

ABSTRACT

Purpose: Open-ended survey responses are extremely valuable since participants voluntarily share insights that they feel are necessary to express. The purpose of this study is to accurately reflect members’ perception of the AAPM climate, through analysis of open-ended survey responses to the 2021 AAPM Equity, Diversity, and Inclusion (EDI) climate survey and the AAPM member demographics, activities, and structure.

Methods: The climate survey included an open-ended comment box on the climate of the national climate of AAPM as an organization. In the survey, 9.8% (136/1385) of participants commented on their experiences and perceptions of the association's climate. We applied a mixed-method analysis approach and an exploratory sequential design, using grounded theory for qualitative and quantitative analysis of member attributes.

Results: We present findings centered on the AAPM's culture, including members’ perceptions of access to participation in formal AAPM groups, their experiences with discrimination and political differences, and the association's efforts on EDI. Members expressed difficulties in joining and participating in AAPM committees, task groups and working groups. There is a perceived exclusion in groups based on race, ethnicity, and workplace. Members also expressed feelings of discrimination based on degree/highest education, academic vs. community/non-academic workplaces, and personal identity. Religious and political discrimination were also reported. Among the survey participants, some expressed appreciation for AAPM’s EDI efforts; others conveyed neutrality or did not support such efforts.

Conclusion: AAPM members shared their perceptions and experiences with the association via open-ended survey responses. Through this study, we presented the opportunities AAPM offers its members, history of relevant changes over time, and present gaps that remain. The survey data allow us to further understand the membership's needs and continue to improve as a professional association.

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Organizational Climate Check – Open-Ended Survey Response Analysis for the American Association of Physicists In Medicine

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INTRODUCTION

In 2021, AAPM conducted its first Equity, Diversity, and Inclusion (EDI) Climate Survey¹. The survey results provided valuable organizational baseline data related to the experiences of full members at the level of (1) the individual’s workplace, (2) AAPM as an organization, and (3) the regional AAPM chapters².

In the survey, “**climate**” refers to a member’s perception of the **environment and culture of the organization**, such as interpersonal relationships, personal autonomy, and engagement with the organization. A positive organizational climate increases individual commitment, investment, and a sense of community and belonging for members within AAPM.

Understanding the climate of AAPM provides opportunities for improvement and mitigation strategies for positive organizational growth.

This study shares the 2021 AAPM EDI Climate Survey open-ended response data from members of the organization regarding the national climate of AAPM.

By reviewing members’ conveyed experiences and analyzing the AAPMs demographics, activities and structure, we aim to accurately reflect Membership's perception of AAPM climate.

METHODS AND MATERIALS

The 2021 AAPM EDI Climate Survey was designed by a working group of the AAPM Diversity and Inclusion Subcommittee (DISC), and analysis was conducted in partnership with the Statistical Research Center of the American Institute of Physics (AIP).

All AAPM full members were invited to participate in the survey, which inquired about members’ demographics and:

- Sense of belonging and inclusion
- Experiences of discrimination and harassment
- Barriers to participation within the AAPM

Three open-ended comment boxes were provided for additional thoughts, feedback, or recommendations, including one box for the climate of AAPM as an organization.

All survey data were collected anonymously. To respect respondent confidentiality, statements and experiences are not reported with direct quotation.

Qualitative Methods (The “Why” and “How”)

- Written responses were evaluated using Charmaz’s Grounded Theory systematic approach³.
- Qualitative data analysis was performed using Dedoose Software (version 9.0.86, Los Angeles, CA).
- Line-by-line coding was used to develop axial codes and theoretical codes for the responses regarding the climate of AAPM.
- Interrater reliability was increased by evaluating data among three coders and conducting frequent meetings after independent coding to discuss and reach a consensus on code definitions and coding of excerpts from comments.

Quantitative Methods

- Quantitative analysis of the demographic profiles was performed on all members, volunteers, councils, and Board of Directors of AAPM.
- Simple descriptive statistics was used, and results were reported as frequencies/ percentages and/or means with standard deviations.

RESULTS/DISCUSSION

Nearly ten percent or survey respondents (136/1385) provided a written response to this open-ended question. The experiences and perceptions of the members are summarized in the following major themes:

AAPM Culture

- Some survey respondents specifically **expressed their respect for the organization and pride in their membership**. Others reported feeling **encouraged by ongoing improvements and changes** aimed at promoting a positive climate, valuing the voices of all members, and fostering a supportive and inclusive professional environment.
- Members **feel discouraged when not selected for committees**, especially in the absence of follow-up communication.
- There was a recurring **theme behind why recounted incidents of harassment were not officially reported**
 - Concerns that the **potential consequences of reporting ethical misconduct** are too great a risk
 - Concerns about their **identity being revealed** to the medical physics community and their career being jeopardized

AAPM Task Groups (TGs): Respondents identified several barriers to contributing to TGs

- They perceived that **TG membership is pre-determined** based on prior connections with the work.
- Concerns were raised about **perceived discrimination and exclusionary behavior** based on race, ethnicity, and type of workplace (academic vs. private clinic)
- It is believed that **volunteers who make up TGs do not adequately represent the broader membership** and therefore the range of clinical experiences and scenarios.
- There is a perception that the same individuals tend to be **members of multiple TGs**

Discrimination: Several AAPM members expressed feelings of discrimination in three areas

- Common themes included **personal identity traits** such as age, gender, race, intersections of these previously mentioned traits, individual abilities, religion, and political views
- **Discrimination towards colleagues who do not hold a PhD**. Members having a terminal **Master’s degree** shared that they feel **undervalued and excluded** from opportunities within the AAPM
- Discrimination and exclusion **towards colleagues not affiliated with large academic centers**. Respondents believed members working in **industry, non-academic hospitals, the federal government, and smaller community cancer centers have fewer opportunities** to participate and contribute to AAPM TGs and in leadership roles

Quantitative Data

Figures 1-4 show self-reported data from AAPM members as of Fall 2024. Volunteers are members of councils, committees, subcommittees, work groups, units, and leadership.

Gender Representation

Men Women Other Minorities Prefer Not to Specify/Unknown

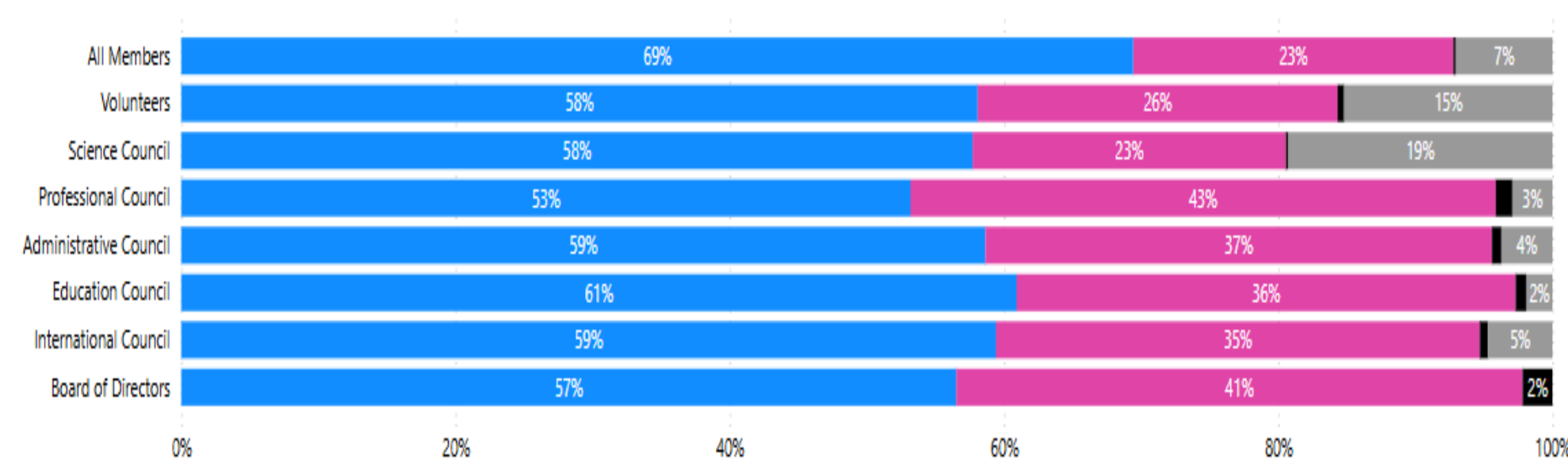


Figure 1. Self-reported gender data

Highest Degree Representation

Doctorate Masters Bachelors No Data

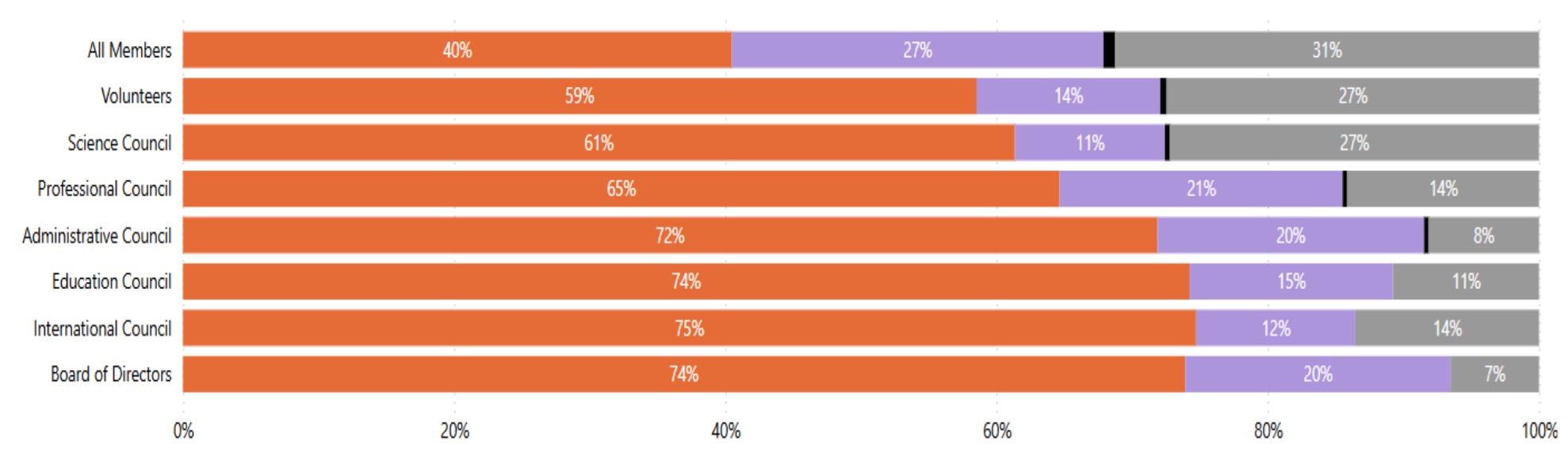


Figure 3. Self-reported data for highest degree level obtained

Race Representation

White Chinese Asian Indian Other Asian Black African Am. Korean Japanese Filipino Other Pacific Islander Native Hawaiian Samoan Vietnamese American Indian or Alaska Native Chicanos Some other race No Data

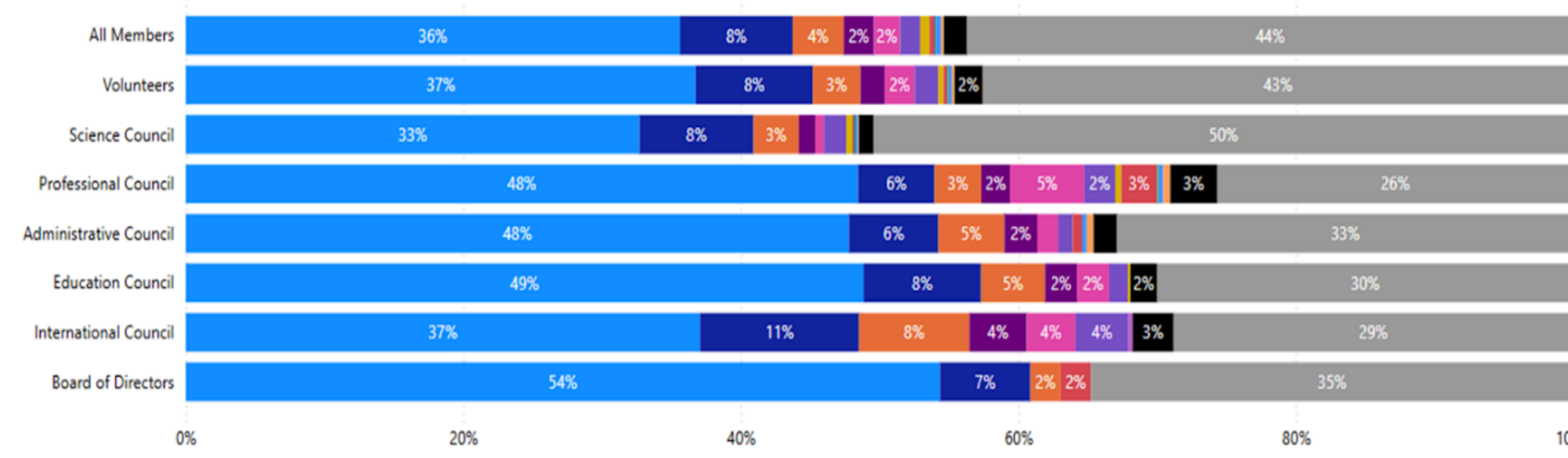


Figure 2. Self-reported race data

Specialty Representation

Radiation Oncology Radiology Nuclear Medicine Rad Safety/Health Physics Engineering Regulatory Industry Magnetic Resonance Ultrasound Other No Data

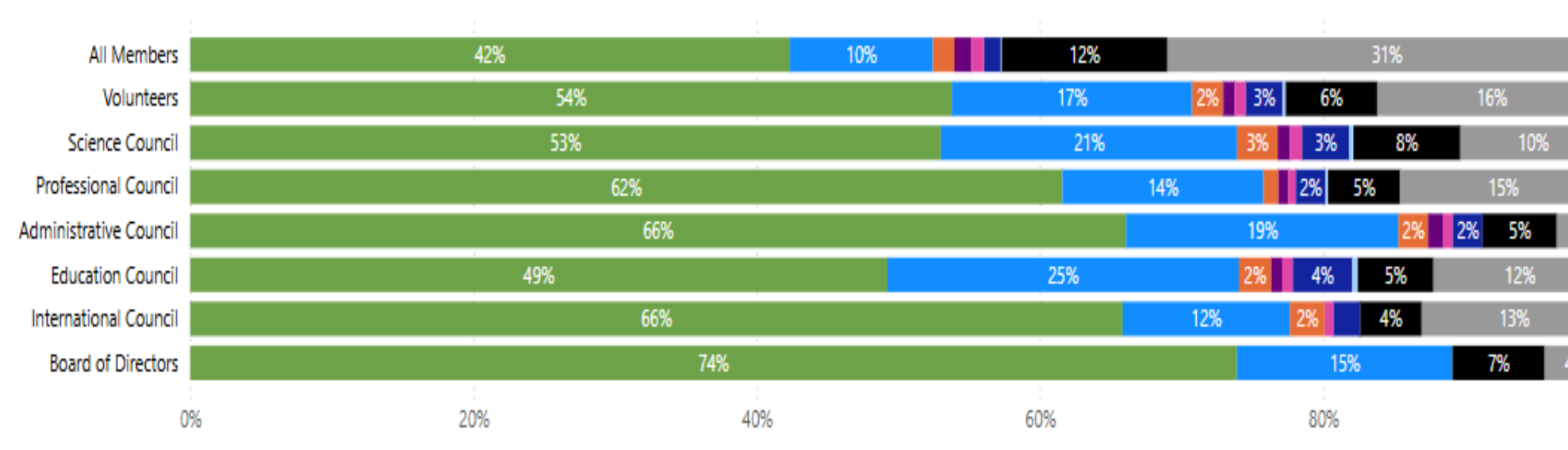


Figure 4. Self-reported data for the medical physics specialty

CONCLUSIONS

This study presented first-of-its kind data, that can be valuable to AAPM members and leaders in their efforts to foster a more inclusive community for all medical physicists. The survey data allow us to further understand the membership's needs and continue to improve as a professional association. Open ended responses give us more nuance than bullet point quantitative data that is collected in the membership survey, allowing respondents to mention aspects of the AAPM that they value and want to highlight.

REFERENCES

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