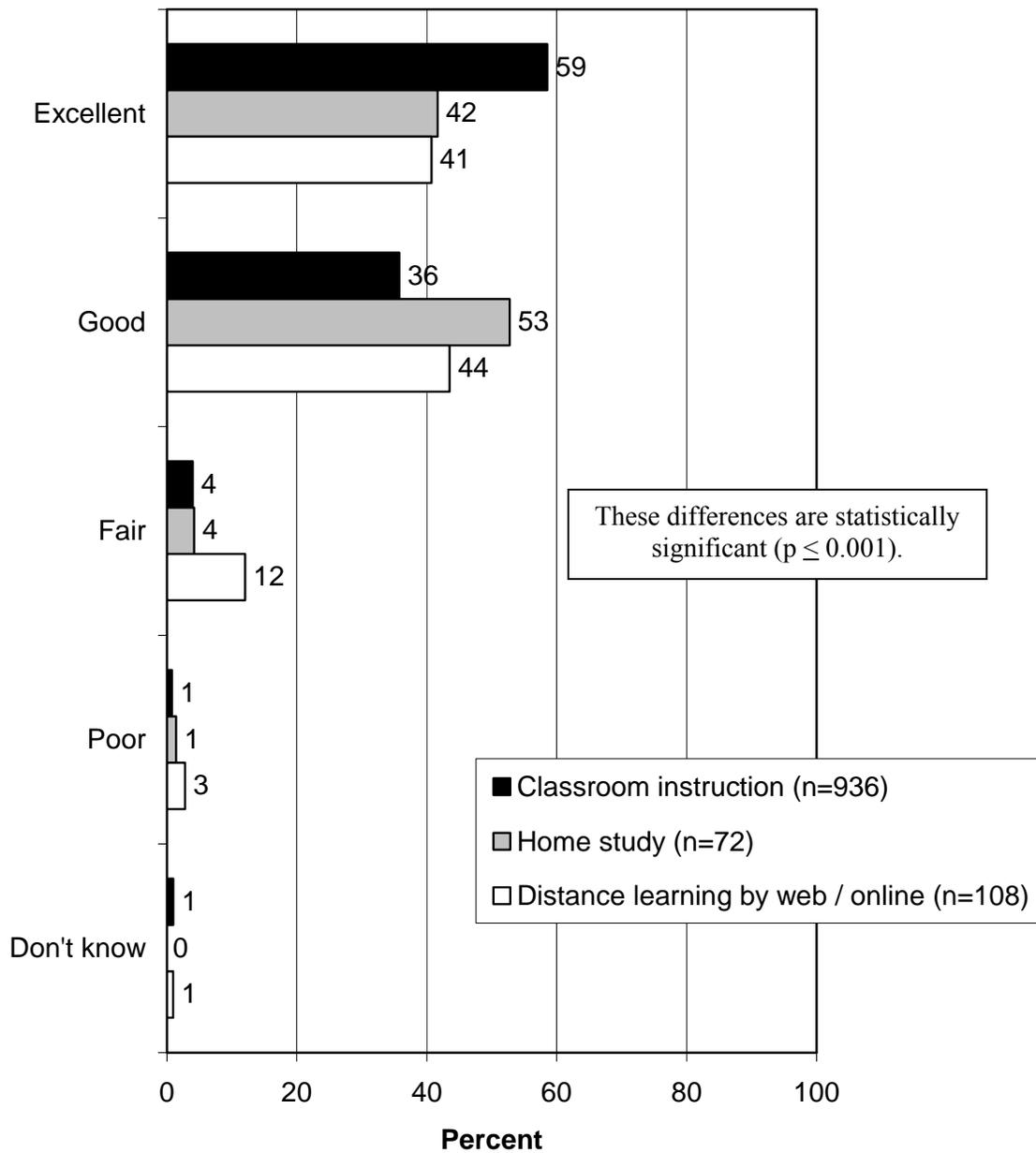
Q119. How would you rate the course instructor for the most recent boating safety education course you completed? (Asked of those whose most recent state-approved certification or basic boating safety education course was classroom instructed.)



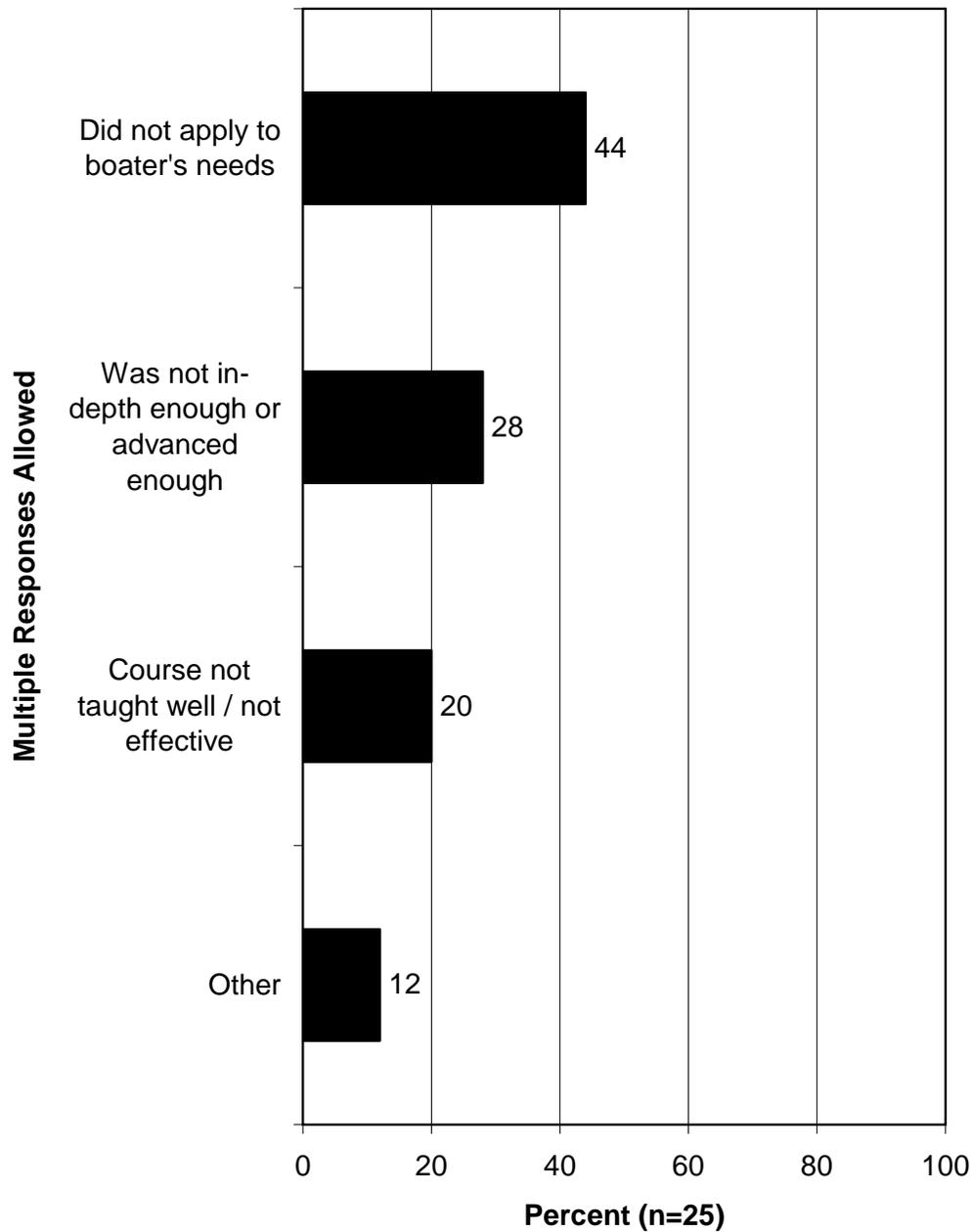
Q173. Overall, how effective do you think boating safety education courses are? Would you say very effective, somewhat effective, or not at all effective?



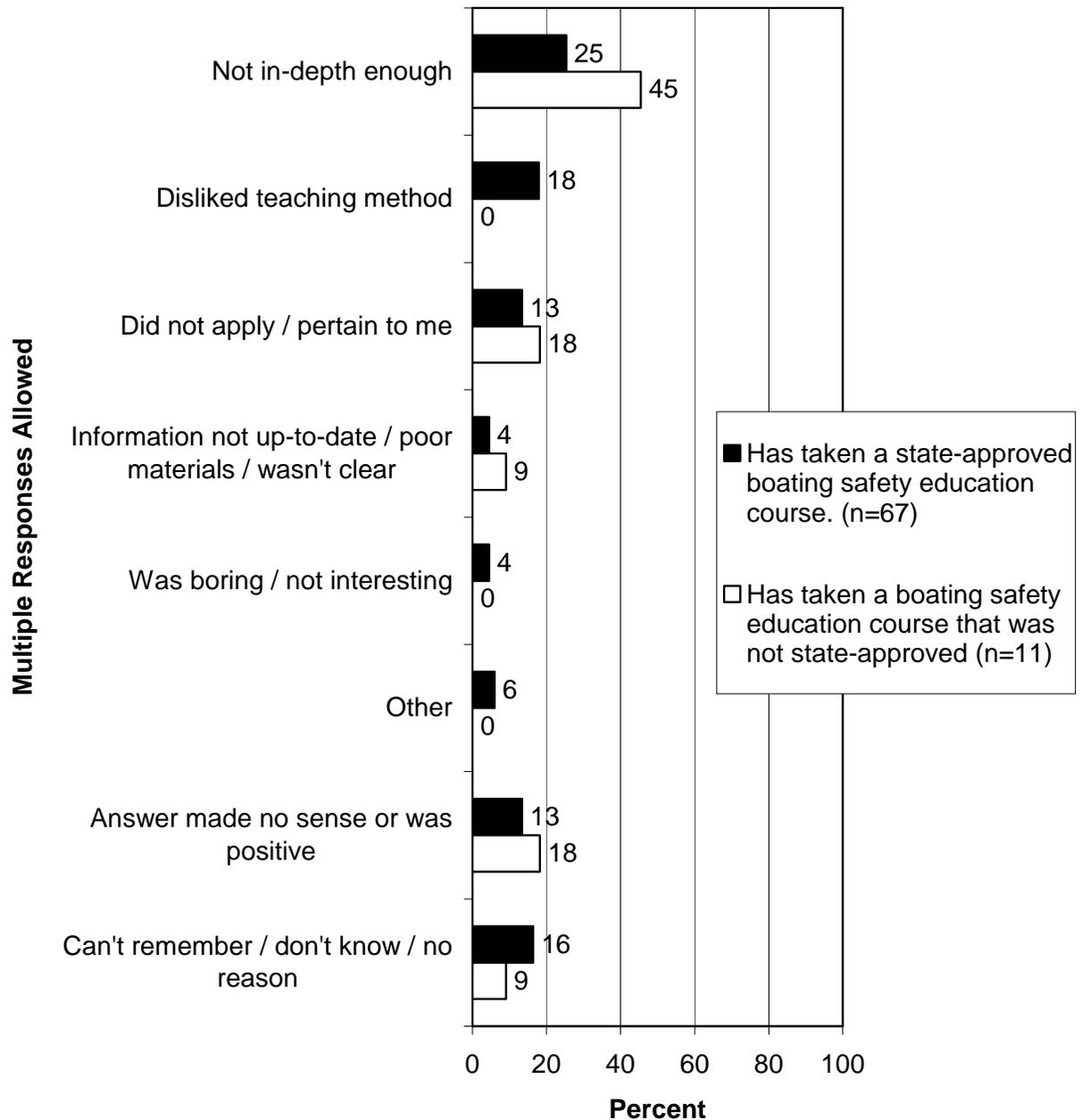
Q114. Overall, how would you rate the most recent course you completed as a boating safety education course? (Among those who have taken at least one state-certified boating safety education course.)



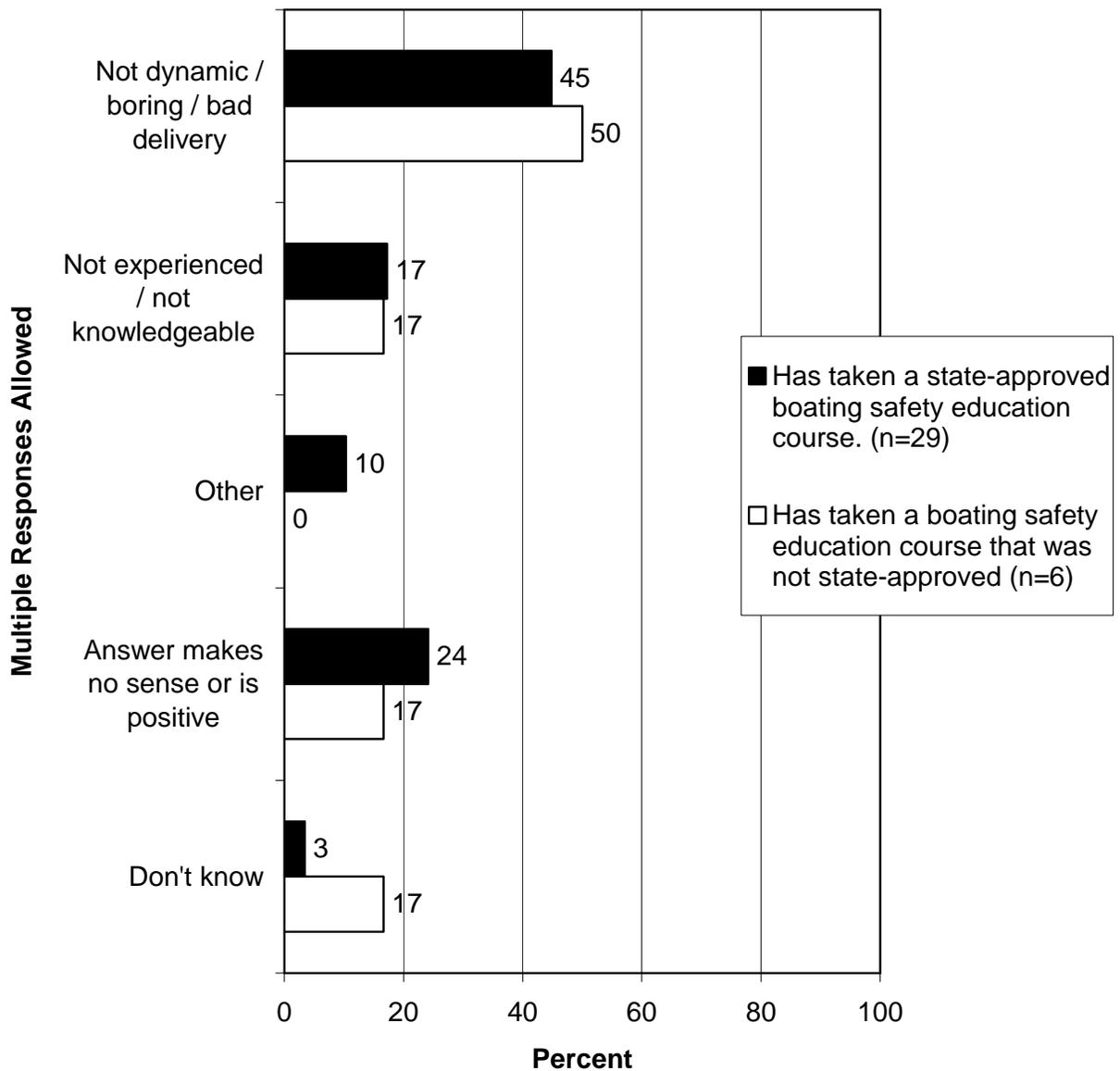
**Q104. Why were you dissatisfied with the course?
(Among those who were dissatisfied with the state-
approved certification boating safety course that
they took.)**



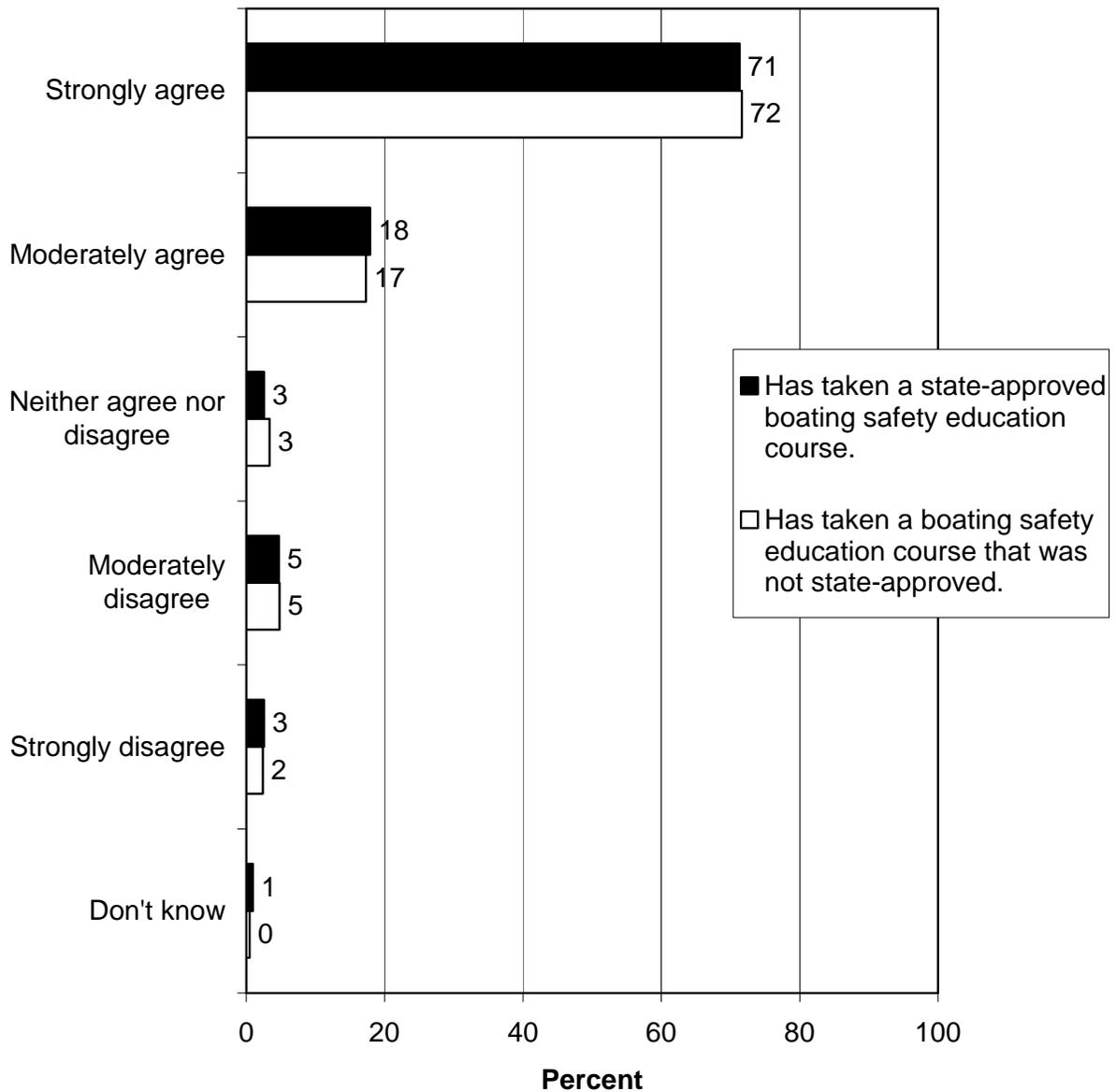
Q115. Why do you rate this course as fair or poor? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course and who rated it fair or poor.)



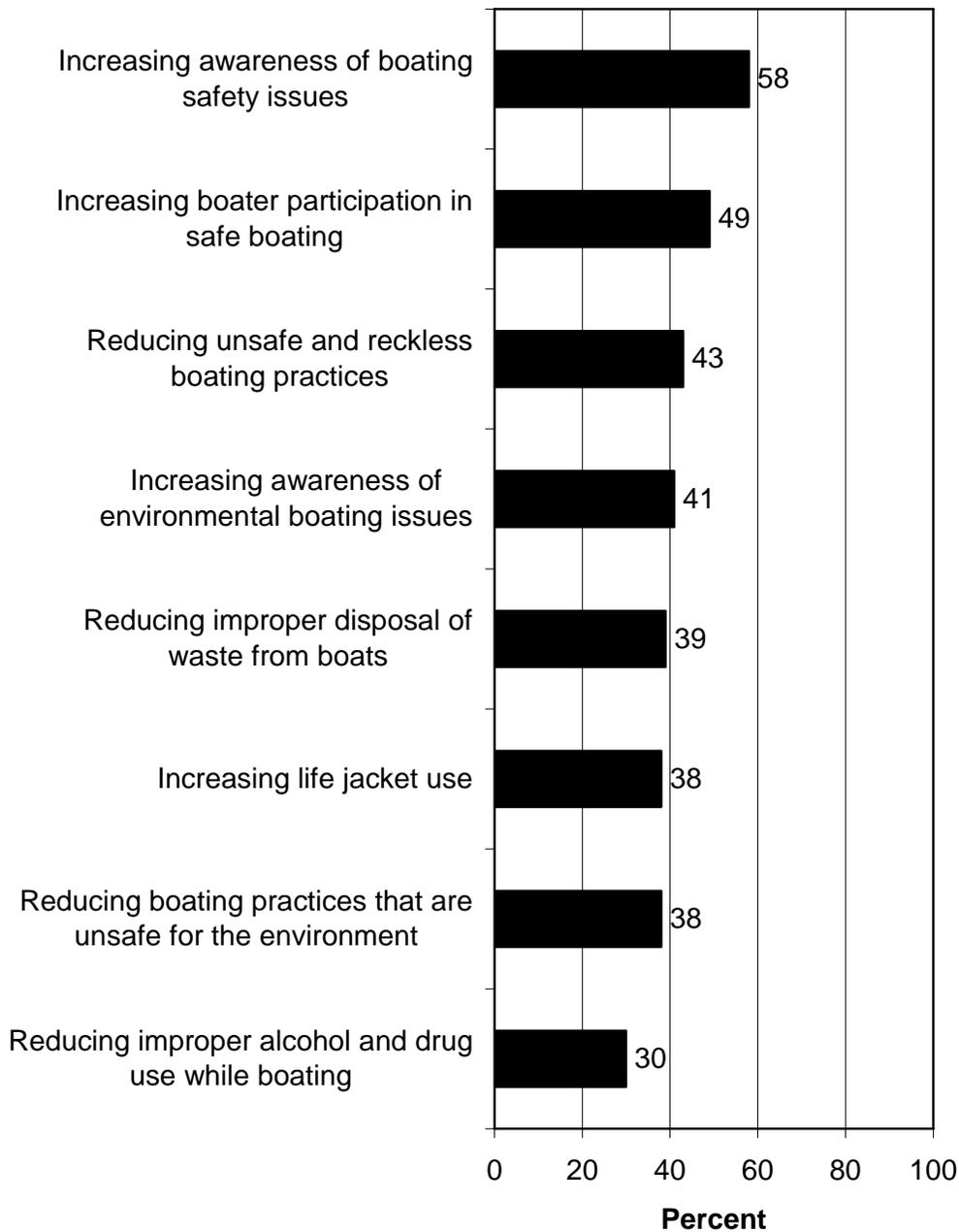
Q120. Why do you rate the course instructor as fair or poor? (Asked of those whose most recent state-approved certification or basic/general boating safety education course was classroom instructed and who rated the instructor as fair or poor.)



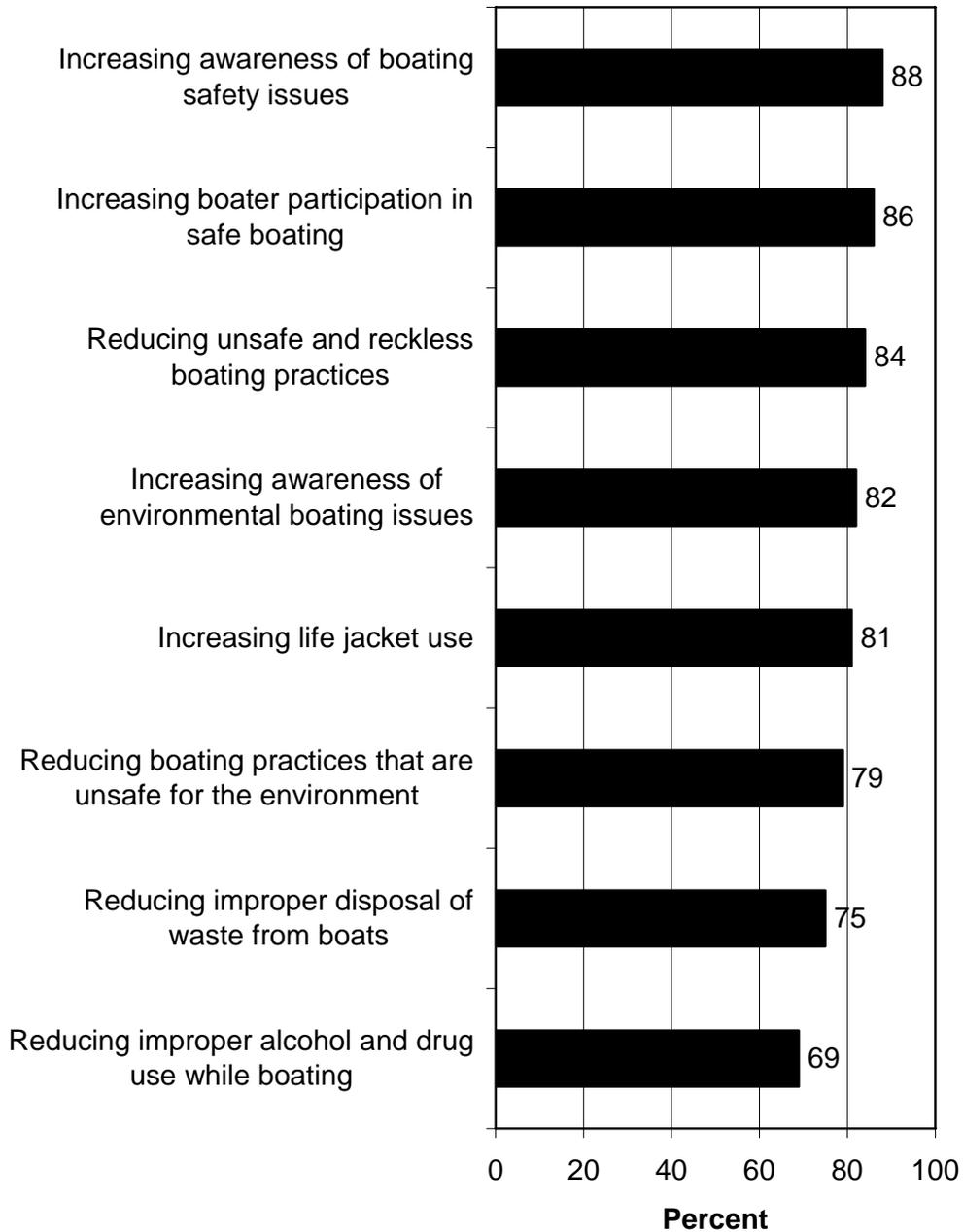
Q128. In general, do you agree or disagree that you practice safer boating behavior as a result of the most recent boating safety education course you completed? (Asked of those who have taken at least one boating safety education course that was state-approved or was basic/general.)



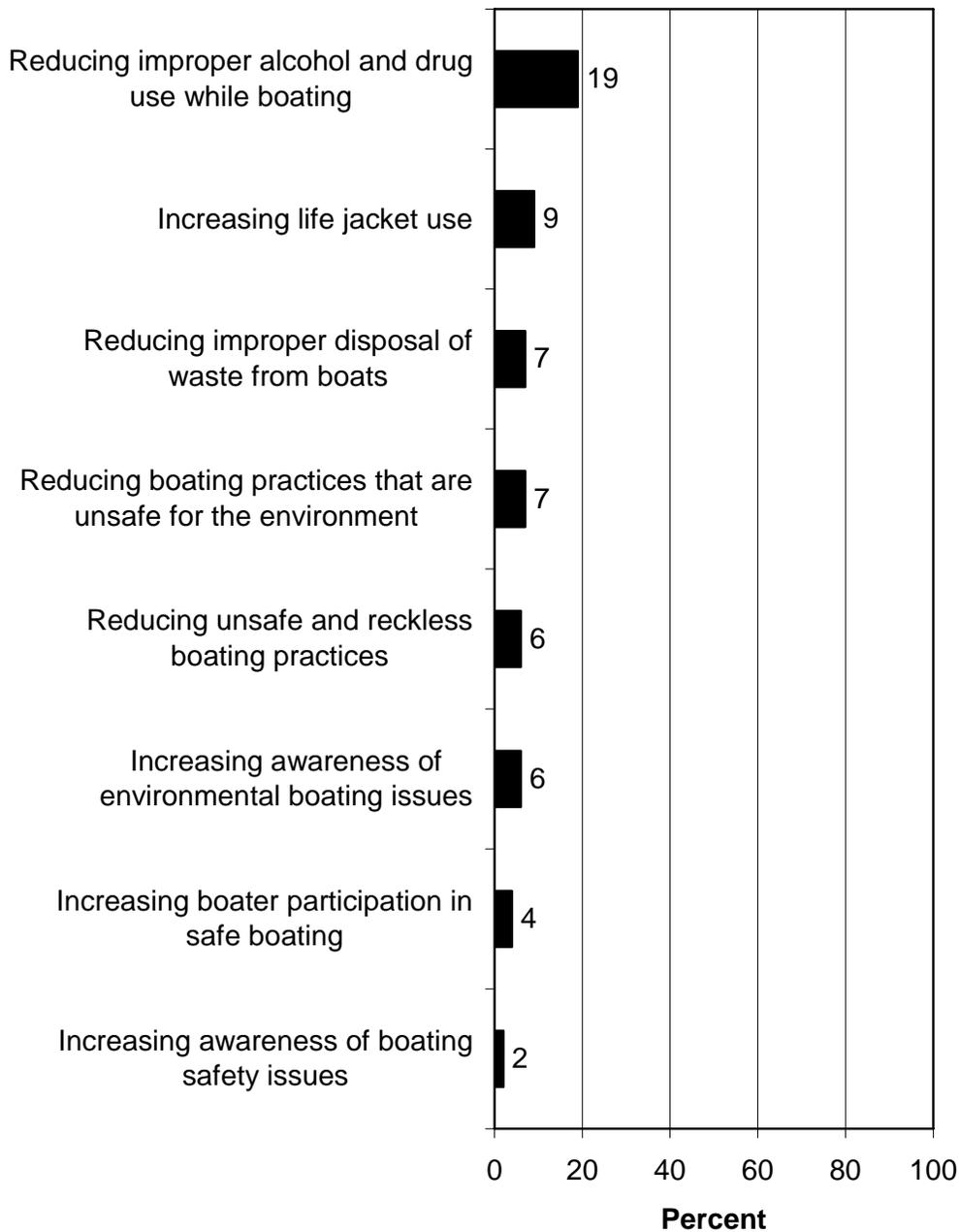
Q176-Q183. Percent who think boating safety education courses are very effective at the following.



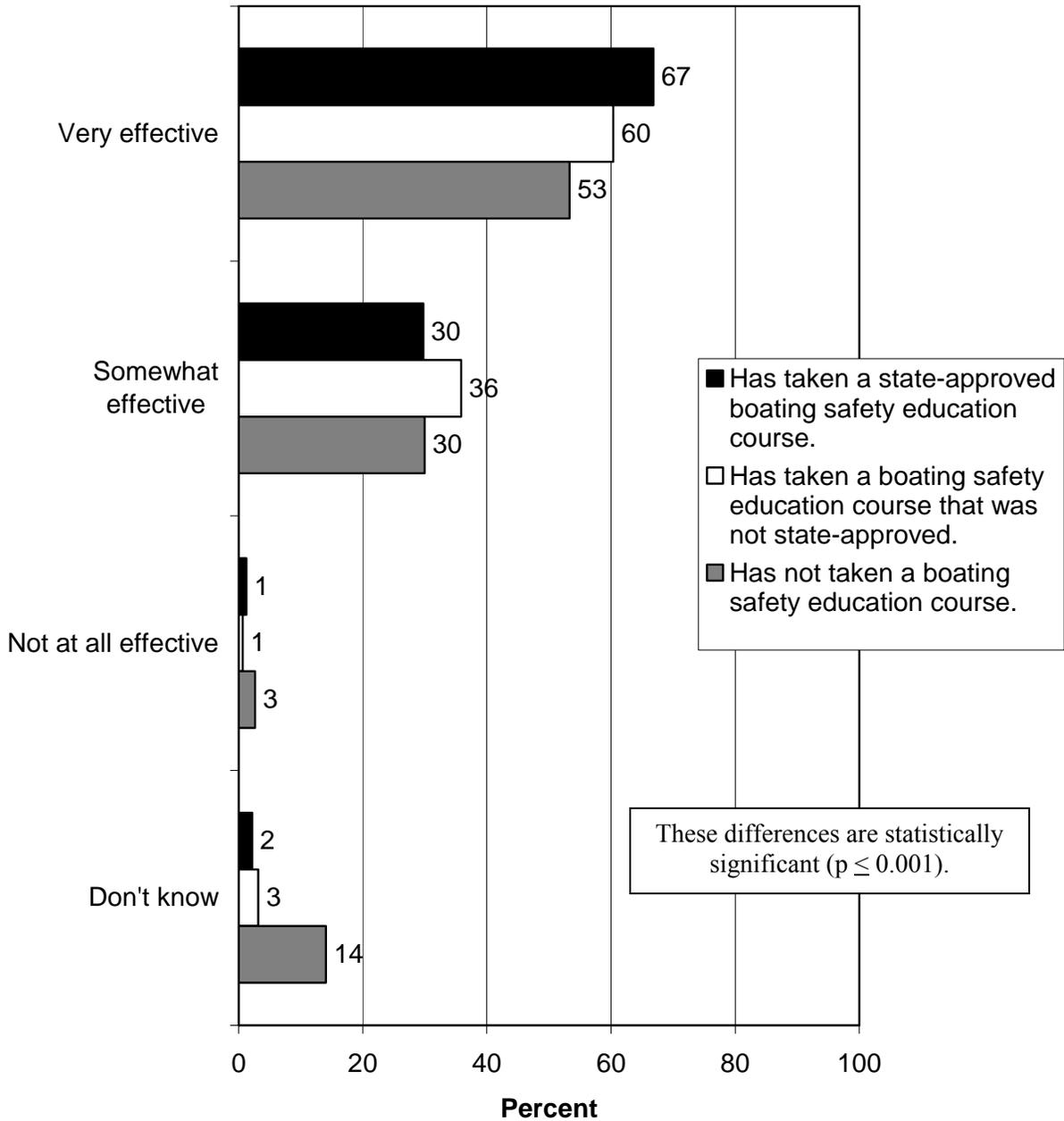
Q176-Q183. Percent who think boating safety education courses are very or somewhat effective at the following.



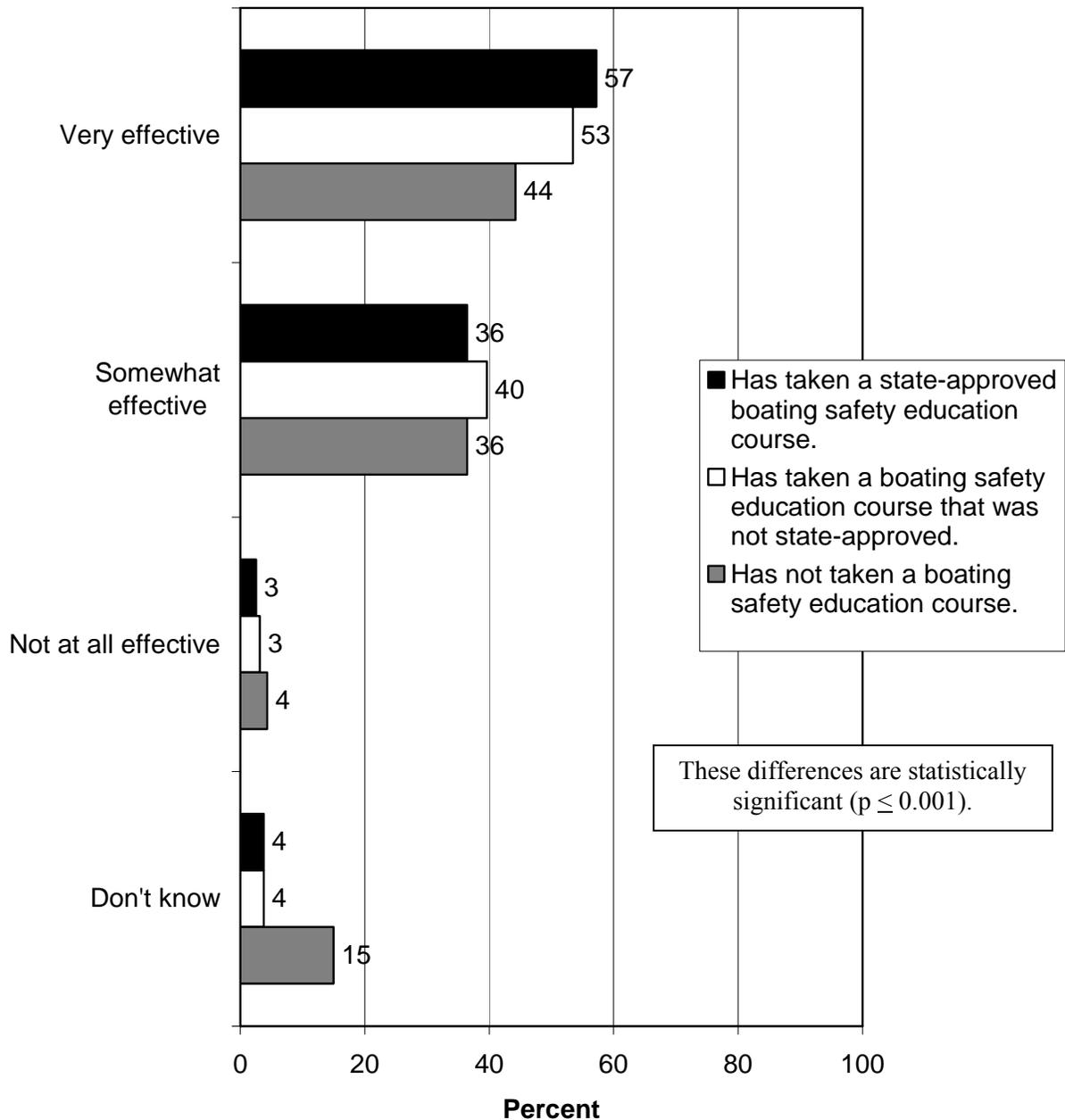
Q176-Q183. Percent who think boating safety education courses are not at all effective at the following.



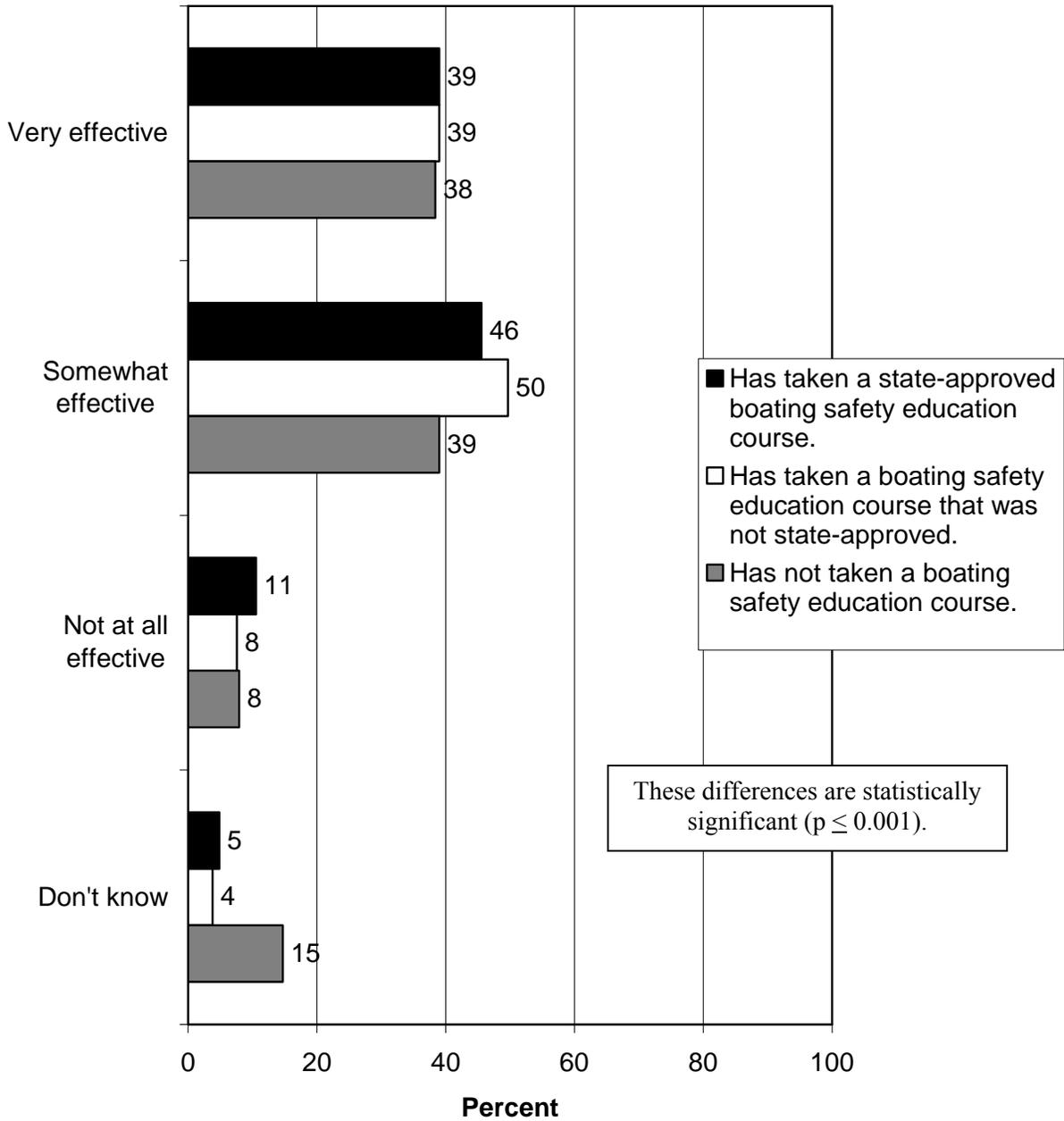
Q176. How effective do you think boating safety education courses are at increasing awareness of boating safety issues?



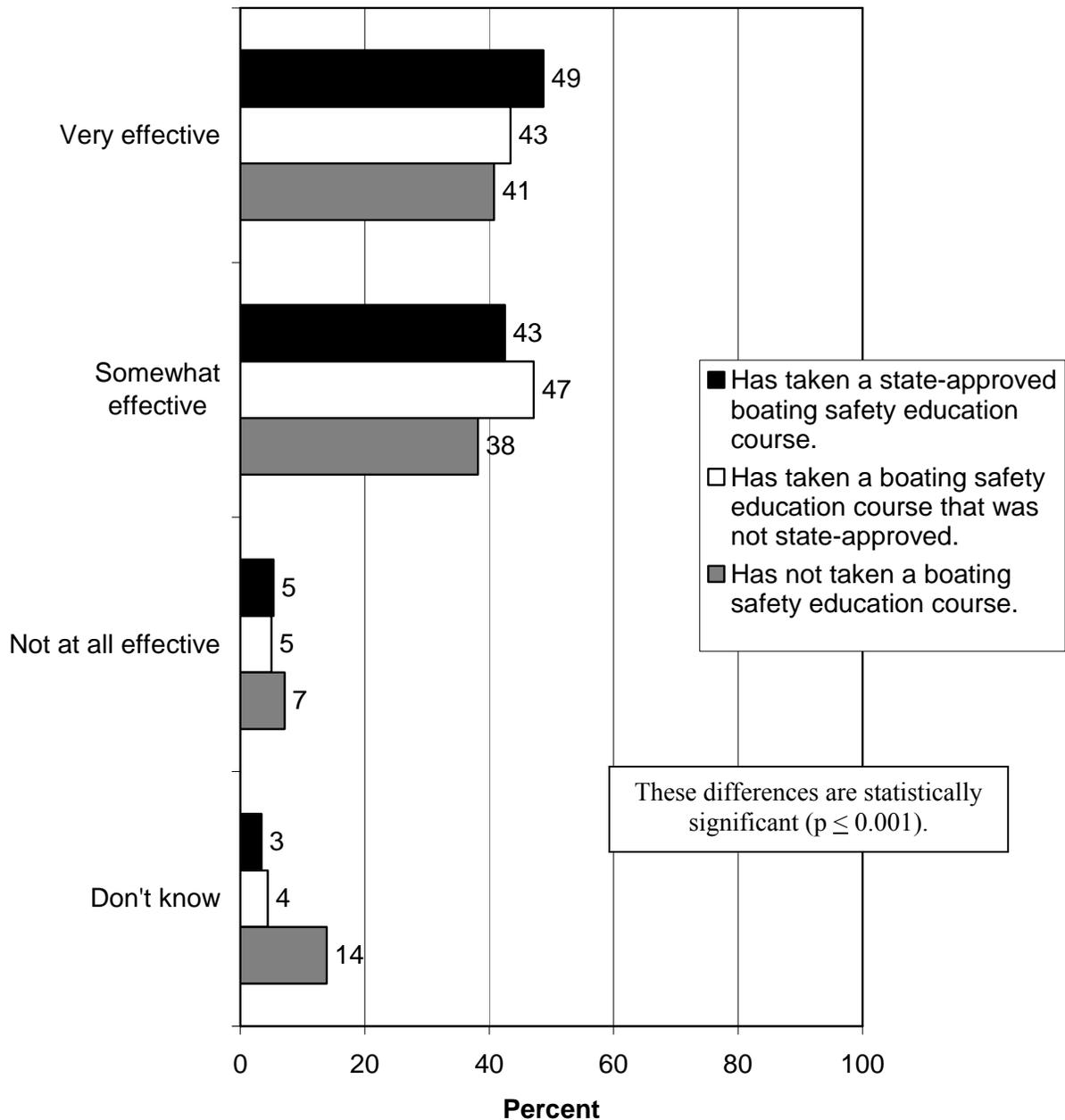
Q177. How effective do you think boating safety education courses are at increasing boater participation in safe boating?



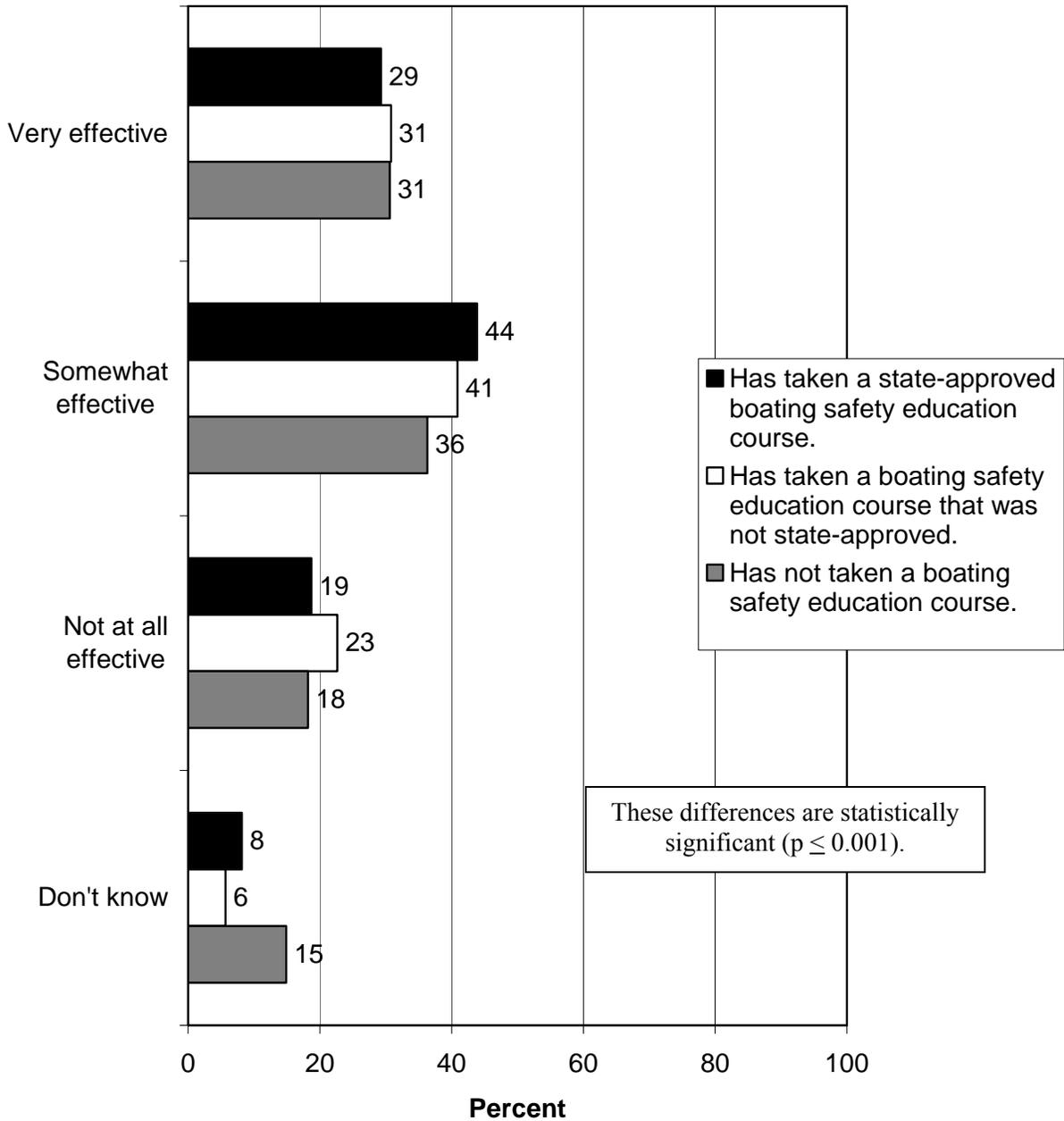
Q178. How effective do you think boating safety education courses are at increasing life jacket use?



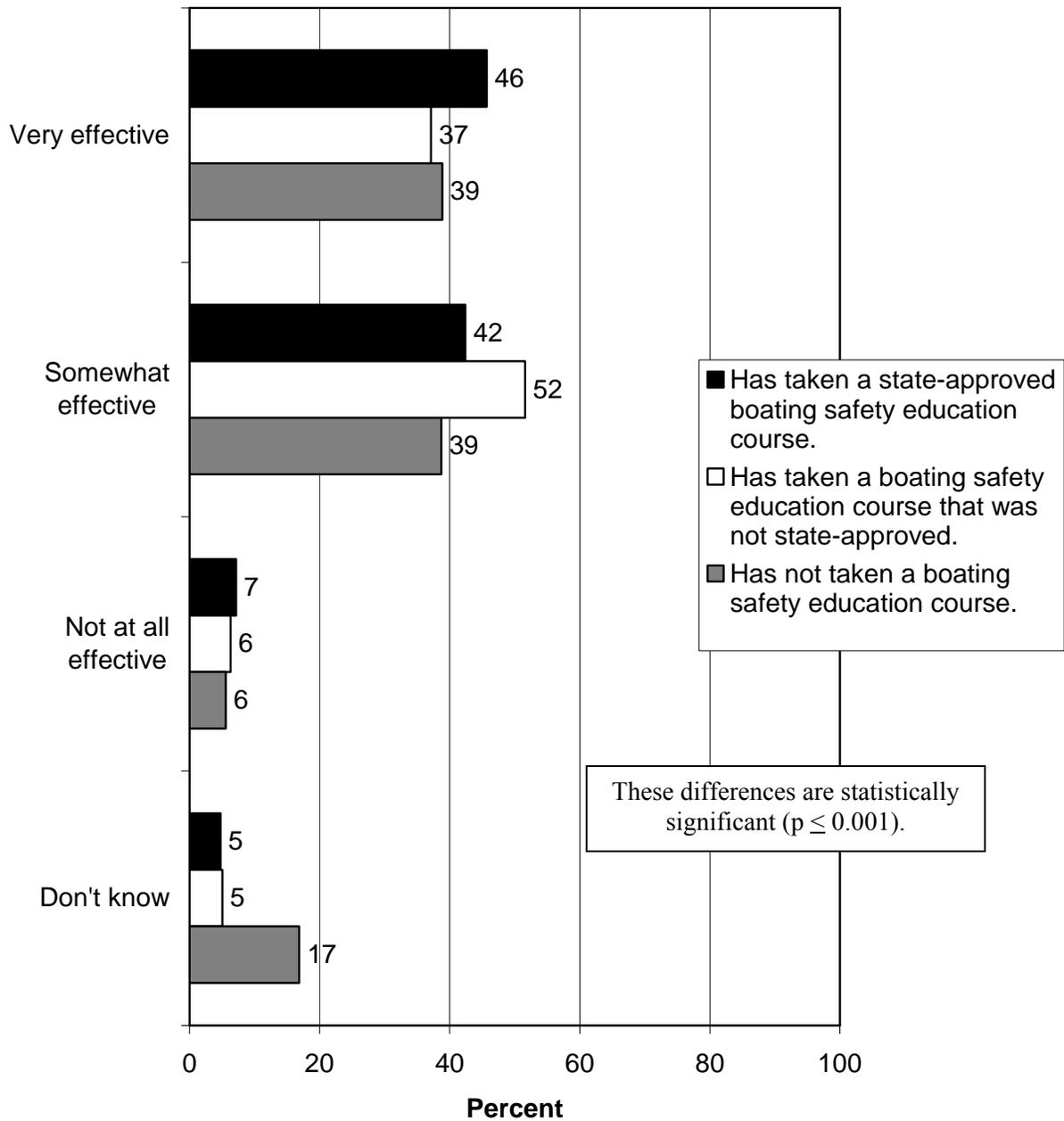
Q179. How effective do you think boating safety education courses are at reducing unsafe and reckless boating practices?



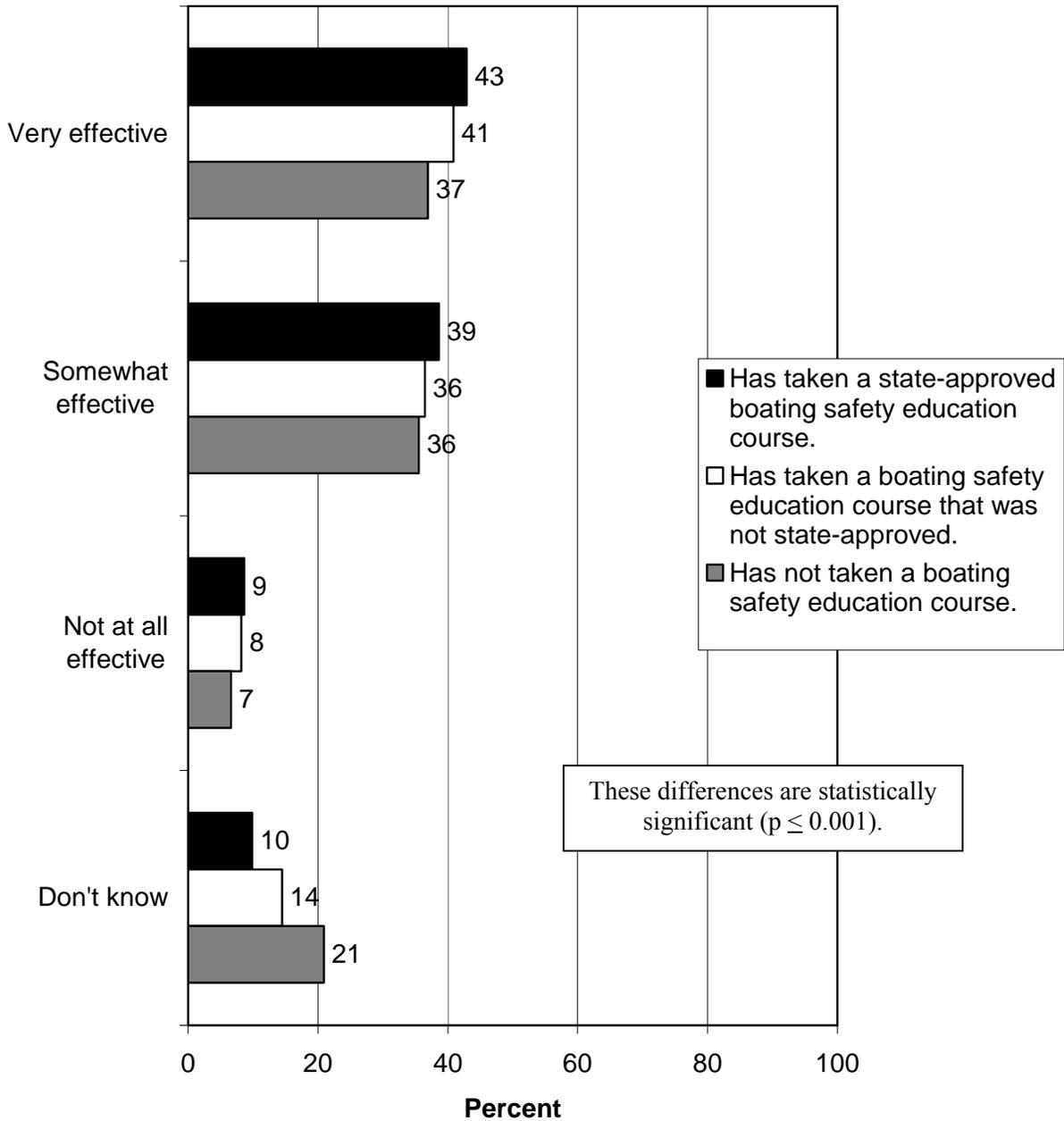
Q180. How effective do you think boating safety education courses are at reducing improper alcohol and drug use while boating?



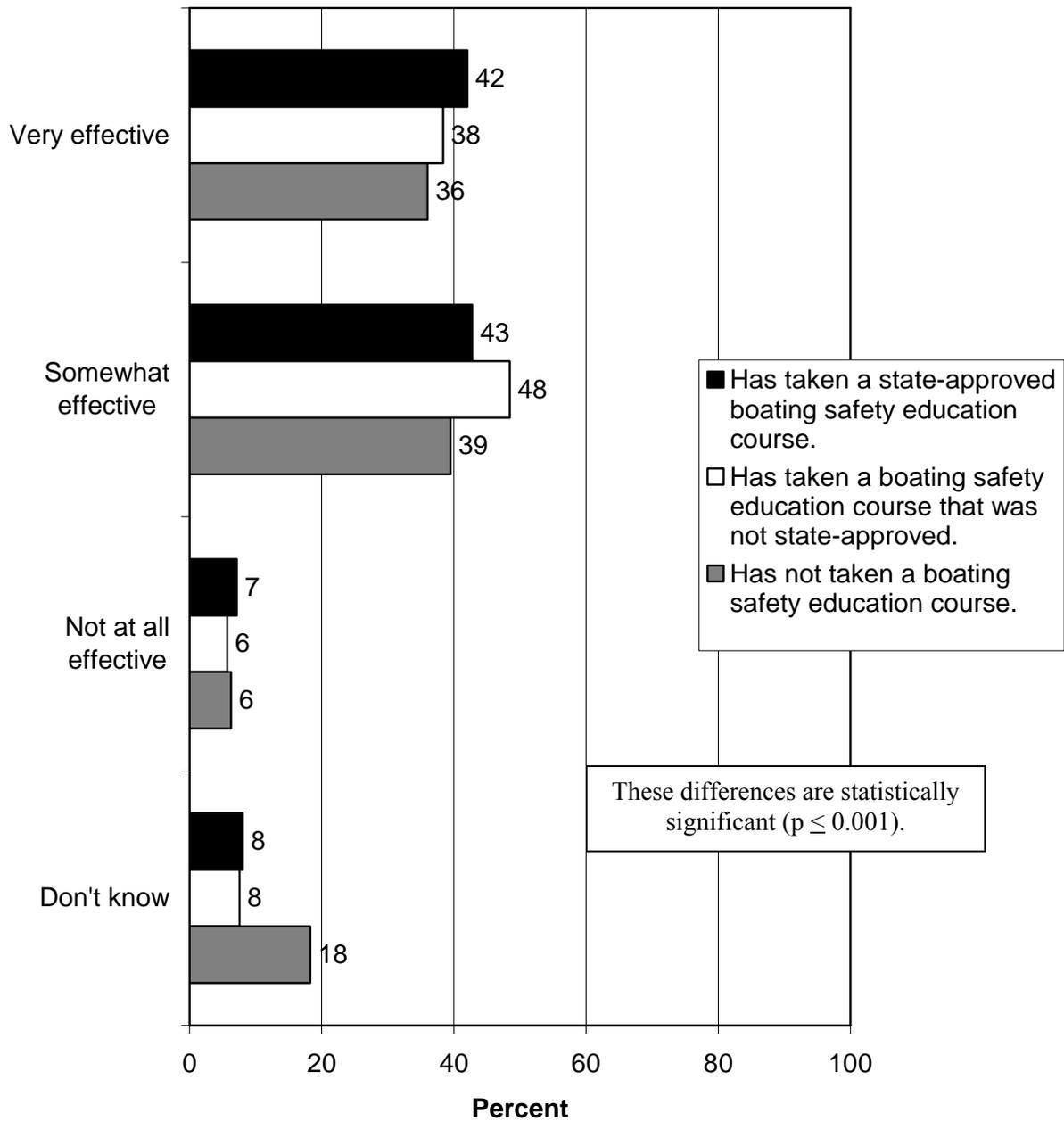
Q181. How effective do you think boating safety education courses are at increasing awareness of environmental boating issues?



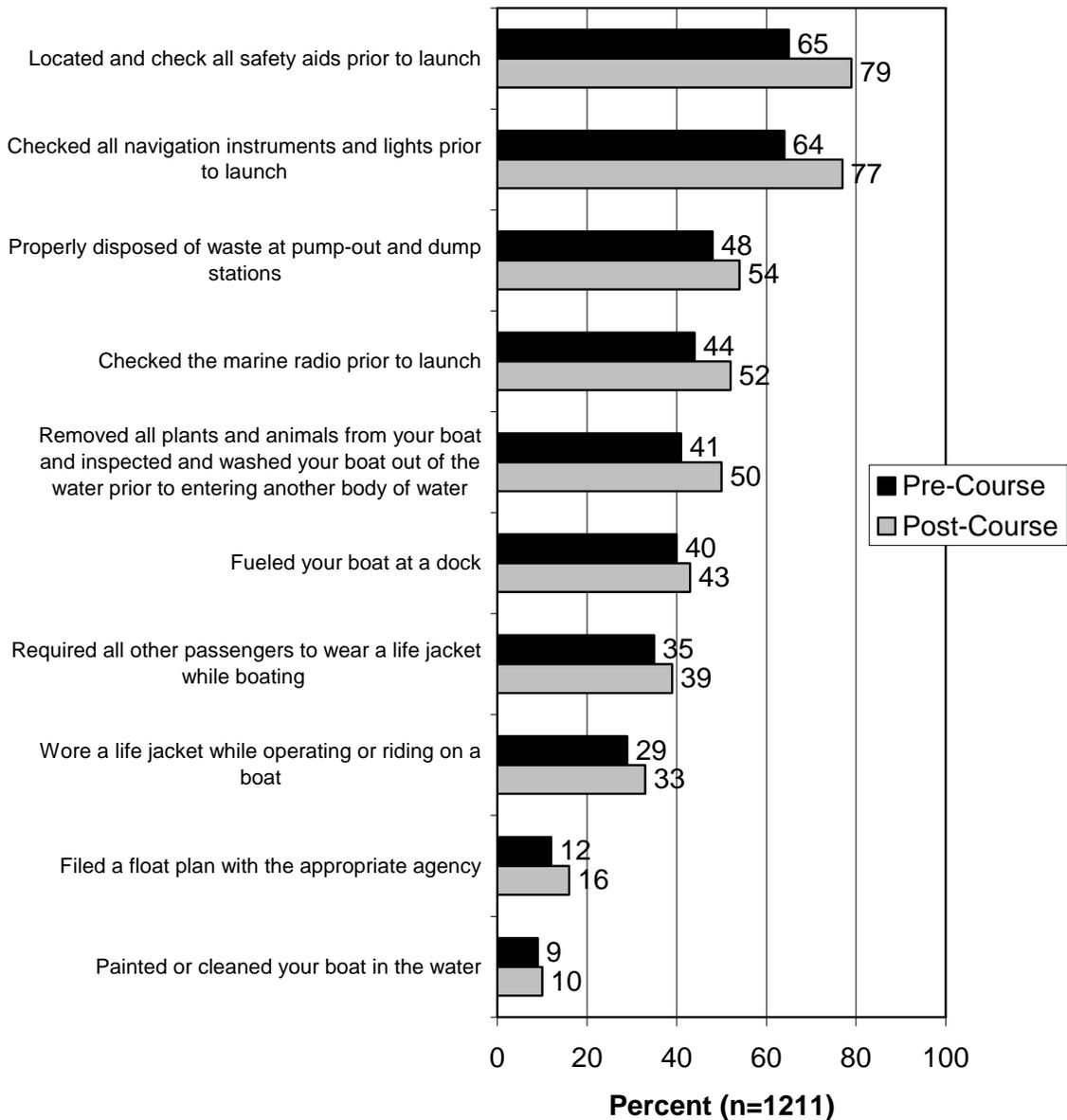
Q182. How effective do you think boating safety education courses are at reducing improper disposal of waste from boats?



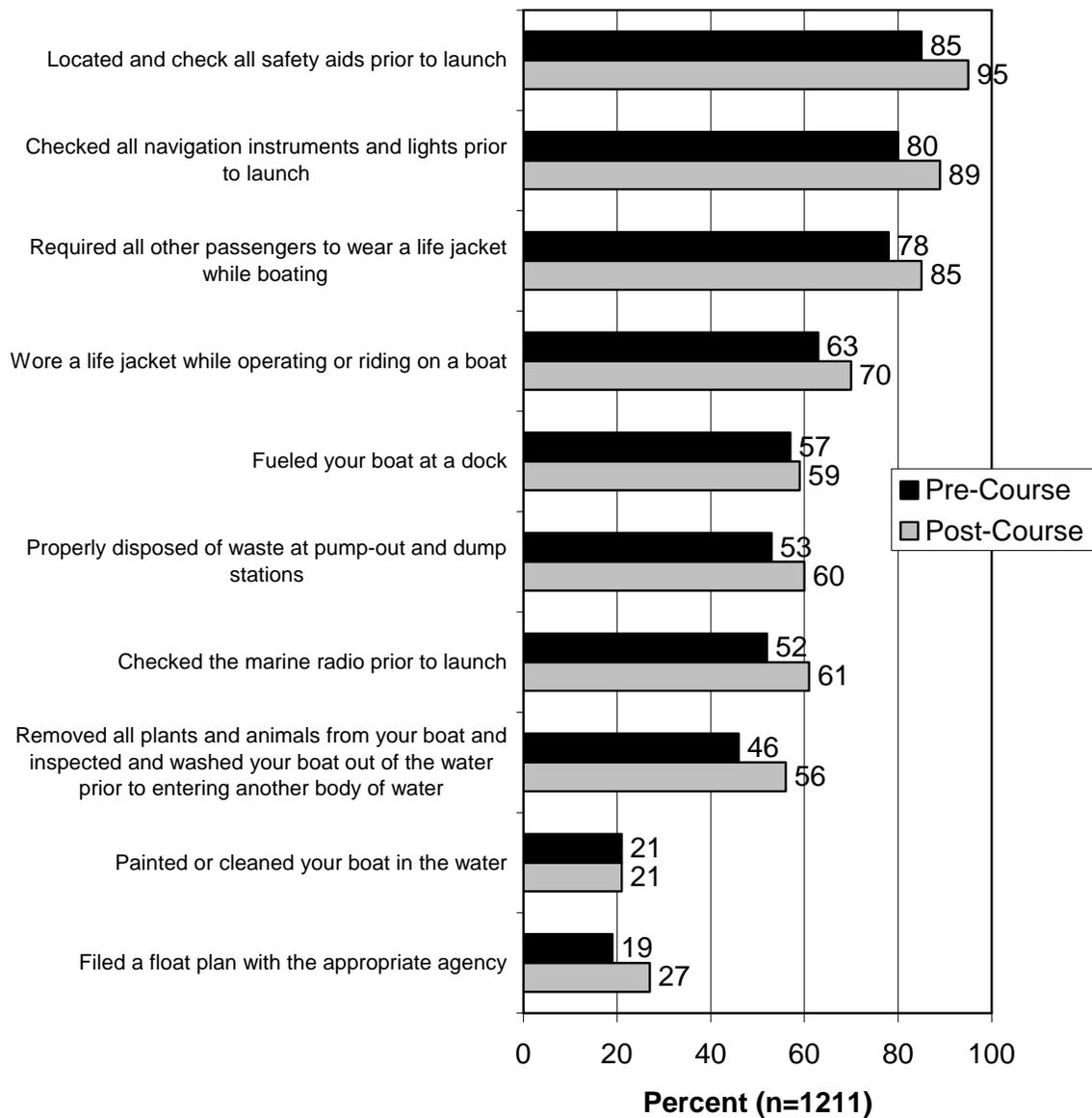
Q183. How effective do you think boating safety education courses are at reducing boating practices that are unsafe for the environment?



Q136-145/Q149-Q158. Percent who always participated in the following before/after taking the most recent boating safety education course he/she completed. (Asked of those who have taken at least one state-approved certification course.)

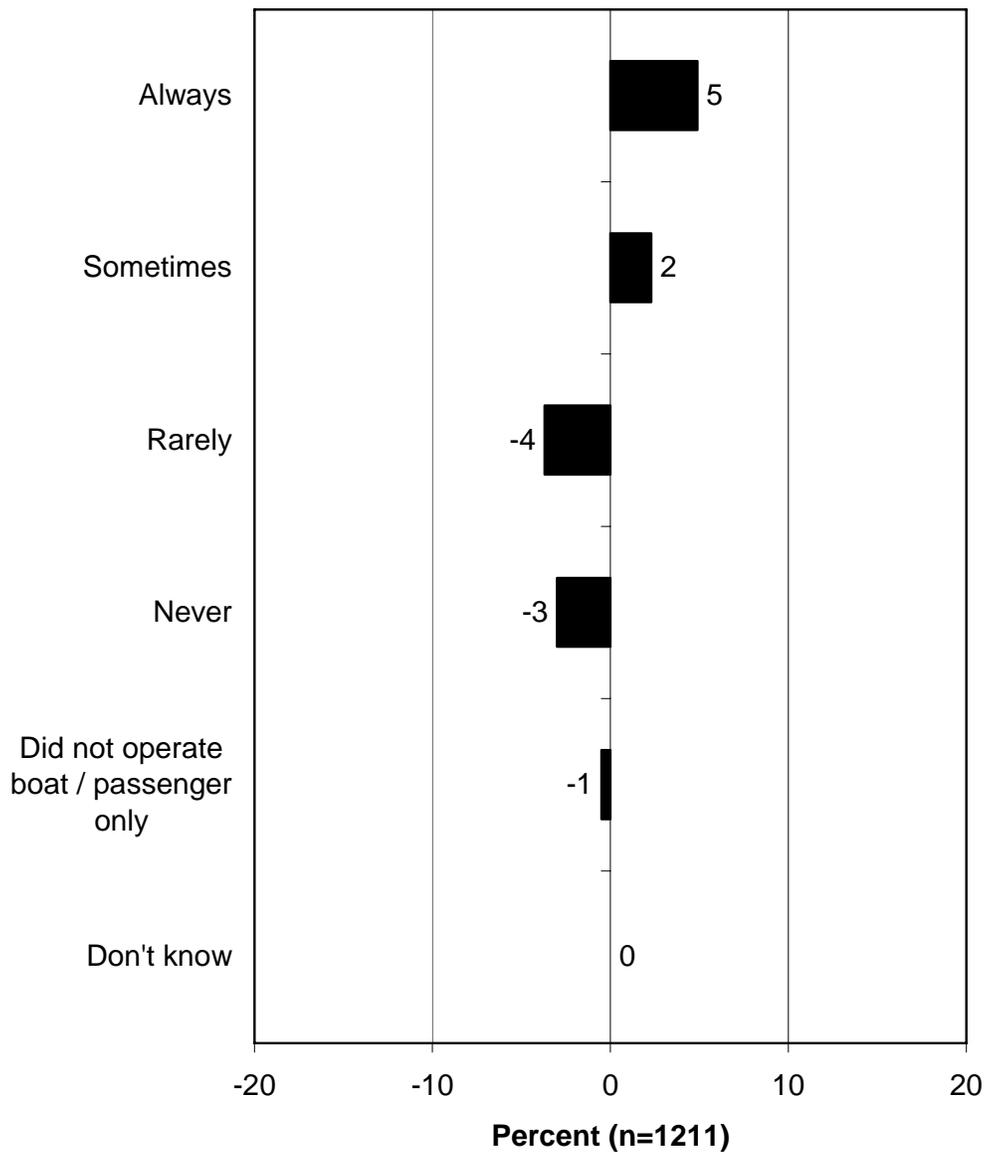


Q136-145/Q149-Q158. Percent who always or sometimes participated in the following before/after taking the most recent boating safety education course he/she completed. (Asked of those who have taken at least one certification course.)



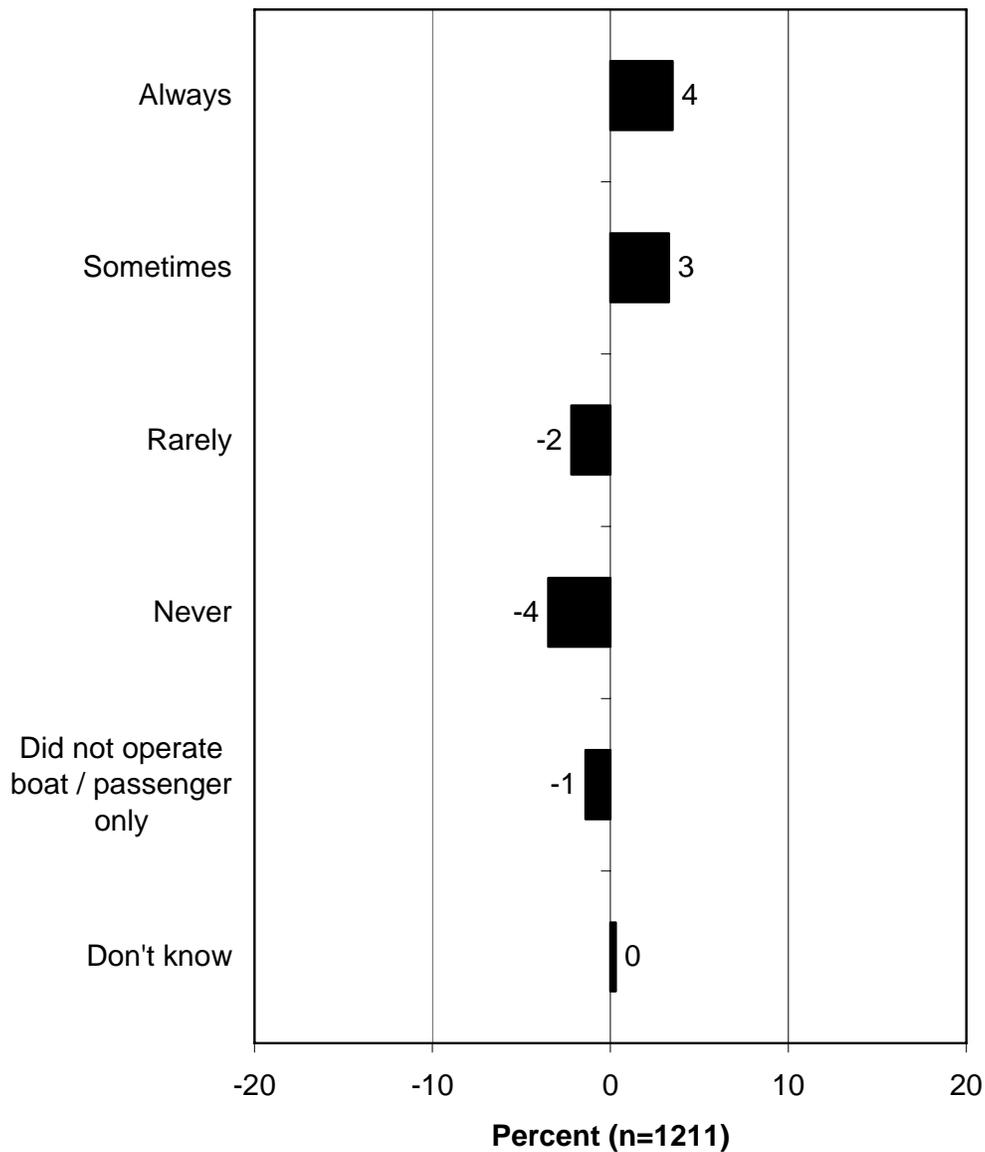
Q136/Q149. Wore a life jacket while operating or riding on a boat.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



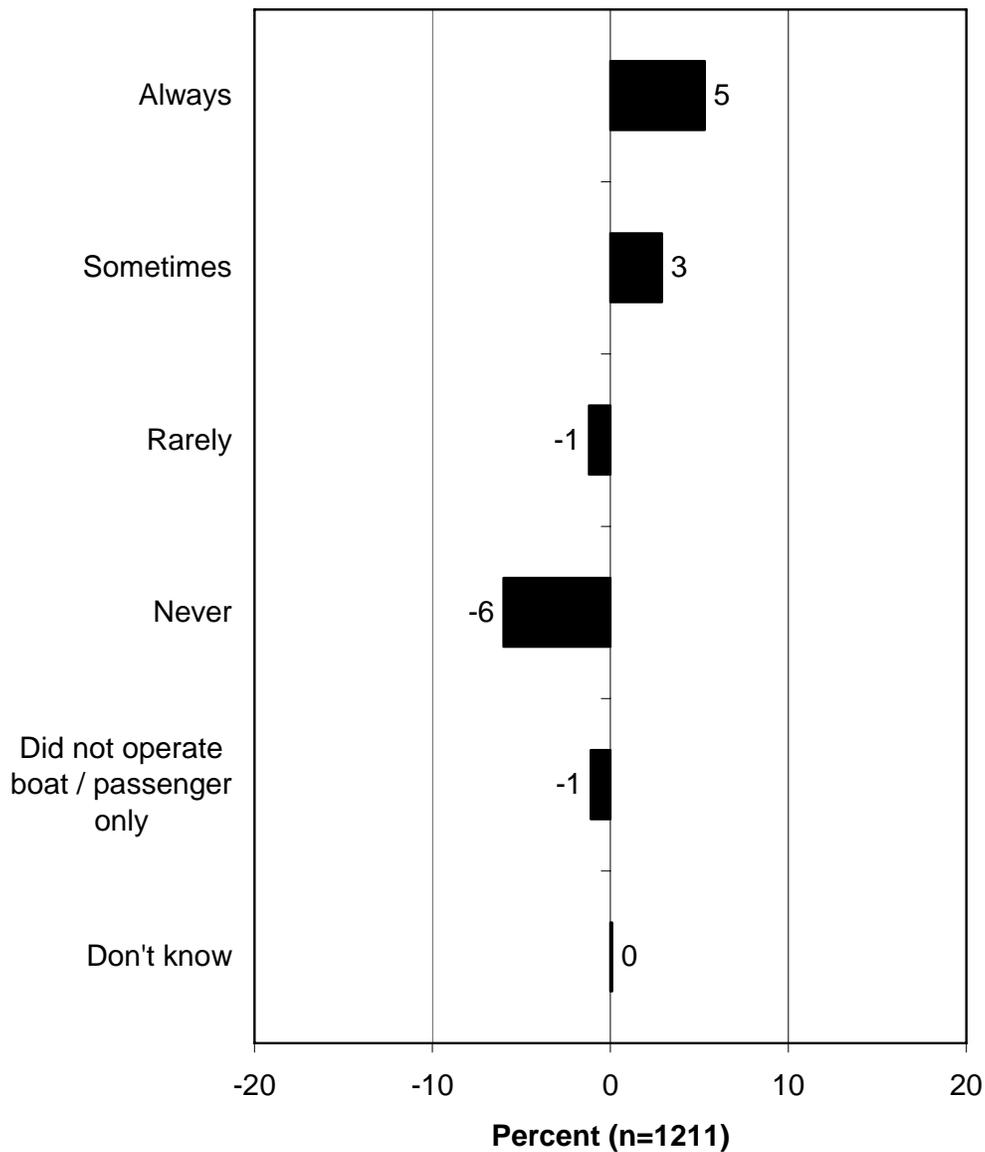
Q137/Q150. Required all other passengers to wear a life jacket while boating.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



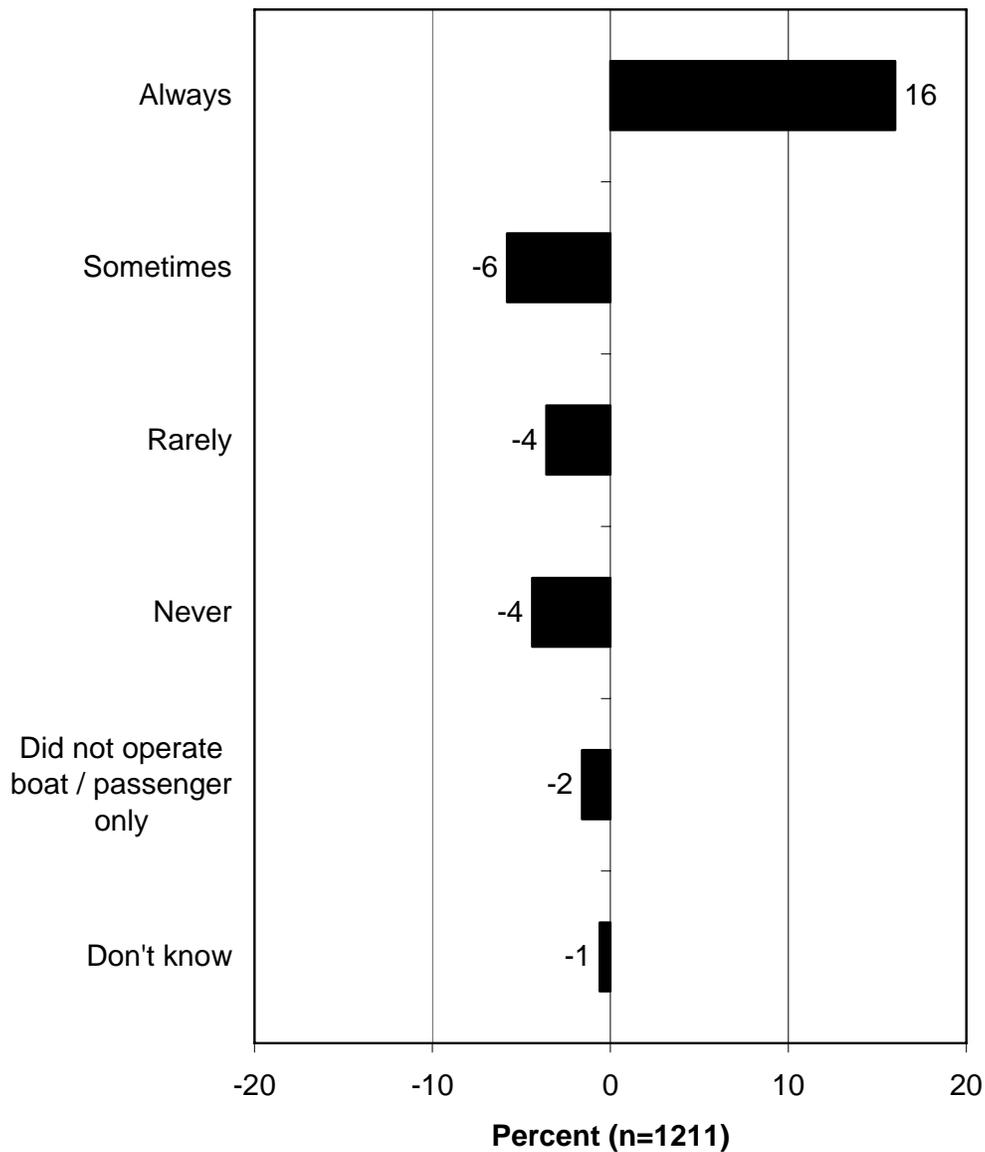
Q138/Q151. Filed a float plan with the appropriate agency.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



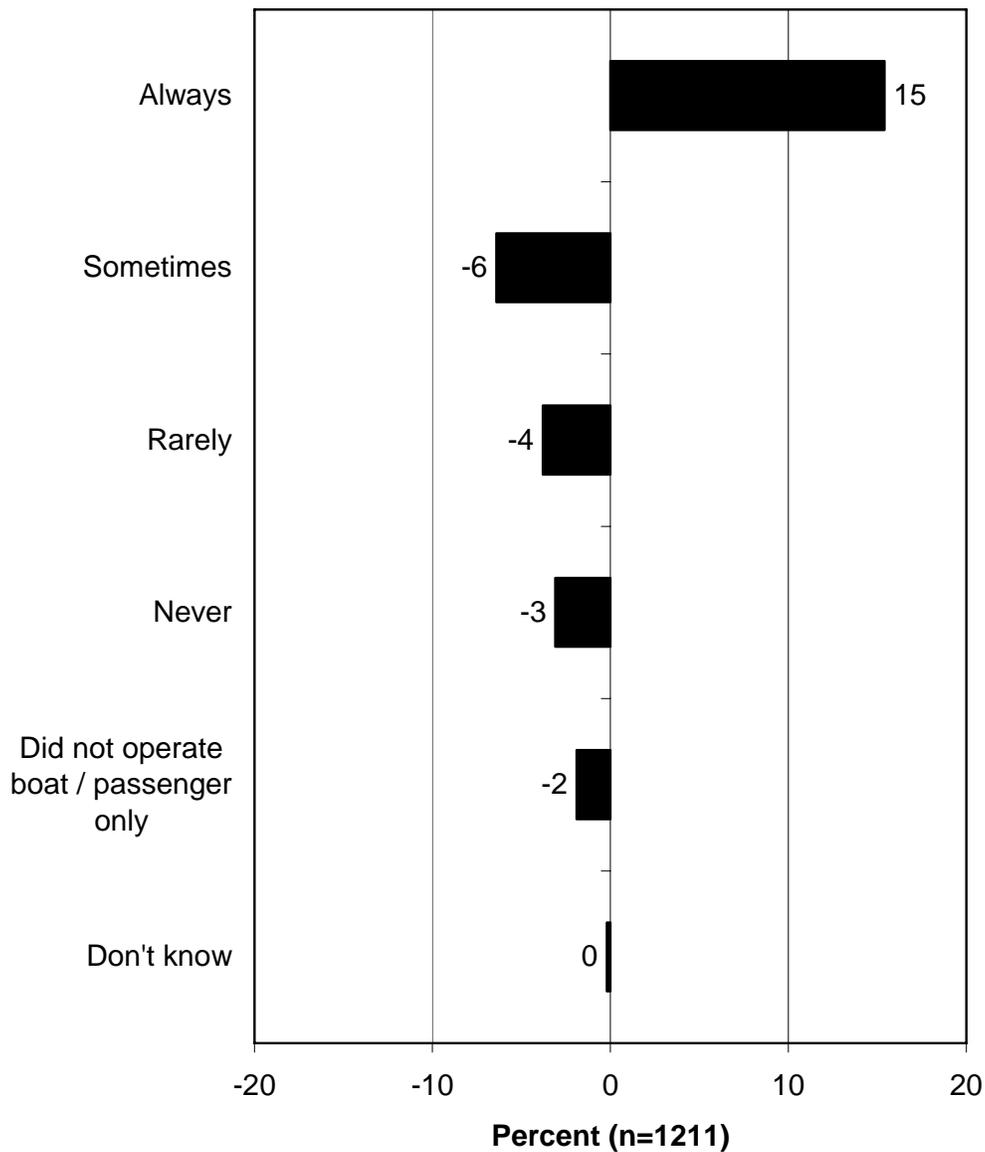
Q139/Q152. Located and checked all safety aids prior to launch.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



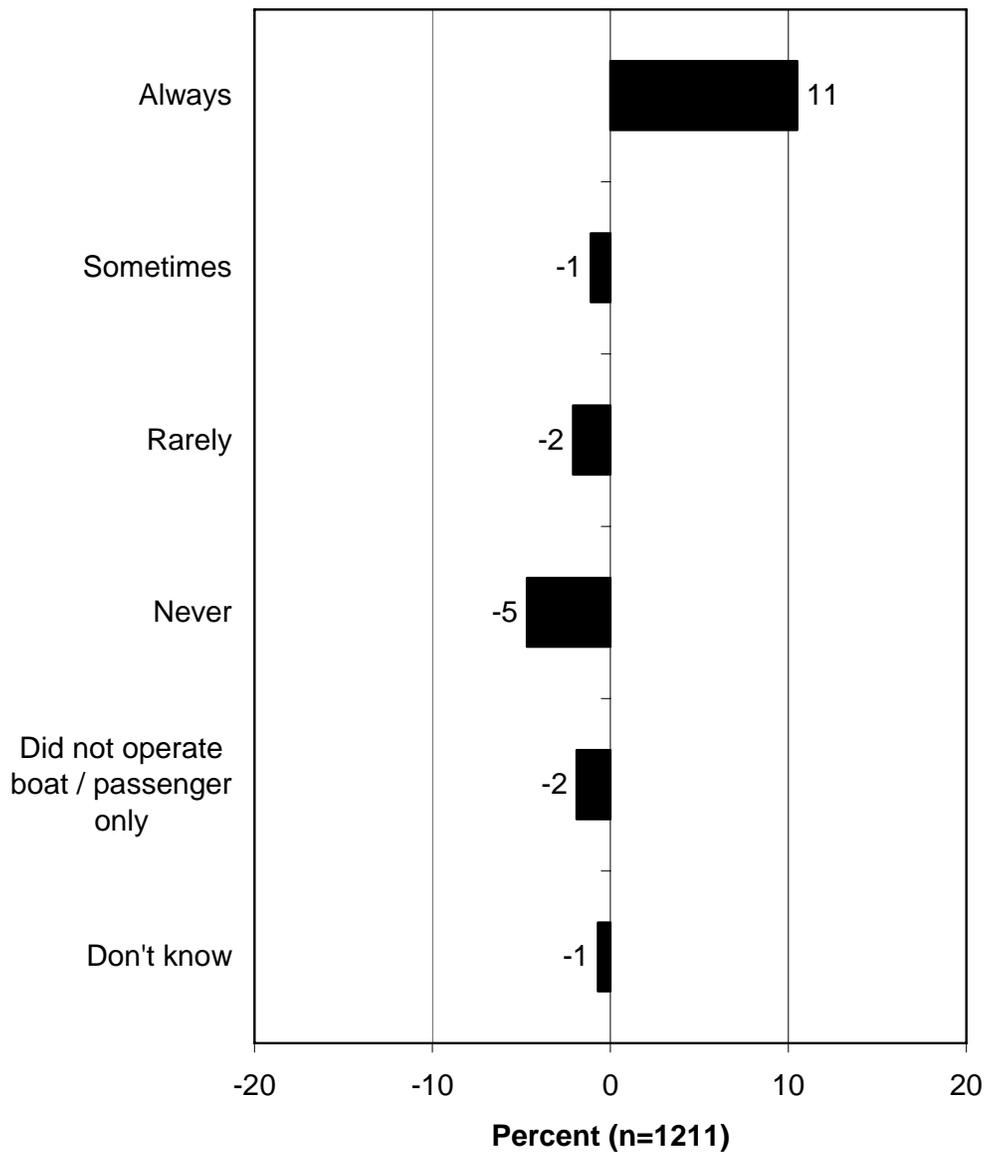
Q140/Q153. Checked all navigation instruments and lights prior to launch.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



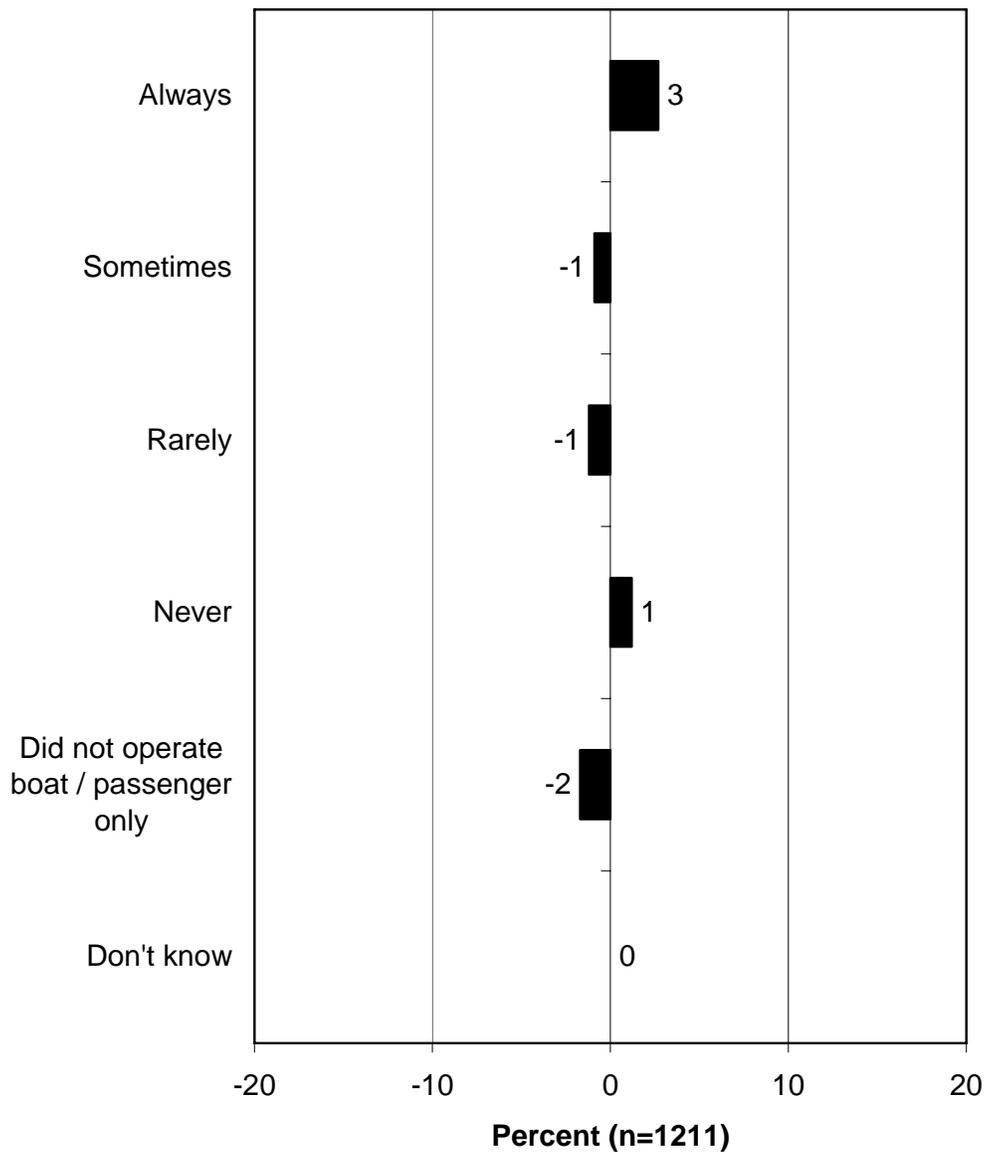
Q141/Q154. Checked the marine radio prior to launch.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



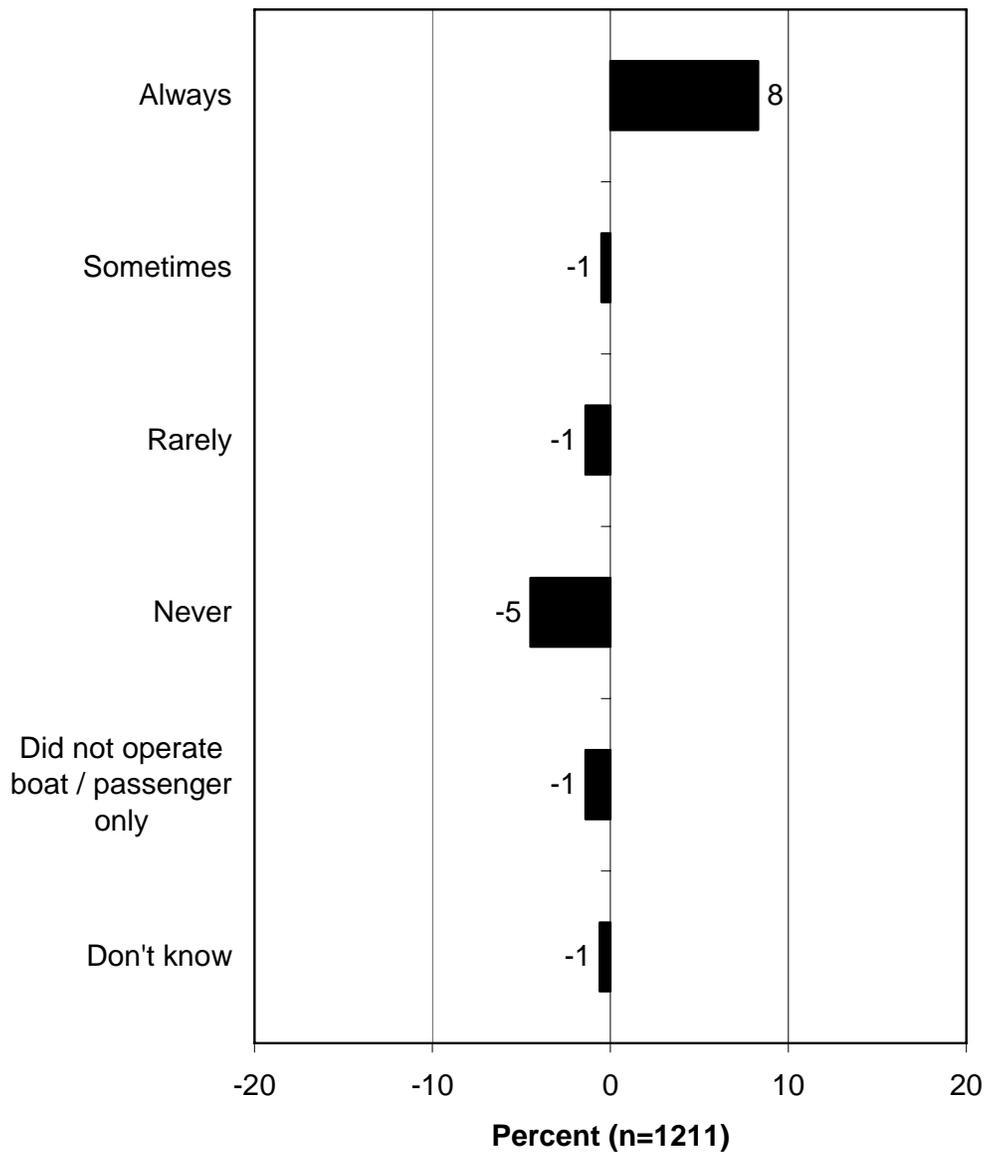
Q142/Q155. Fueled your boat at a dock.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



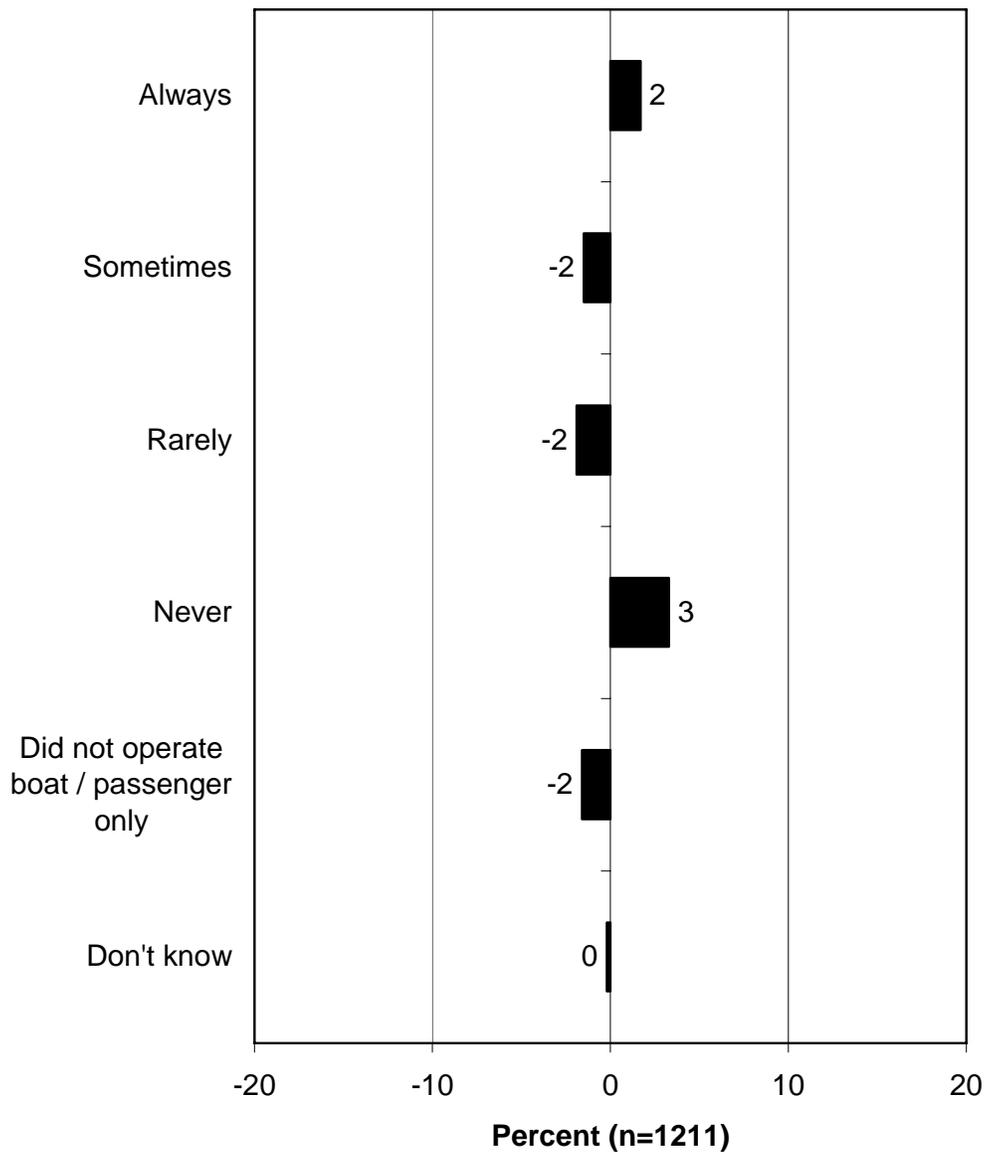
Q143/Q156. Properly disposed of waste at pump-out and dump stations.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



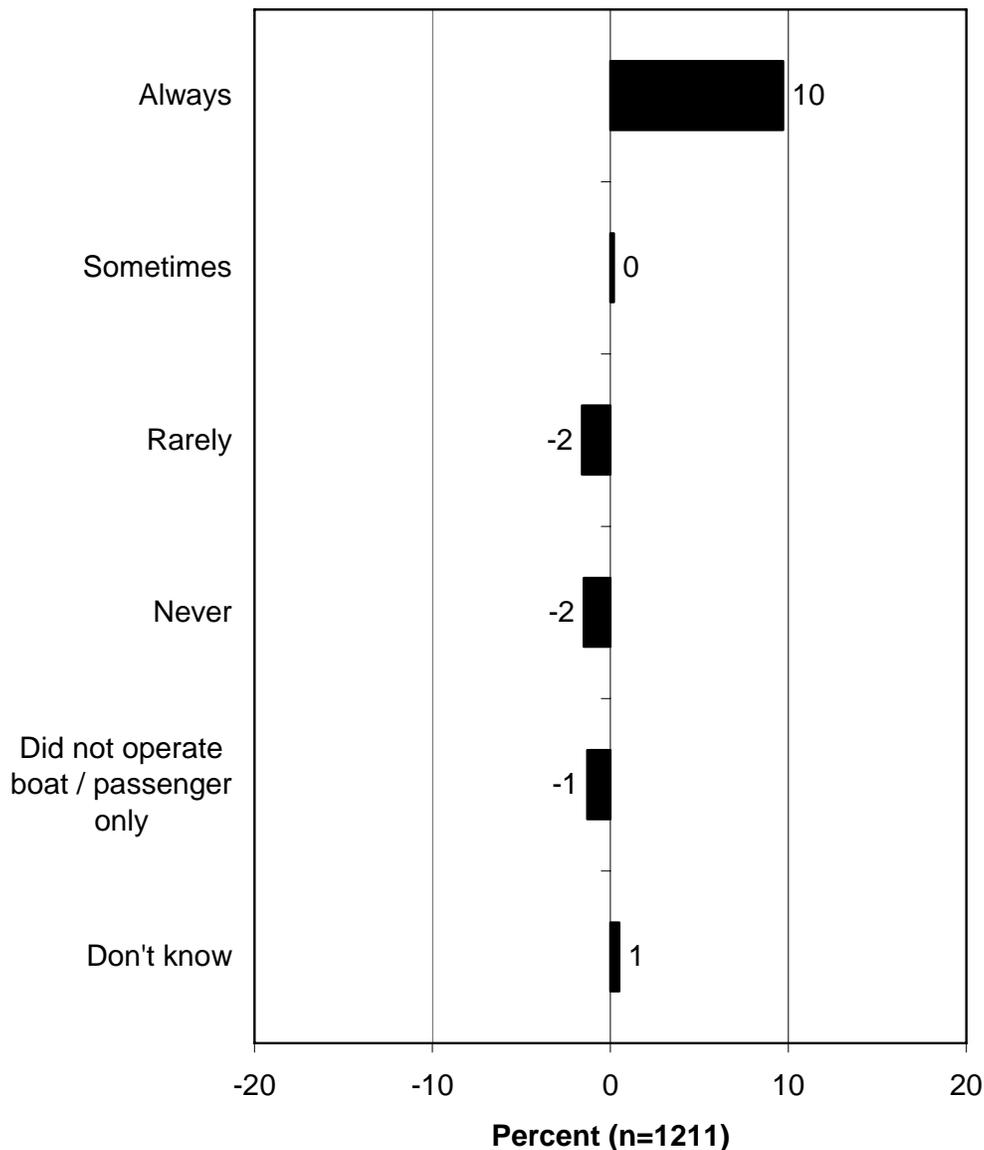
Q144/Q157. Painted or cleaned your boat in the water.

Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).

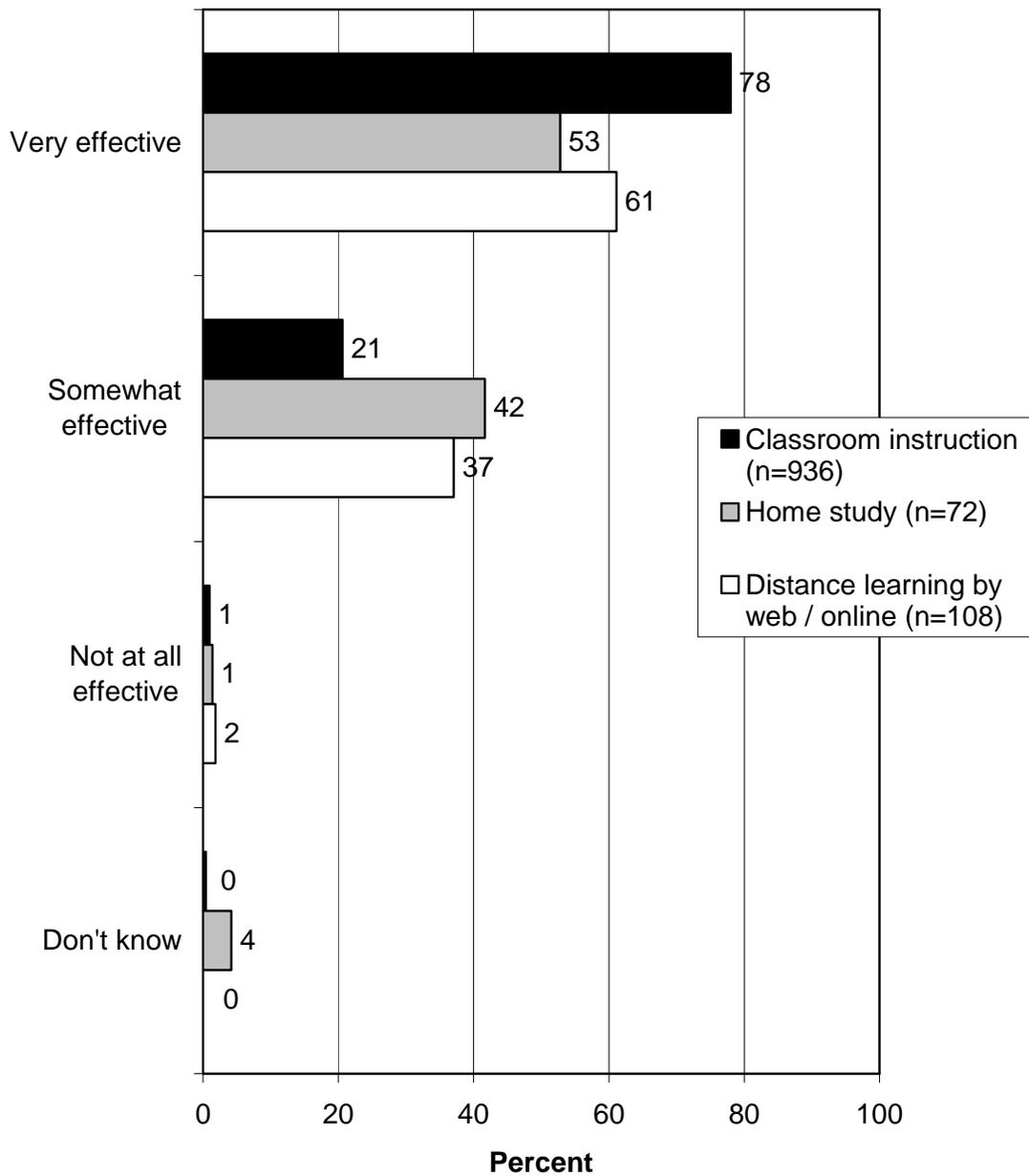


Q145/Q158. Removed all plants and animals from your boat and inspected and washed your boat out of the water prior to entering another body of water.

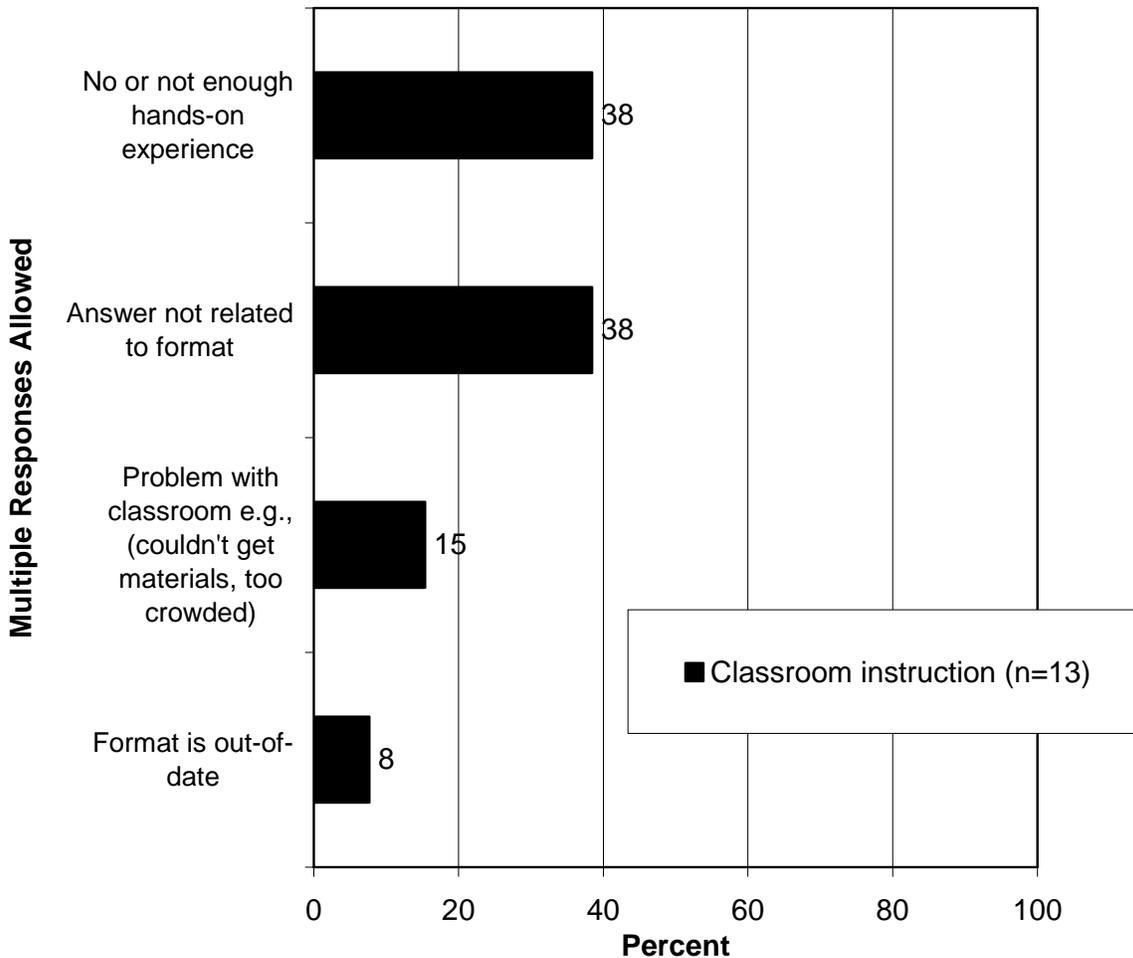
Reported percentage point difference between pre-course and post-course boating behavior (only among those who took a state-approved certification course).



Q117. How effective would you say this format was for teaching boating safety? (Among those who took at least one state-approved certification boating safety education course.)



Q118. Why would you say this format was not at all effective? (Asked of those who think the format for their most recent boating safety education course was not effective.)

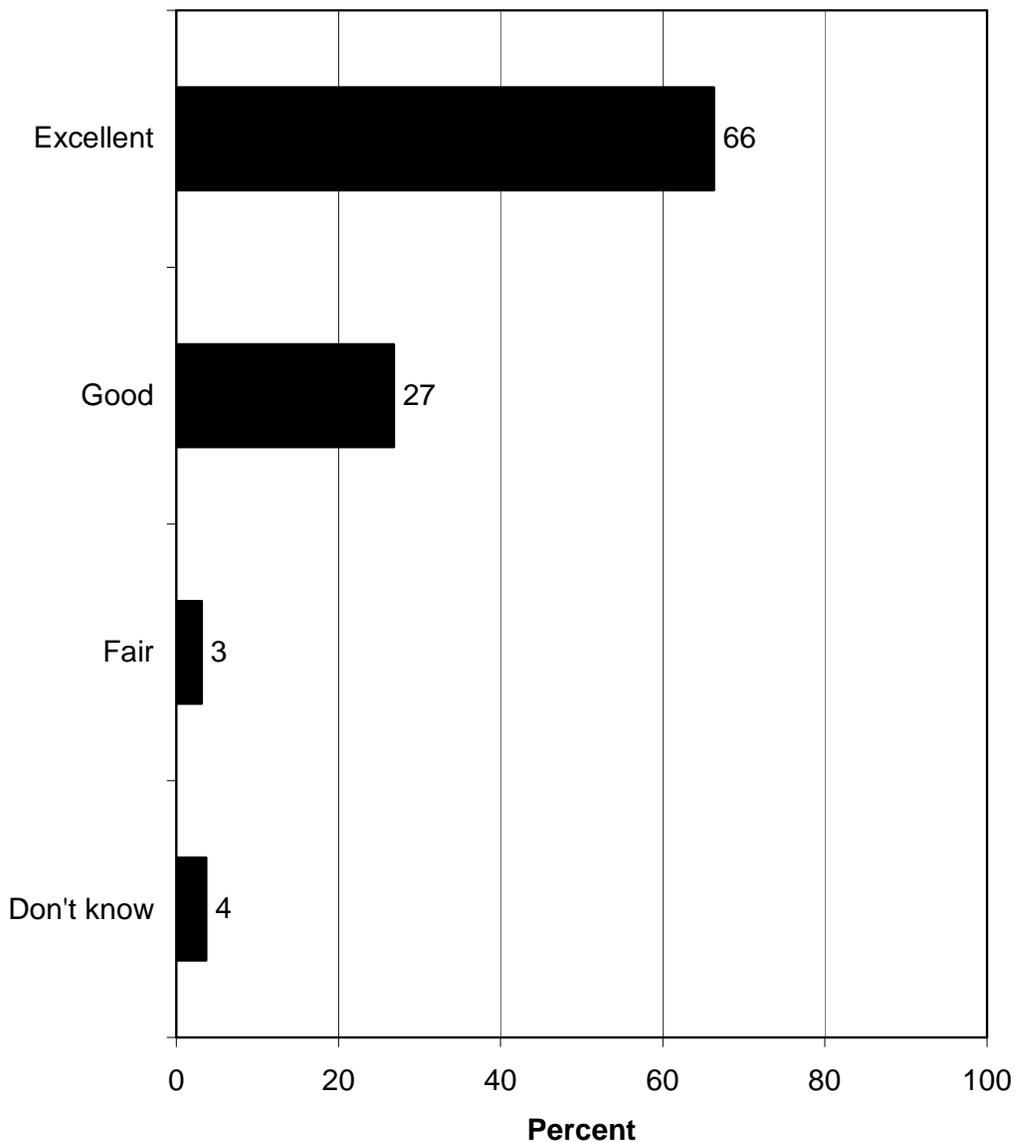


One respondent who had taken home study responded that the course was ineffective because it lacked a hands-on component.

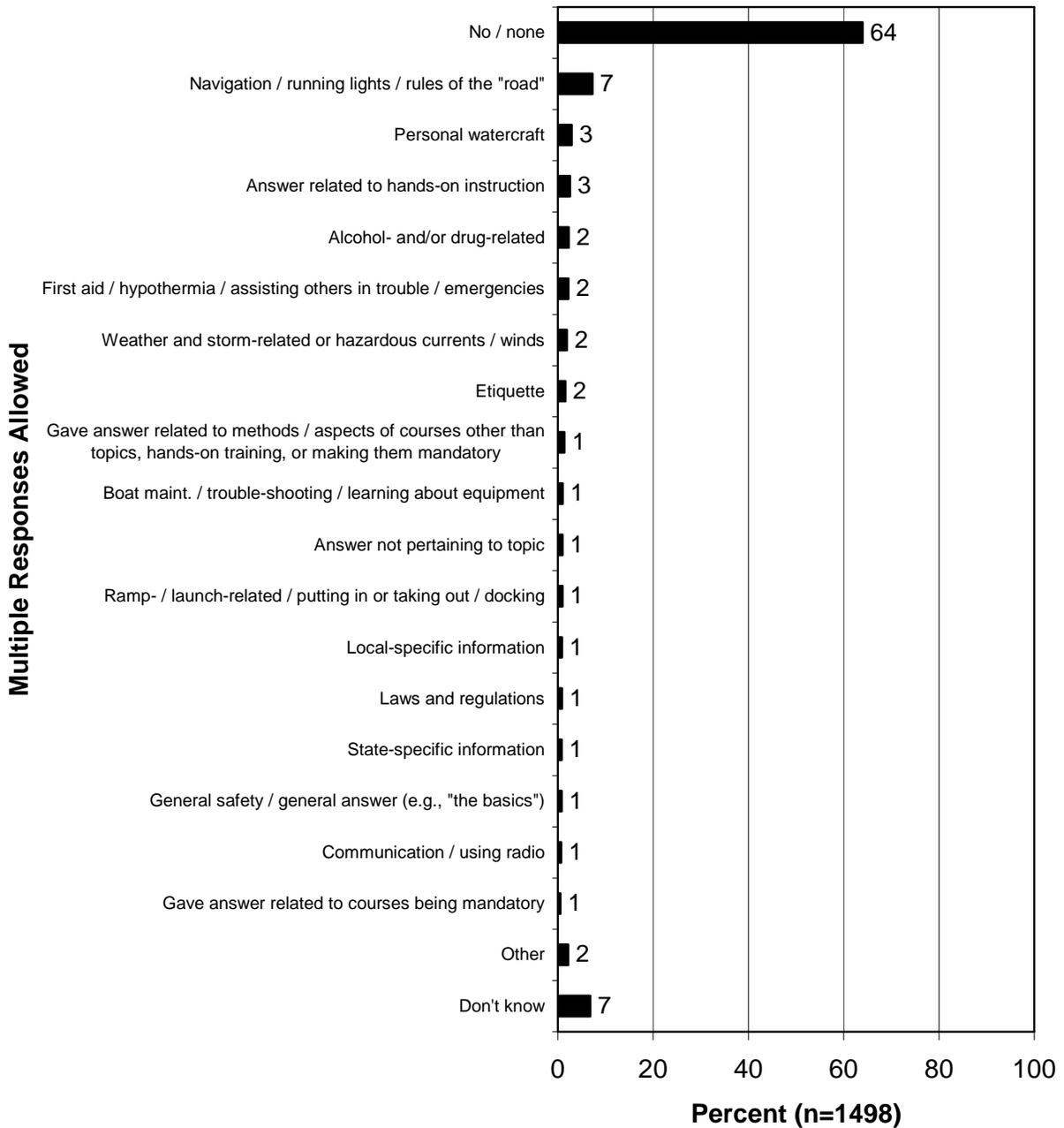
There were two respondents on this question who had taken a distance learning/on-line course. One said that the course was ineffective because it was not in a classroom; the other gave an answer unrelated to the format of the course.

These three respondents are not included in the data for the above graph, which is only of those who took a classroom course.

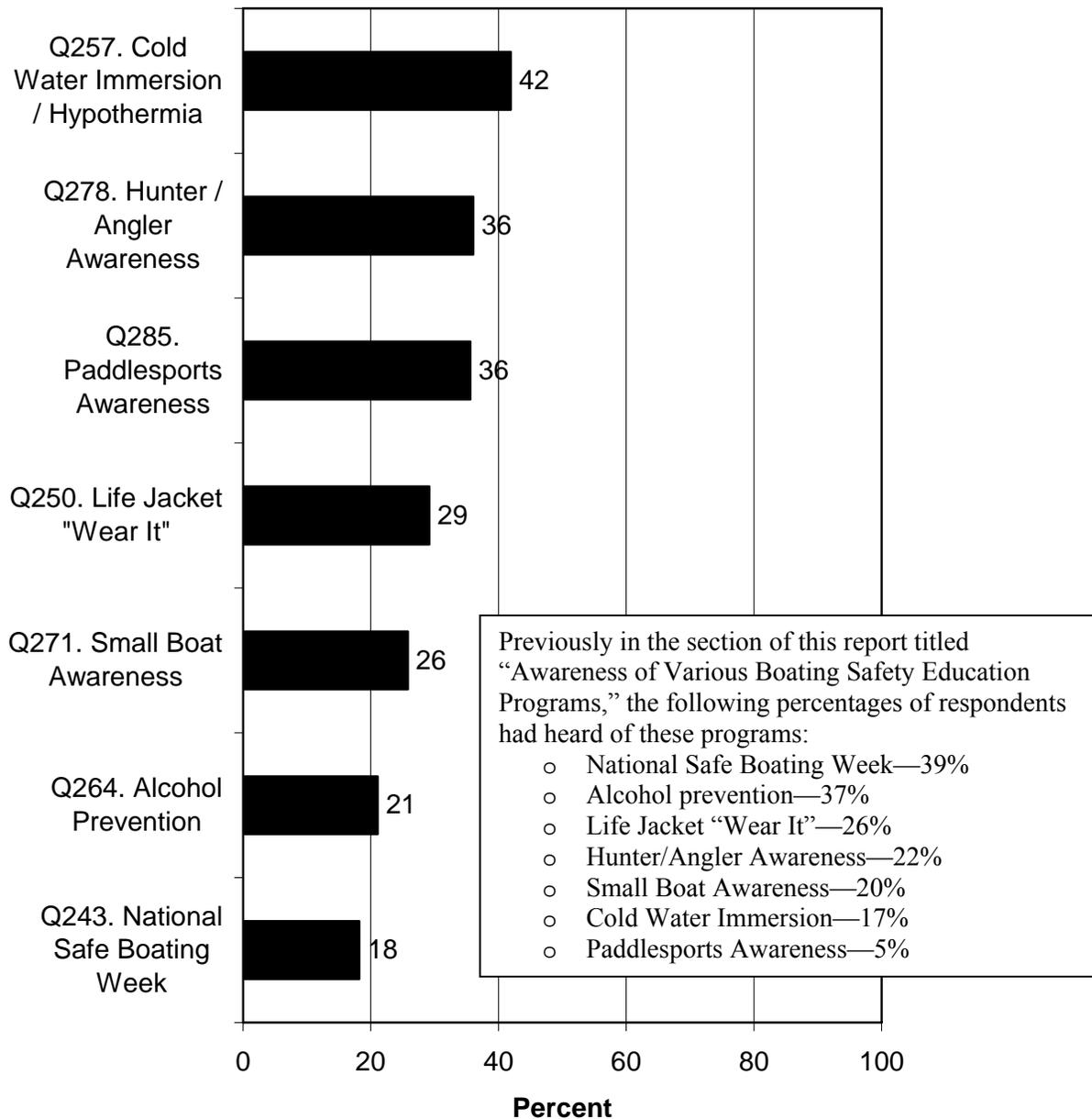
Q123. How would you rate the quality of the hands-on or on-the-water component of the course you completed? (Among those whose most recent state-approved certification boating safety course was classroom instructed; note that only those whose course was *state-approved* are included.)



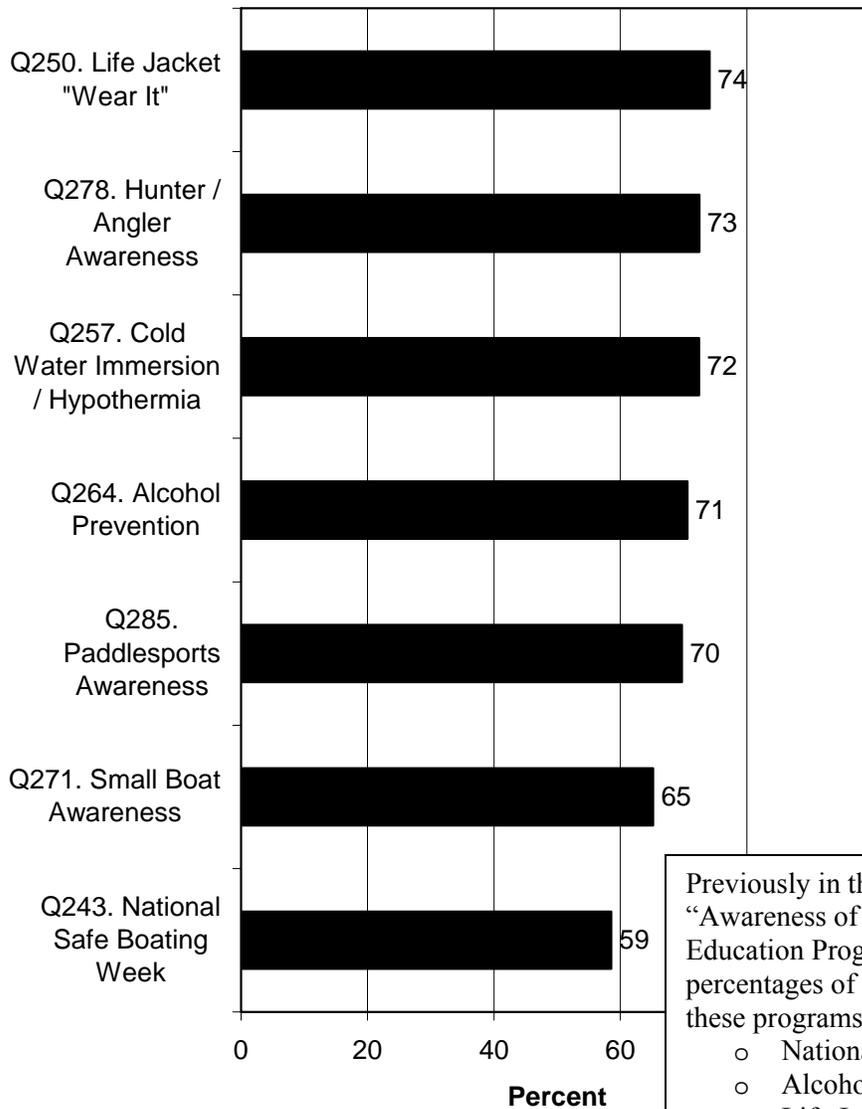
Q126. Are there any other boating safety topics or is there additional information you think should be covered in boating safety education courses? (Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)



**Q243, Q250, Q257, Q264, Q271, Q278, Q285.
Percent saying that the following programs are
very effective.
(Of those who have heard of the program.)**



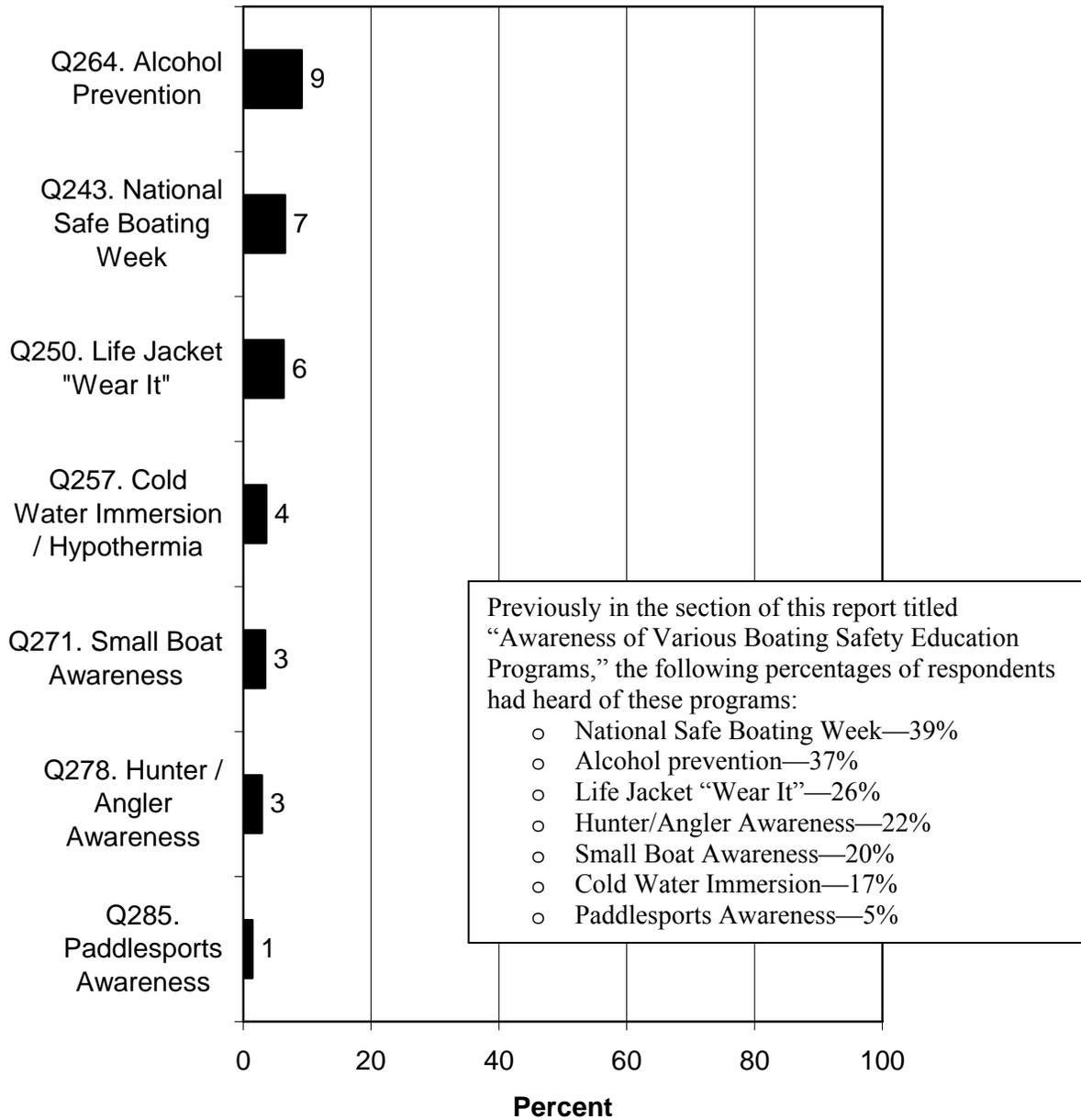
Q243, Q250, Q257, Q264, Q271, Q278, Q285.
Percent saying that the following programs are
very or somewhat effective.
(Of those who have heard of the program.)



Previously in the section of this report titled "Awareness of Various Boating Safety Education Programs," the following percentages of respondents had heard of these programs:

- National Safe Boating Week—39%
- Alcohol prevention—37%
- Life Jacket "Wear It"—26%
- Hunter/Angler Awareness—22%
- Small Boat Awareness—20%
- Cold Water Immersion—17%
- Paddlesports Awareness—5%

**Q243, Q250, Q257, Q264, Q271, Q278, Q285.
Percent saying that the following programs are not
at all effective.
(Of those who have heard of the program.)**



Opinions on Formats and Delivery Methods of Boating Safety Courses

When asked in the survey to choose their preferred course format, if they were to take boating safety education, owners of registered boats most commonly choose the classroom format (just over half choose the classroom format), although a substantial portion (about 2 in 5) choose distance learning. Those who choose distance learning show a much greater preference for taking the course on-line rather than by mail. The previous format of boating safety education that respondents had taken (among those who had taken a course) tends to make them favor that same format for future courses: about three-quarters of those who had taken a classroom course said they would prefer a classroom course; about three-quarters of those who had taken a distance learning course said they would prefer a distance learning course. Those who had not previously taken any boating safety courses were split, with just slightly more preferring distance learning. Also, as discussed previously, a hands-on component in boating safety education is considered important by many owners of registered boats.

In choosing a course, owners of registered boats most commonly say that the most important factors they would consider are the location (within a 30-minute trip), course content, convenience, reputation, whether it is state-certified, and cost. While there is no strong preference regarding weekends versus weeknights, there is a marked preference for winter or spring courses rather than summer or fall.

- A classroom format is the most popular type of course when owners of registered boats are asked to choose between classroom and distance learning. However, the results are close: 49% would prefer a classroom course, but 40% would prefer distance learning.
 - The previous format of boating safety education that respondents had taken affects their preferred format for future courses: 73% of those who had taken a classroom course said they would prefer a classroom course; 76% of those who had taken a distance learning course said they would prefer a distance learning course. Those who had previously taken a home study course were about evenly split: 43% said they would prefer a

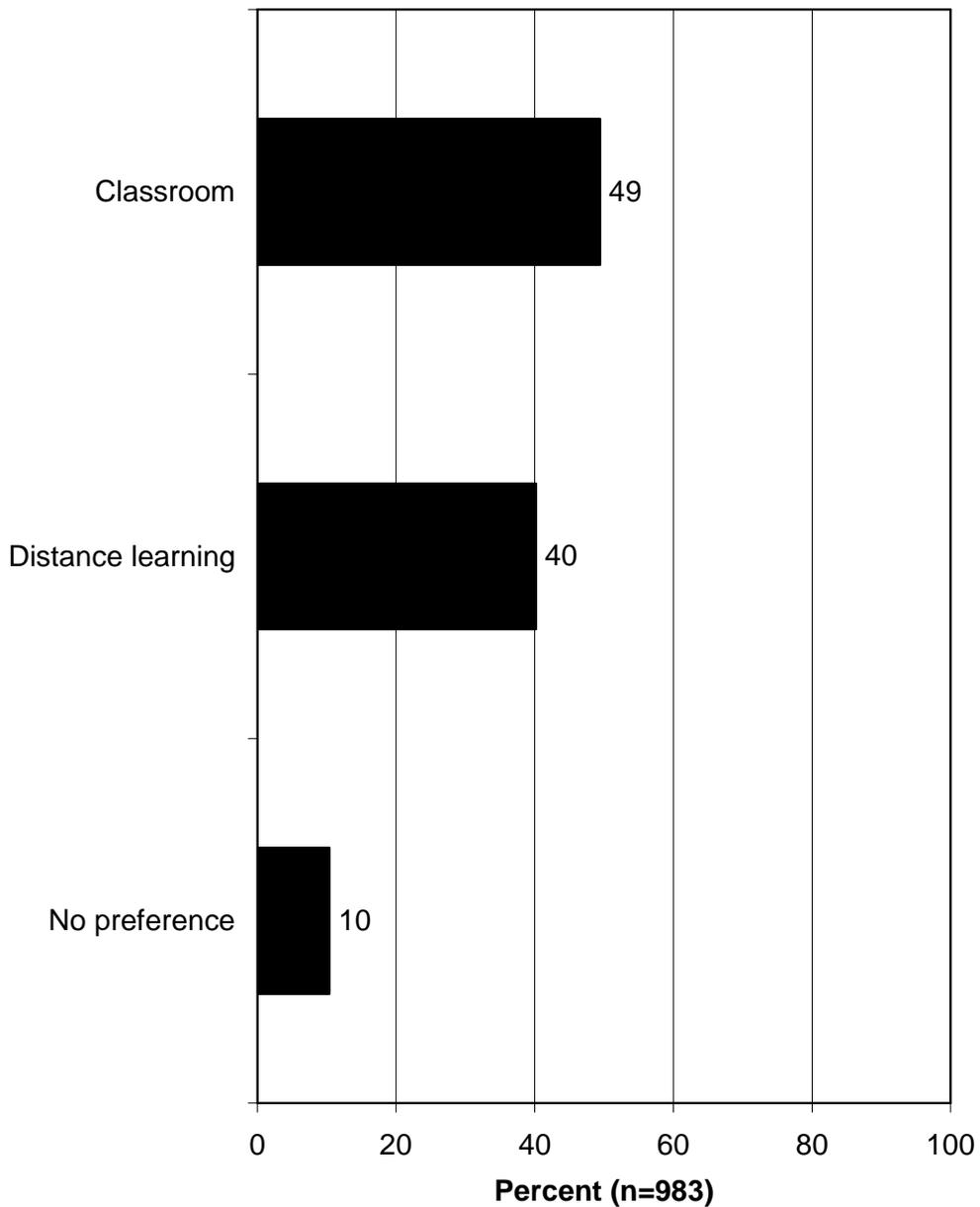
classroom course, while 50% said they would prefer a distance learning course. Finally, those who had *not* taken a course were also split, with 41% preferring a classroom course and 47% preferring distance learning. These differences are statistically significant ($p \leq 0.001$).

- A similar analysis to that conducted above crosstabulated the preferred format of boating safety education by the median length of time since the respondent had taken a previous course (8 years was the median). It was conjectured that those who had taken a course more recently than the median number of years would be more likely to choose a distance learning format because they would have been more likely to be exposed to that type of course previously. Indeed, those who had taken a course within the past 8 years were slightly more likely to choose distance learning, relative to those who had taken their last course 8 or more years ago, although a majority of those who had taken a course within the last 8 years still chose the classroom format. Interestingly, the group most likely to choose the distance learning format was the group consisting of those who had *not* previously taken any NASBLA-approved certified or basic/general boating safety course. These differences are statistically significant ($p \leq 0.001$).
 - The crosstabulation by the three large regions (these regions are shown in Appendix B) found that Southern Region boaters are the most likely among the three regions to prefer a classroom course (if they were to take boating safety), and this difference is statistically significant ($p \leq 0.01$). On the other hand, Western Region boaters are the most likely to prefer distance learning, and this difference is statistically significant ($p \leq 0.001$).
- A hands-on component of a classroom course is deemed to be highly important, as an overwhelming majority of those whose most recent NASBLA-approved certification boating safety course was a classroom format (94%) said that a hands-on component is *extremely* important, *very* important, or *somewhat* important. In fact, 74% said it is *extremely* important or *very* important. Note that this is among only those whose course was a NASBLA-approved certification course and was classroom instructed.
- The interviewers asked owners of registered boats to indicate in an open-ended question the factors that they consider most important in choosing a boating safety course (were they to

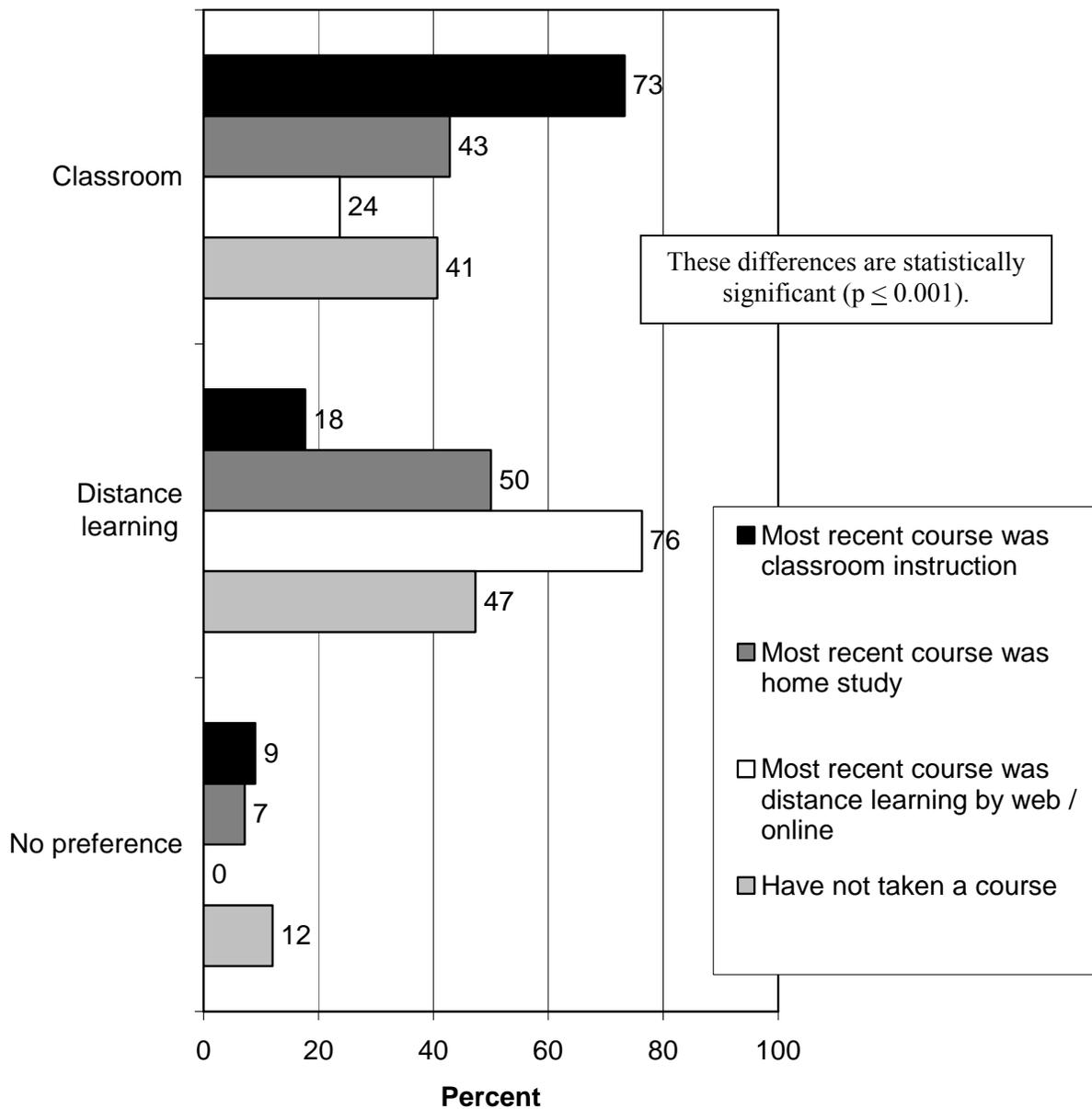
take a course). The top factors are the course's location, the content of the course, the ease of taking the course (i.e., the convenience), the reputation of the course, whether it is a state-approved course, and the cost. Because the first and third items are both related to the convenience of getting to and/or taking the course, the convenience of the course is of much importance.

- A crosstabulation of factors considered important in the choice of course by the likelihood of taking a course was done to explore the factors considered important by those likely to take a course in the near future. The top factors among those *very* likely to take a course in the next 2 years are content, location, that the course is state-approved, and easy participation.
- The majority of owners of registered boats (64%), when asked how far they would be willing to travel if they were to take a classroom course, gave a time of 30 minutes or less.
- In the same hypothetical situation in which owners of registered boats were to take a classroom course, they show a preference for weeknights only (28%) over weekends only (11%); however, the most common answer is that they prefer a combination of weeknights and weekends (47%). Boaters also show a strong preference for courses held in the winter (46%) or spring (25%) rather than summer (5%) or fall (5%).
- In a hypothetical situation in which owners of registered boats were to take a distance learning course, they overwhelmingly prefer an online course (79%) over a mail course (14%).

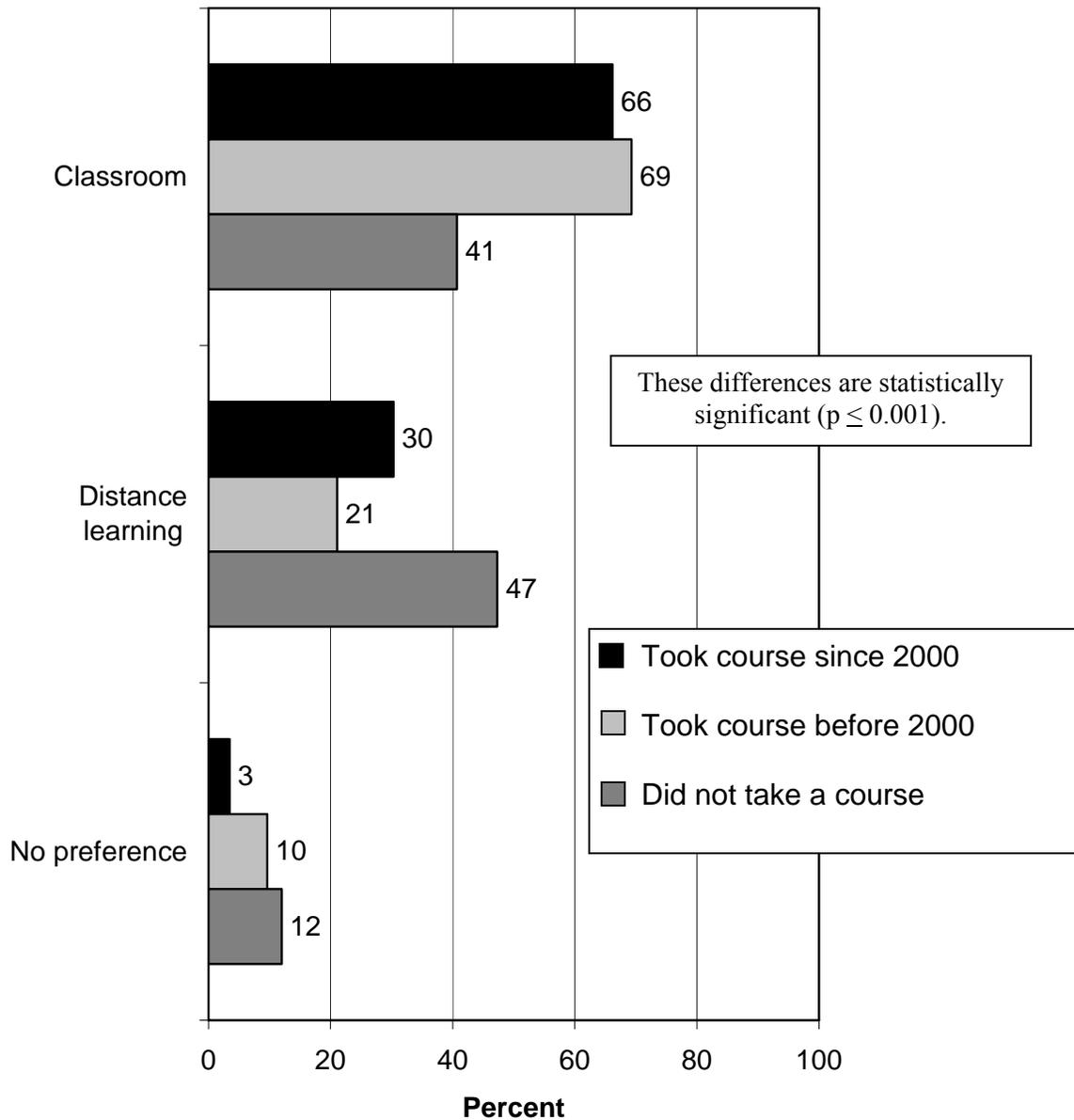
Q205. If you were to take a boating safety education course in the near future, would you prefer to take a classroom or distance learning course, such as online or home study courses?



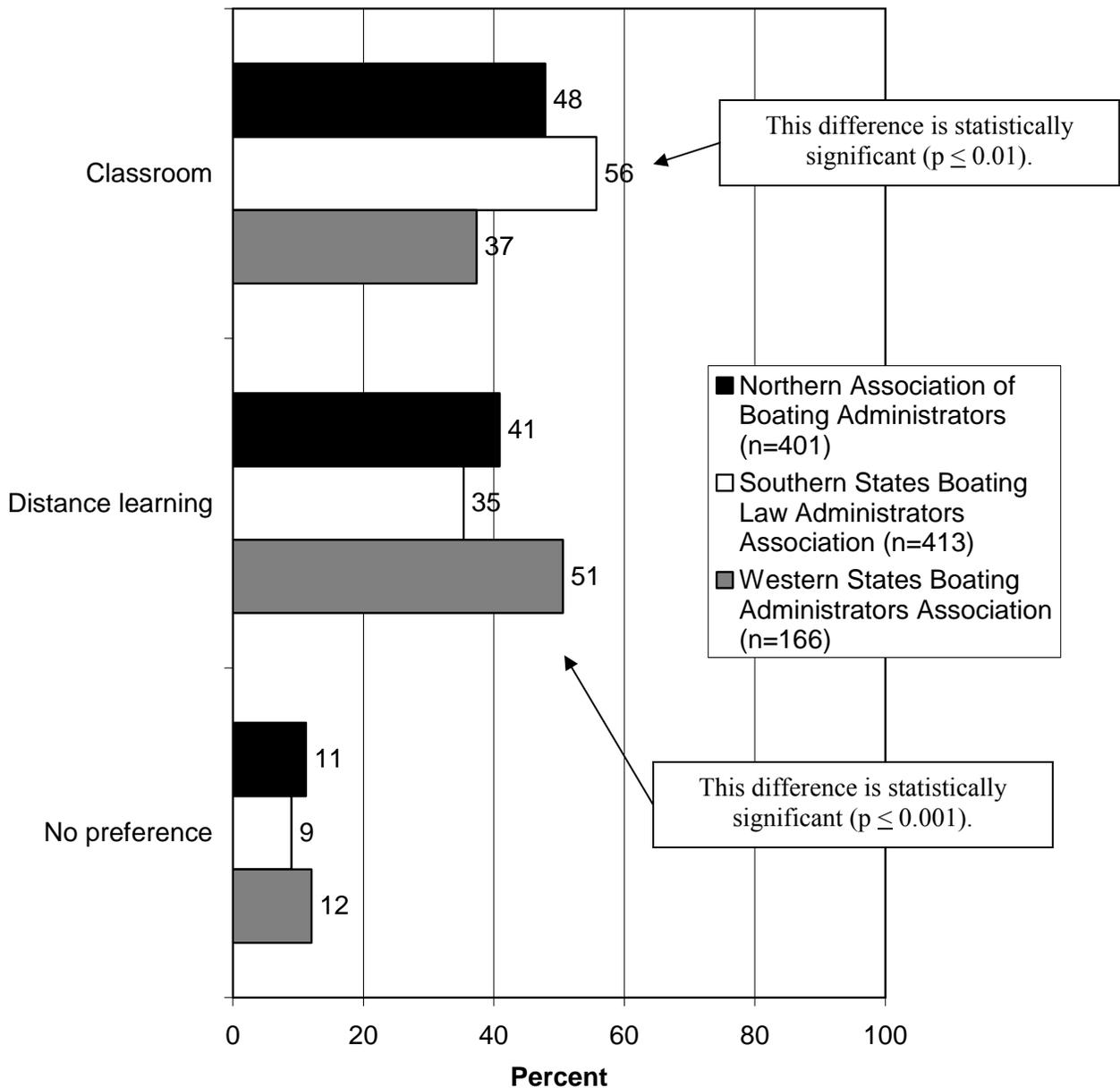
Q205. If you were to take a boating safety education course in the near future, would you prefer to take a classroom or distance learning course, such as online or home study courses?



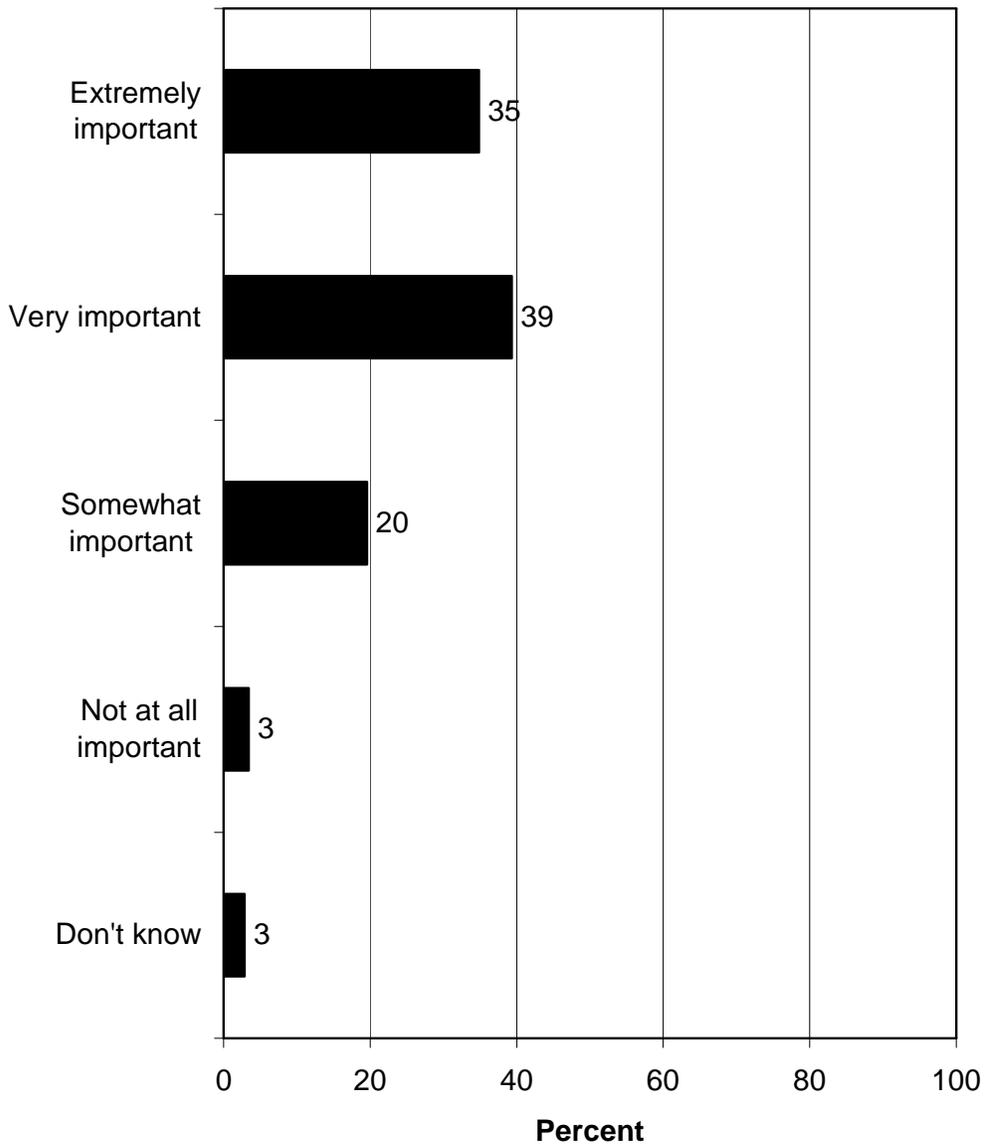
Q205. If you were to take a boating safety education course in the near future, would you prefer to take a classroom or distance learning course, such as an online or home study course?



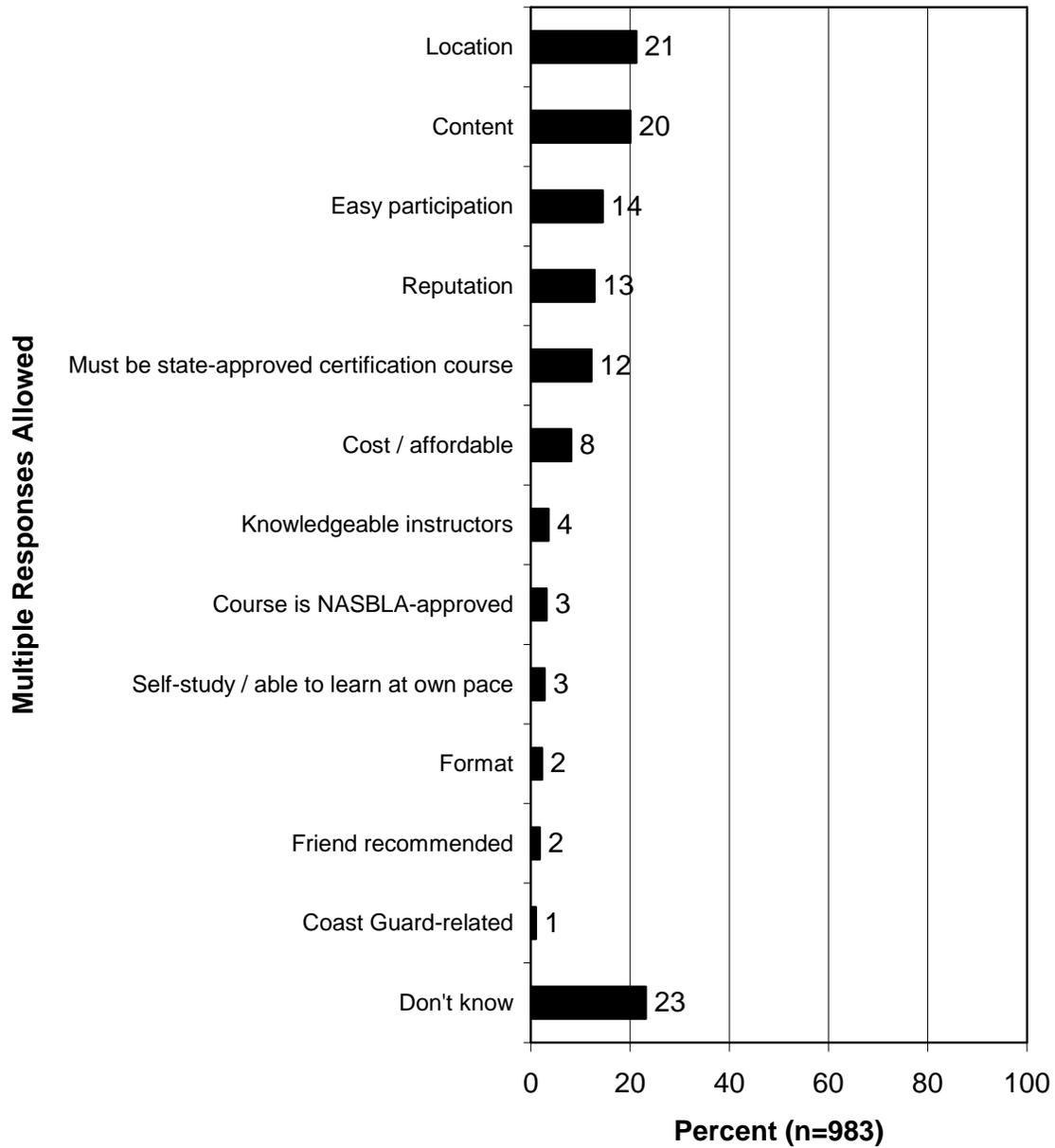
Q205. If you were to take a boating safety education course in the near future, would you prefer to take a classroom or distance learning course, such as online or home study courses?



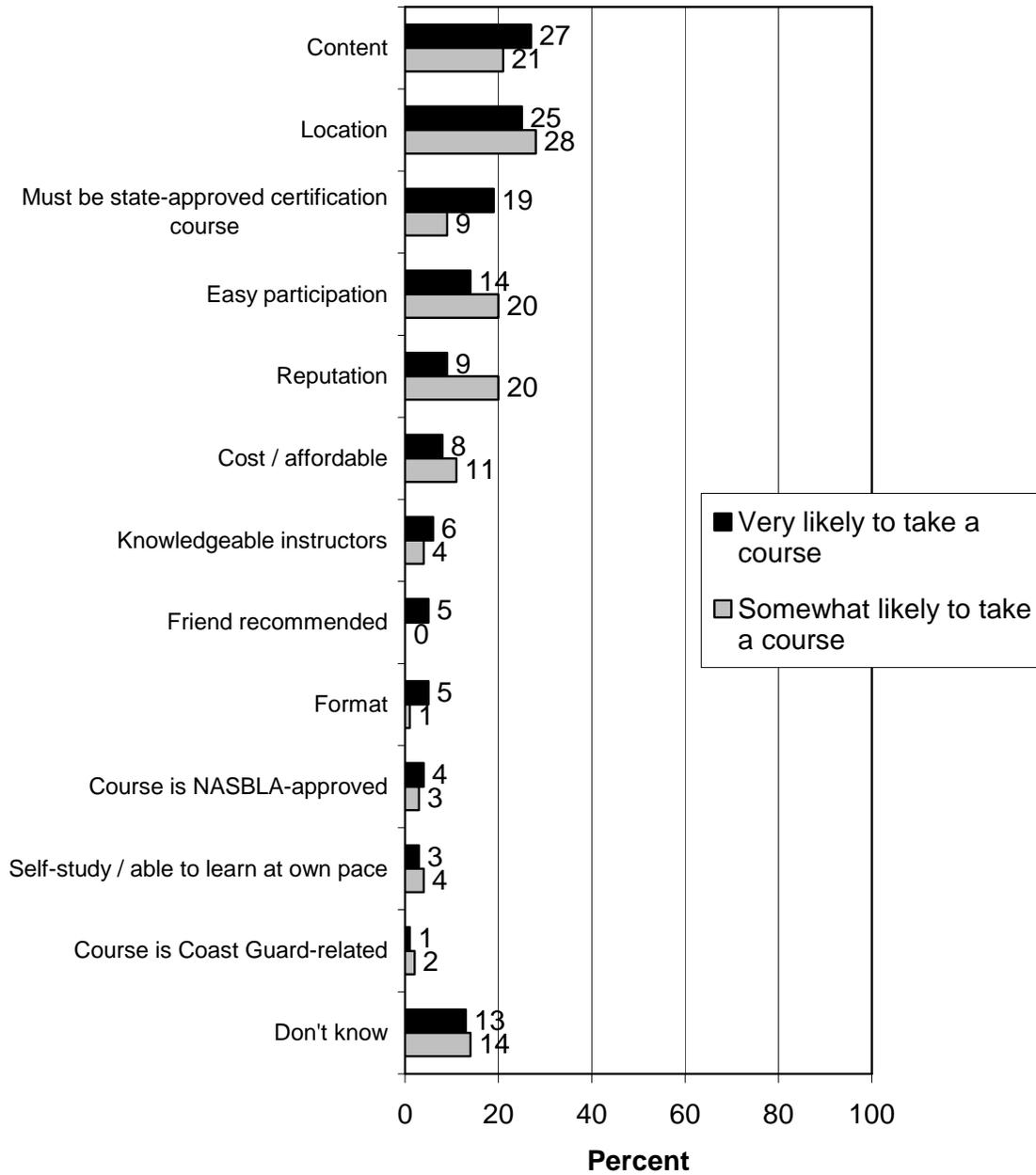
Q121. In your opinion, how important is a hands-on or on-the-water component for successfully teaching safe boating? (Among those whose most recent course was a state-approved certification boating safety course and was classroom instructed.)



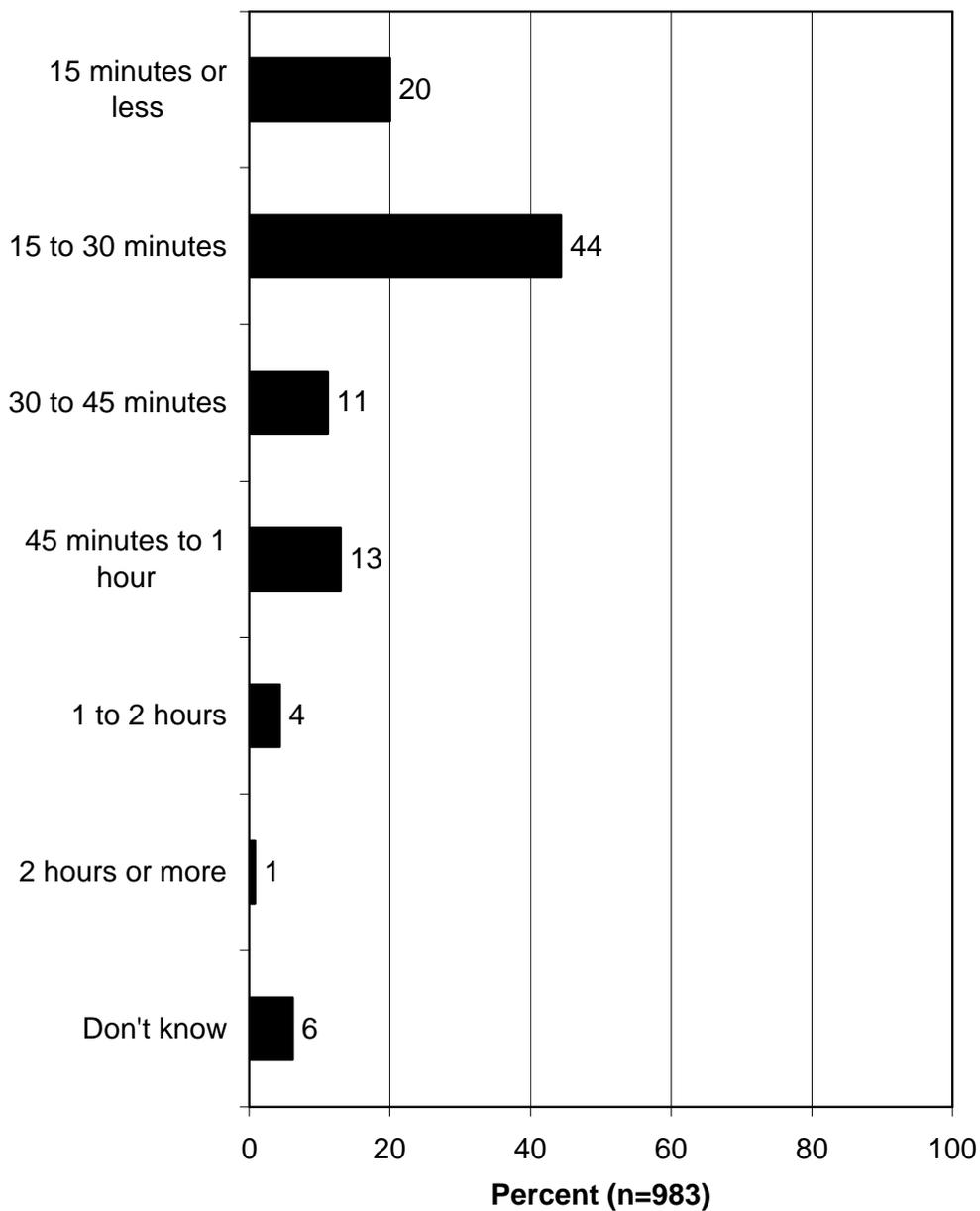
Q203. What are the most important factors to you when you are choosing which boating safety education course to take?



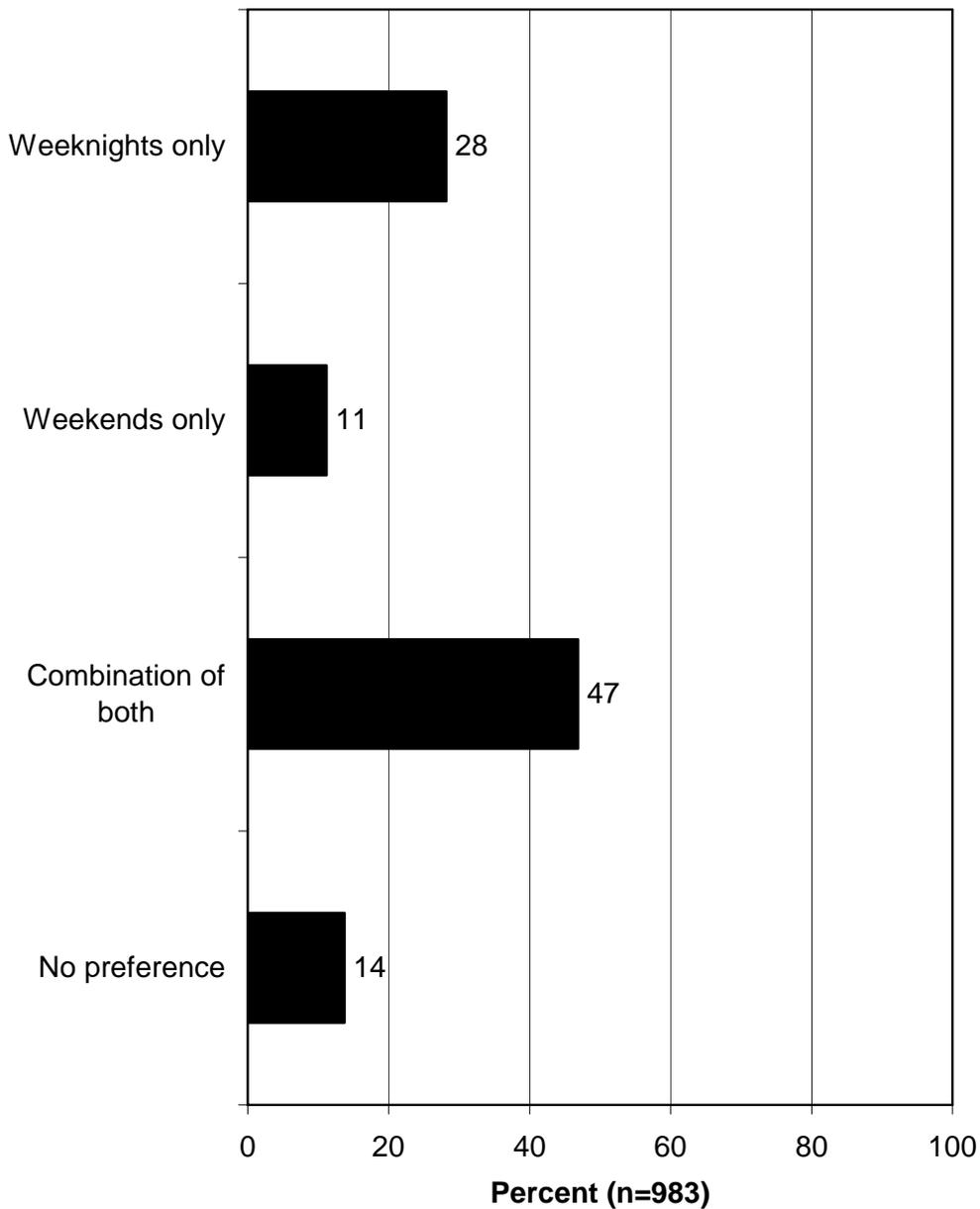
Q203. What are the most important factors to you when you are choosing which boating safety education course to take? (Ranked by very likely to take course.)



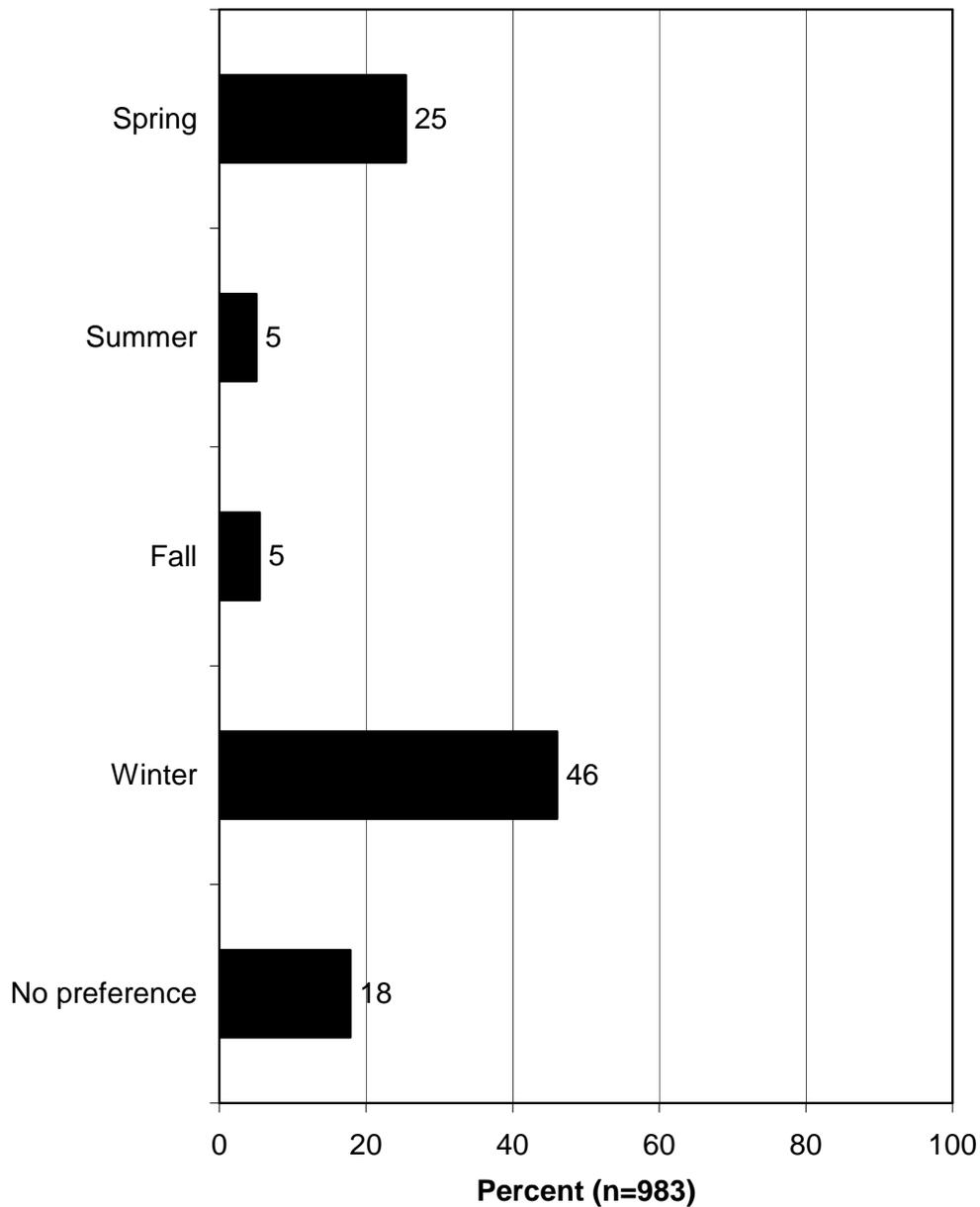
Q206. If you were to take a classroom course, how long would you be willing to travel to take a boating safety education course?



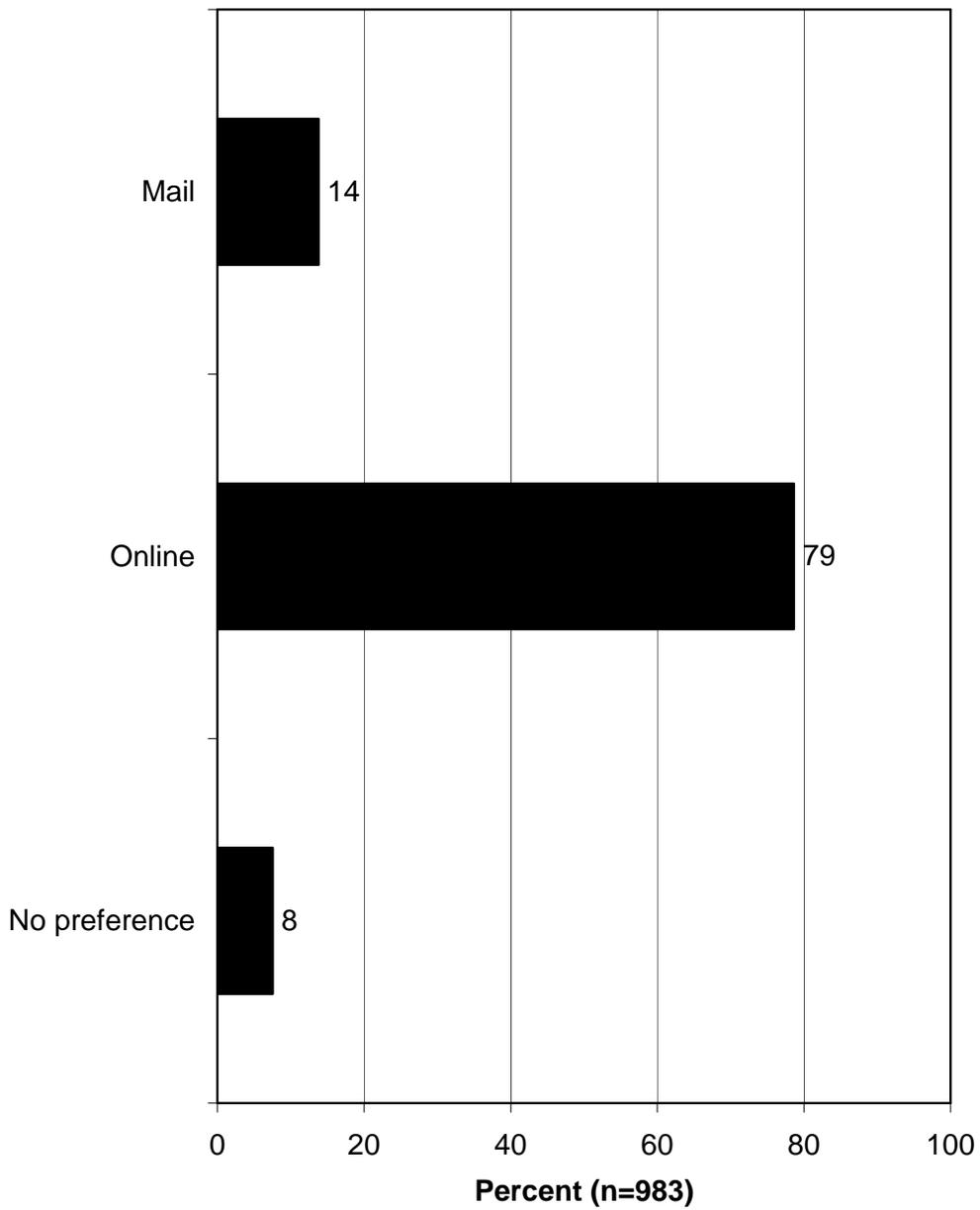
Q207. If you were to take a classroom course, do you think the sessions should be on weeknights only, weekends only, or a combination of both?



Q208. If you were to take a classroom course, what is the best time of year for you to take a boating safety education course?



Q209. If you were to take a distance learning course, would you prefer to take the course by mail or online?



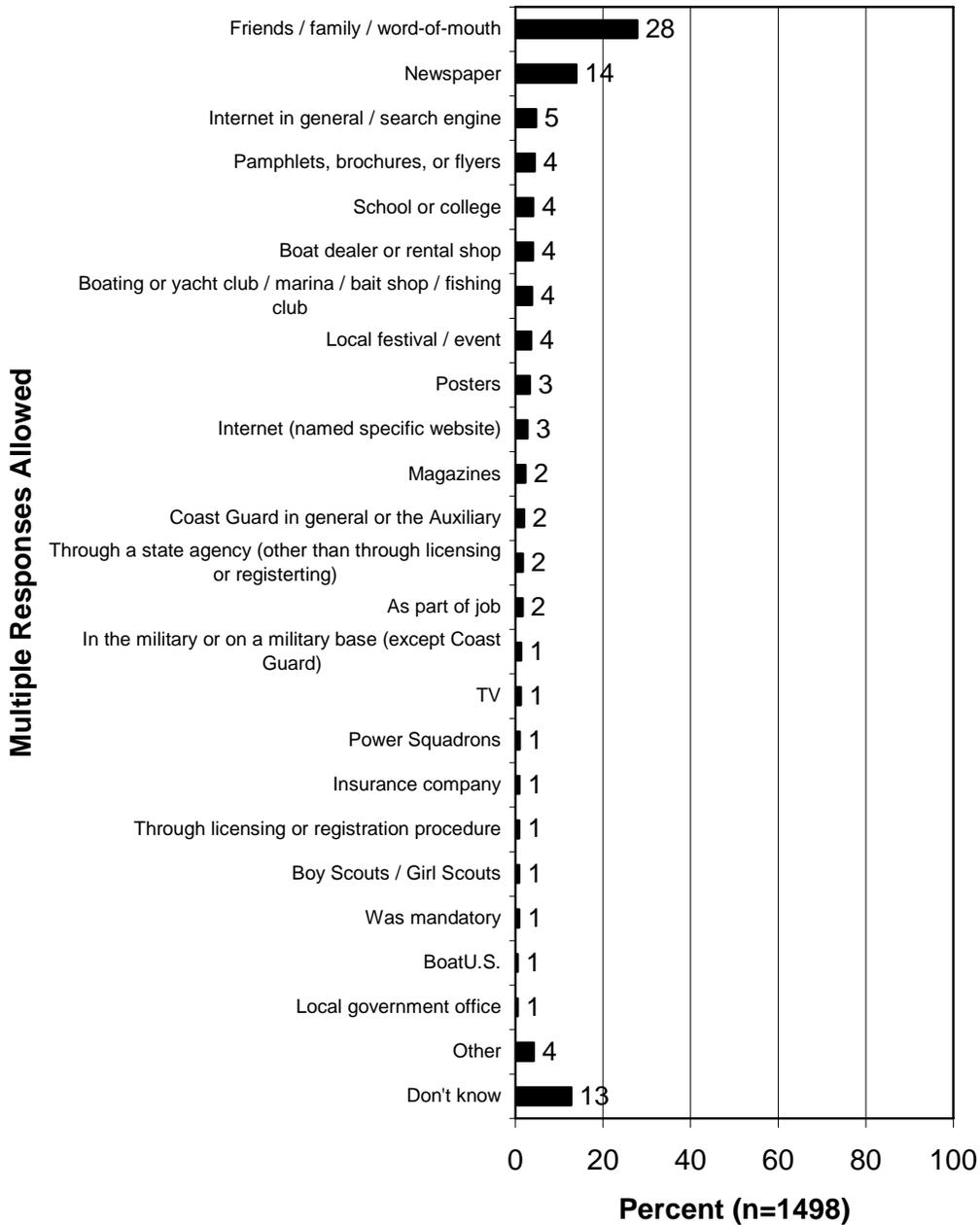
Sources of Information About Boating Safety Education

Word-of-mouth is the most common medium through which owners of registered boats learn of boating courses or hear about boating safety in general, although television, newspapers, and magazines are also important. A question from a different angle—where boaters would *look* for information (the above asked about where they had learned of a course or had heard of boating safety regardless of whether they were actually looking)—found that boaters most commonly say that the Internet is the best way to provide them with information, although television, mail, and newspapers are important media.

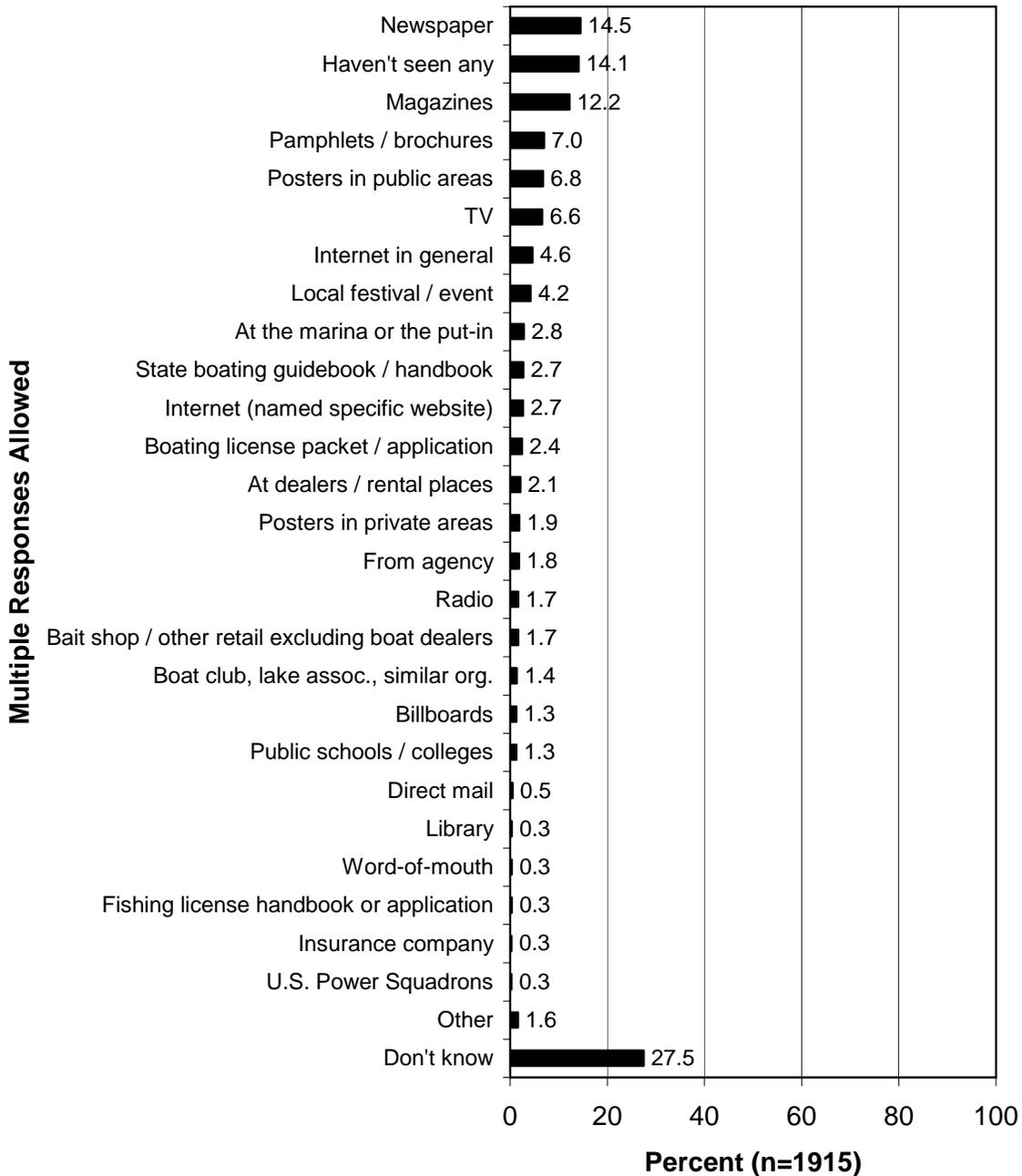
- Word-of-mouth is the most common medium through which those who took a boating course learned of the course (28%), which is double the next most common source, newspapers (14%). No other source was named by more than 5% of respondents. A similar question asked all boaters (the above asked only those who took a course) where they had seen advertising for boating safety courses. The top sources are newspapers (15%) and magazines (12%); all other sources are at 7% or lower. Note that 14% said that they had not seen any courses advertised. Because so many items were said by less than 1% of respondents, the percentages on this latter graph are shown at one decimal place. Additionally, for each of seven specific programs/campaigns, the interviewers asked respondents where they had heard of it, discussed in the sub-bullets below. These graphs are shown at one decimal place, as well.
- For National Safe Boating Week, the top sources of information are TV, magazines, and newspapers.
 - For the Life Jacket “Wear It” campaign, the top sources of information are TV, magazines, and posters.
 - For the Cold Water Immersion/Hypothermia program, the top sources of information are magazines, TV, word-of-mouth, and newspapers.
 - For alcohol prevention campaigns, the top sources of information are TV (by far), newspapers, word-of-mouth, magazines, and radio.

- For the Small Boat Awareness campaign, the top sources of information are magazines, word-of-mouth, TV, and newspapers.
 - For hunter/anglers awareness programs, the top sources of information are word-of-mouth, magazines, newspapers, and TV.
 - For paddlesports awareness programs, the top sources of information are word-of-mouth, magazines, and TV.
- The survey also asked respondents where they would *look* for information on boating safety education: the Internet (27%) is the top response, followed by responses pertaining to the U.S. Coast Guard (16%), State Boating Law Administrators (15%), and various federal agencies (other than the Coast Guard or the U.S. Army Corps of Engineers, which were separated out) (15%). Because so many items were said by less than 1% of respondents, the percentages on this graph are shown at one decimal place.
- In a related question, the interviewers asked boaters to indicate the best way to provide them with information. The top answers are TV (19%), the Internet in general (19%), mail (18%), and newspapers (14%). This graph is shown at one decimal place, too.

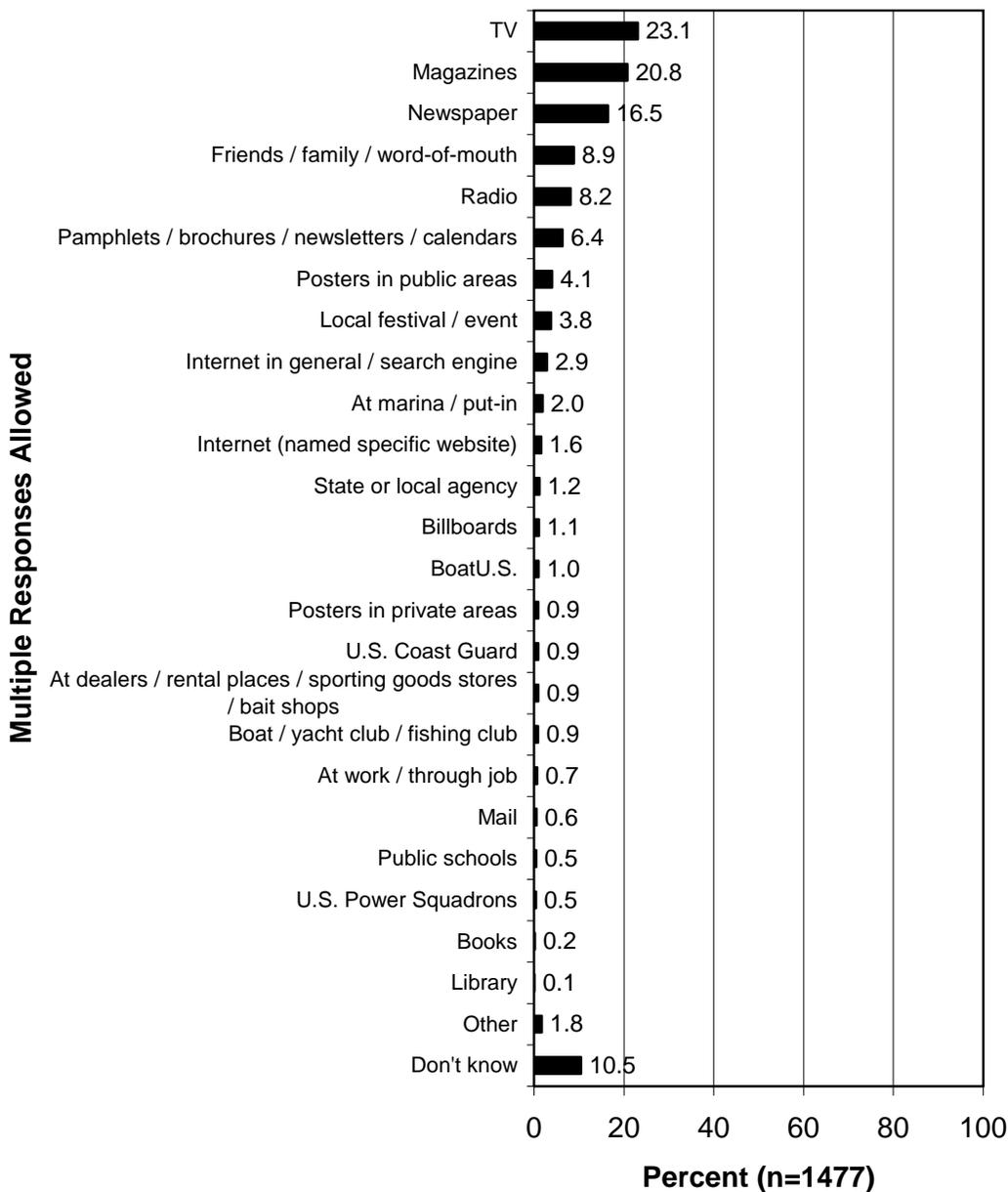
**Q131. How did you learn about the most recent boating safety education course you completed?
(Asked of those who have taken at least one state-approved certification or basic/general boating safety education course.)**



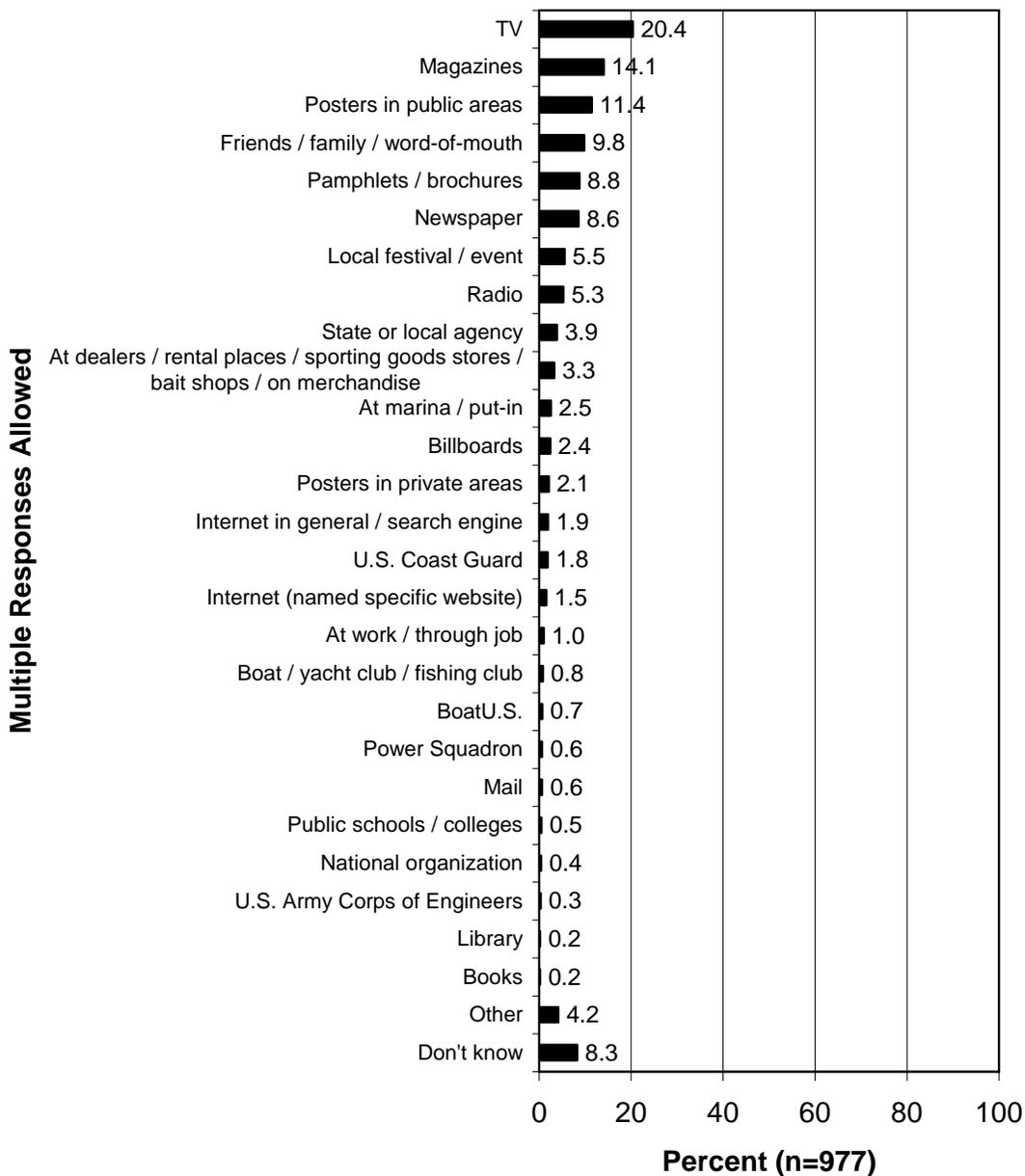
Q222. Where have you seen advertising for boating safety education courses?



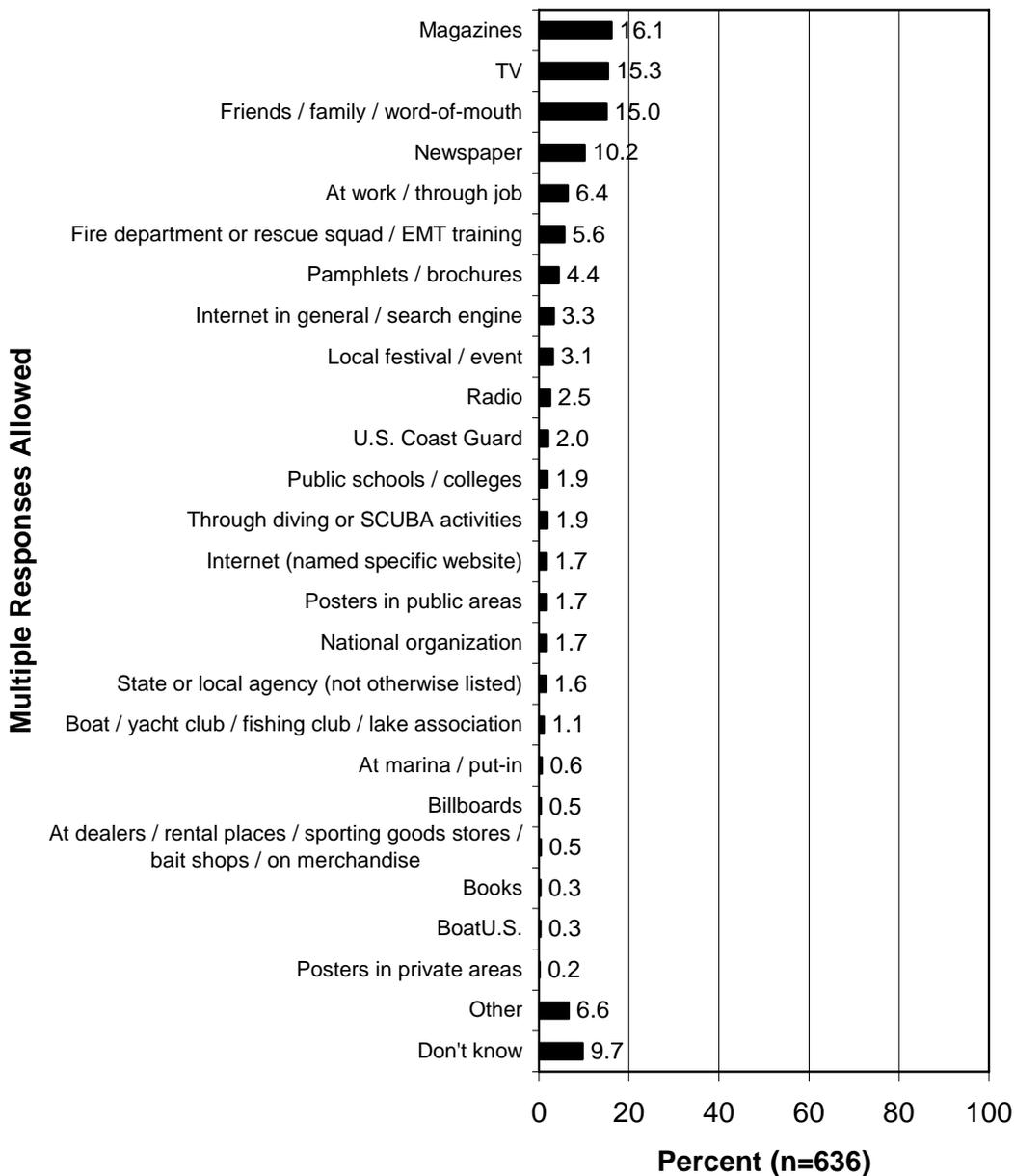
Q240. How did you hear about the National Safe Boating Week program or campaign? (Asked of those who have heard about the National Safe Boating Week program or campaign.)



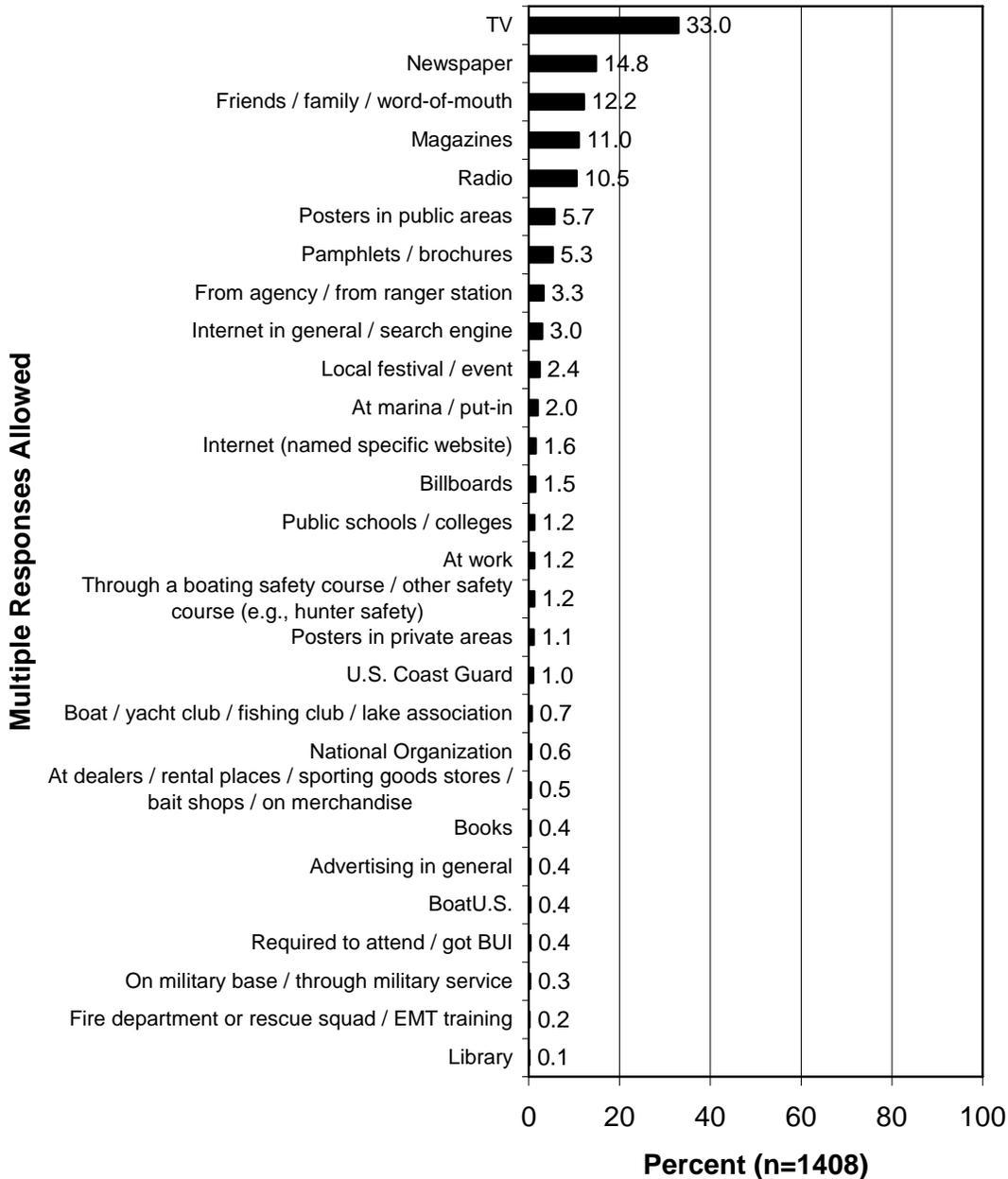
Q247. How did you hear about the Life Jacket 'Wear It' program or campaign? (Asked of those who have heard about the Life Jacket 'Wear It' program or campaign.)



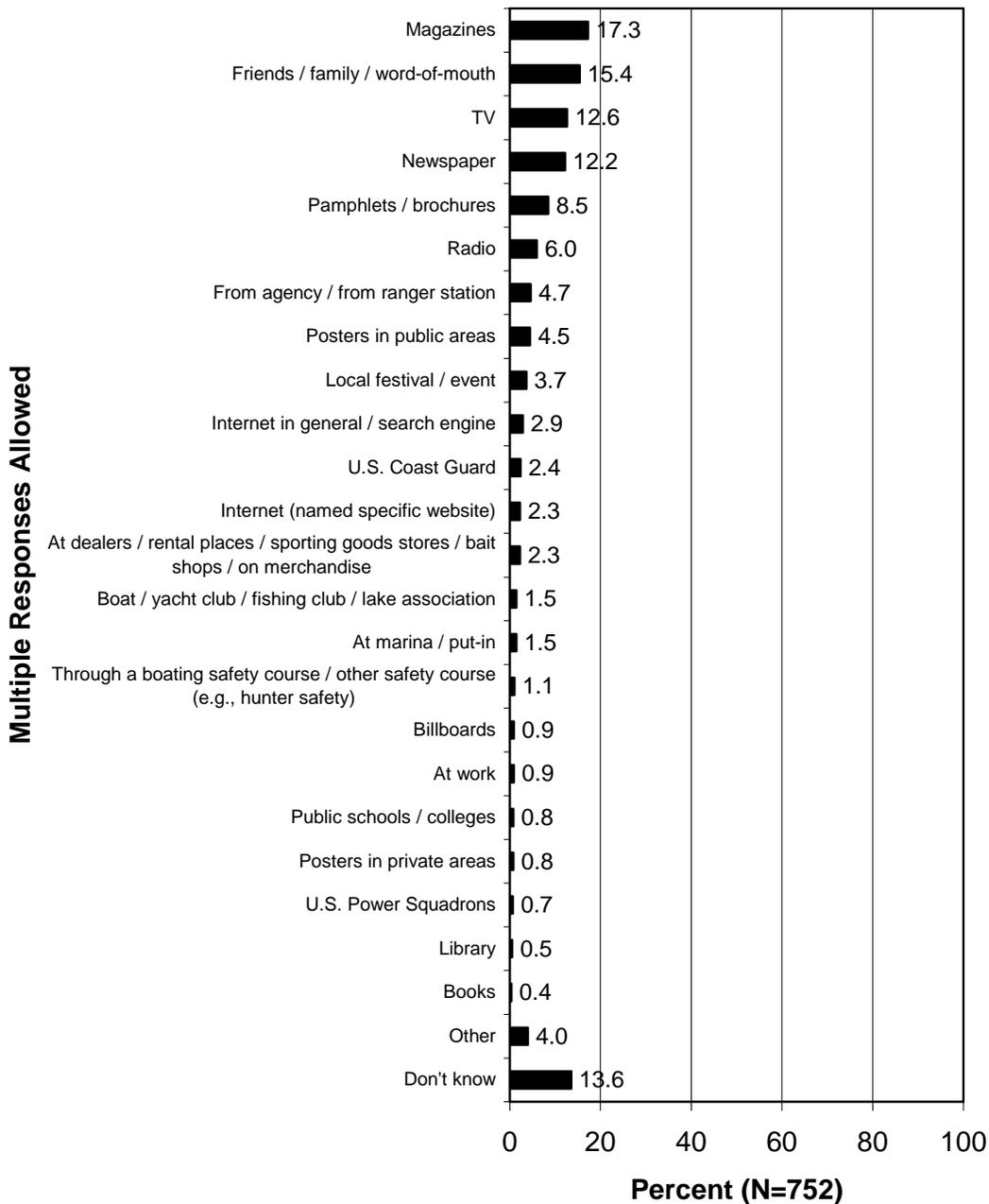
**Q254. How did you hear about the Cold Water Immersion / Hypothermia program or campaign?
(Asked of those who have heard about the Cold Water Immersion / Hypothermia program or campaign.)**



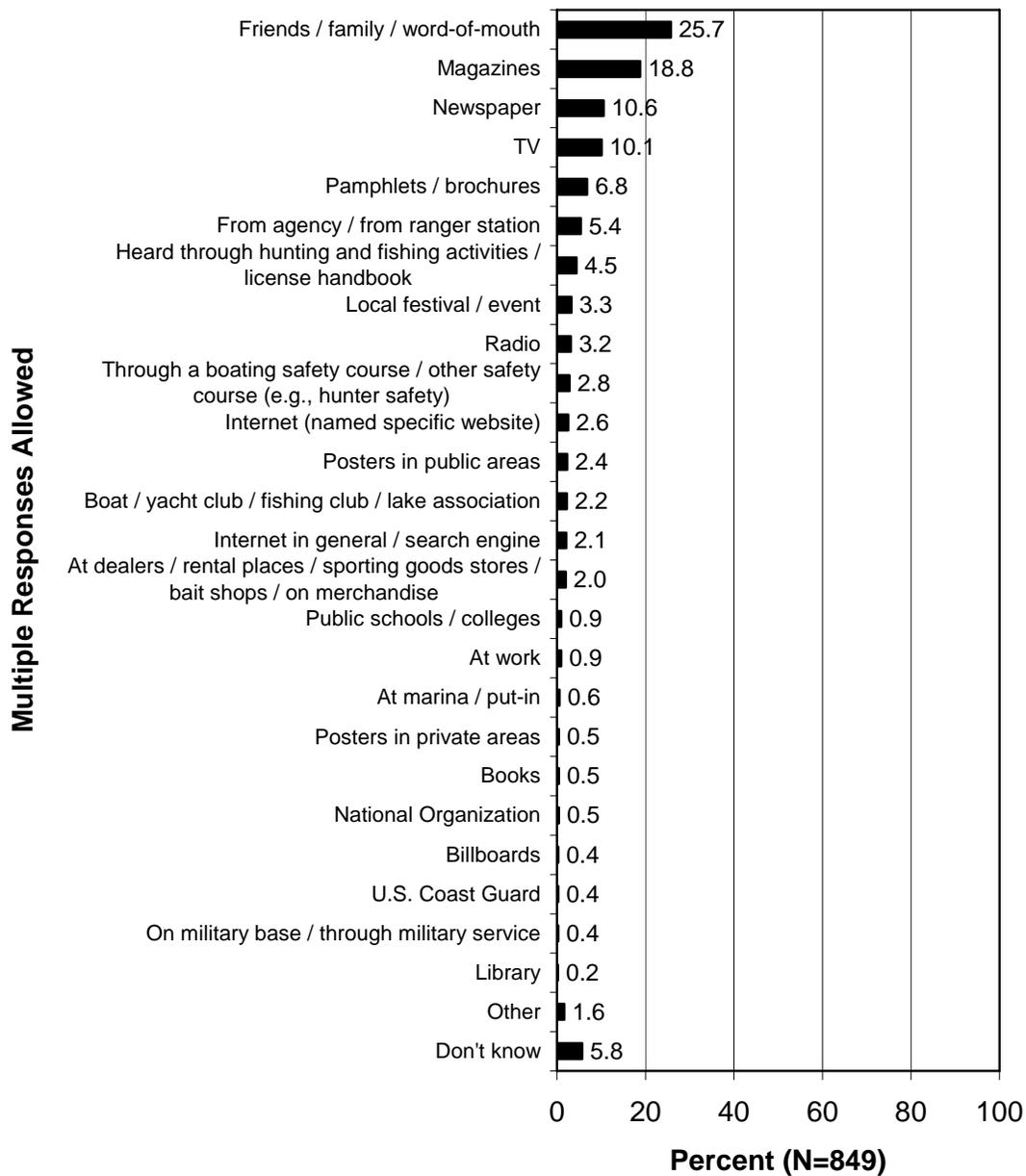
Q261. How did you hear about the alcohol prevention program or campaign? (Asked of those who have heard about the alcohol prevention program or campaign.)



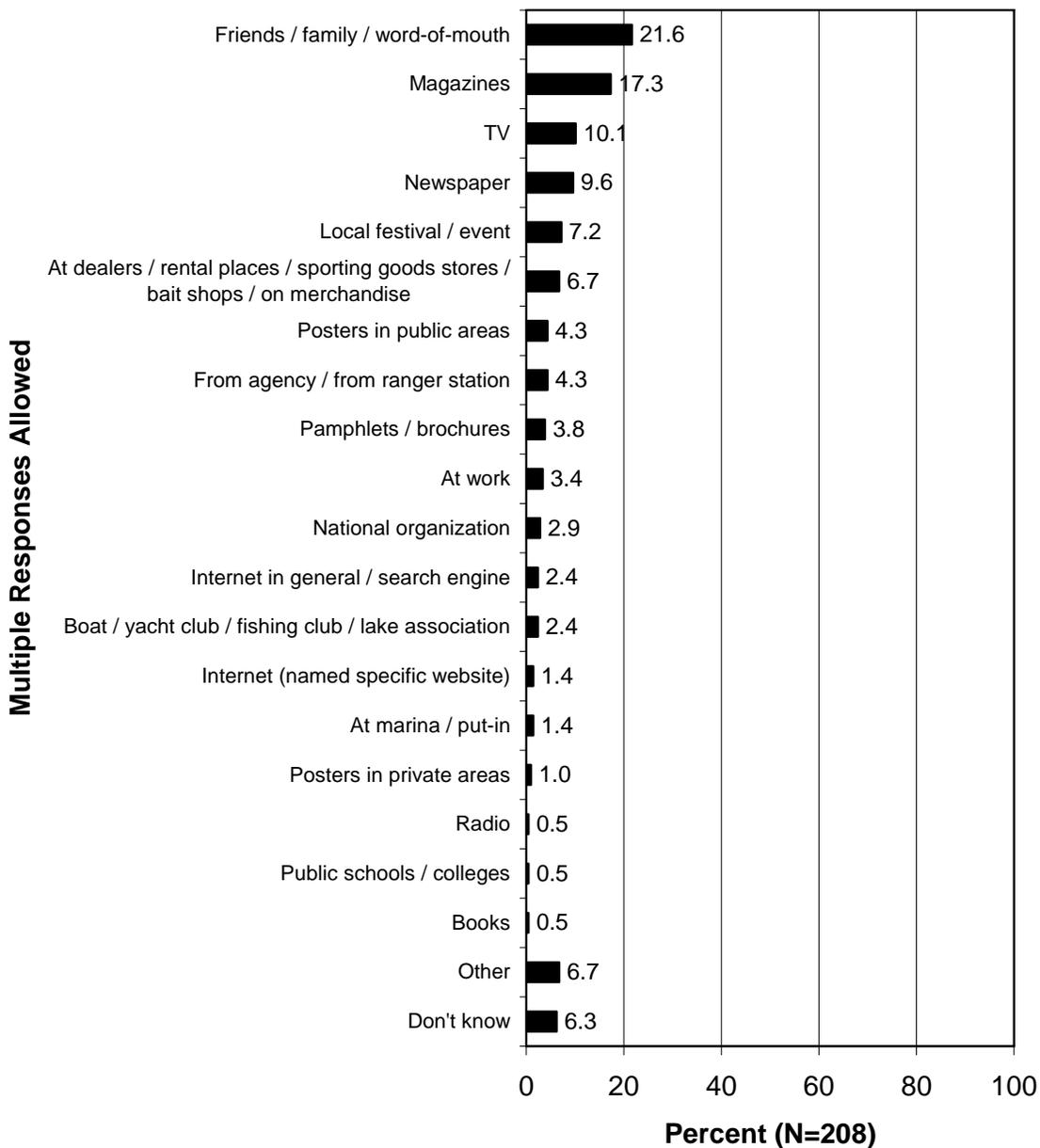
Q268. How did you hear about the Small Boat Awareness program or campaign? (Asked of those who have heard about the Small Boat Awareness program or campaign.)



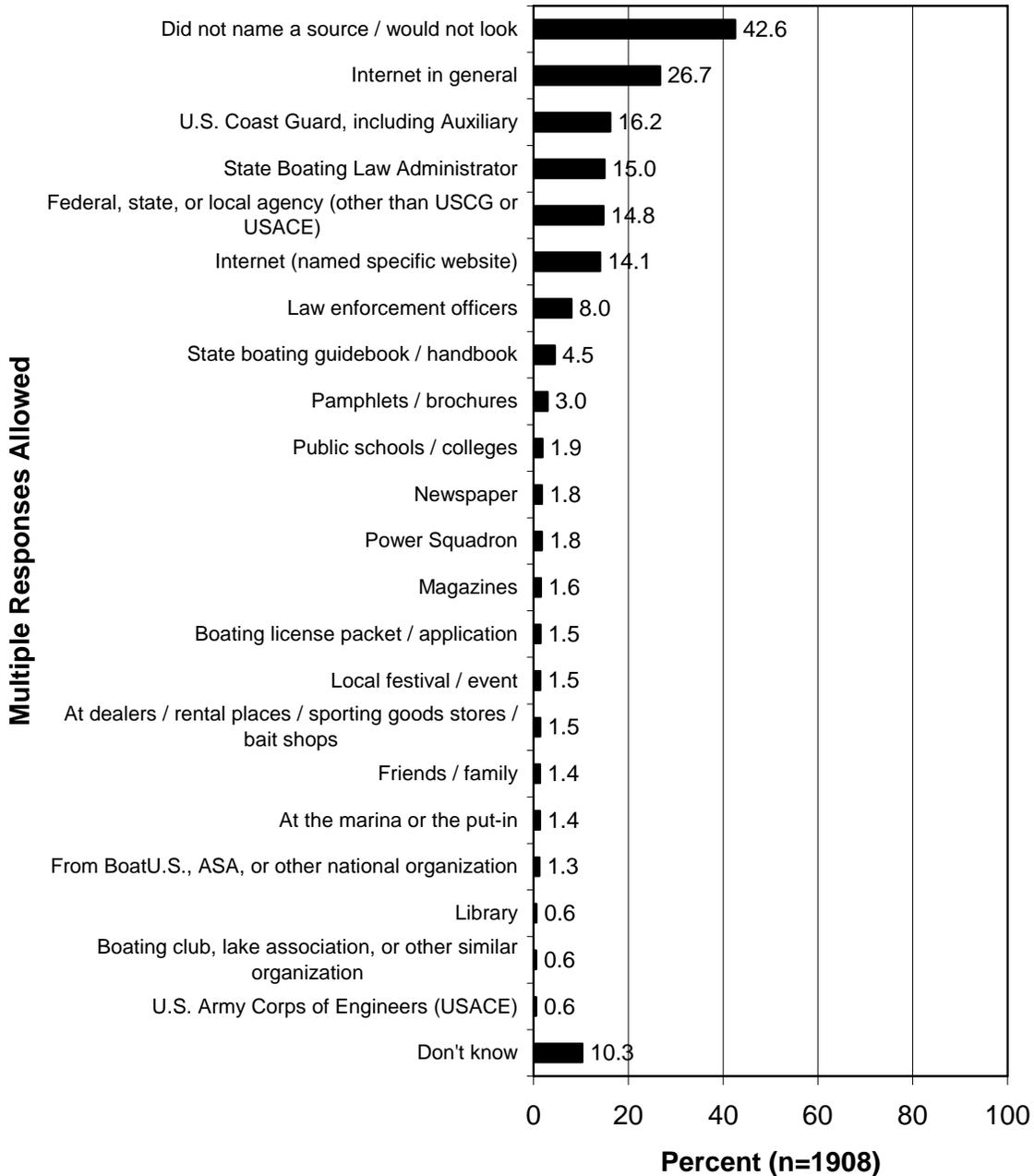
Q275. How did you hear about the hunter / angler awareness program or campaign? (Asked of those who have heard about the hunter / angler awareness program or campaign.)



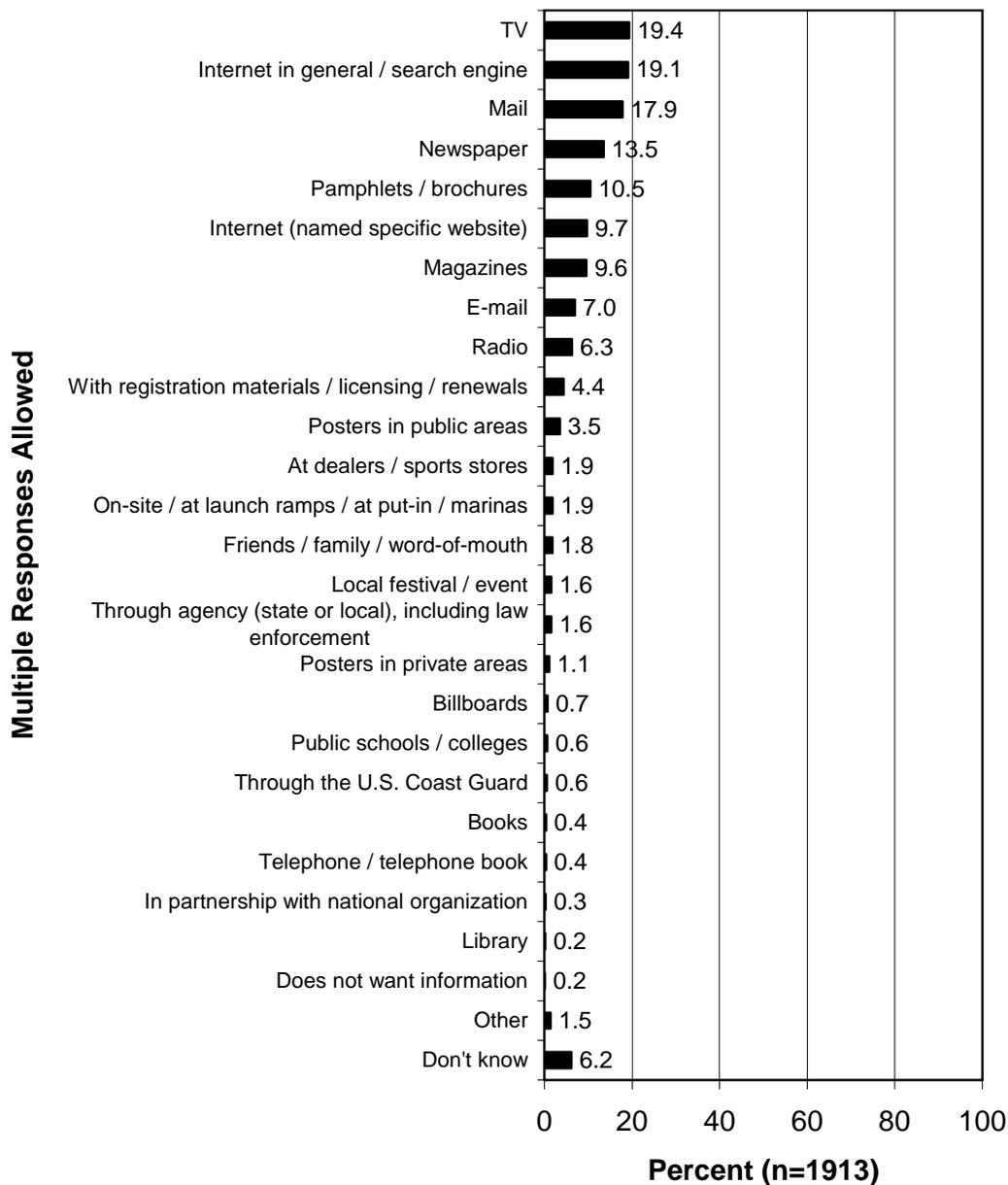
Q282. How did you hear about the paddlesports awareness program or campaign? (Asked of those who have heard about the paddlesports awareness program or campaign.)



Q226/229. If you were looking for information on a boating safety education course, who would you contact or where would you look for the information?



Q296. What is the best way to provide you with information about boating safety-related programs or campaigns? We are not sending information at this time; we are just measuring interest.



Opinions on Mandatory Boating Safety Education

Most owners of registered boats support mandatory boating safety education requirements, particularly for younger and inexperienced boaters. Also, most owners of registered boats perceive boating to be safer in states where boating safety education is mandatory, and they likewise think it is important to know that other boaters have taken boating safety education.

Owners of registered boats, for the most part, want boating safety education certification to transfer from one state to the next, feeling that boating safety practices and courses do not greatly differ from one state to the next. However, some owners of registered boats expressed concern that boaters going to a new state should know state-specific laws and regulations in the new state or should know about certain water conditions that may be particular to the new state.

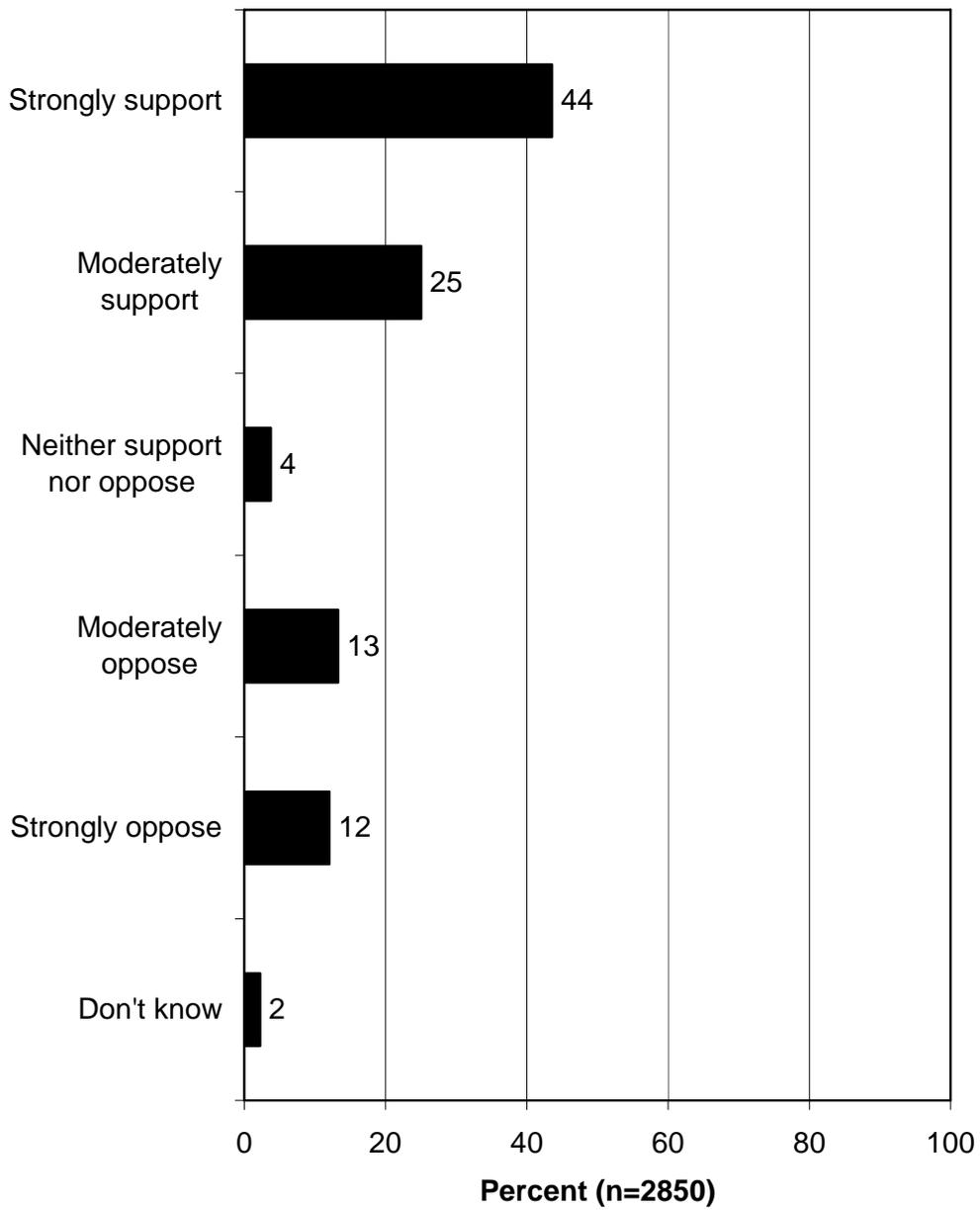
- The large majority of owners of registered boats (69%) would support a law making statewide boating safety education mandatory in their state, with most of that support being *strong* support.
 - A follow-up question asked owners of registered boats who support mandatory boating education requirements to indicate to whom mandatory boating education requirements should apply. The top answer by far is that all boaters should be required to take boating safety education. Otherwise, answers commonly focus on younger people (e.g., teenagers, children) and inexperienced boaters. Because so many items were said by less than 1% of respondents, the percentages on this graph are shown at one decimal place.

- A majority of owners of registered boats (58%) agree that boating is safer in states where boating safety education is mandatory. A third of boaters give a neutral answer (neither

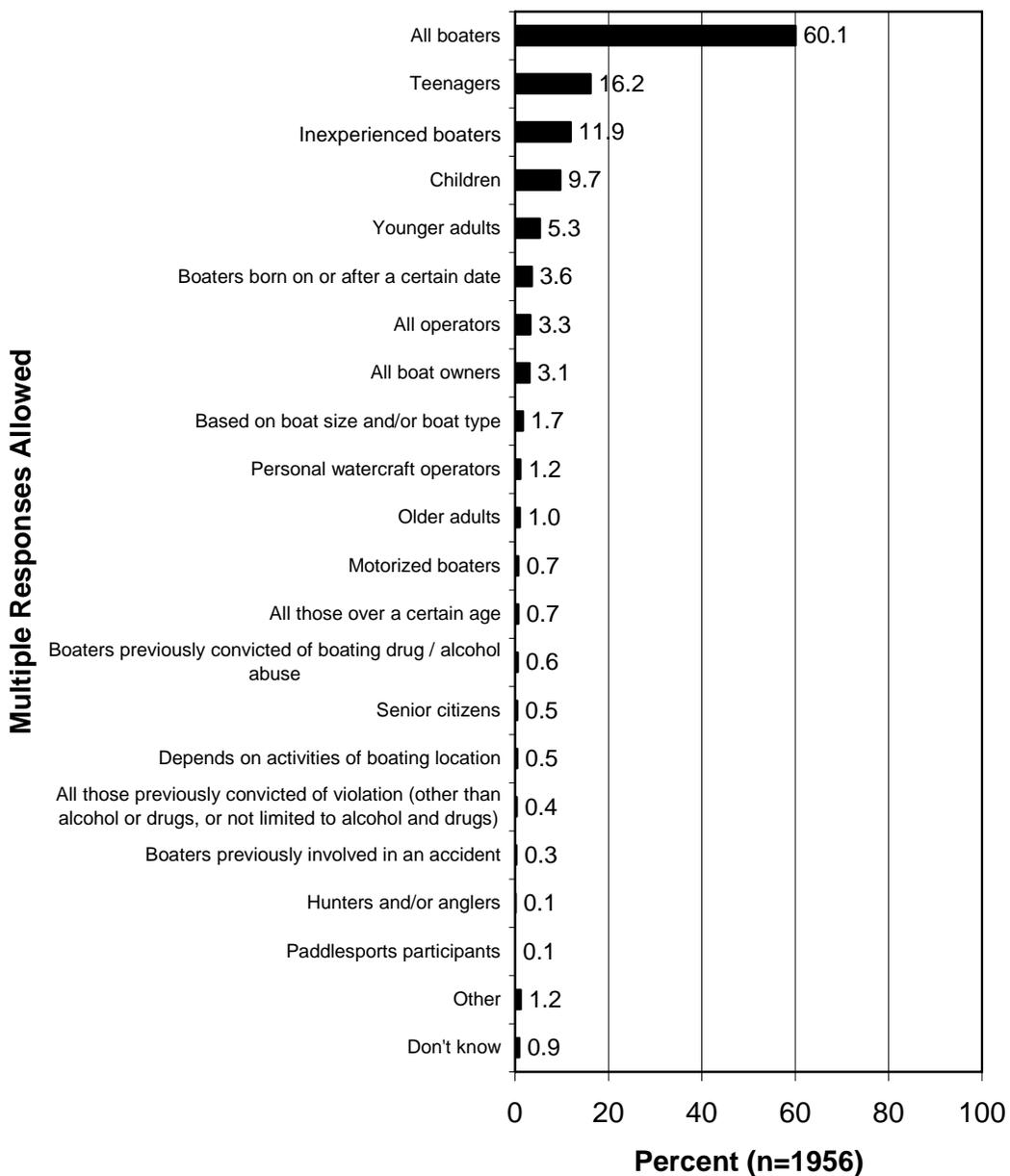
agree nor disagree or don't know), leaving only 10% who *disagree* that boating is safer in states where boating safety education is mandatory.

- A crosstabulation of this question shows little difference in responses between owners of registered boats from the group of states that are the least restrictive in their boating safety education requirements and the group of states that are the most restrictive.
 - More owners of registered boats say that it is *extremely* or *very* important (sum of 56%) to know that other boaters have taken a boating safety course than say it is only *somewhat* or *not at all* important (sum of 42%).
- Owners of registered boats overwhelmingly agree that boating education certification from one state should transfer to another state: 85% agree, with 68% who *strongly* agree.
- Common reasons for agreeing are that boating is essentially the same from one state to the next; that courses are the same in each state; and that once a boater gains the competency to boat safely, he/she will be able to boat safely in another state.
 - Two reasons dominate the responses regarding why respondents *disagree* that boating education certification from one state should transfer to another state: the new state may have regulations and laws that are different from the first state, and state-specific information about bodies of water and other boating issues may change from one state to the next.

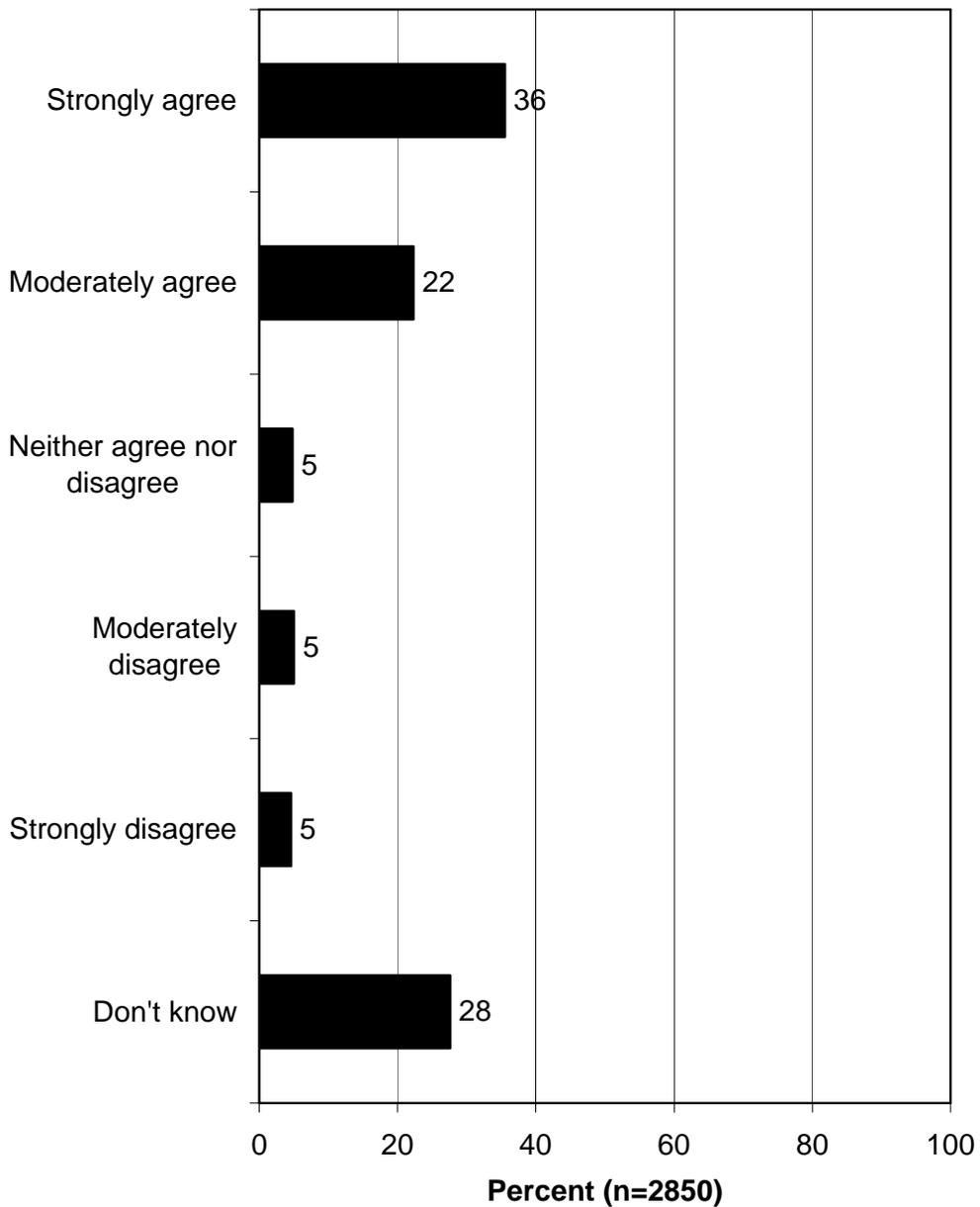
Q185. Would you support or oppose a law making statewide boating safety education mandatory?



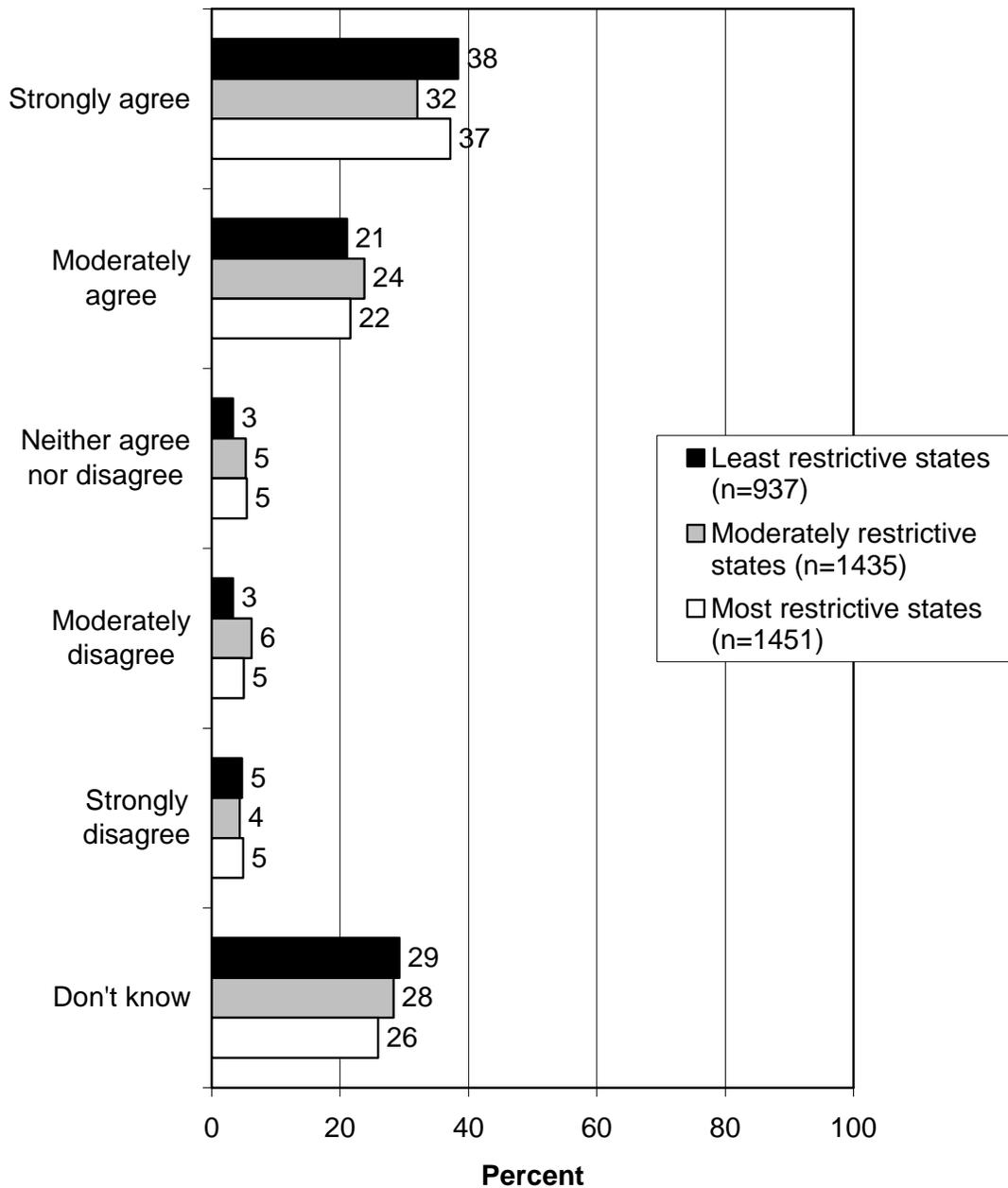
Q188. In your opinion, who should be required to complete a mandatory boating safety education course before operating a boat? (Asked of those who support a law making statewide boating safety education mandatory.)



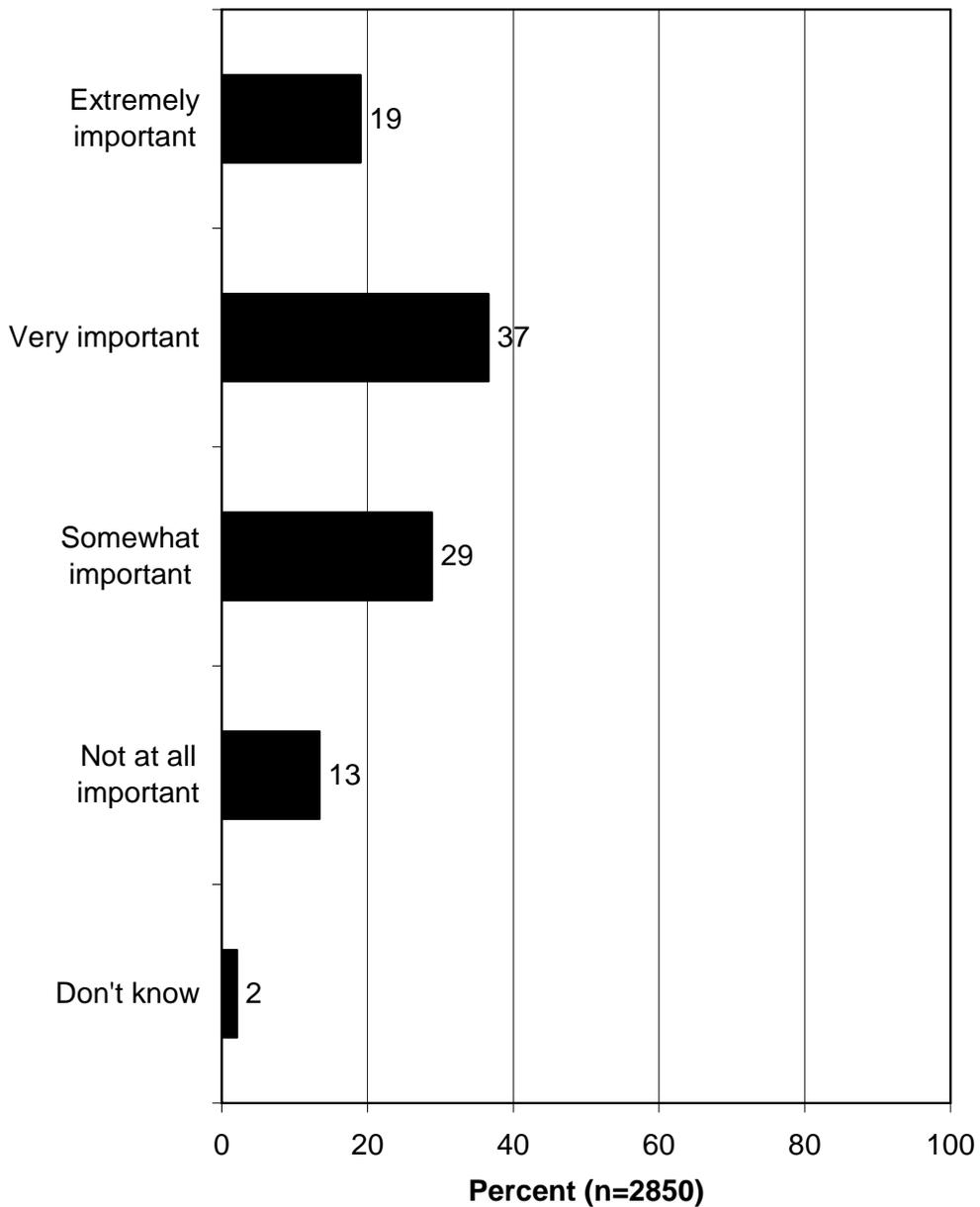
Q190. Do you agree or disagree that boating on the water is safer in states where boating safety education is mandatory?



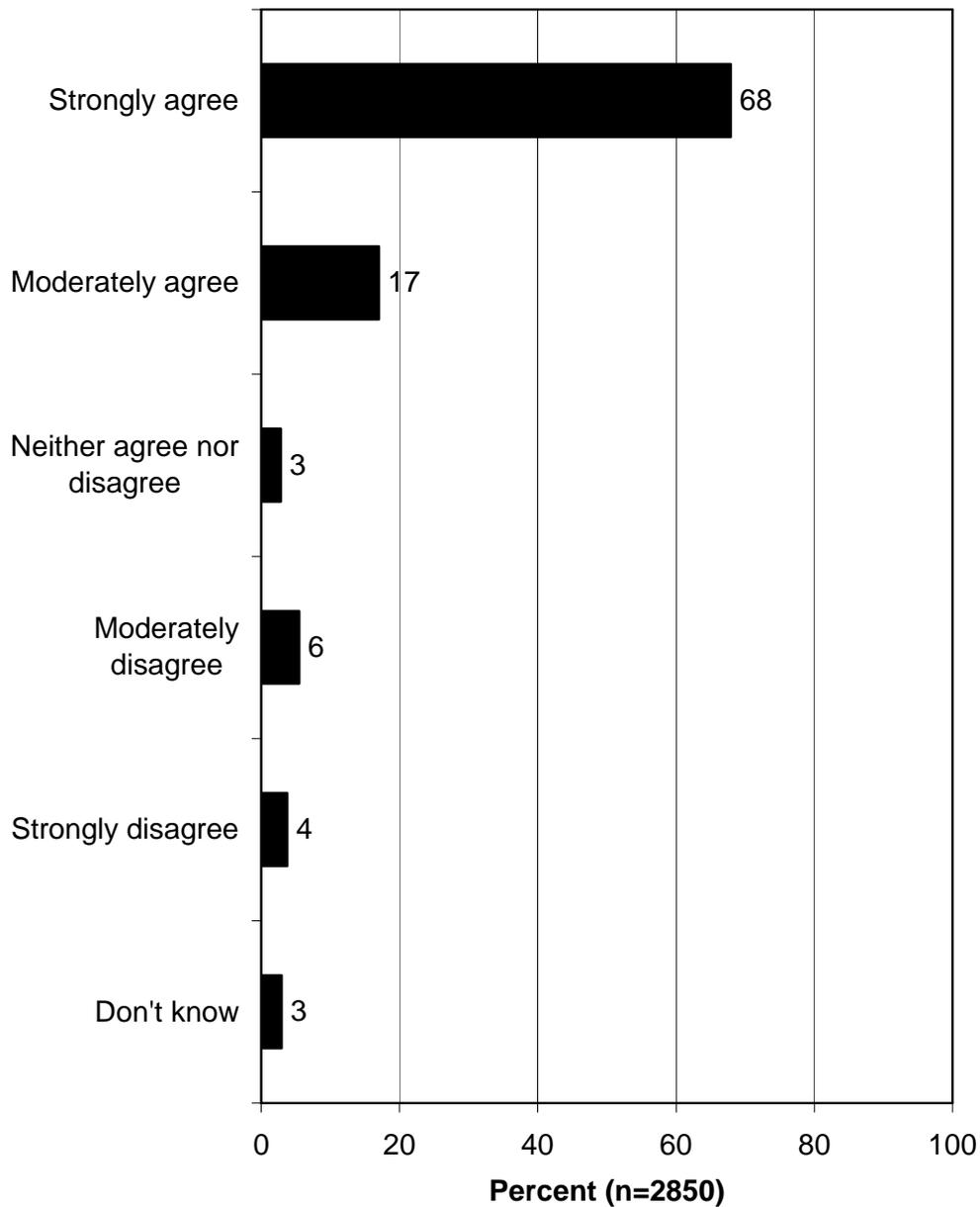
Q190. Do you agree or disagree that boating on the water is safer in states where boating safety education is mandatory?



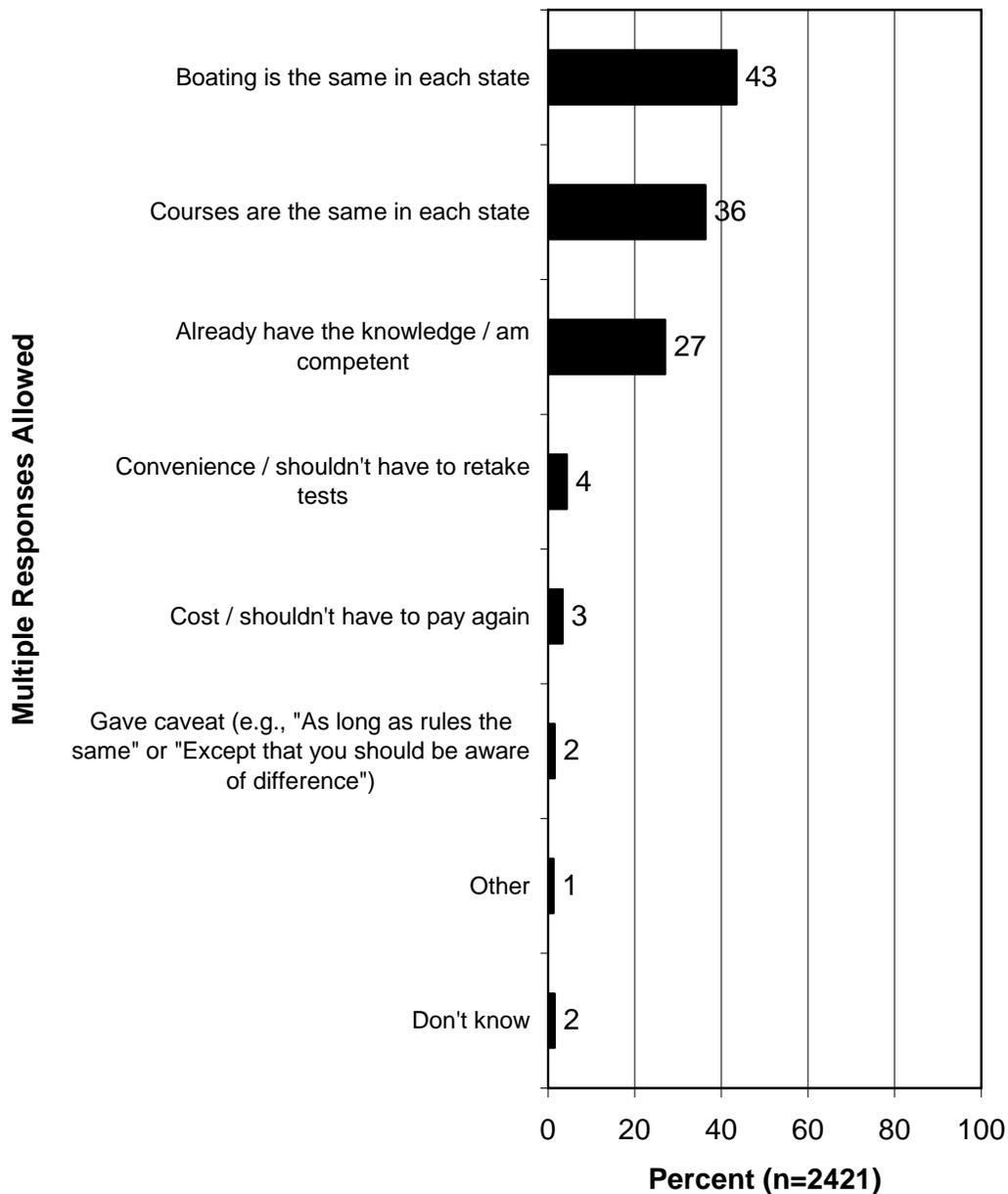
Q184. How important is it to you to know that other boaters have taken a boating safety education course?



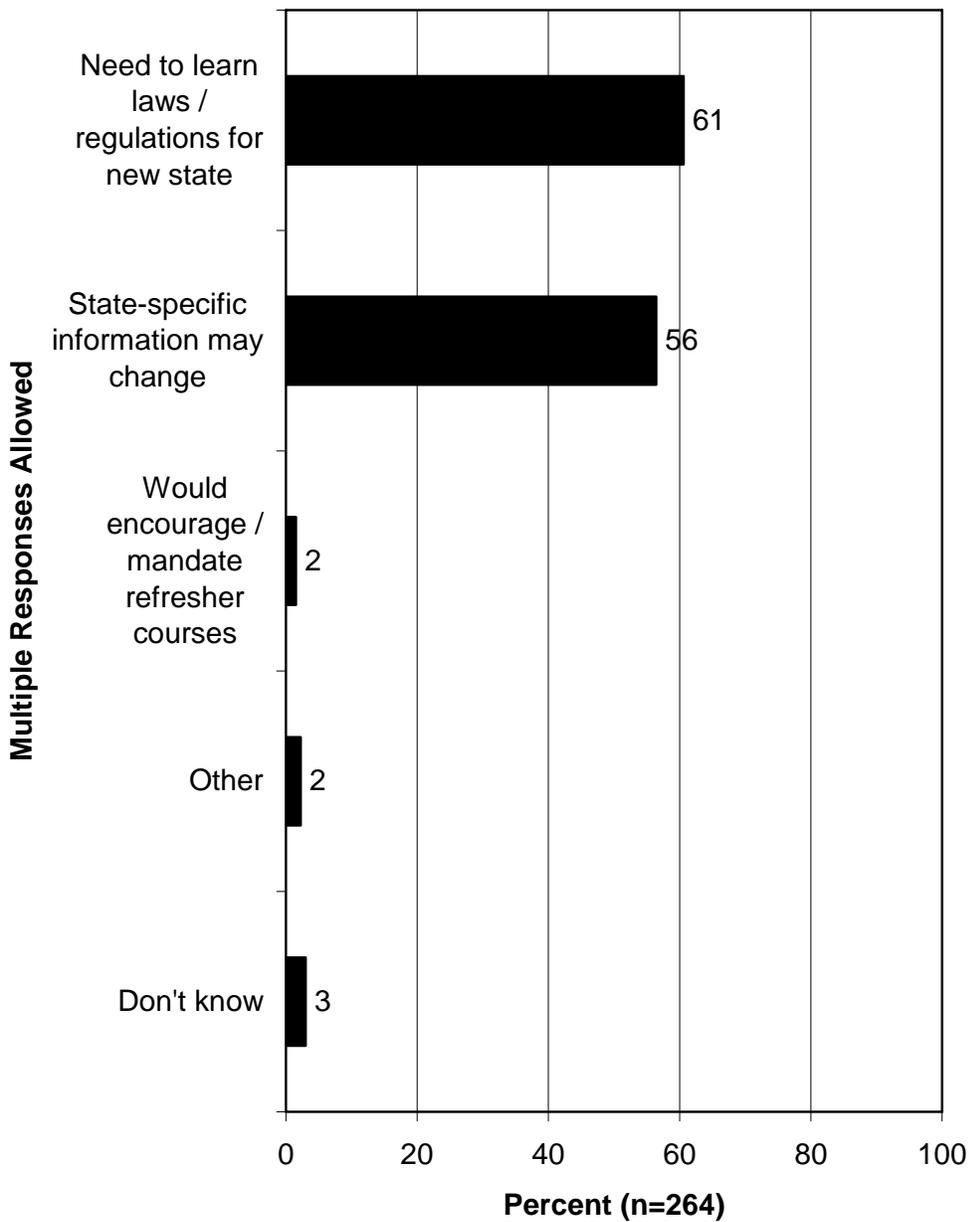
Q191. If you were to move to a different state or boat frequently in a different state, do you agree or disagree that your boating safety education certificate should transfer to the new state?



Q194. Why do you agree that your boating safety education certificate should transfer to the new state? (Asked of those who agree that their boating education certifications should transfer to a new state.)



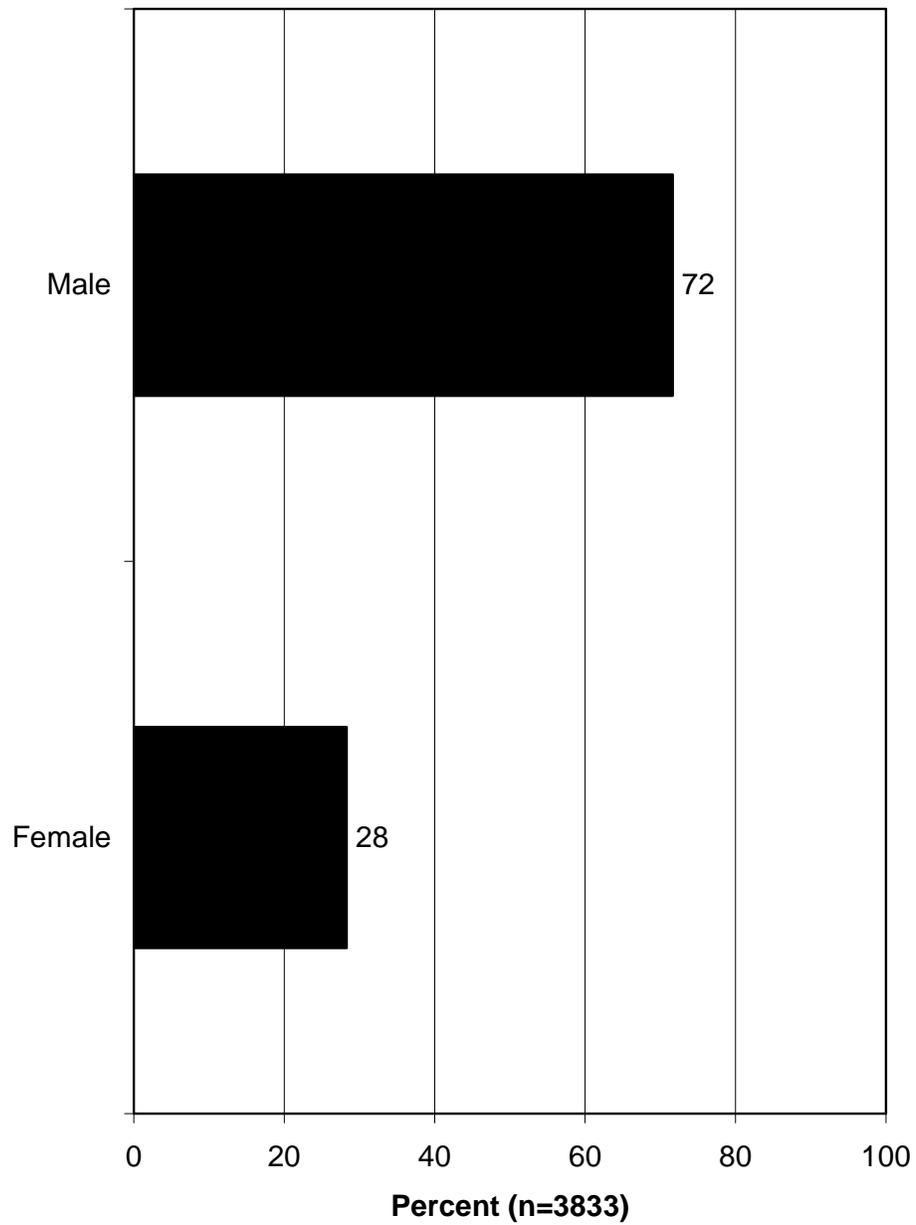
Q198. Why do you disagree that your boating safety education certificate should transfer to the new state? (Asked of those who disagree that their boating education certifications should transfer to a new state.)

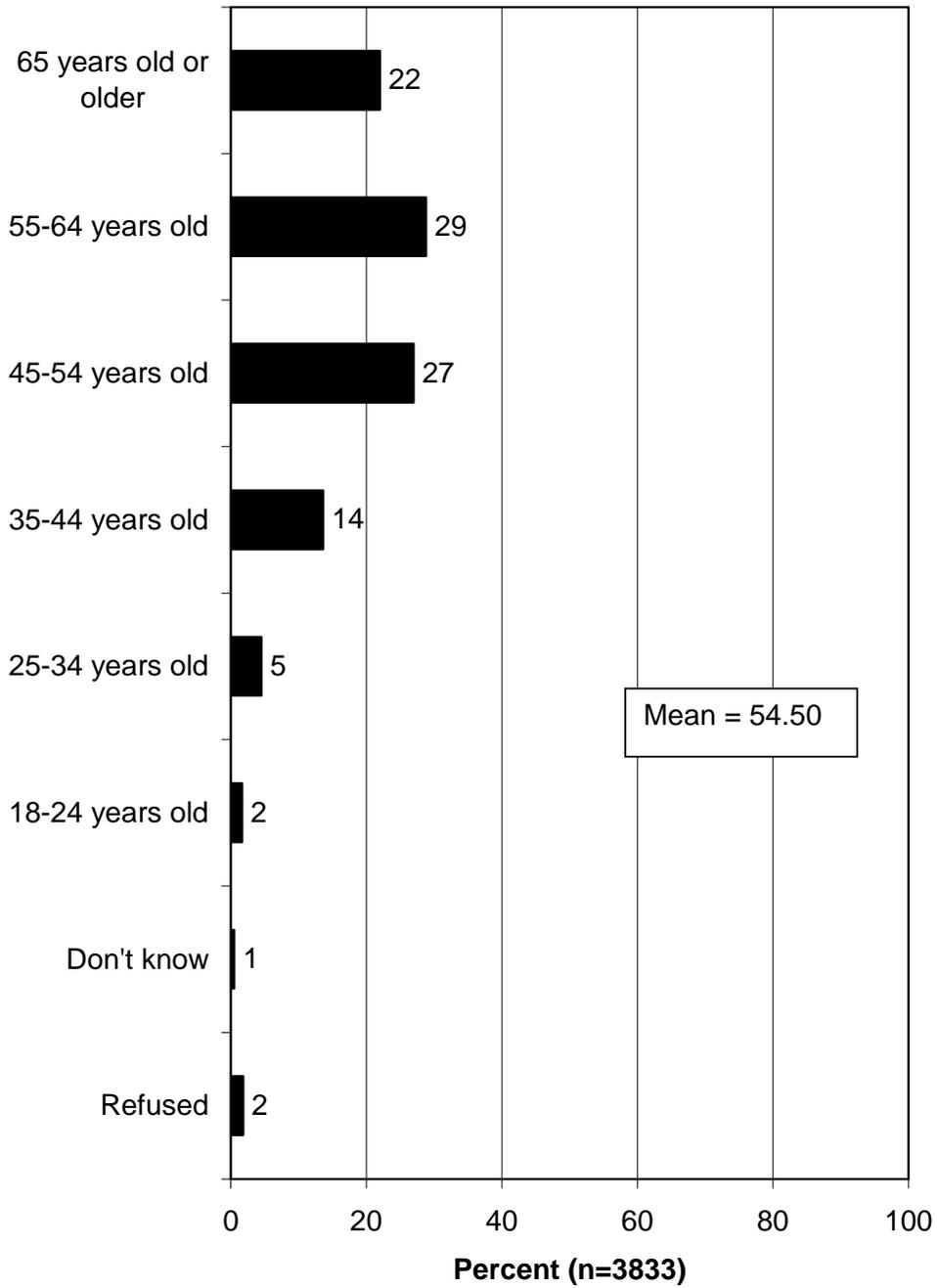


DEMOGRAPHIC DATA

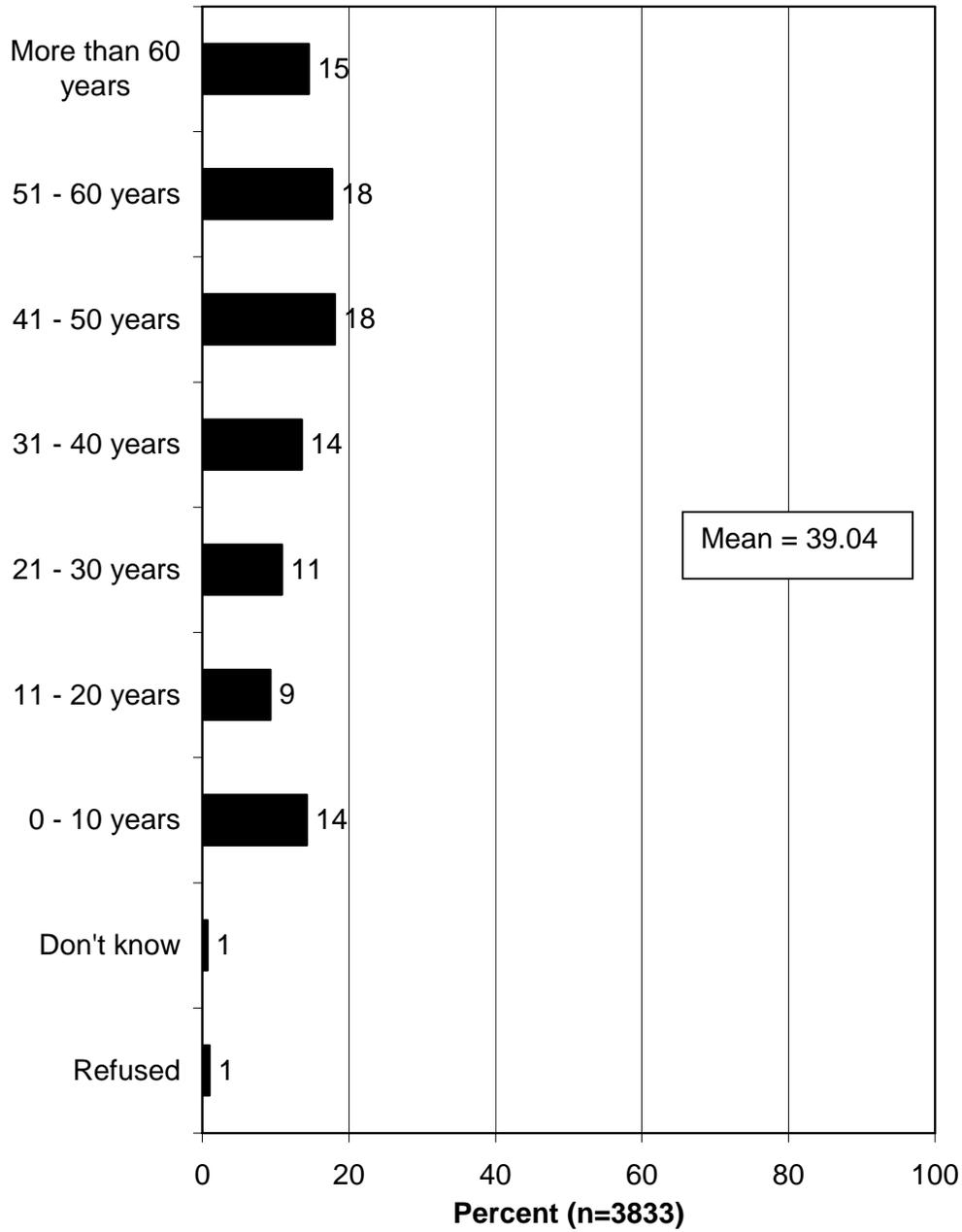
- For all the demographic results, correlations with having taken a boating safety course are discussed, where such correlations exist.
- The majority of owners of registered boats (72%) are male.
 - The z-score analysis found a positive correlation between being male and having taken a boating safety course ($p \leq 0.001$).
- Ages of respondents are shown, which follow a bell curve with the peak in the 55 to 64 year-old range. The mean age is 54.5 years old.
 - The z-score analysis found a positive correlation between being 65 years old or older and having taken a boating safety course ($p \leq 0.001$).
- Boat owners' length of residency in their states is shown. The sample is well distributed among ranges of years of residency.
- Levels of educational attainment of owners of registered boats are shown: 76% have some college or trade school experience, and 45% have a bachelor's degree (with or without a higher degree).
 - The z-score analysis found a positive correlation between having at least a bachelor's degree and having taken a boating safety course ($p \leq 0.001$).
- Owners of registered boats are fairly evenly distributed in four categories: 25% live in a rural area, 31% live in a small city or town, 23% live in a suburban area, and 20% live in a large city or urban area.
- The "Introduction and Methodology" contains information on the state-by-state breakdown of respondents (by state of residency).

Q374. Respondent's gender (observed, not asked, by interviewer).

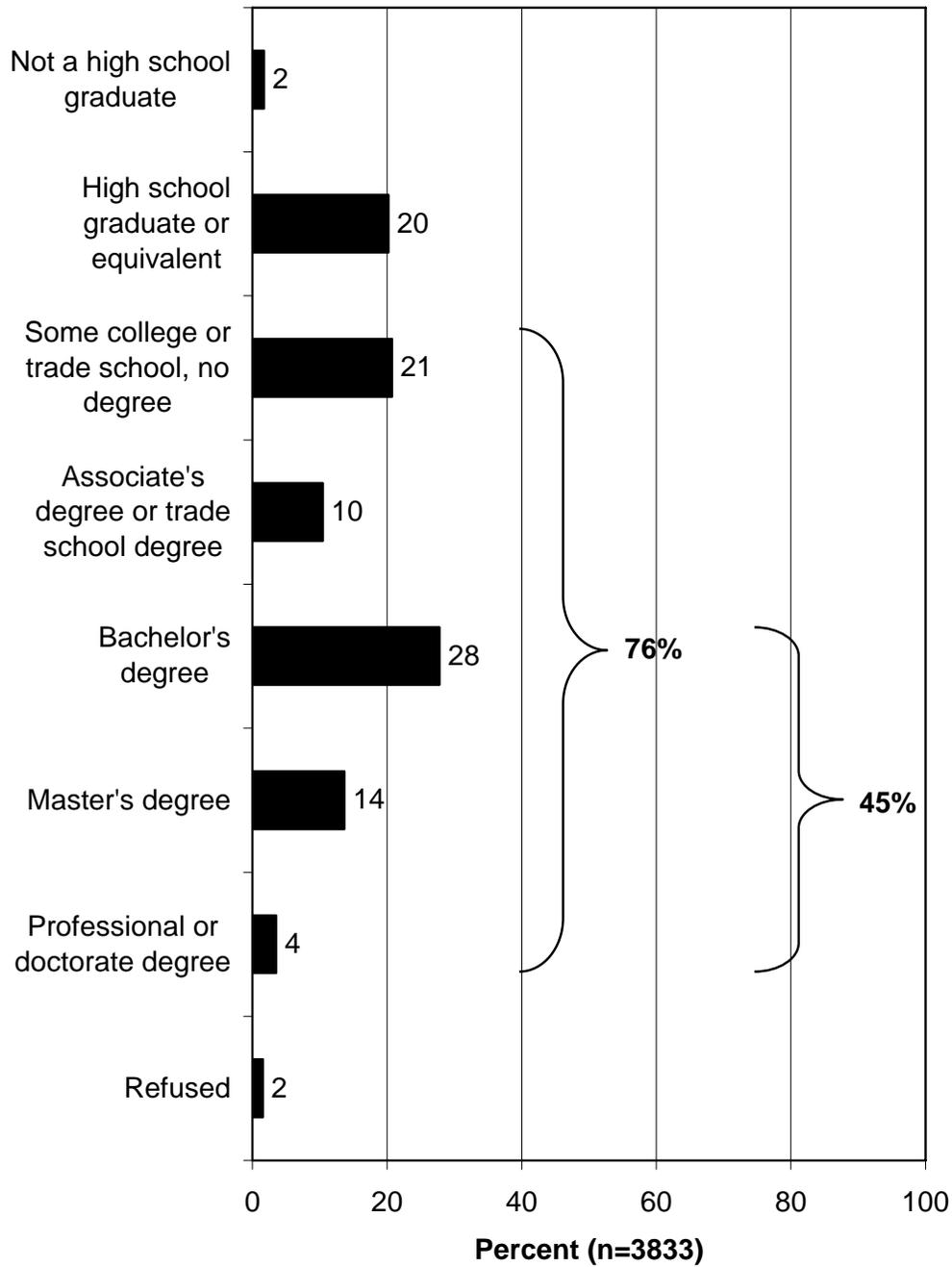


Q368. Respondent's age.

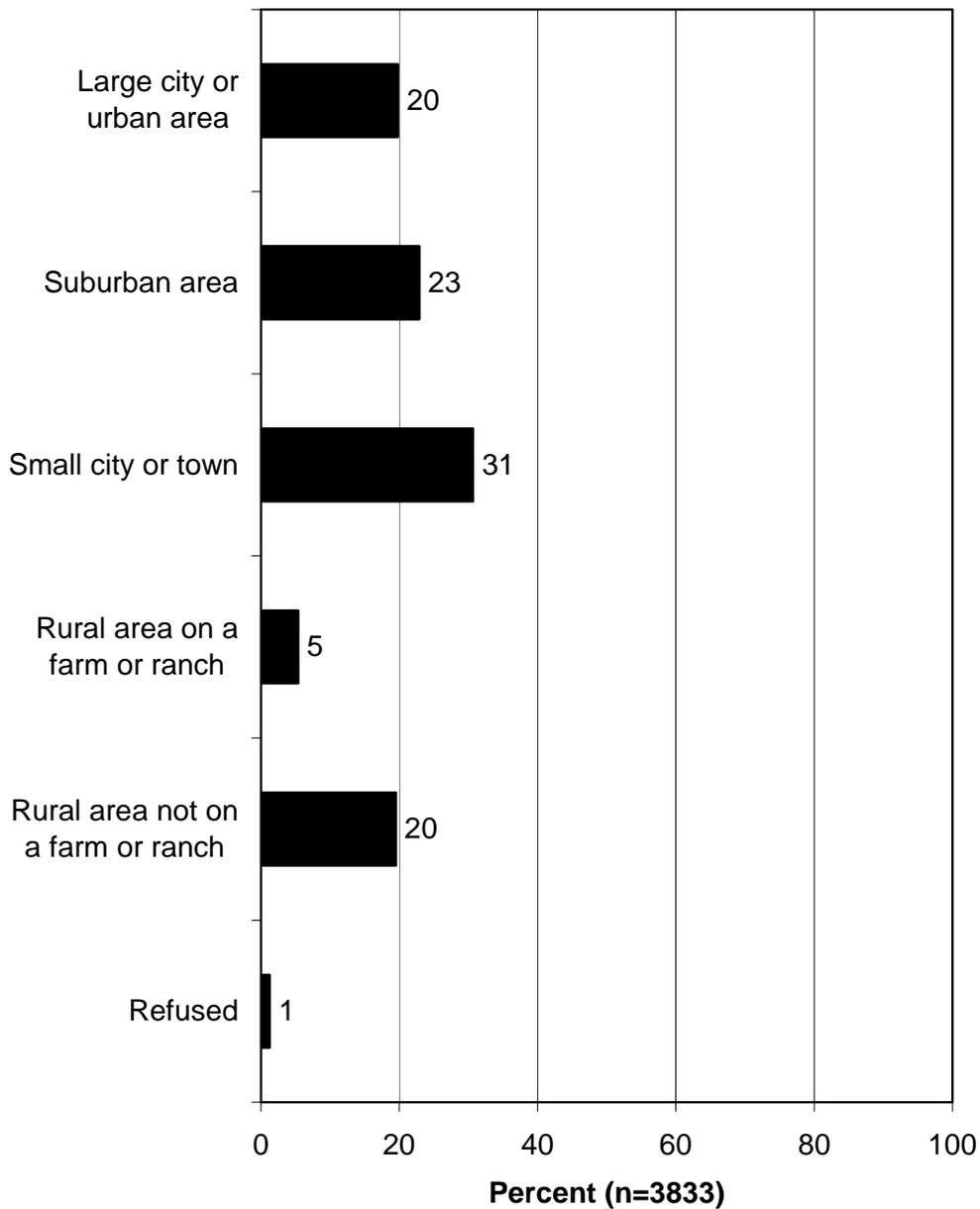
Q363. How many years have you been a resident of your state?



Q367. What is the highest level of education you have completed?



Q366. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch?



APPENDIX A: SURVEY QUESTIONS

The text of the survey questions is shown below (the actual survey is written in QPL). The survey code, which includes statements that control the skipping patterns and flow, that determine wording substitutions, that check for data entry errors, and so forth, has been deleted. Only questions and statements that are read to the respondent are included. Because code statements are numbered along with the questions, the actual questions and statements read to the respondent do not start with 1, and the sequence shown below skips numbers. For instance, numbers 1 through 3 are for code that start the survey, 4 is the introduction, 5 and 6 are code, 7 is for the entry of the state data from the callsheet, 8 through 10 are code, and 11 is a question that is read to the respondent.

Wording substitutions are indicated by brackets []. Where brackets occur, wording is substituted, depending on previous answers. For instance, Question 13, which is to check that the state shown on the callsheet is correct, would insert the state entered in Question 7 in place of “[STATE].” For instance, if the callsheet showed that the respondent was from Delaware, the question would read, “Our records also indicate that you are a Delaware resident. Is this correct?”

Explanations of things in the survey are shown in braces { }; these were not in the actual survey but are included here to help the reader understand the survey.

Some questions are not asked of *all* respondents. For instance, the question, “Why do you think law enforcement patrols should be increased?” is asked only of those who previously indicated that they think patrols should be increased.

NASBLA BOATER SURVEY

4. Hello, my name is [NAME OF INTERVIEWER]. We are conducting a study under a grant from the U.S. Coast Guard, and I would like to ask some questions about your boating experiences. I am not selling anything or asking for donations. Do you have a few minutes to answer some questions?

7. ENTER STATE CODE FROM CALLSHEET

11. Our records indicate that you are an owner of a registered boat. Is this correct?
{This is a screener question; non-boaters were excluded from the survey.}

13. Our records also indicate that you are a(n) [STATE] resident. Is this correct?
{This is an error checker; if not correct, the proper state is entered in Q14.}

14. Which state do you live in?

21-26. In which states have you been boating in the past 12 months?

{Note that these questions allowed up to six states most often boated in to be entered.}

27. Which state have you boated in most often in the past 12 months?

32. How many days have you been boating in the past 12 months?

36. While boating in the past 12 months, did you use a boat that you or your family owned, did you or a member of your party rent a boat, did you or a member of your party charter a boat with a skipper, or were you a guest on a boat owned by a friend or acquaintance?

{Note that all that applied were checked; boaters could use multiple types.}

37. What type of boat did you use most often in the past 12 months?

40. Would you say you know a great deal, a moderate amount, a little, or nothing about how to boat safely?

41. Overall, do you think that boating in [STATE BOATED IN MOST OFTEN] is safe or dangerous?

44. As a boater, what types of boating safety issues concern you the most?

46. What would you say is the main reason that people have boating accidents?

50. In your opinion, what actions could be taken in [STATE BOATED IN MOST OFTEN] to make public waters safer?

52. How often do you see law enforcement patrols or officers on the water while boating in [STATE BOATED IN MOST OFTEN]?

53. Do you think the amount of law enforcement patrols on the waters in [STATE BOATED IN MOST OFTEN] should be increased, about the same, or decreased?

56. Why do you think law enforcement patrols should be increased?

60. Why do you think law enforcement patrols should be decreased?

62. Next, I have some questions about boating safety education courses.

63. Have you ever taken a boating safety education course?

66. What are the main reasons you have not taken a boating safety education course?

70. What are the main reasons you took a boating safety education course?
72. How many boating safety education courses have you taken in your lifetime?
76. [Were any of the courses/Was the course a] state-approved certification course(s)?
77. For which state(s) have you obtained your boating safety education certification?
- 79, 83, 85. For which state(s) have you obtained your boating safety education certification?
{Note that these questions allowed up to three states to be entered; the question below allowed for additional states to be entered.}
87. ENTER ADDITIONAL STATES HERE
88. In years, how long has it been since you successfully completed your most recent state-approved certification course?
92. For which state did this course certify you to operate a boat in?
94. At the time you took this course, were you required by state law to complete a state-approved certification course or did you voluntarily take the course?
95. [Were any of the courses/Was the course a] basic or general boating safety education course(s)?
96. In years, how long has it been since you successfully completed your most recent basic boating safety education course?
100. In which state did you take this course?
102. In general, how satisfied were you with the course?
103. Why were you satisfied with the course?
104. Why were you dissatisfied with the course?
106. You indicated that you successfully completed a [state-approved boating safety education certification course/basic boating safety education course] in the past and that this is the most recent course you have completed. I have a few questions about this course.
107. You indicated that you successfully completed a [state-approved boating safety education certification course/basic boating safety education course] [NUMBER OF YEARS SINCE SUCCESSFULLY COMPLETED MOST RECENT STATE-APPROVED CERTIFICATION COURSE] years ago and that this is the most recent course you have completed. I have a few questions about this course.

108. You indicated that you successfully completed a [state-approved boating safety education certification course/basic boating safety education course] [NUMBER OF YEARS SINCE SUCCESSFULLY COMPLETED MOST RECENT BASIC BOATING SAFETY EDUCATION COURSE] years ago and that this is the most recent course you have completed. I have a few questions about this course.

{The introduction in Q106 is for those who had taken only one state-certified or basic course; the introduction in Q107 is for those who had taken more than one state-certified course; the introduction in Q108 is for those who had taken more than one basic course.}

109. What was the name or title of this course?

112. Who was the provider of this course?

114. Overall, how would you rate the most recent course you completed as a boating safety education course?

115. Why do you rate this course as [RATING GIVEN IN Q114]?

116. What was the format of the most recent [state-approved boating safety education certification course/basic boating safety education course] you completed? Was the course format classroom instruction, home study, or distance learning by web or online?

117. How effective would you say this format was for teaching boating safety?

118. Why would you say this format was not at all effective?

119. How would you rate the course instructor for the most recent boating safety education course you completed?

120. Why do you rate the course instructor as [RATING GIVEN INSTRUCTOR IN Q119]?

121. In your opinion, how important is a “hands-on” or “on-the-water” component for successfully teaching safe boating?

122. Did the course you completed have a “hands-on” or “on-the-water” component?

123. How would you rate the quality of the “hands-on” or “on-the-water” component of the course you completed?

126. Are there any other boating safety topics or is there additional information you think should be covered in boating safety education courses?

128. In general, do you agree or disagree that you practice safer boating behavior as a result of the most recent boating safety education course you completed?

131. How did you learn about the most recent boating safety education course you completed?

133. Did you boat at all before completing this course?

=====

134. Please tell me how often you participated in each of the following before taking the most recent boating safety education course you completed.

{For all of the questions below, the answer set is “always,” “sometimes,” “rarely,” or “never.” Because the questions are in a series, the interviewer is able to start most of them, “How about...” to save time in questioning. For the first question in the series, the interviewer would ask, “Would you say you wore a life jacket while operating or riding on a boat always, sometimes, rarely, or never?” The subsequent question would simply be worded, “How about required all other passengers to wear a life jacket while boating?” and so on. Note that the starting location is randomized, with a tenth of the interviewers starting with Q136 and proceeding through to Q145, another tenth starting with Q137 and proceeding through to Q145 and then looping back to Q136, and so forth. Randomizing the start helps limit “order bias” in the results. The full question is included in parentheses after the shortened “How about” wording.}

136. How about wore a life jacket while operating or riding on a boat? (Would you say you wore a life jacket while operating or riding on a boat always, sometimes, rarely, or never?)
137. How about required all other passengers to wear a life jacket while boating? (Would you say you required all other passengers to wear a life jacket while boating always, sometimes, rarely, or never?)
138. How about filed a float plan with the appropriate agency? (Would you say you filed a float plan with the appropriate agency always, sometimes, rarely, or never?)
139. How about located and checked all safety aids prior to launch? (IF ASKED: Such as life jackets, flares, or fire extinguishers.) (Would you say you located and checked all safety aids prior to launch always, sometimes, rarely, or never?)
140. How about checked all navigation instruments and lights prior to launch? (Would you say you checked all navigation instruments and lights prior to launch always, sometimes, rarely, or never?)
141. How about checked the marine radio prior to launch? (Would you say you checked the marine radio prior to launch always, sometimes, rarely, or never?)
142. How about fueled your boat at a dock? (Would you say you fueled your boat at a dock always, sometimes, rarely, or never?)
143. How about properly disposed of waste at pump-out and dump stations? (Would you say you properly disposed of waste at pump-out and dump stations always, sometimes, rarely, or never?)
144. How about painted or cleaned your boat in the water? (Would you say you painted or cleaned your boat in the water always, sometimes, rarely, or never?)
145. How about removed all plants and animals from your boat and inspected and washed your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species? (Would you say you removed all plants and animals from your boat and inspected and washed your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species always, sometimes, rarely, or never?)
- =====

146. Now I would like to know how often you have participated in each of *those same* activities after completing the boating safety education course.

147. Now I would like to know how often you have participated in each of *the following* activities after completing the boating safety education course.

{The first introduction is for those who had boated before taking a course and who were, therefore, asked the first series of questions; the second introduction is for those who had not boated before a course and were, therefore, not asked the first series. The italics above show the differences in these two introductions. See the explanation that precedes the first series above for an explanation of the wording and ordering of this series of questions shown below.}

149. How about wore a life jacket while operating or riding on a boat?

150. How about required all other passengers to wear a life jacket while boating?

151. How about filed a float plan with the appropriate agency?

152. How about located and checked all safety aids prior to launch? (IF ASKED: Such as life jackets, flares, or fire extinguishers.)

153. How about checked all navigation instruments and lights prior to launch?

154. How about checked the marine radio prior to launch?

155. How about fueled your boat at a dock?

156. How about properly disposed of waste at pump-out and dump stations?

157. How about painted or cleaned your boat in the water?

158. How about removed all plants and animals from your boat and inspected and washed your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species?

159. Please tell me how often you participate in each of the following.

{This series, similar to the series above, was asked of those who had not taken a boating safety course or had taken a course that was *not* state-certified or basic. See the explanation that precedes the first series above for an explanation of the wording and ordering of this series of questions shown below.}

161. How about wear a life jacket while operating or riding on a boat?

162. How about require all other passengers wear a life jacket while boating?

163. How about file a float plan with the appropriate agency?

164. How about locate and check all safety aids prior to launch? (IF ASKED: Such as life jackets, flares, or fire extinguishers.)

165. How about check all navigation instruments and lights prior to launch?

166. How about check the marine radio prior to launch?

167. How about fuel your boat at a dock?

168. How about properly dispose of waste at pump-out and dump stations?

169. How about paint or clean your boat in the water?

170. How about remove all plants and animals from your boat and inspect and wash your boat out of the water prior to entering another body of water in an effort to prevent the spread of invasive species?

172. Next I have some questions about your opinions on boating safety education courses in general.

173. Overall, how effective do you think boating safety education courses are?

=====

174. In your opinion, how effective do you think boating safety education courses are at each of the following?

{See the explanation that precedes the first series above for an explanation of the wording and ordering of this series of questions shown below.}

176. How about increasing awareness of boating safety issues?

177. How about increasing boater participation in safe boating?

178. How about increasing life jacket use?

179. How about reducing unsafe and reckless boating practices?

180. How about reducing improper alcohol and drug use while boating?

181. How about increasing awareness of environmental boating issues?

182. How about reducing improper disposal of waste from boats?

183. How about reducing boating practices that are unsafe for the environment?

=====

184. How important is it to you to know that other boaters have taken a boating safety education course?

185. Would you support or oppose a law making statewide boating safety education mandatory?

188. In your opinion, who should be required to complete a mandatory boating safety education course before operating a boat?

190. Do you agree or disagree that boating on the water is safer in states where boating safety education is mandatory?

191. If you were to move to a different state or boat frequently in a different state, do you agree or disagree that your boating safety education certificate should transfer to the new state?

194. Why do you agree that your boating safety education certificate should transfer to the new state?

198. Why do you disagree that your boating safety education certificate should transfer to the new state?

200. Now I would like to know about what is important to you when taking a boating safety education course.

203. What are the most important factors to you when you are choosing which boating safety education course to take?

205. If you were to take a boating safety education course in the near future, would you prefer to take a classroom or distance learning course, such as online or home study courses?

206. If you were to take a classroom course, how long would you be willing to travel to take a boating safety education course?

207. If you were to take a classroom course, do you think the sessions should be on weeknights only, weekends only, or a combination of both?

208. If you were to take a classroom course, what is the best time of year for you to take a boating safety education course?

209. If you were to take a distance learning course, would you prefer to take the course by mail or online?

210. How likely or unlikely are you to take a boating safety education course in the next 2 years?

213. What are the main reasons you are not likely to take a boating safety education course in the next 2 years?

217. What would encourage you to take a boating safety education course in the next 2 years?

222. Where have you seen advertising for boating safety education courses?

226. If you were looking for information on a boating safety education course, who would you contact or where would you look for the information?

234. Next, I would like to know if you have heard about any of the following educational programs or campaigns? {The interviewer then read the following list and recorded all that the respondent had heard of.}

National Safe Boating Week

Life Jacket “Wear It”

Cold water immersion/hypothermia programs

Alcohol prevention programs

Small boat awareness programs

Hunter/angler awareness programs

Paddlesports awareness programs

235. Have you heard of any other boating safety-related programs or campaigns?

236. What programs or campaigns have you heard of?

{Questions 240 through 291 are asked only of those who have heard of the programs or campaigns, with the question about effectiveness asked only of those who also participated.}

240. How did you hear about the National Safe Boating Week program or campaign?
242. Have you ever participated in the National Safe Boating Week program or campaign?
243. How effective do you think the National Safe Boating Week program or campaign is?
247. How did you hear about the Life Jacket “Wear It” program or campaign?
249. Have you ever participated in the Life Jacket “Wear It” program or campaign?
250. How effective do you think the Life Jacket “Wear It” program or campaign is?
254. How did you hear about the cold water immersion/hypothermia program or campaign?
256. Have you ever participated in the cold water immersion/hypothermia program or campaign?
257. How effective do you think the cold water immersion/hypothermia program or campaign is?
261. How did you hear about the alcohol prevention program or campaign?
263. Have you ever participated in the alcohol prevention program or campaign?
264. How effective do you think the alcohol prevention program or campaign is?
268. How did you hear about the small boat awareness program or campaign?
270. Have you ever participated in the small boat awareness program or campaign?
271. How effective do you think the small boat awareness program or campaign is?
275. How did you hear about the hunter/angler awareness program or campaign?
277. Have you ever participated in the hunter/angler awareness program or campaign?
278. How effective do you think the hunter/angler awareness program or campaign is?
282. How did you hear about the paddlesports awareness program or campaign?
284. Have you ever participated in the paddlesports awareness program or campaign?
285. How effective do you think the paddlesports awareness program or campaign is?
288. How did you hear about the [PROGRAM GIVEN IN Q236] program or campaign?
290. Have you ever participated in the [PROGRAM GIVEN IN Q236] program or campaign?
291. How effective do you think the [PROGRAM GIVEN IN Q236] program or campaign is?
292. Are there any boating issues for which you think more educational programs or campaigns are needed?
296. What is the best way to provide you with information about boating safety-related programs or campaigns? We are not sending information at this time; we are just measuring interest.
298. How often would you say you see unsafe boating, such as boating without a life jacket, boating while drinking alcohol, speeding, or reckless boat operation, portrayed in the media, including movies, television, commercials, music videos, advertisements, and billboards?

299. Do you agree or disagree that seeing unsafe boating in the media encourages boaters to participate in unsafe boating practices?

300. Have you ever been in a boating accident?

301. How many total boating accidents have you been in?

304. Previously you indicated that you have taken at least one boating safety education course. Did this accident occur before or after you completed your first boating safety education course?

305. Previously you indicated that you have taken at least one boating safety education course. How many of these accidents occurred before you completed your first boating safety education course?

{Q304 is asked of those who had only a single accident; Q305 is asked of those who had more than one accident.}

308. How many of these accidents occurred after you completed your first boating safety education course?

314. What type of accident(s) were you in?

316. Were you injured in any of these accident(s)?

317. Was anyone else injured in any of these accident(s)?

318. How many other people were injured in the accident(s)?

321. Were there any fatalities as a result of any of these accident(s)?

322. How many fatalities resulted from the accident(s)?

327. Did any of the following contribute to any of these accident(s)?

328. First, I have some questions about the accident(s) you were involved in before you completed your first boating safety education course.

331. What type of accident(s) were you in before your first boating safety education course?

333. Were you injured in any of these accident(s)? (IF ASKED: Accidents before your first boating safety education course.)

334. Was anyone else injured in any of these accident(s)? (IF ASKED: Accidents before your first boating safety education course.)

335. How many other people were injured in the accident(s)? (IF ASKED: Accidents before your first boating safety education course.)

338. Were there any fatalities as a result of any of these accident(s)? (IF ASKED: Accidents before your first boating safety education course.)

339. How many fatalities resulted from the accident(s)? (IF ASKED: Accidents before your first boating safety education course.)

344. Did any of the following contribute to any of these accident(s)? (IF ASKED: Accidents before your first boating safety education course.)

345. Next, I have some questions about the accident(s) you were involved in *after* you completed your first boating safety education course.

348. What type of accident(s) were you in after your first boating safety education course?

350. Were you injured in any of these accident(s)? (IF ASKED: Accidents after your first boating safety education course.)

351. Was anyone else injured in any of these accident(s)? (IF ASKED: Accidents after your first boating safety education course.)

352. How many other people were injured in the accident(s)? (IF ASKED: Accidents after your first boating safety education course.)

355. Were there any fatalities as a result of any of these accident(s)? (IF ASKED: Accidents after your first boating safety education course.)

356. How many fatalities resulted from the accident(s)? (IF ASKED: Accidents after your first boating safety education course.)

361. Did any of the following contribute to any of these accident(s)? (IF ASKED: Accidents after your first boating safety education course.)

362. Great! We're just about through. The final questions are for background information and help us analyze the results.

363. How many years have you been a [STATE OF RESIDENCE FROM Q7] resident?

366. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area not on a farm or ranch?

367. What is the highest level of education you have completed?

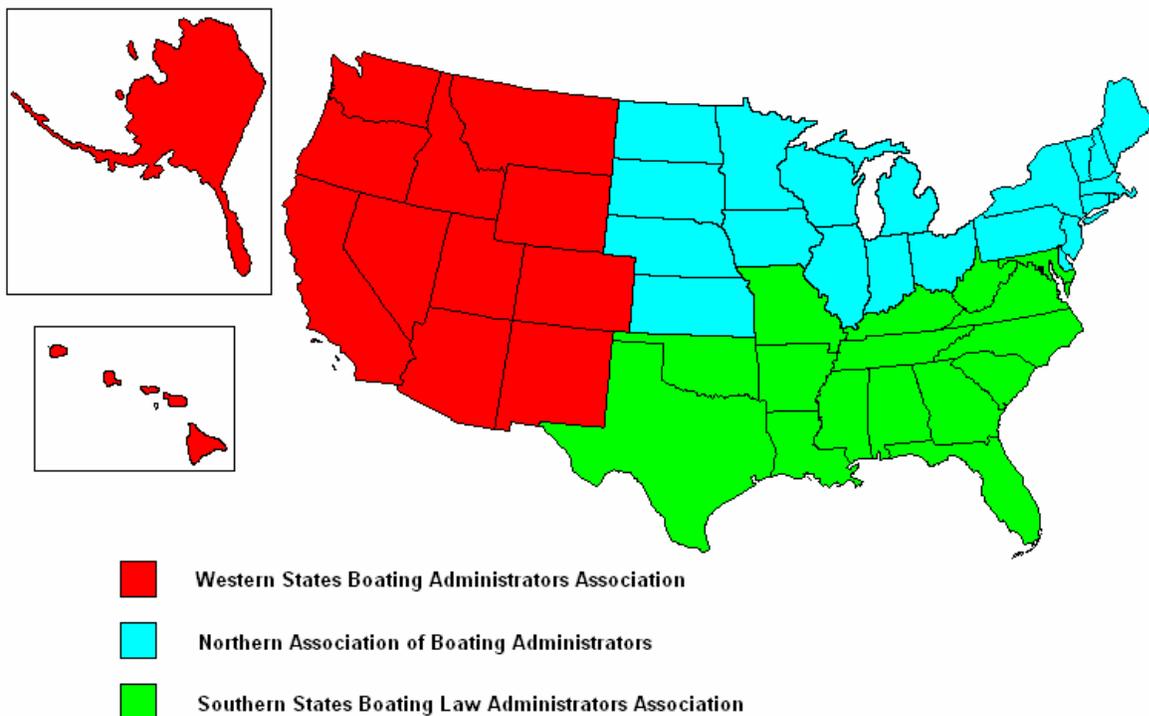
368. May I ask your age?

372. That's the end of the survey. Thanks for your time and cooperation. If you have any additional comments, I can record them here.

374. OBSERVE AND RECORD RESPONDENT'S GENDER.

APPENDIX B: REGIONAL BREAKDOWN OF THE U.S. FOR ANALYSIS

A map of the regional breakdown of the U.S. that was used in some of the analyses is shown below. The regions are based on the regional boating administrator associations as shown on the NASBLA website. A listing of the states in each association is also included.

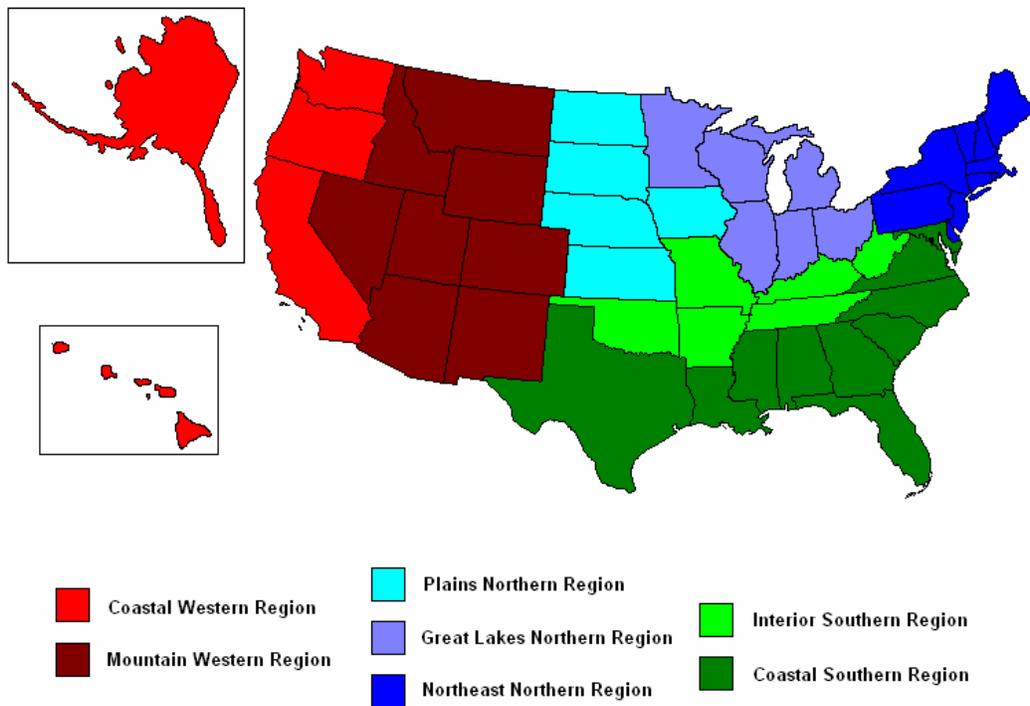


The **Western States Boating Administrators Association** consists of the following states: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. Note that American Samoa, Guam, and the Northern Mariana Islands are also in the Western States Boating Administrators Association but were not included in the survey.

The **Northern Association of Boating Administrators** consists of the following states: Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, and Wisconsin. Note that Ontario, Canada, is also in the Northern Association of Boating Administrators but was not included in the survey.

The **Southern States Boating Law Administrators Association** consists of the following states: Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Note that Puerto Rico and the U.S. Virgin Islands are also in the Southern States Boating Law Administrators Association but were not included in the survey.

The map below shows a breakdown of the regions into sub-regions that was also used in some of the analyses.



APPENDIX C: BREAKDOWN OF STATES FOR ANALYSIS BY BOATING SAFETY EDUCATION REQUIREMENTS

As indicated in the methodology, another crosstabulation grouped states into three categories according to the strictness of their boating safety education requirements at the time of the survey.

The data for categorizing states was found on the NASBLA website. A tabulation is presented showing states that have boating education requirements for those born after a certain date, states with phase-in requirements, states with education requirements that apply to teens only, states that have requirements for those operating personal watercraft only, and states with no requirements.

The URL was as follows: <http://www.nasbla.org:80/i4a/pages/index.cfm?pageid=3420>

Note that the URL was valid as of August 6, 2010.

Three categories were created:

- Most restrictive states (those that have “born after” or phased-in requirements): Alabama, Arkansas, Connecticut, Delaware, the District of Columbia, Kansas, Louisiana, Maryland, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia, Washington, West Virginia, and Wisconsin.
- Moderately restrictive states (states that have requirements only for teens): Colorado, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oklahoma, South Carolina, and Texas.
- Least restrictive states (states that have requirements only for personal watercraft or have no requirements at all): Alaska, Arizona, California, Hawaii, Idaho, Maine, Michigan, New York, North Carolina, South Dakota, Utah, and Wyoming.

APPENDIX D: VARIABLES RUN IN THE NONPARAMETRIC ANALYSIS

VARIABLES RUN IN THE Z-SCORE ANALYSIS
Has taken a boating safety course.
Does not indicate he/she has taken a boating safety course.
Has taken a state-approved boating education course, but took it longer ago than the median number of years since respondents had taken a course.
Has taken a state-approved boating education course, and took it the median or fewer number of years since respondents had taken course.
Boats most often in Alabama.
Boats most often in Alaska.
Boats most often in Arizona.
Boats most often in Arkansas.
Boats most often in California.
Boats most often in Colorado.
Boats most often in Connecticut.
Boats most often in Delaware.
Boats most often in Florida.
Boats most often in Georgia.
Boats most often in Hawaii.
Boats most often in Idaho.
Boats most often in Illinois.
Boats most often in Indiana.
Boats most often in Iowa.
Boats most often in Kansas.
Boats most often in Kentucky.
Boats most often in Louisiana.
Boats most often in Maine.
Boats most often in Maryland.
Boats most often in Massachusetts.
Boats most often in Michigan.
Boats most often in Minnesota.
Boats most often in Mississippi.
Boats most often in Missouri.
Boats most often in Montana.
Boats most often in Nebraska.
Boats most often in Nevada.
Boats most often in New Hampshire.
Boats most often in New Jersey.
Boats most often in New Mexico.
Boats most often in New York.
Boats most often in North Carolina.
Boats most often in North Dakota.
Boats most often in Ohio.
Boats most often in Oklahoma.
Boats most often in Oregon.
Boats most often in Pennsylvania.
Boats most often in Rhode Island.
Boats most often in South Carolina.
Boats most often in South Dakota.
Boats most often in Tennessee.

VARIABLES RUN IN THE Z-SCORE ANALYSIS
Boats most often in Texas.
Boats most often in Utah.
Boats most often in Vermont.
Boats most often in Virginia.
Boats most often in Washington.
Boats most often in West Virginia.
Boats most often in Wisconsin.
Boats most often in Wyoming.
Boats most often in the NABA region (Northern Association of Boating Administrators Region).
Boats most often in the SSBLAA region (Southern States Boating Law Administrators Association Region).
Boats most often in the WABAA region (Western States Boating Administrators Association Region).
Boats most often in the Coastal Western region.
Boats most often in the Mountain Western region.
Boats most often in the Plains Northern region.
Boats most often in the Great Lakes Northern region.
Boats most often in the Northeast Northern region.
Boats most often in the Interior Southern region.
Boats most often in the Coastal Southern region.
Has been boating more than the median number of days in the past 12 months.
Has been boating the median or fewer days in the past 12 months.
Has used a family-owned boat in the past 12 months.
Has not used a family-owned boat in the past 12 months.
Has rented a boat (or been in a party that did) in the past 12 months.
Has not rented a boat (nor been in a party that did) in the past 12 months.
Has chartered a boat with a skipper (or been in a party that did) in the past 12 months.
Has not chartered a boat with a skipper (nor been in a party that did) in the past 12 months.
Has been a guest on a boat owned by a friend or acquaintance in the past 12 months.
Has not been a guest on a boat owned by a friend or acquaintance in the past 12 months.
Used a motorized boat the most often in the past 12 months.
Did not use a motorized boat the most often in the past 12 months.
Used a personal watercraft the most often in the past 12 months.
Did not use a personal watercraft the most often in the past 12 months.
Used a sailboat the most often in the past 12 months.
Did not use a sailboat the most often in the past 12 months.
Most used boat in the past 12 months is less than 16 feet long.
Most used boat in the past 12 months is 16 or more feet long.
Most used boat in the past 12 months is human powered.
Most used boat in the past 12 months is not human powered.
Most recent boating safety course taken was a classroom format.
Most recent boating safety course taken was a home study format.
Most recent boating safety course taken was an online format.
Is very likely to take a boating safety course in the next 2 years.
Does not indicate being very likely to take a boating safety course in the next 2 years.
Has heard of National Safe Boating Week.
Has heard of Life Jacket "Wear It."
Has heard of Cold Water Immersion/Hypothermia programs.
Has heard of Alcohol Prevention programs.
Has heard of Small Boat Awareness programs.
Has heard of Hunter/Angler Awareness programs.
Has heard of Paddlesports Awareness programs.
Has not heard of any of the listed boating educational programs.
Has participated in the National Safe Boating Week program.

VARIABLES RUN IN THE Z-SCORE ANALYSIS
Has not participated in the National Safe Boating Week program.
Has participated in the Life Jacket "Wear It" program.
Has not participated in the Life Jacket "Wear It" program.
Has participated in the Cold Water Immersion/Hypothermia program.
Has not participated in the Cold Water Immersion/Hypothermia program.
Has participated in the Alcohol Prevention program.
Has not participated in the Alcohol Prevention program.
Has participated in the Small Boat Awareness program.
Has not participated in the Small Boat Awareness program.
Has participated in the Hunter/Angler Awareness program.
Has not participated in the Hunter/Angler Awareness program.
Has participated in the Paddlesports Awareness program.
Has not participated in the Paddlesports Awareness program.
Has been in a boating accident.
Has not been in a boating accident.
Has been a resident of his/her state for more than the median number of years.
Has been a resident of his/her state for the median or fewer number of years.
Is a resident of a large city/urban area or suburban area.
Is a resident of a small city/town or a rural area.
Education level is no more than high school diploma.
Has had some college or trade school course work, but does not have a bachelor's degree.
Has a bachelor's degree (with or without a higher degree).
Is 18 to 34 years old.
Is 35 to 64 years old.
Is 65 years old or older.
Is male.
Is female.

ABOUT RESPONSIVE MANAGEMENT

Responsive Management is a nationally recognized public opinion and attitude survey research firm specializing in natural resource and outdoor recreation issues. Its mission is to help natural resource and outdoor recreation agencies and organizations better understand and work with their constituents, customers, and the public.

Utilizing its in-house, full-service, computer-assisted telephone and mail survey center with 45 professional interviewers, Responsive Management has conducted more than 1,000 telephone surveys, mail surveys, personal interviews, and focus groups, as well as numerous marketing and communications plans, need assessments, and program evaluations on natural resource and outdoor recreation issues.

Clients include most of the federal and state natural resource, outdoor recreation, and environmental agencies, and most of the top conservation organizations. Responsive Management also collects attitude and opinion data for many of the nation's top universities, including the University of Southern California, Virginia Tech, Colorado State University, Auburn, Texas Tech, the University of California—Davis, Michigan State University, the University of Florida, North Carolina State University, Penn State, West Virginia University, and others.

Among the wide range of work Responsive Management has completed during the past 20 years are studies on how the general population values natural resources and outdoor recreation, and their opinions on and attitudes toward an array of natural resource-related issues. Responsive Management has conducted dozens of studies of selected groups of outdoor recreationists, including anglers, boaters, hunters, wildlife watchers, birdwatchers, park visitors, historic site visitors, hikers, and campers, as well as selected groups within the general population, such as landowners, farmers, urban and rural residents, women, senior citizens, children, Hispanics, Asians, and African-Americans. Responsive Management has conducted studies on environmental education, endangered species, waterfowl, wetlands, water quality, and the reintroduction of numerous species such as wolves, grizzly bears, the California condor, and the Florida panther.

Responsive Management has conducted research on numerous natural resource ballot initiatives and referenda and helped agencies and organizations find alternative funding and increase their memberships and donations. Responsive Management has conducted major agency and organizational program needs assessments and helped develop more effective programs based on a solid foundation of fact. Responsive Management has developed websites for natural resource organizations, conducted training workshops on the human dimensions of natural resources, and presented numerous studies each year in presentations and as keynote speakers at major natural resource, outdoor recreation, conservation, and environmental conferences and meetings.

Responsive Management has conducted research on public attitudes toward natural resources and outdoor recreation in almost every state in the United States, as well as in Canada, Australia, the United Kingdom, France, Germany, and Japan. Responsive Management routinely conducts surveys in Spanish and has also conducted surveys and focus groups in Chinese, Korean, Japanese, and Vietnamese.

Responsive Management's research has been featured in most of the nation's major media, including CNN, ESPN, *The Washington Times*, *The New York Times*, *Newsweek*, *The Wall Street Journal*, and on the front pages of *The Washington Post* and *USA Today*.

Visit the Responsive Management website at:

www.responsivemanagement.com