A Survey of Professional Turfgrass Managers in Southern California Concerning Their Use of Turfgrass Best Management Practices

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Target audience of the best management practice survey.

People either directly implementing BMPs or recommending appropriate BMPs to others, including:

- professional turfgrass managers
- personnel involved in the fertilizer industries
- educators
- consultants
- home-lawn owners

Objective of the best management practice survey.

The objective of the survey was to assess the current turfgrass management practices of the target audience in relation to generally accepted BMPs.

General information regarding the best management practice survey.

Timing: Surveys handed out at the 1998 and 1999 UC Riverside Turfgrass Research Conference and Field Day

Number of responses: There were 305 surveys, which do not include any 1999 surveys from respondents which indicated they had taken the 1998 survey.

General information regarding the survey respondents.

- **Experienced:** 13 years of experience in the turfgrass industry on average.
- **Local:** 88% from southern California.
- **Decision-makers:** 88% indicated they were always or usually responsible for turfgrass management decisions or recommendations at their site.
- **Manage turfgrass varieties such as:** bermudagrass (82%), tall fescue (57%), ryegrass (56%), kikuyugrass (40%), *poa annua* (27%), and creeping bentgrass (25%).

Factors limiting the adoption of best management practices for survey respondents.

Limitation	% all respondents
Cost/financial limitations	58
Employee skill level	37
Time	35
Availability of BMP information	21
Lack of organization/planning	21
No personal authority to implement BMPs	19
Government regulations	18
BMPs not considered important	8
Other	7

Percent of respondents which consistently perform selected fertilization best management practices (1999 survey only).

Fertilization BMP	% all respondents
Apply appropriate amount of nitrogen specific for turfgrass species and requirements of turfgrass use	61
Apply nitrogen based on seasonal growth patterns and need	59
Apply different combinations of slow- and fast-release nitrogen sources according to seasonal growth and expected rainfall	53
Conduct soil fertility tests every 1 to 2 years	37
Apply P_2O_5 and K_2O relative to annual nitrogen applied	26
Avoid fertilizing prior to rain	12

Percent of respondents which consistently perform selected irrigation best management practices (1999 survey only).

Irrigation BMP	% all respondents
Check irrigation systems for proper function	86
Adjust irrigation clocks at least every three months	68
Size nozzles for balanced precipitation on rotor systems	62
Cycle irrigation on slopes to prevent runoff	55
Irrigate according to weather station/soil moisture sensor data	49
Check system operating pressures	41

Job classifications and job and turfgrass management categories.

Job classification	No.	%	Advisor/ Manager	General/ Sports turf
Public site mgmt.	124	41	Manager	General
Golf course mgmt.	59	19	Manager	Sports
Private site mgmt.	24	8	Manager	General
Manufacture/sales	18	6	Advisor	–
Consulting/advising	14	5	Advisor	–
Sports turf mgmt.	13	4	Manager	Sports
Sod production	12	4	–	–
Research	4	1	Advisor	–
Seed production	4	1	–	–
Other	7	2	–	–
Multiple	25	8	–	–
Total[z]	305	100		

[z] Includes one respondent that did not answer the question regarding turfgrass industry job identification.

Job classifications and job and turfgrass management categories.

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Multiple	25	8	–	–
Total Advisors	36	12		

Job classifications and job and turfgrass management categories.

Job classification	No.	%	Advisor/ Manager	General/ Sports turf
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Golf course mgmt.	59	19	Manager	Sports
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Multiple	25	8	–	–
Total Managers	220	72		

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Multiple	25	8	–	–
Total General Turf	148	49		

Job classifications and job and turfgrass management categories.

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Other	7	2	–	–
Multiple	25	8	–	–
Total Sports Turf	72	23		

Commitment to and perceptions of eight best management practices.

The BMPs:

- Water conservation
- Fertility program development
- Turfgrass selection
- Mowing program development
- Integrated pest management (IPM)
- Protecting water sources from chemicals
- Protecting non-target plants, animals, and humans from chemicals
- Protecting native habitats during construction and maintenance

Commitment to and perceptions of eight best management practices.

Responses:

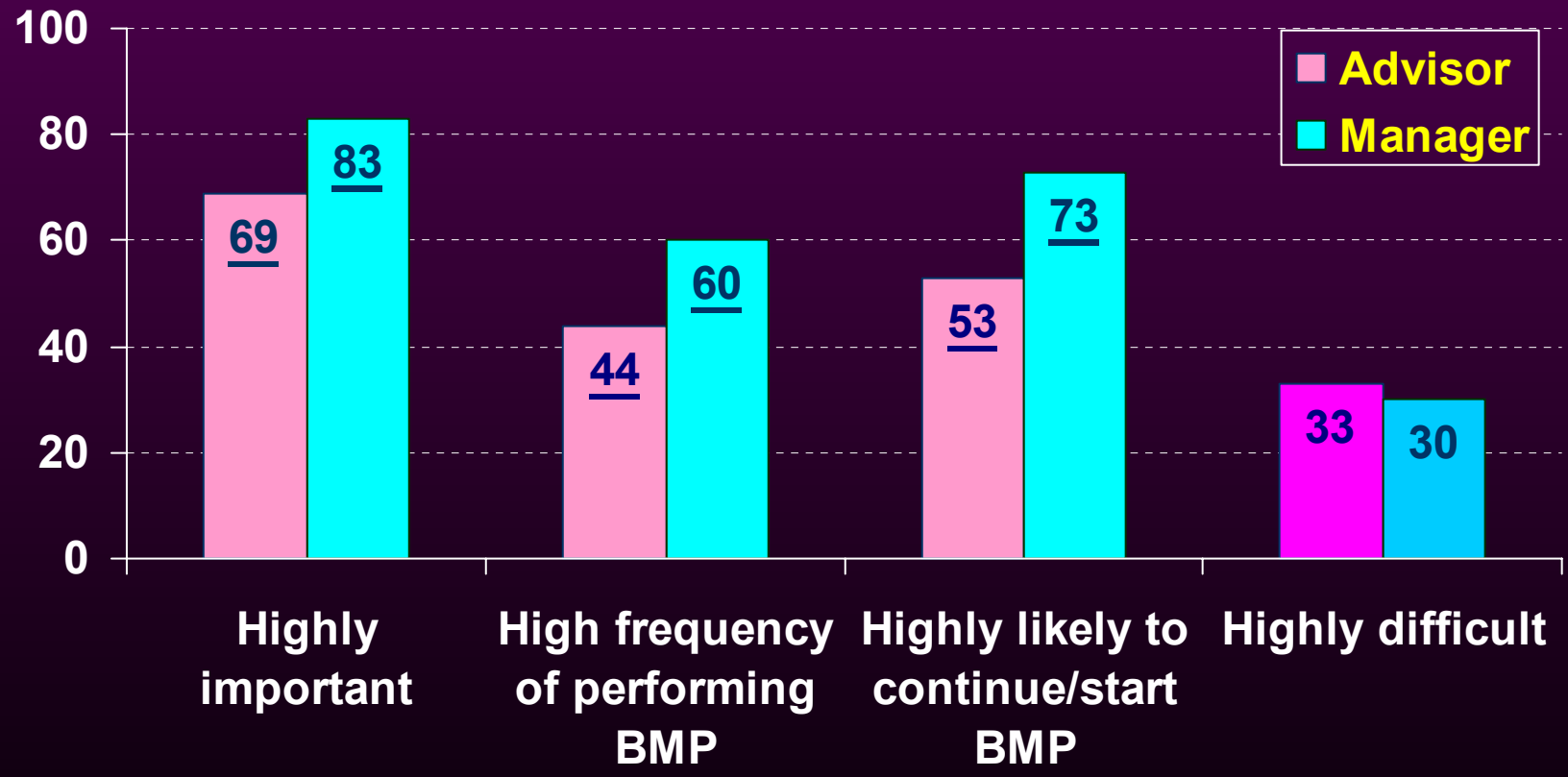
- importance (1=not important, 5=very important)
- current implementation (1=never, 5=always)
- likely to continue or start BMP (1=not likely, 5=very likely)
- difficulty level (1=easy, 5=hard).

Commitment to and perceptions of eight best management practices.

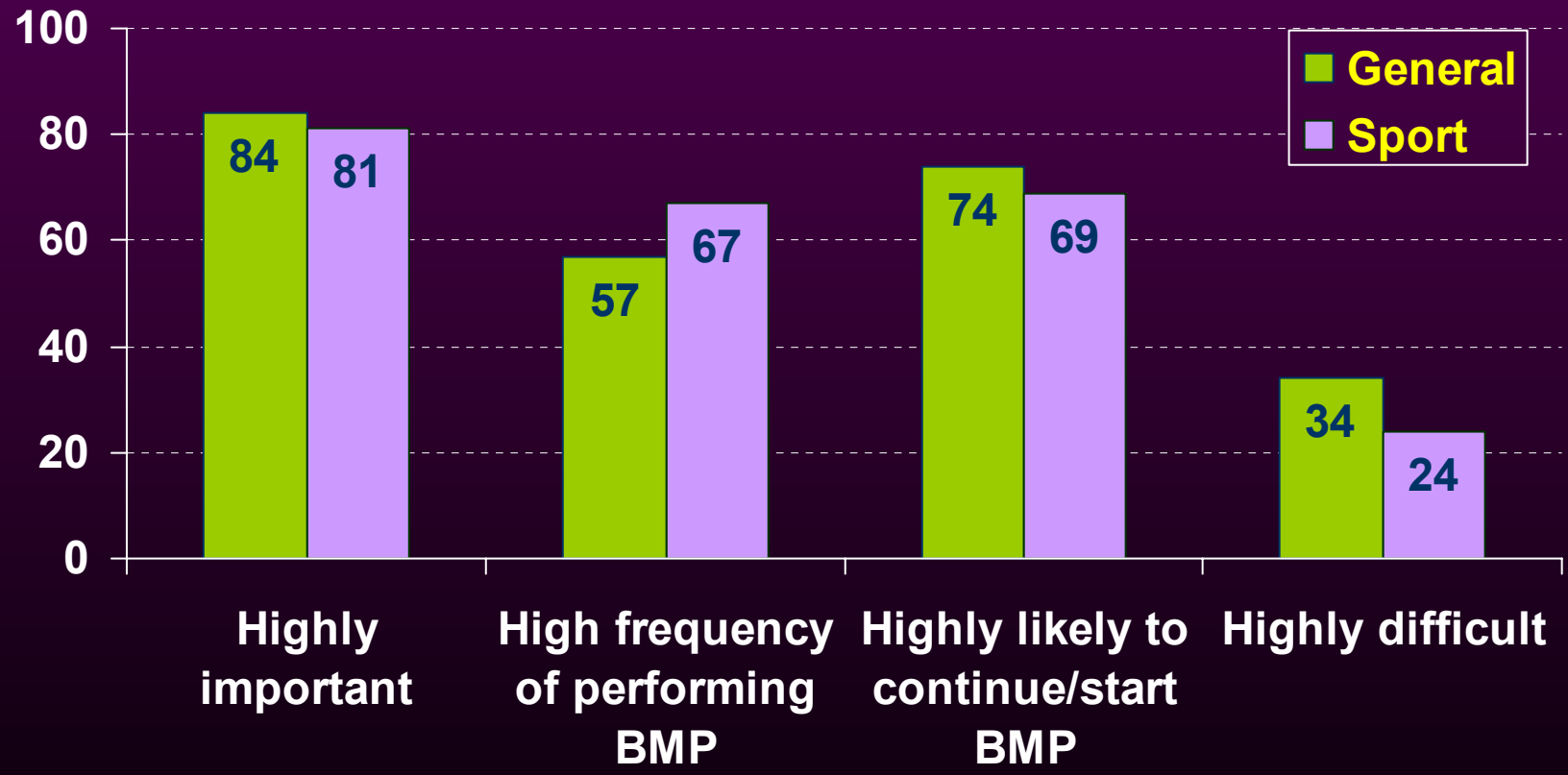
Analysis:

- Chi-square statistic in a 2x2 frequency table
- Job category (advisors vs. managers) x response (high vs. low/moderate; original scale of 1-5 with 4-5 as high and 1-3 as low/moderate)
- Turfgrass management category (general vs. sports turf) x response (high vs. low/moderate; original scale of 1-5 with 4-5 as high and 1-3 as low/moderate)

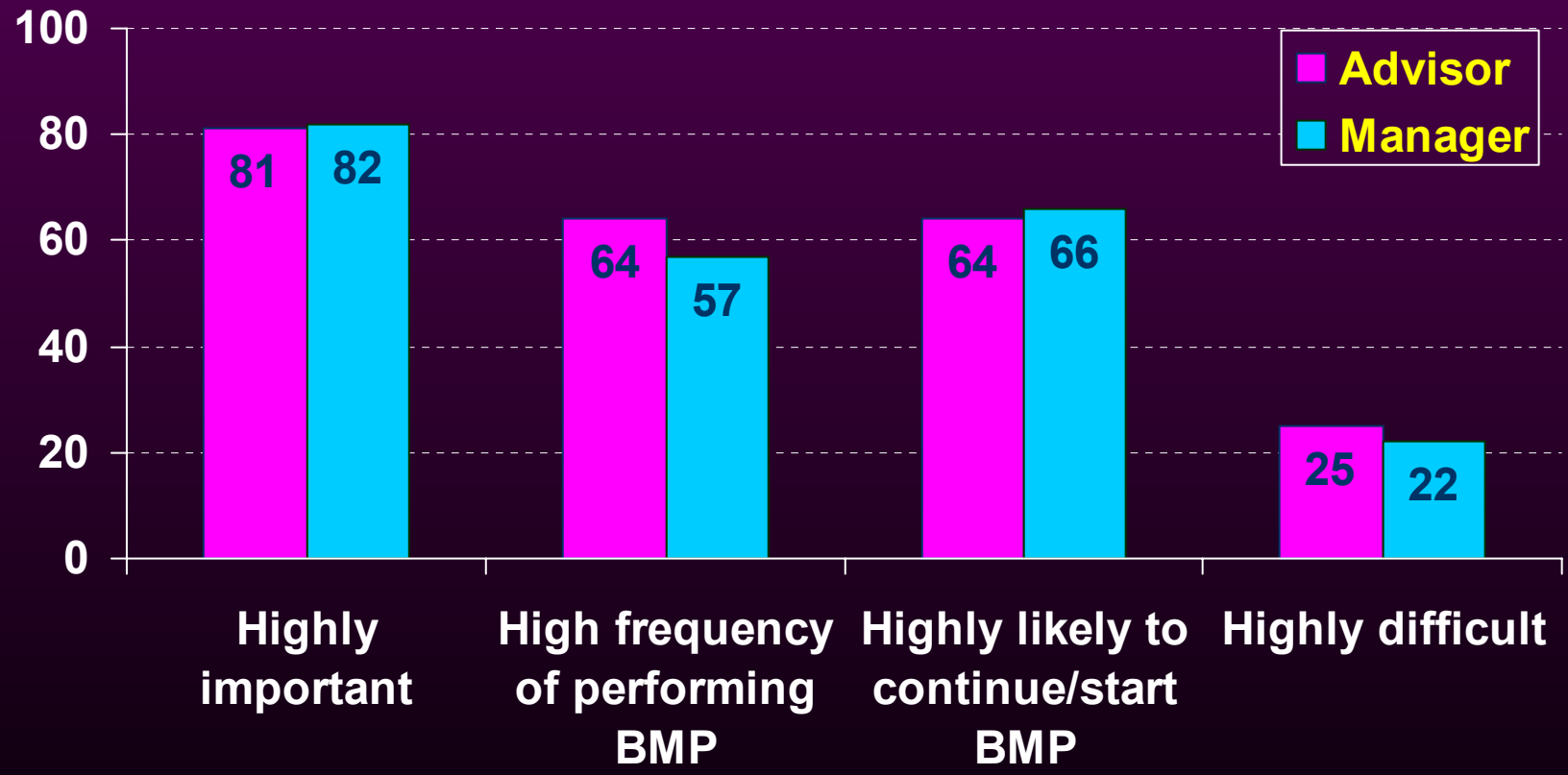
Influence of job category on the perception and commitment to water conservation (% respondents).



Influence of turfgrass management category on the perception and commitment to water conservation (% respondents).



Influence of job category on the perception and commitment to fertility program development (% respondents).



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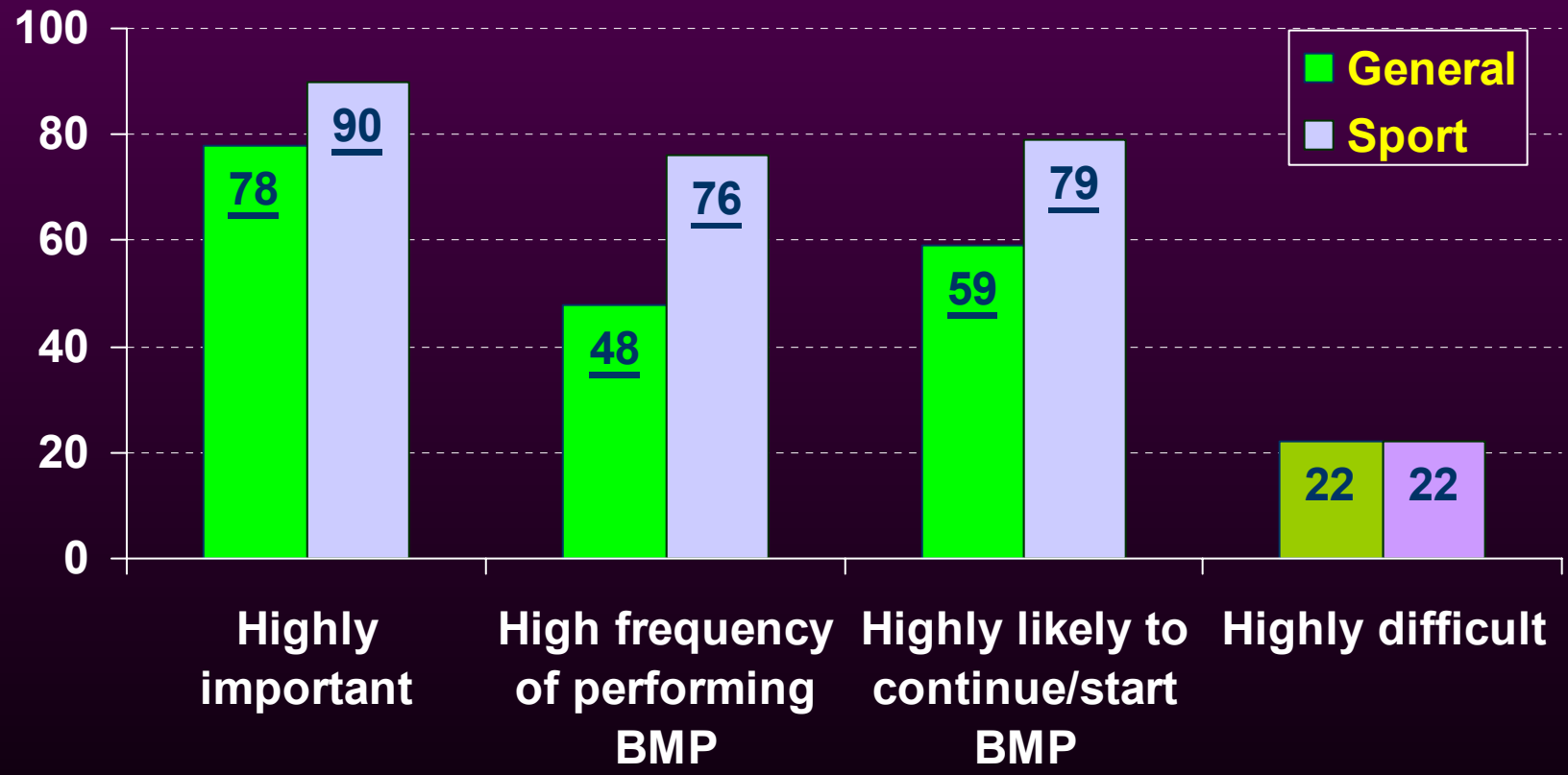
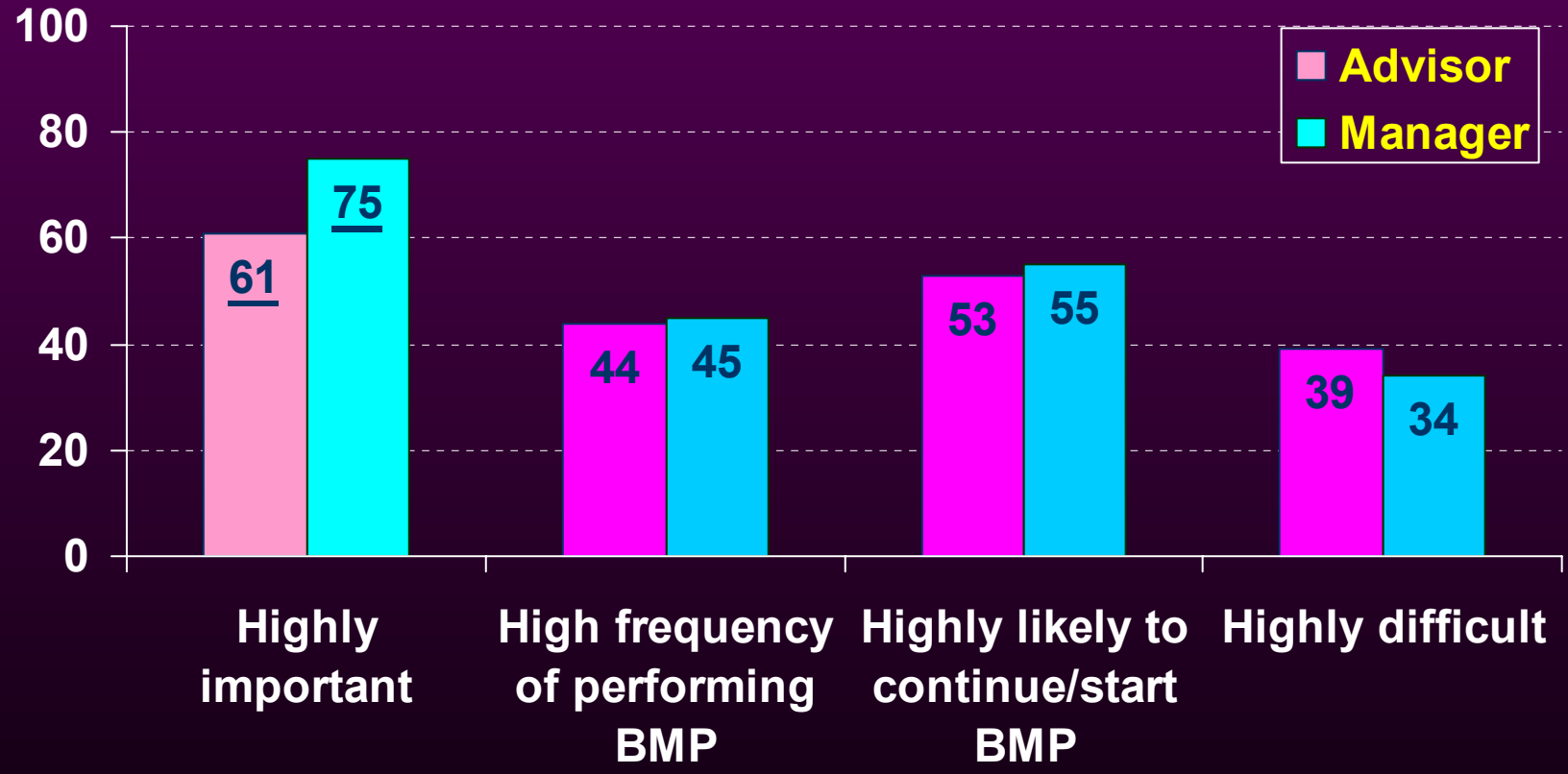


Influence of job category on the perception and commitment to turfgrass selection (% respondents).



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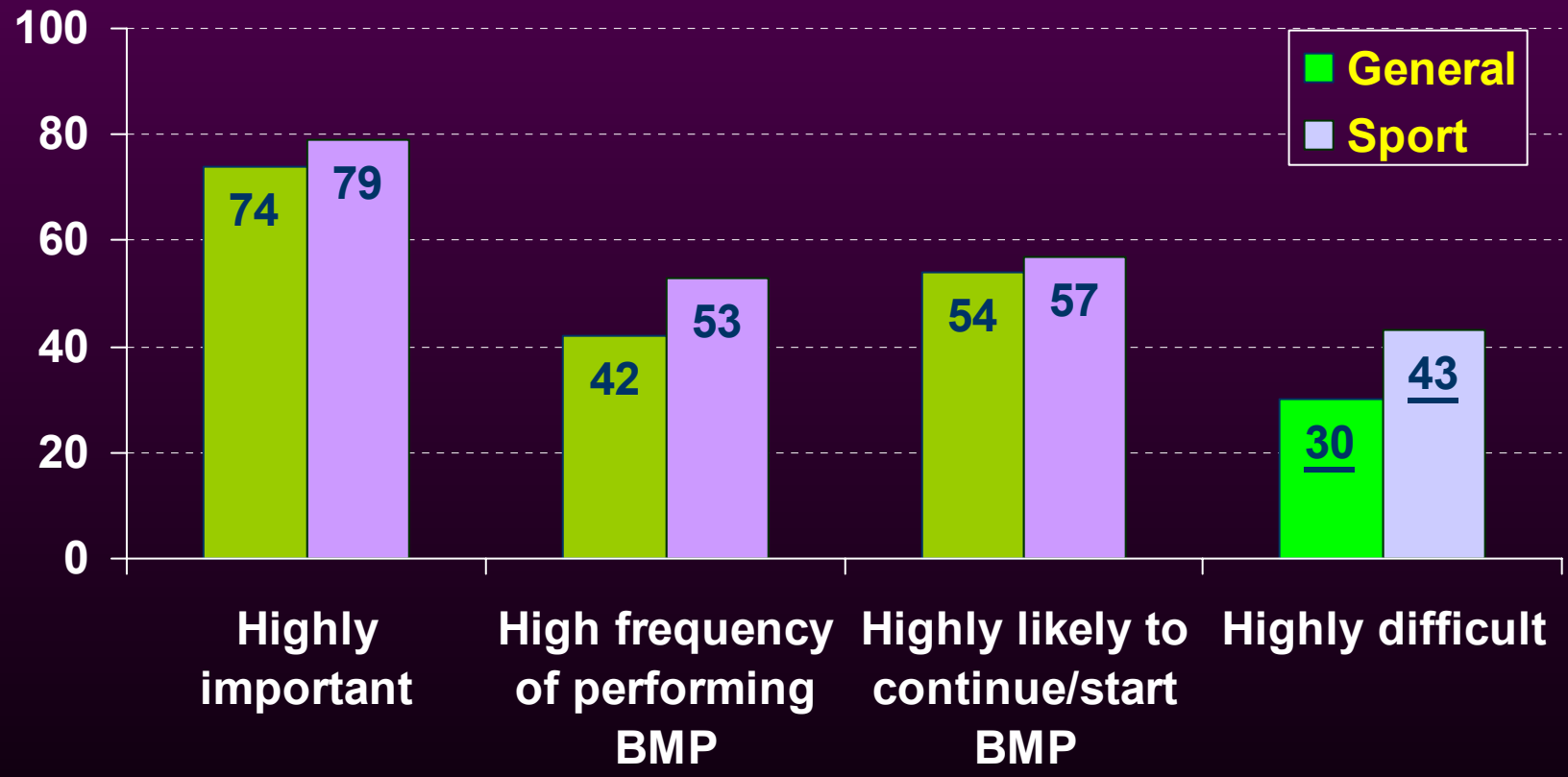
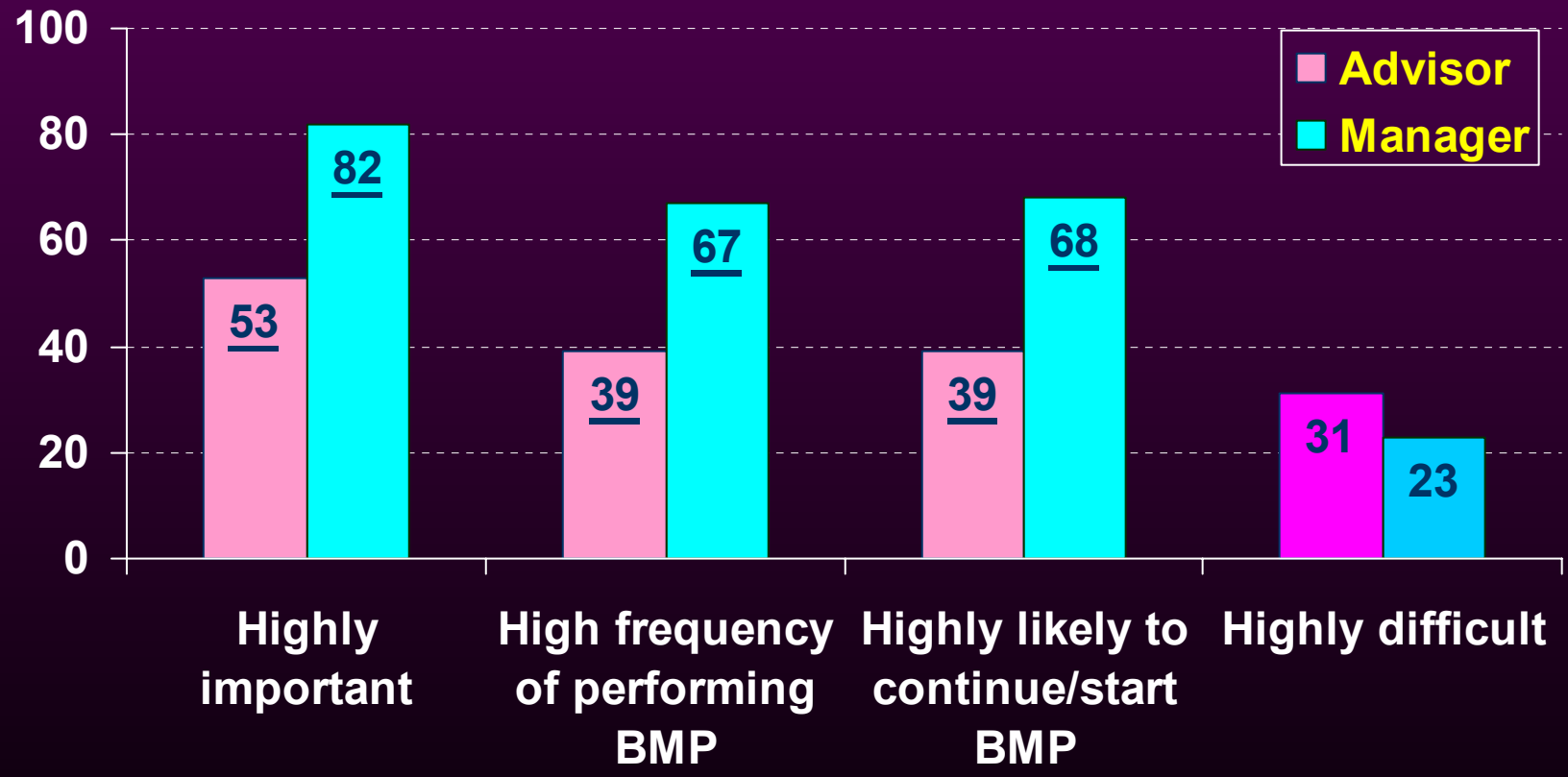


Influence of job category on the perception and commitment to mowing program development (% respondents).



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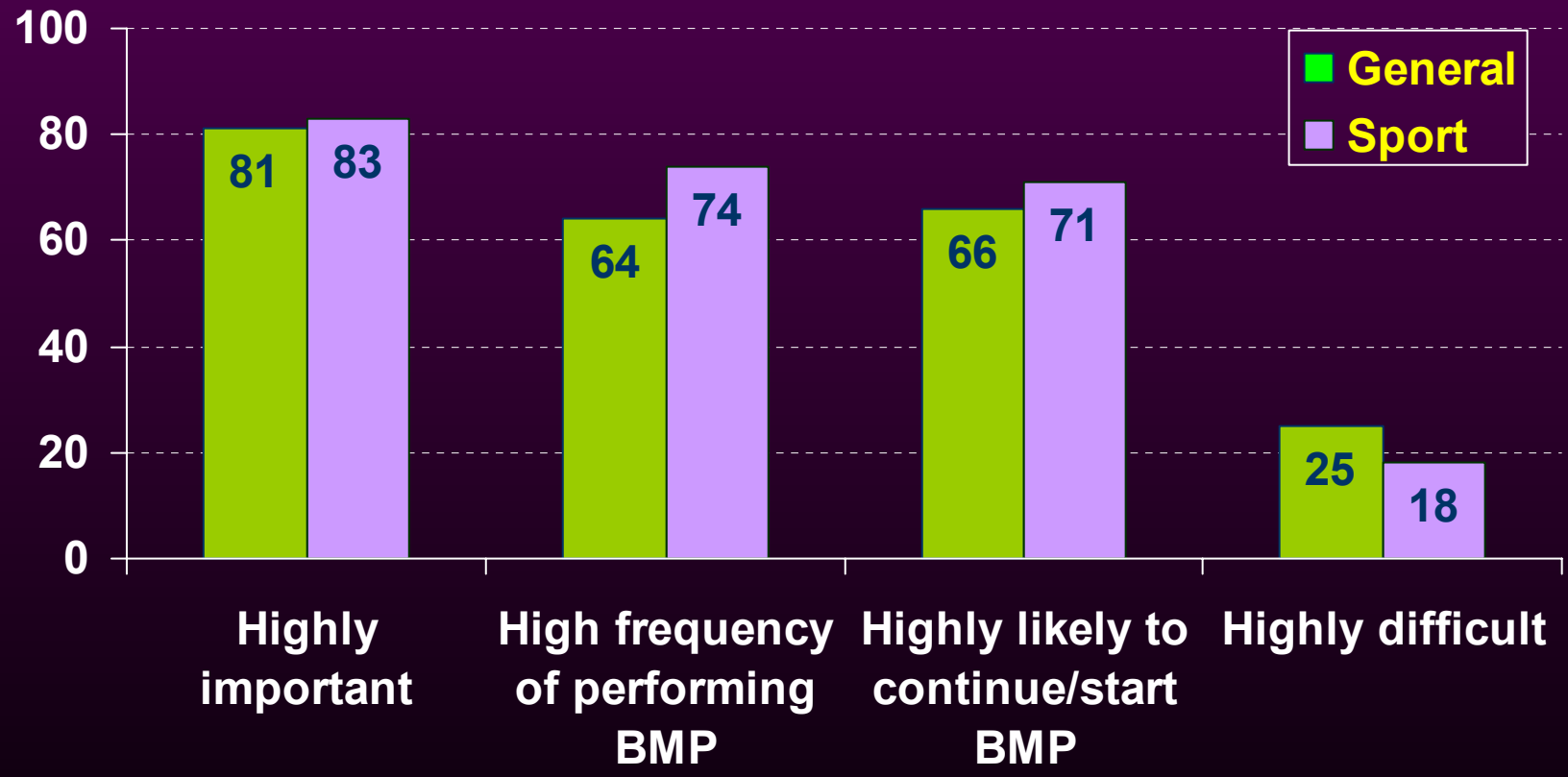
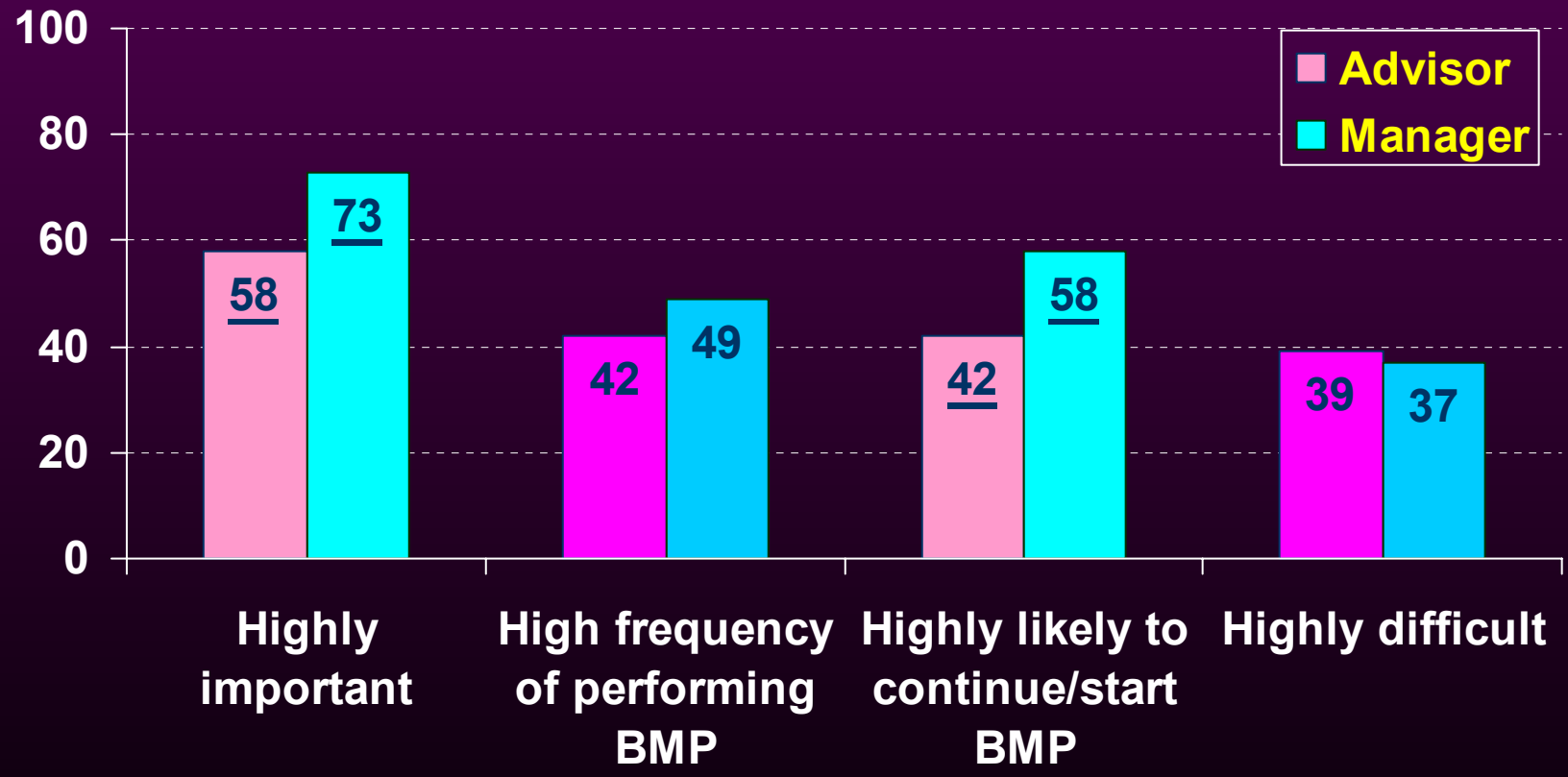


Influence of job category on the perception and commitment to integrated pest management (IPM) (% respondents).



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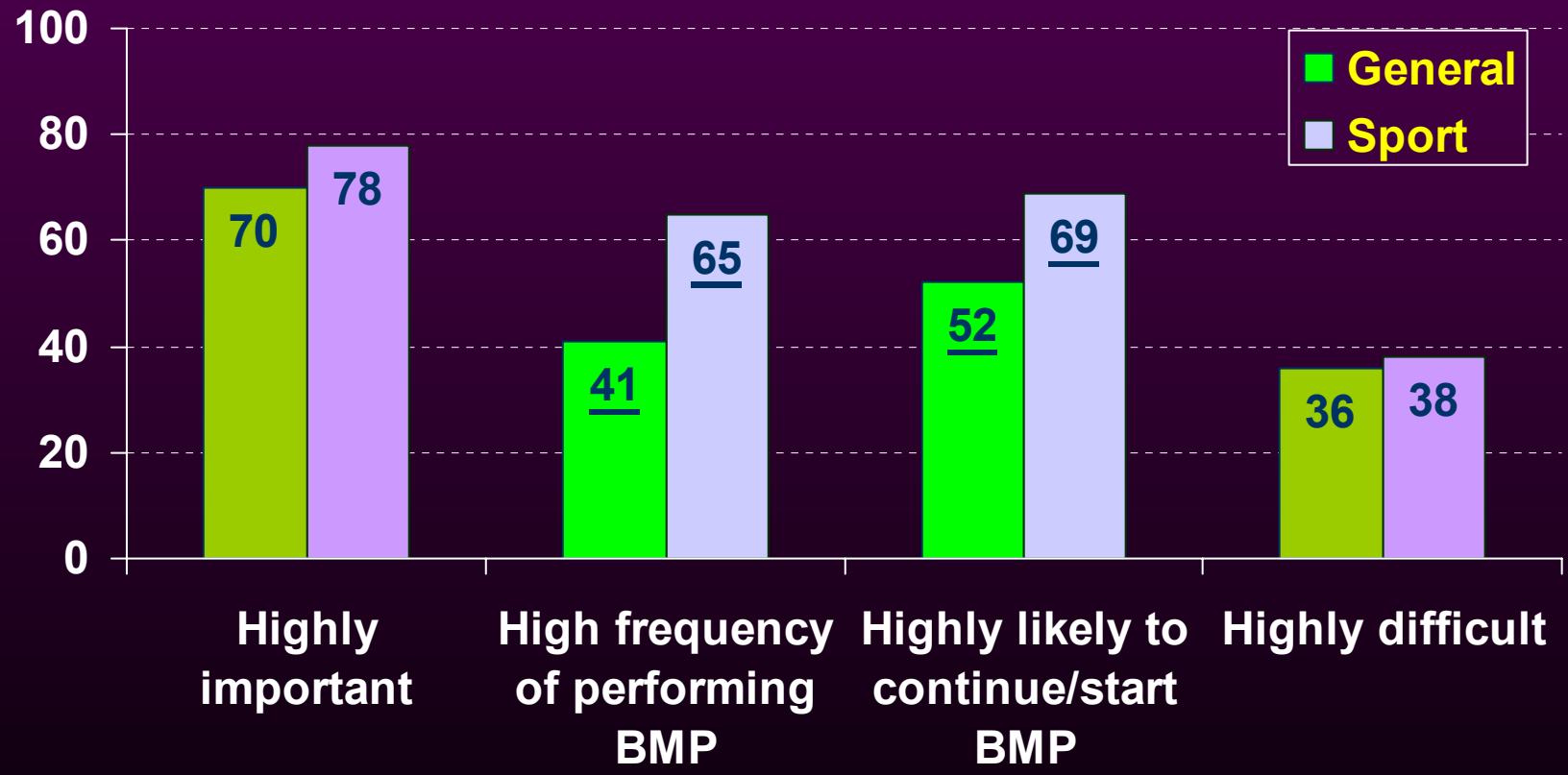
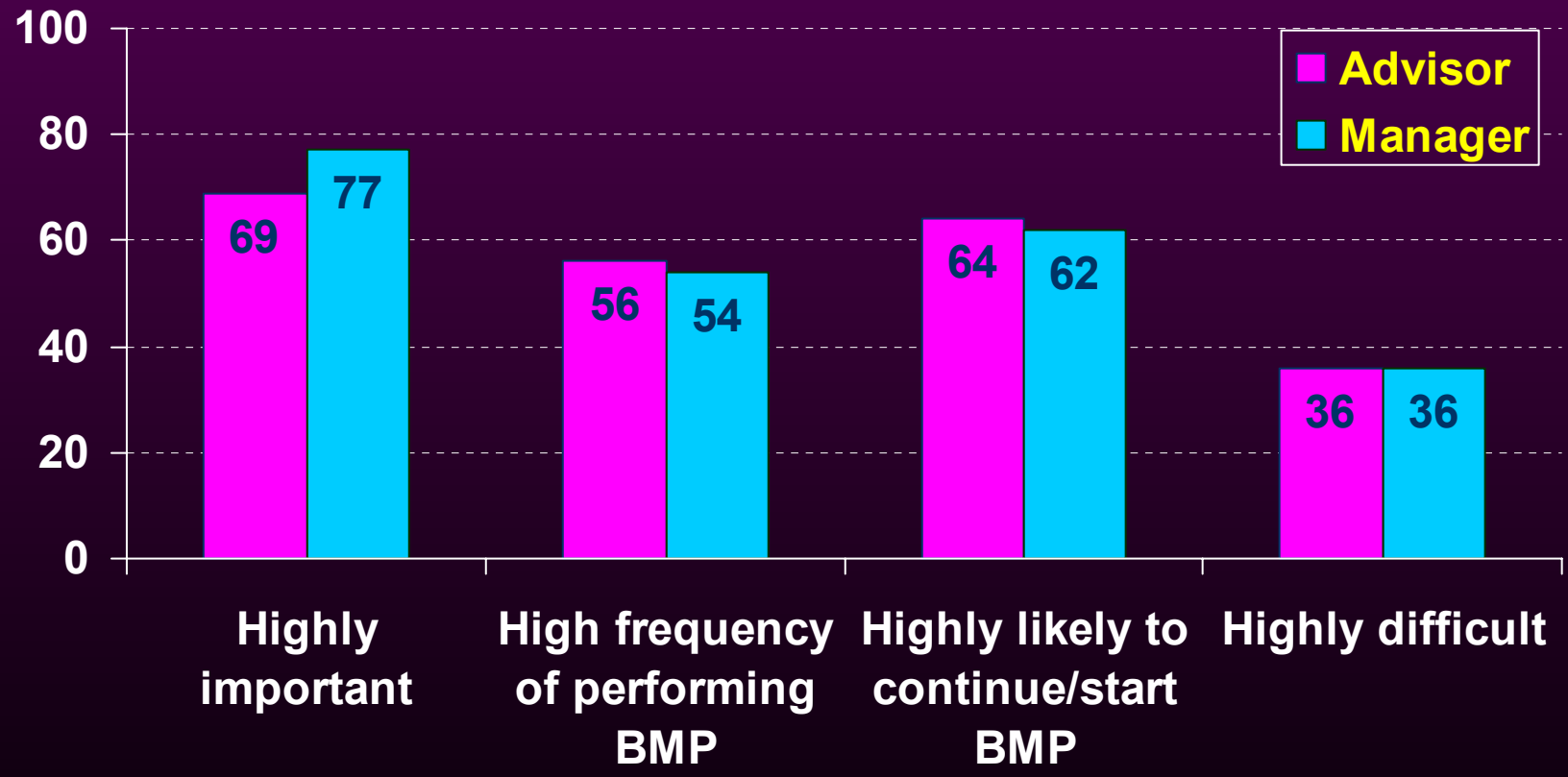


Influence of job category on the perception and commitment to protecting water sources from chemicals (% respondents).



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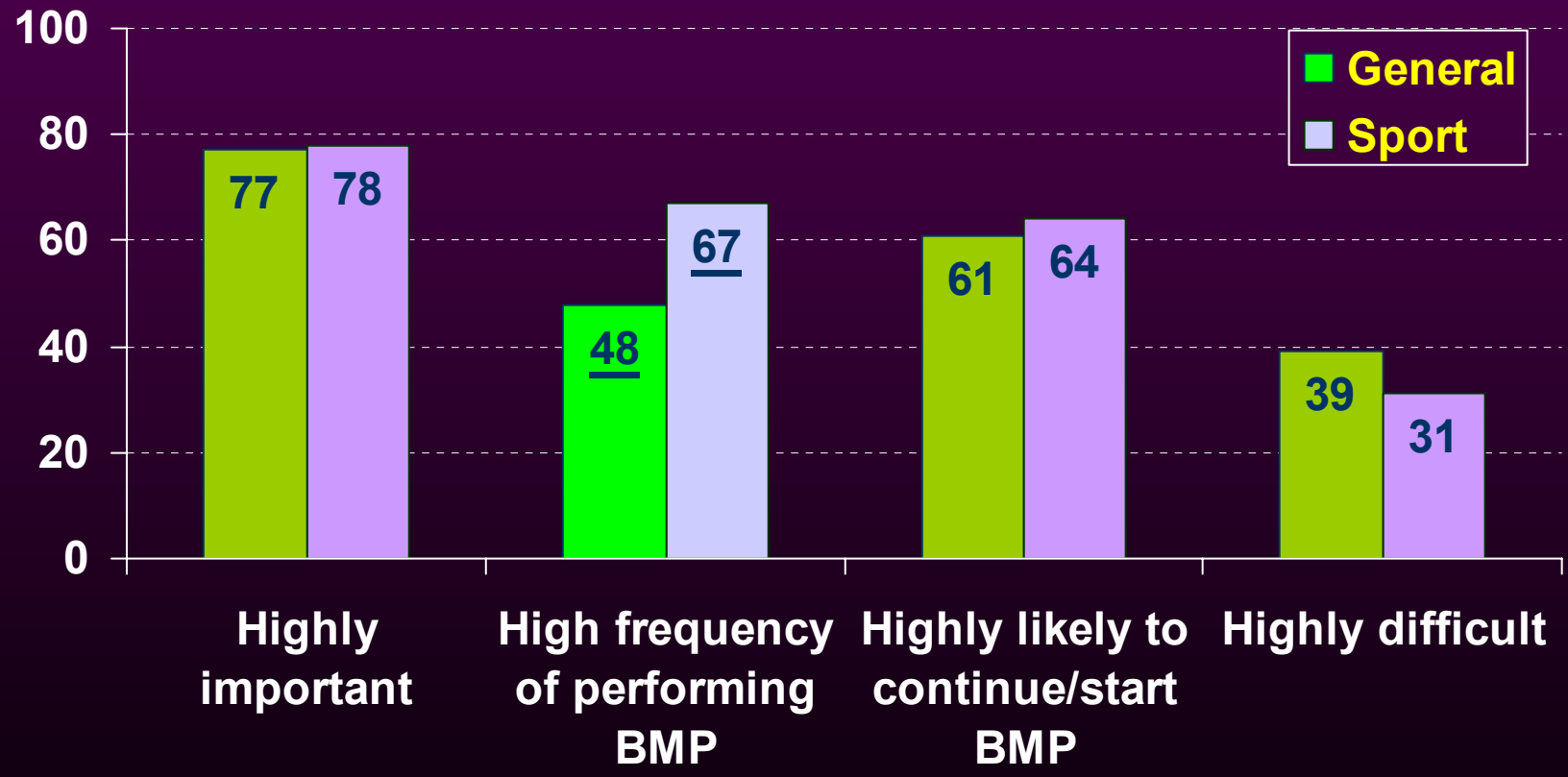
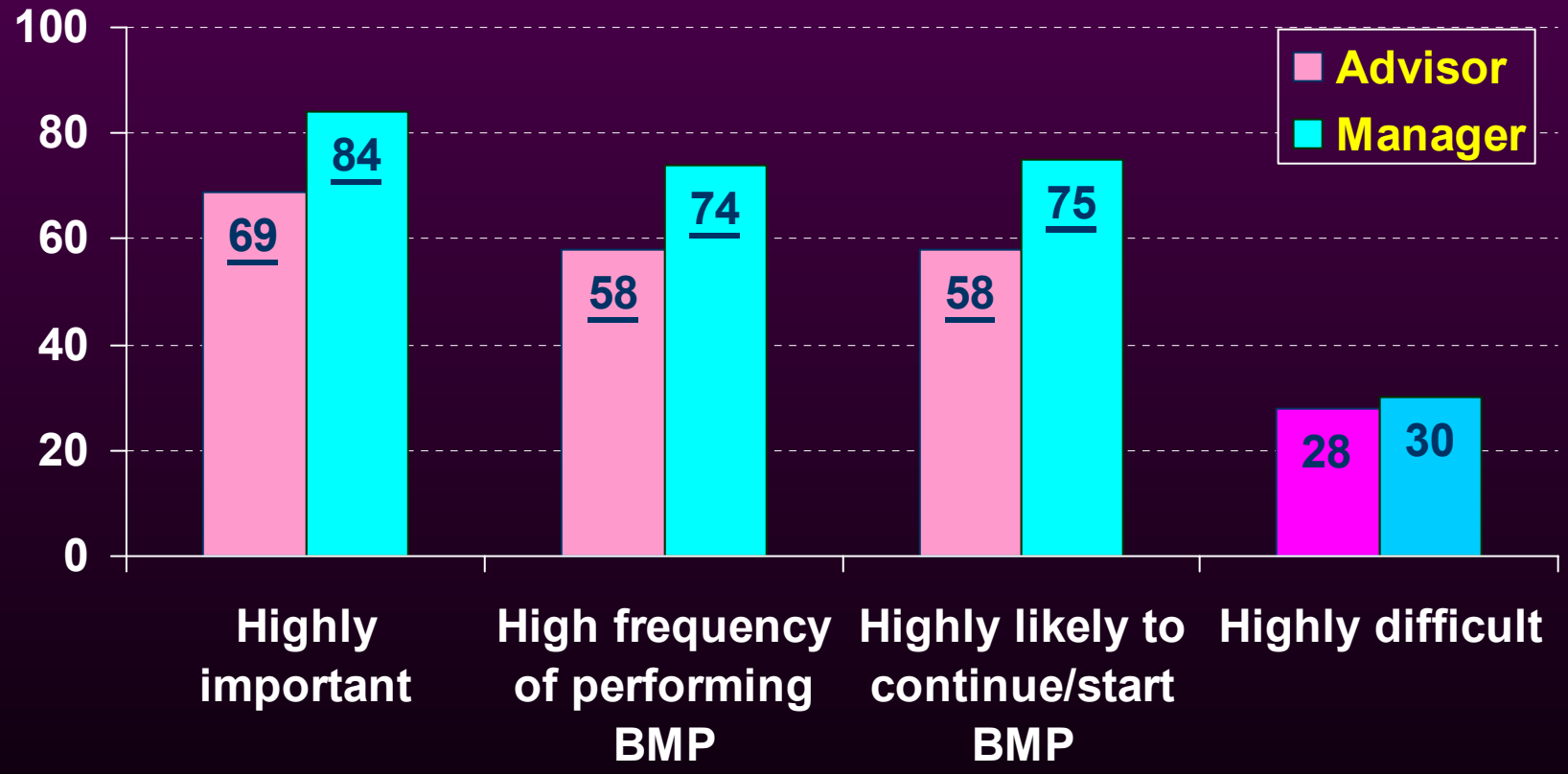


Influence of job category on the perception and commitment to protecting non-target plants, animals, and humans from chemicals (% respondents).



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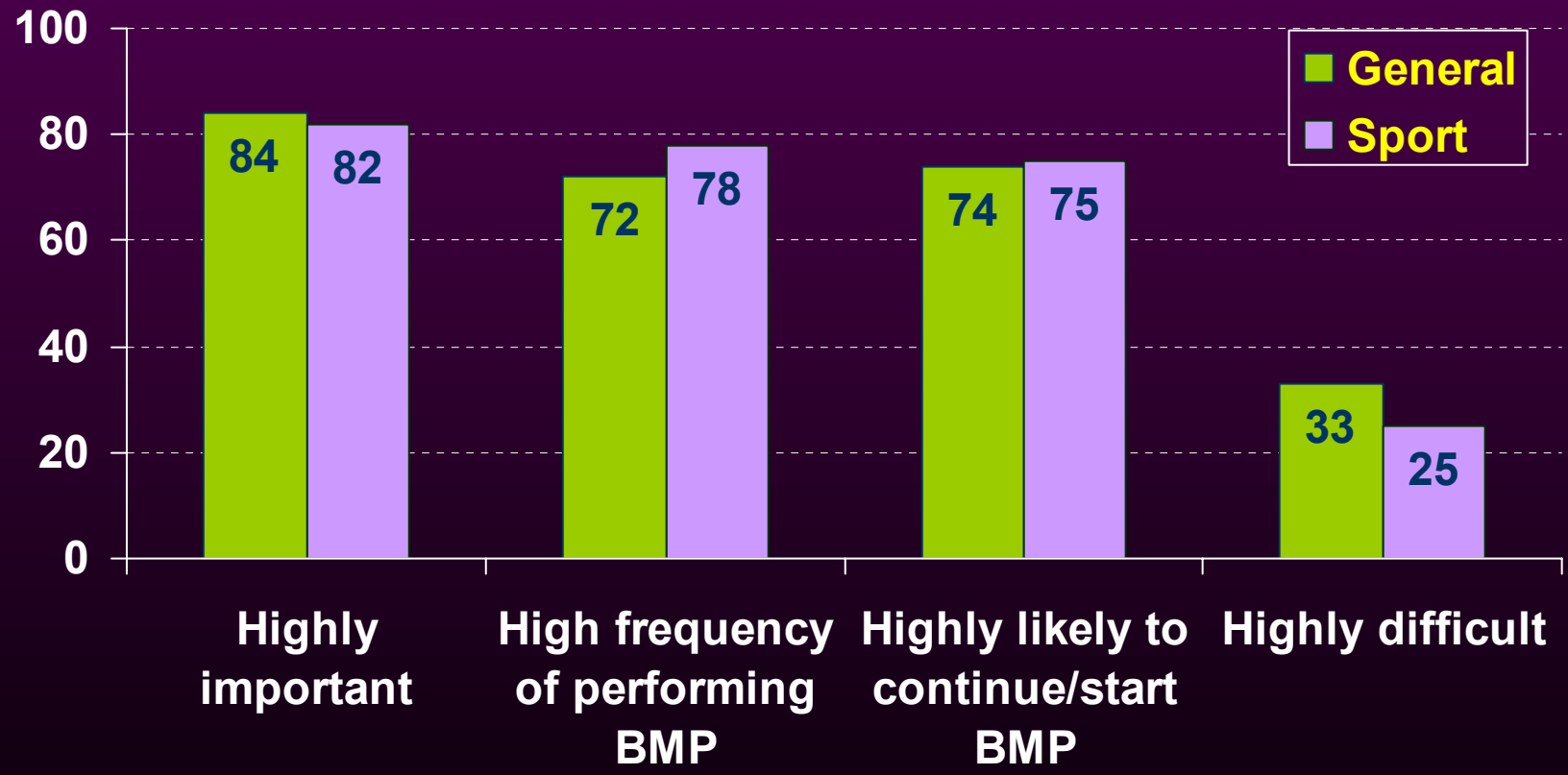
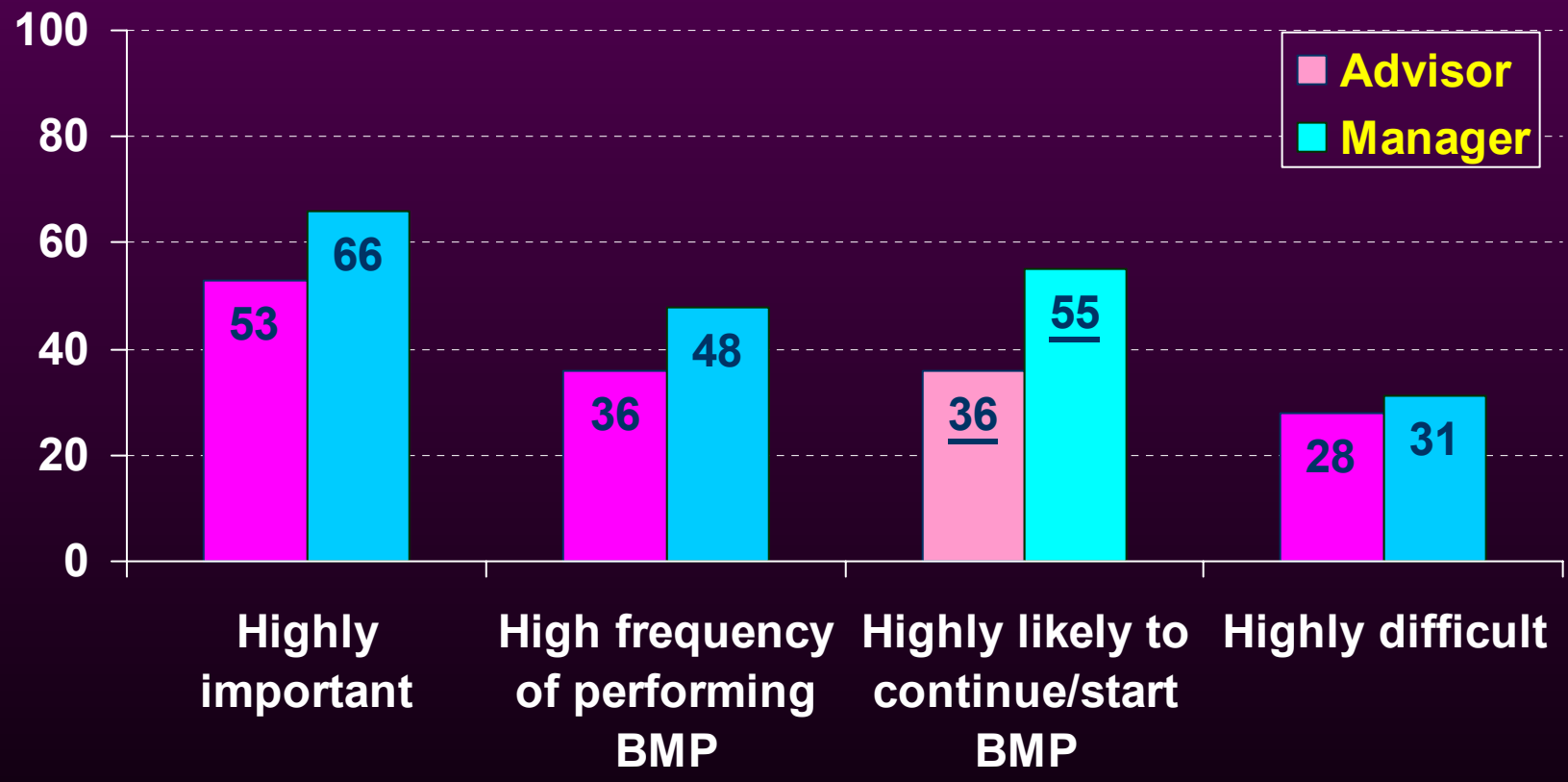


Influence of job category on the perception and commitment to protecting native habitats during construction/maintenance (% respondents).



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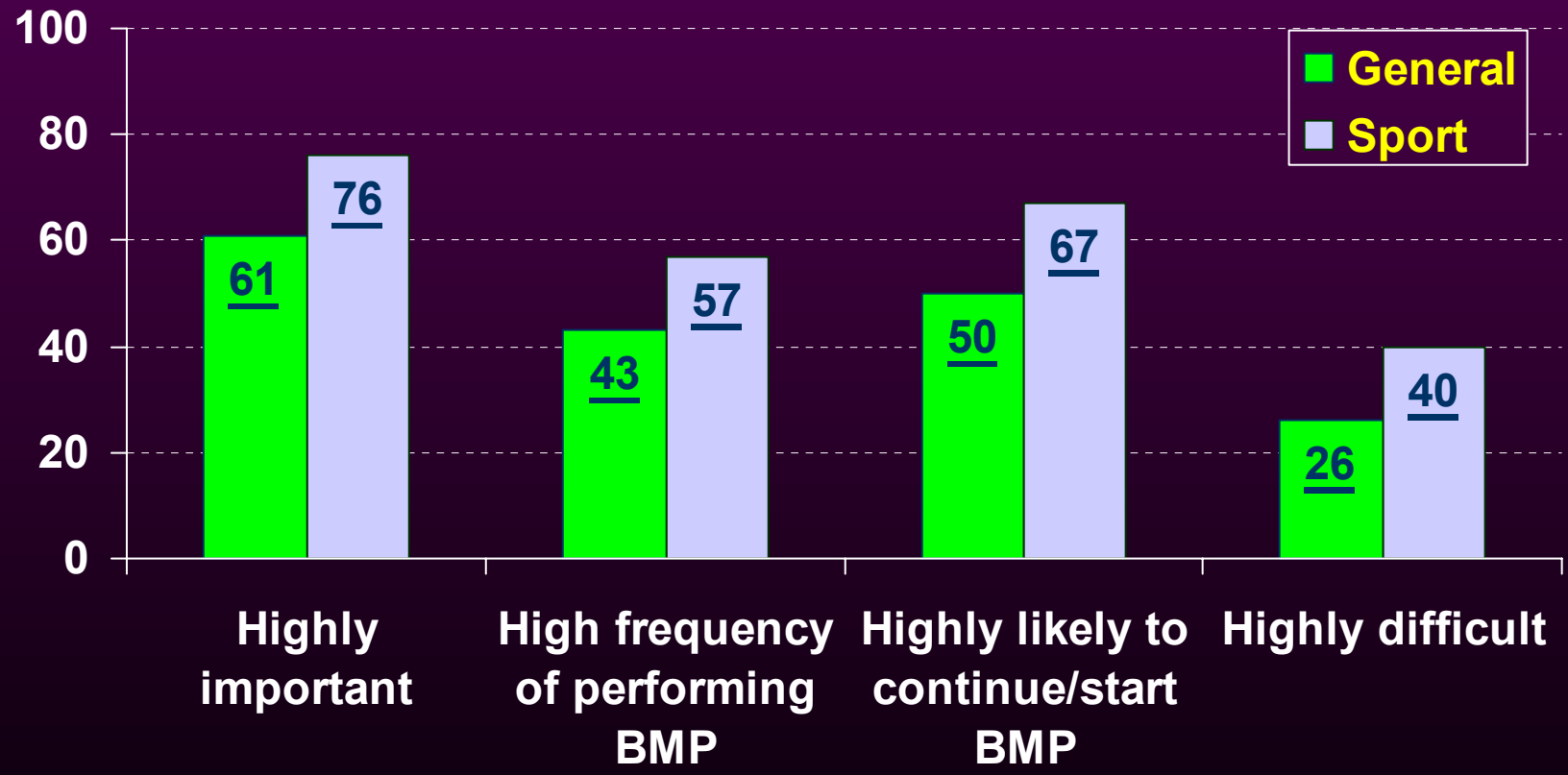

Commitment to and perceptions of eight best management practices.

Advisors vs. managers:

- Managers were more likely to consider mowing program development and protecting non-target plants, animals and humans from chemicals highly important or to be implementing or likely to start implementing these two BMPs.

- Both advisors and managers generally did not consider any of the eight BMPs to be highly difficult to implement.

Commitment to and perceptions of eight best management practices.

General vs. sports turf managers:

- Sports turf managers were overall more likely to consider fertility program development and protecting native habitats during construction and maintenance to be highly important.

- Sports turf managers were overall more likely to be currently implementing or likely to start implementing the eight BMPs.

Summary of results of the best management practice survey.

- Overall, the survey respondents considered BMPs to be important.
- Turfgrass managers, especially sports turf managers, were the most likely to be committed to the BMPs listed in the survey.
- The survey respondents generally did not consider the BMPs to be difficult to implement.
- What is needed is a greater commitment on the part of the turfgrass industry as a whole to provide the financial backing, employee training, and necessary time which has previously limited the adoption of important BMPs.

Acknowledgment

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