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ORIGINAL RESEARCH

Improving Administrator and Educator Sense of Community in Anesthesiology Graduate Medical Education

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Introduction

The Accreditation Council for Graduate Medical Education (ACGME) has made a call to action. Through the changes in the Common Program Requirements, the ACGME has made it clear that they are committed to overtly addressing physician well-being for individuals in graduate medical education (GME).1 With the ACGME increasing its focus on the wellness of residents and fellows, there has also been a call for improving the wellness of administrators of GME.2 Preliminary studies about program coordinators' wellness have demonstrated issues with coordinators being undersupported and overworked.^{3,4} The argument is that improving the learning environment, requires programs to advocate for the wellness of all members of that environment, including faculty, nurses, and administrative staff.

Administrators and educators in GME can often be isolated in performing all the duties necessary to the management and development of residency and fellowship programs. While they may have connections to other administrators or educators in their institutions, the requirements and work environment of each specialty make it difficult to develop working relationships with those from other specialties. GME programs may only have 1 or 2 administrators working for a department; further, only a handful of departments across the country employ an educator. This leaves many administrators and educators to work in relative isolation. More than any other factors, research has shown that social capital, connectedness, and a sense of community promote mental, physical, and social well-being, as well as productivity in the workplace and feelings of job satisfaction and fulfillment.^{5,6} While the ACGME does host program coordinator sessions during its annual meeting and has introduced specialty-specific new coordinator workshops, they do not have a mechanism for continued, ongoing interactions among coordinators.

In April 2015, the Society of Academic Associations of Anesthesiology & Perioperative Medicine (SAAAPM) council agreed to support the formation of Association of Anesthesiology Program Administrators and Educators (AAPAE) for a 3-year trial period. At that time, there were no anesthesiology-specific organizations that promoted and supported educators and administrators of residency and fellowship programs. Members of the AAPAE include both administrators, those who are program coordinators, administrative directors, and other managers of GME programs, and educators, who are non-physicians who provide support and guidance. These individuals are involved in anesthesiology residency or fellowship training programs at academic medical centers where the departments are members of SAAAPM. The SAAAPM includes 4 different associations for Department Chairs, Residency Program Directors, Fellowship Program Directors, and the newly formed AAPAE. Membership dues are paid at the department level, and any number of members can be added with no additional cost.

The AAPAE's main goal was to create a community for administrators and educators to help them develop professional connections, share ideas, and support each other in their work for GME programs. The literature on Sense of Community reported by McMillan⁷ and Chavis⁶ was used as an underlining theoretical framework to help design appropriate interventions. Interventions were meant to include the major domains of Sense of Community, including affirming and meeting the needs of the group, recognizing and celebrating membership, allowing members to actively participate in all aspects of the community, and fostering emotional connections through sharing of experiences.7 This study was developed to determine if interventions designed to create feelings of connection were effective in augmenting a sense of community among the members of this newly formed associ-

MATERIALS AND METHODS

Intervention

In 2014, two authors (A.M.J., D.S.) developed a survey to assess the need for a program administrator association within anesthesiology. They sent their survey to all 124 program anesthesiology coordinators listed on the Fellowship and Residency Electronic Interactive Database Access (FREIDA) website via SurveyMonkey.com. Out of the 124 coordinators who received the survey, 76 (61%) responded. Of those respondents, 67 (89%) said they were interested in becoming members of a national

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anesthesiology program administrator organization. Furthermore, all comments received were in support of creating a national administrator organization. These data, along with a proposal for the creation of the group, was submitted to the SAAAPM, and in April 2015, the AAPAE was formed.

After its creation, over a 2-year period, the AAPAE implemented a series of interventions that were meant to foster a sense of community. This included development of a leadership structure, inclusion of a track for administrators and educators in the annual national SAAAPM meeting, a coaching program, a Facebook group for sharing information and asking questions, distribution of pins with the AAPAE logo, and social gatherings for AAPAE members at national conferences. Announcements about the creation of the AAPAE, as well as updates about its work, are included in the monthly emails distributed to all SAAAPM members.

The leadership structure of AAPAE mirrors that of the other 3 SAAAPM associations and includes 8 council positions: President, President-Elect, Secretary, Past-President, and four other council members in charge of the Coaching Program, Membership, Marketing, and Assessment. Council members are elected by AAPAE members to vacant seats each year for a 2-year term prior to the national meeting in November. All members are eligible to run for council positions via self-nomination or peer nomination.

The SAAAPM and its associations have an annual 2-day meeting in November. Each association meets individually for the first day of the conference, with all associations meeting together for the second day. From 2016-2018, the AAPAE-specific meeting included sessions such as analyzing data for the clinical competency committee, creating wellness programs, and developing the annual program evaluations. The group was split into special interest roundtables and included icebreakers, which allowed the membership to interact in both formal and informal settings to develop professional and personal relationships. Lapel pins with the AAPAE logo were distributed during the meeting to augment feelings of membership and belonging. In addition, the

AAPAE held social events at the SAAAPM annual meeting, the American Society of Anesthesiology annual meeting, and the ACGME annual meeting.

The coaching program is a voluntary program that matches more experienced professionals with novice members. The private Facebook group was created to allow all AAPAE members to ask questions, share experiences, and offer advice. In addition, there is an AAPAE specific section in the SAAAPM monthly newsletter that is emailed to all members.

All of the previously described interventions were designed to help members interact, create connections, share resources, and network with other professionals doing similar work so that they could call on the community for help and support.

Survey

In February 2016 and again in January 2018, using the validated, 24-item Sense of Community Index version 2 (SCI-2),2 AA-PAE council surveyed its members to elicit responses about their sense of community within AAPAE. The SCI-2 is the most popular empirical measure of sense of community in community psychology, and while the theoretical foundation and factorial structure of concepts included in studying sense of community are still under investigation, this index remains the standard tool for measuring a sense of community for a specific group, whether that be a neighborhood, virtual community, or workplace environment.8 The goal of the survey was to determine if the association was successful in building collegiality and community among our members 2 years after its creation. The survey includes a total score that assesses the sense of community overall and within 4 separate categories: reinforcement of needs, influence, membership, and shared emotional connection.9

Continuous data were assessed for normality using a Kolmogorov-Smirnov test. Comparisons between pretests and posttests were made using Mann-Whitney *U* tests. SAS version 9.3 (SAS Institute, Cary, NC) was used for all statistical analysis. A *P* value < .05 was considered statistically significant for all analyses conducted.

This study received approval by Vanderbilt Institutional Review Board (#172017).

RESULTS

Association Growth and Development

Annual membership for the AAPAE grew from 169 members in 2016 to 211 members in 2017, a 25% increase. In 2016 and 2017, 94% and 93% of SAAAPM departments, respectively, had at least 1 administrator or educator registered as a member of AAPAE. Based on the titles submitted in the application for membership in 2016, the AAPAE included 111 coordinators, 41 general administrators, 8 administrative directors, and 9 educators. In 2017, membership included 123 coordinators, 50 general administrators, 11 administrative directors, 10 educators, and 17 who did not disclose a title. Since its inception, there have been 10 different council members, which included a combination of educators and administrators. The AAPAE hosted 73 members at the 2016 SAAAPM annual meeting and 95 members at the 2017 SAAAPM annual meeting, a 30% increase in attendance. The coaching program included 16 pairs that have been voluntarily matched based on their positions within their institutions and their areas of interest or expertise.

As of March 2018, the Facebook group had 123 members. Members write posts about topics such as how to draft alumni surveys, ideas for interview season, how to collect information about scholarly activity, and the new ACGME common program requirements. In addition, members share their experiences, such as proctoring the anesthesiology In-Training Exam and preparing for the Training Administrators of Graduate Medical Education (TAGME) certification exam.

Survey on Sense of Community

Seventy-four members (44% of 2016 membership) took the survey in February 2016, and 87 members (42% of 2017 membership) took the survey in January 2018. There was an increase of the sense of community between the pretest and posttest scores for all subscales and the total sum score (P<.001 for all). The reinforcement of need subscale increased by a median of 4.5 points (IQR: 7.5 to 12.0). The influence subscale increased by a median of 4 points (IQR: 7.0 to 11.0). The membership subscale increased by a median of 3.5 points

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(IQR: 8.5 to 12.0), and the shared emotional connection subscale increased by a median of 3.0 points (IQR: 7.0 to 10.0). The total sum score increased a median of 11.5 points from a median of 27.5 (IQR: 17.0 to 39.0) to 39.0 (IQR: 27.0 to 53.0). Results from the total sum score and subscales are presented in Table 1.

A total of 10/24 (42%) individual items had improvement postintervention. Table 2 shows the responses for all items of the SCI-2 preintervention and postintervention and what questions had significantly different scores preintervention versus postintervention. The most significant changes were seen in the items: "When I have a problem, I can talk about it with members of this community"; "This community has been successful in getting the needs of its members met"; "I have influence over what this community is like"; "This community has good leaders"; "If there is a problem in this community, members can get it solved"; and "This community has symbols and expressions of membership such as clothes, signs, art, architecture, logos, landmarks, and flags that people can recognize" (P = <.001).

Discussion

Anesthesiology administrators and educators often work in relative professional isolation within their own institutions. Creating community can allow these individuals to connect with others across the country who share similar professional roles, interests, and issues. A combination of web-based (e.g., Facebook, email) and face-to-face (e.g., annual meeting, social gatherings) interactions allowed the AAPAE to successfully instill a sense of community among its members through an intentional facilitated effort over a 2-year period. While some may view the interventions to create a sense of community as necessary steps in establishing a new organization, reporting the details of this organization's accomplishments could guide others who seek to do the same. An increase in sense of community for a new organization cannot be assumed as the natural effect of creating a new organization—especially in this case, in which it is possible for administrators or educators to be added to the group without any action on their part.

Some factors contributed to the early success of the AAPAE: First, the SAAAPM is a group of associations for different stakeholders in academic anesthesiology. While it was started as an organization for department chairs, it opened its membership to core and subspecialty program directors, paving the way for the administrators and educators to propose the creation of an association for themselves. Second, since the membership fees are solicited department by department, AAPAE membership does not require additional funding, aside from registration fees associated with the annual meeting.

Some barriers to the success of the group included program directors concerns about attending the annual meeting during interview season, which may have prevented some AAPAE members from attending the annual meeting. Also, registration fees, travel, and lodging expenses to attend the meeting may be a real barrier to attendance. In addition, membership in the organization is not individual, so there might be some administrators or educators who are interested in membership but their departments are not members of SAAAPM. Further, some chairs and program directors are unaware of the AAPAE or do not see its value and therefore have not added administrators or educators from their departments to the membership group.

Through the development of the association, many administrators and educators were able to connect to other professionals who face similar challenges and opportunities. The group has been able to share their experiences and build a community that can support them in their own development. While the connection of the creation of this community to any improvement in wellness of its members is purely theoretical, the significant increases in the sense of community is the first step associating the development of such organizations to improvement in well-being.

There are limitations to this study: While a large percentage of the membership took the surveys, members who feel a sense of community may be more likely to complete the survey. The survey was anonymous, so there was no way to know if an individual's sense of community changed as a result of the interventions. There was also no way

to know what interventions actually improved members' sense of community. In addition, it is possible that the creation of a new organization in itself would impact a sense of community. Without a control group of members who did not receive the interventions, there is no way to know if the interventions had more of an impact on the sense of community.

Future directions may include repeating the survey to see the long-term impact of the interventions and investigating whether building a sense of community is helpful in recruitment and retention of anesthesiology administrators and educators. The connection between individual wellness and membership to the community could be investigated. In addition, establishment of this community may serve a model for other specialties. Finally, a qualitative study could be conducted that would interview members of the community and may further explain and define if, how, and why organizations such as ours impact members' wellness.

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Abstract

Background: Research has shown that, more than any other factors, social capital, connectedness, and a sense of community promote mental, physical, and social well-being, as well as productivity in the workplace and feelings of job satisfaction and fulfillment. In April 2015, the Society of Academic Associations of Anesthesiology & Perioperative Medicine (SAAAPM) agreed to support the formation of the

Association of Anesthesiology Program Administrators and Educators (AAPAE) to promote collaboration and collegiality among administrators and educators of anesthesiology residency and fellowship programs. This study was designed to determine if a series of interventions were able to promote a sense of community among administrators and educators of anesthesiology residency and fellowship programs.

Methods: From February 2016 to January 2018, the AAPAE implemented a series of interventions designed to foster a sense of community. These interventions included the development of a leadership structure, a coaching program, a Facebook group, distribution of pins with the AAPAE logo, social gatherings for members, as well as the creation of a dedicated track for administrators and educators during the SAAAPM annual meeting. In 2016 and again in 2018, using the validated, 24-item Sense of Community Index version 2 (SCI-2) with a score range of 0-72, AAPAE surveyed its members to assess their sense of community. Continuous data were assessed for normality using a Kolmogorov-Smirnov test. Comparisons between pretests and posttests were made using Mann-Whitney U tests.

Results: Seventy-four of 169 (44%) and 87 of 211 (42%) members took the survey in February 2016 and January 2018, respectively. The total sum score measuring the sense of community increased 11.5 points from a median of 27.5 (IQR: 17.0 to 39.0) to 39.0 (IQR: 27.0 to 53.0, P < .001). This shows a significant increase in the average sense of community of AAPAE members.

Conclusions: A combination of web-based and face-to-face interactions allowed the AAPAE to successfully cultivate a sense of community among its members.

Figures

Table 1. Results of Presurvey and Postsurvey Using the SCI-2 to Assess Intervention Impact on AAPAE Members' Sense of Community

SCI-2 Subcategories and Total Score	Preintervention, February 2016 (N=74)	Postintervention, January 2018 (N=87)	P Value
Subscale—Influence (Max score 18)	7.0 [4.0 to 12.0]	11.0 [8.0 to 15.0]	<0.001
Subscale—Membership (Max score 18)	8.5 [4.0 to 12.0]	12.0 [9.0 to 16.0]	<0.001
Subscale—Reinforcement of Needs (Max score18)	7.5 [4.0 to 12.0]	12.0 [9.0 to 16.0]	<0.001
Subscale—Shared Emotional Connection (Max score 18)	7.0 [3.0 to 11.0]	10.0 [7.0 to 14.0]	<0.001
Total Score (Max score 72)	27.5 [17.0 to 39.0]	39.0 [27.0 to 53.0]	<0.001

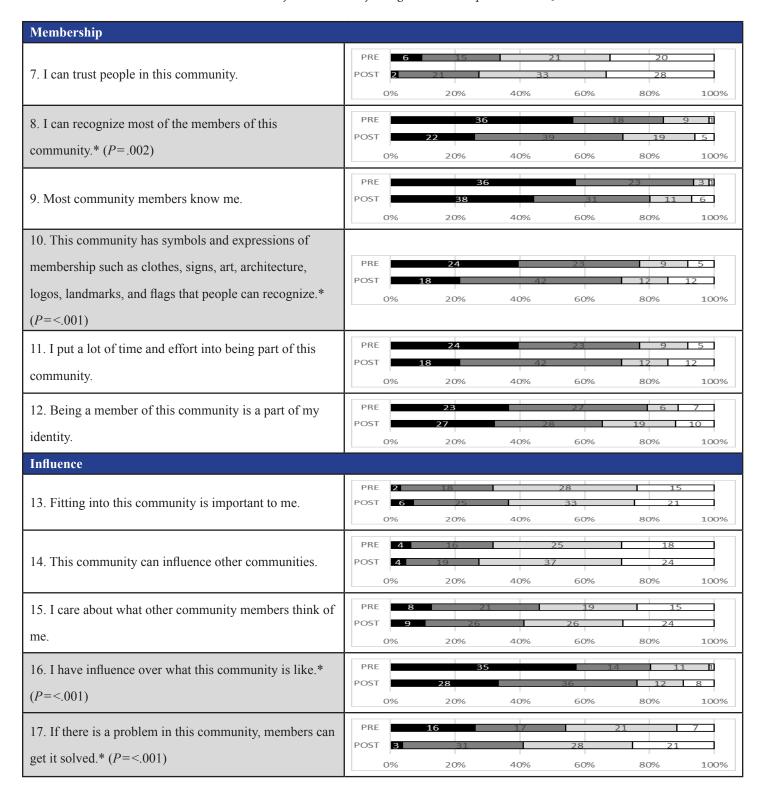
Data are presented as medians with 25th and 75th percentiles

Table 2. Presurvey and Postsurvey Using the SCI-2 Responses to All Questions



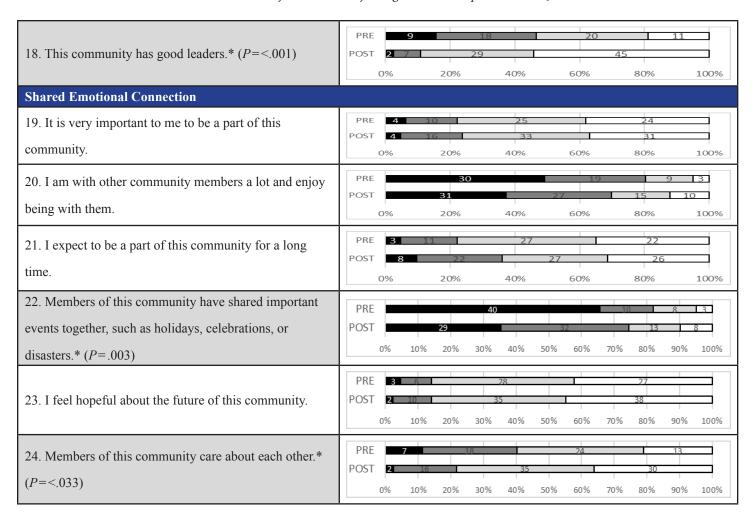
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Table 2 cont. Presurvey and Postsurvey Using the SCI-2 Responses to All Questions



Figures continued

Table 2 cont. Presurvey and Postsurvey Using the SCI-2 Responses to All Questions



^{*}Indicates statistically significant results.