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Data sharing statement

The data that support the findings of these surveys are openly available in Mendeley at https://data.mendeley.com/datasets/x5bvdvx2mr/l

Original article

Needs of early-career professionals in STM: Findings from two surveys

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Abstract

Background: The Early Career Publishers Committee (ECPC) of the STM Association (the International Association of Scientific, Technical, and Medical Publishers)'s Early Career Publishers Committee (ECPC) aims to engage, and provide tools and resources for, early-career publishers (ECPs) and professionals. The committee believes it is important to survey the community regularly to understand the background, needs, and concerns of its members to better achieve the committee's goals.

Objectives: Early-career professionals were surveyed in 2014 and 2020: the first survey was undertaken to get a baseline understanding of the community and to guide the newly formed ECPC whereas the second not only sought to review some aspects of the first survey but also to identify and explore ways to improve engagement and support through new or revised survey questions.

Methods: The two surveys were conducted online through the ECPC mailing list and social networks. The surveys were voluntary, with the option to skip some questions, and responses – some in the form of a rating scale – were collected anonymously. Each survey remained open for over a month to maximize responses, but neither was pretested. Some questions in the first survey were revised in the second in the light of learnings from the first survey.

Results: Most of respondents were women, 25–54 years old, from the UK or the US, with higher degrees, and working in editorial roles. In the second survey, many respondents were interested in developing their career either in their current role or in a different one, and nearly half were actively seeking a new role. Over half said that finding the right role was a challenge. Many had never participated in a publishing-related mentoring scheme, and most had not heard of the STM mentoring scheme before.

Conclusions: More tools, resources, and outreach for entry-level and younger industry members, for those from countries outside the UK and US, and for those seeking to develop their careers may be useful in the future. The mentoring scheme could be publicized more prominently to drive engagement. A new survey will be needed in the next 2–3 years, given the potential impact of the COVID-19 global pandemic on the number of respondents in the second (2020) survey and their motivation.

Keywords:

Early-career publishers, science publishing, survey of publishing industry



Introduction

The Early Career Publishers Committee (ECPC) comprises employees of publishers from member organizations of the STM Association (the International Association of Scientific, Technical, and Medical Publishers) interested in promoting outreach and engagement across entry-level and experienced publishers. About 100,000 people are estimated to be employed in STM publishing, and the committee was founded in 2013 to explore the needs, desires, and goals of those at the early stage of their career (10 or fewer years in the industry). The committee comprises four subgroups, namely career development, outreach, mentoring, and graduate publishing. The career development subgroup aims to raise awareness of the different roles and opportunities open to early-career publishers (ECPs), provide resources and advice to ECPs to help them advance their careers, and advocate for greater diversity, equity, and inclusion in the publishing industry. The outreach subgroup, the communications arm of the ECPC, seeks to raise the committee's profile within the industry and publicize its priorities and activities. The mentoring subgroup facilitates the sharing of knowledge, expertise, skills, insights, and experiences through a cross-company international mentoring programme. The graduate publishing subgroup engages with graduates, academic institutions, and publishing groups to raise their awareness of STM publishing.

In 2014, the ECPC launched its inaugural industry survey to ensure that its mission and goals were based on the needs of the community. A summary of the results was published on the ECPC website in the form of an infographic. In 2020, another survey was undertaken, repeating some of the earlier questions and revising some others, to review, update, and expand the data set and to discover how the remit of the committee and the nature of the ECP community had changed. The 2020

survey was a collaborative effort supported by all four subgroups and the STM secretariat, and a summary of the results was published on the ECPC website.²

Methods

Survey questions and technology

The 2014 survey comprised 20 questions to help understand the current state of ECPs and their backgrounds and development needs: for the 2020 survey, 5 of the questions were repeated and 15 were amended or replaced based on learnings from the previous survey and for covering new areas of interest. The survey questions are available in Appendix A. Both the surveys were conducted using SurveyMonkey and delivered to the subscribers to the ECP mailing list, to STM member organizations through the STM newsletter published twice a month, and more widely announced through social media. The survey was completely voluntary, the respondents were free to skip any or all the questions (in 2020), and the responses were recorded anonymously. If respondents wished to share their email id to 'opt in' to the ECPC mailing list, they could do so at the end of the survey. A link to the STM privacy statement was included alongside this option.

Analysis

The results were collated, analysed, and converted into graphs or charts (available as supplementary information). Subsequently an infographic highlighting the aggregated high-level data was produced for each survey. All identifying information, such as the opt-in email id for information on the mentoring scheme or for the ECPC newsletter, was separated from the data before the analysis to preserve anonymity.

Results

The 2014 survey resulted in 794 responses and the 2020 survey, in 432. The responses to each question were analysed separately. For

the five questions that featured in both the surveys, the responses were also compared. The proportion of those who chose to respond in the total who were invited to participate differed between the two surveys, and the difference was taken into account. The results are grouped into five sections, corresponding to the goals of the surveys, and the frequency of the questions (whether appearing only in the 2014 survey or only in the 2020 survey or in both) is indicated for each question.

Early-career publisher characteristics

How long have you worked in the publishing industry? [Ql, 2020]

The wording was changed in the 2020 survey to better understand how long the ECPs had worked in the industry: 6% of the respondents had worked in publishing for less than a year, 24% for 1–2 years, 38% for 3–5 years, 28% for 6–10 years, and 4% for more than 10 years.

How long have you worked in your organization? [Q1, 2014] In 2014, 14% had worked in their organization for less than a year, 24% for 1–2 years, 28% for 3–5 years, 17% for 6–10 years, and 16% for more than 10 years.

How did you enter publishing? [Q2, 2020] Of the total, 28% had transitioned into publishing from another industry, 20% came from PhD programmes, 18% from undergraduate programmes, 7% from internships, 5% from courses in publishing, 5% after their master's programmes, and 1% had joined at the entry level. The rest chose the option 'Other'. This question was introduced to give the ECPC a better idea of how ECPs enter the industry.

Do you hold a degree in publishing? [Repeated: Q6 in 2014; Q3 in 2020] The proportion of respondents without a degree in publishing was 90% in 2014 and 92% in 2020.

What is your highest level of educational study? [Q5, 2014]

Of the total, 42% had a bachelor's degree, 34% had a master's degree, 17% had a doctorate, 3% had studies up to high school or equivalent, 2% each had a professional qualification or a certificate from a vocational or technical school, and less than 1% each indicated a diploma or 'Other'. The question was left out in 2020 because the responses were helpful only for the objectives of the earlier survey.

What is your age? [Q18, 2014] The breakdown was as follows: 52% were 25–34 years old; 27%, 35–44 years; 11%, 45–54 years; 7%, 18–24 years, and 2% each 55–64 years or preferred not to respond. No respondent was older than 65 years. This question was not repeated in 2020, because the information was no longer considered necessary.

What is your gender? [Q19, 2014] Women were a clear majority (69%); 29% were men, and 2% preferred not to answer. These results are slightly different but roughly aligned with recent studies in the UK and US, which found that the publishing workforce continues to be made up of more women than men with 'females accounting for almost two thirds of respondents (64%)' in the UK³ and 'publishing (being) about 74 percent women or cis-women' in the US.⁴ This question was not repeated in 2020, because the information was no longer considered necessary.

Where are you located? [Q20, 2014] Slightly more than half (51%) were living in the UK, 25% in the US, 7% in the Netherlands, 5% in Germany, 2% each in India and China, 1% each in Australia, Brazil, France, Italy, and

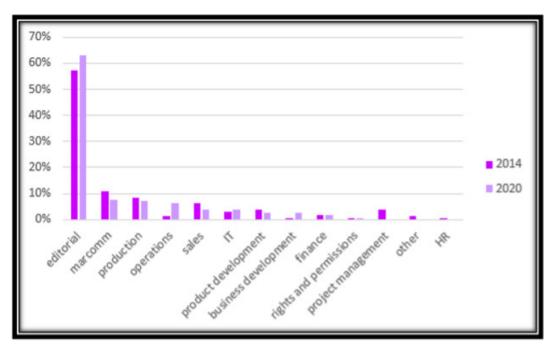


Figure 1. Changing proportions of different functions in the total publishing workforce: 2014 and 2020.

Singapore, and less than 1% each in Albania, Austria, Canada, Denmark, Japan, Jordan, Malaysia, New Zealand, Poland, Saudi Arabia, South Africa, Spain, and Switzerland. This question was not repeated in 2020, because the information was no longer considered necessary.

Current publishing role

What function do you currently work in? [Repeated: Q2 in 2014; Q4 in 2020]
In 2014, 57% worked in editorial, 11% in marketing and communications, 8% in production, 6% in sales, 4% each in project management and product development, 3% in information technology, 2% each in finance and 'Other', 1% each in rights and permissions, human resources, and operations, and less than 1% in business development.

In 2020, 63% of the respondents worked in editorial, 7% each in production, marketing, and communications, 6% in operations, 4% each in information technology and sales, 3% each in business development and product development, 2% in finance, and less

than 1% each in human resources, project management, rights and permissions, and 'Other' (Figure 1).

What function did you work in before this role? [Q4 2014]

For 23%, it was their first job in publishing. Of the rest, 37% had previously worked in editorial, 9% in production, 8% in marketing and communications, 5% each in sales and 'not applicable' (it was their first job), 3% in information technology, 2% each in academia, project management, and finance, 1% each in product development, administrative, and 'Other', and less than 1% each in customer service, operations, business development, human resources, legal, and rights and permissions. This question was not repeated in 2020, because the information was no longer considered necessary.

What do you or your organization publish? [Q5 2020]

Of the total, 38% chose journals; 26%, books; 12%, higher education content; 10%, databases; 4% each, business-to-business (B2B) content

and case studies; 3%, serials; and 2%, 'Other'. Because respondents to this question could select multiple answers, a total of 944 responses were received. This question replaced Q3 from the 2014 survey.

What field of publishing do you currently work in? [Q3 2014]

Scientific, technical, engineering, and medical (STEM) was the option chosen by 39% of the respondents; 29% chose social sciences and humanities (SSH); 24%, all fields; 7%, other fields; and 1%, 'not applicable'. Of the 794 respondents, 191 said they published in medicine, 106 in biology, 55 in engineering, 53 in physics, and 49 in social sciences. This question was targeted primarily at the editorial role, which is not representative of the many roles within the publishing industry and was therefore replaced in the 2020 survey.

Are you working in your field of study? [Repeated: Q7 in 2014; Q6 in 2020] In 2014, 43% of respondents worked in their field of study, 52% worked in a different field, and 5% chose 'not applicable'. In 2020, the corresponding shares were 49%, 48%, and 4%. For future surveys, this question will allow participants to expand on their comments, which will make it possible to ascertain whether there have been more opportunities for participants to work within their field of study and what potential barriers they currently face (so that the ECPC could offer them suitable resources to surmount the barriers).

Have you worked in any other industries? [Q7 2020]

The answer of 56% of the respondents was that they had. Of the 42% that named the industry they had worked in previously, 10% each had worked in education or higher education and research or academia, 5%

in consulting, 3% each in information technology, finance, scientific fields, pharmaceutical or biotech, and health care, 2% in marketing, 1% in data analytics, and 57% in 'Other'. This question was introduced to ascertain whether most ECPs start their professional career in publishing or come to it from another industry.

Career development

Are you interested in developing your career within your current business function or moving into a different function? [O8 2020] Slightly more than half (52%) of the respondents were interested in developing their career within their current business function, 17% were interested in changing their current business functions, and 31% were unsure whether they wanted to continue in their current function or to transition to a different one. This question, along with questions 9, 10, 12, and 13 from the 2020 survey, were included by the career development subgroup to better understand the career development needs of the community and the resources its members may require.

Are you actively seeking a new role or are you more interested in building and developing your skills within your current role? [Q9 2020]

Of the total, 46% were more interested in developing their skills within their existing role, 15% were actively seeking a new role, and 39% were interested in developing skills within their existing role but were also seeking a new role.

When looking for a new position, which do you find more challenging: finding the right role, the application process, the interview stage, or contract negotiation? [Q10 2020] Finding the right role was the most challenging aspect for 65% of respondents; the





Figure 2. Frequently sought-after skills for career advancement in publishing (as specified in two surveys).

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interview stage and the application process were challenging for 11% each'; contract negotiation posed a challenge to 9%; and 4% chose the option 'Other'.

What skills do you feel would be most useful to acquire over the next ten years? [Repeated; Q12 in 2014; Q11 in 2020]

This question was posed as a free-text field in both the surveys. Because it is difficult to quantify free-text responses, the common trends are highlighted in a word cloud (Figure 2).

What have been the most effective techniques or activities for developing your career from entry to your current role? [Q12 2020]
This question was posed only in the 2020 survey. The response was in the form of a free-text field, which is why some of the more common techniques or activities out of a total of 329 responses are listed here: volunteering for new or more challenging work or special projects, learning on the job, good listening, demonstrating reliability and good time management, taking advantage of coaching or mentoring or training, networking, proactively learning about different parts of the business, building and maintaining

relationships, being an active team member, asking questions or being curious, strategic self-promotion and building self-confidence, good communication, trying new roles, and attending conferences and other industry events. This question replaced Q13 from the 2014 survey, because it was felt the question would bring in information more in line with the objectives of the 2020 survey.

What training do you undertake to improve your professional knowledge and skills? [Q13 2014]

The breakdown was as follows: in-house training, 49%; soft-skills courses, 17%; publishing courses or conferences and trade body courses or conferences, 16% each; and online training, less than 1%.

What forms of additional career resources would you like to see from ECPC? [Q13 2020] The response being in the form of a freetext field, the more common of the 219 responses are listed here: career progression and leadership resources, industry news and information, formal certification or accredited training, development resources specific to women, more targeted support for the mentorship scheme, contract negotiation

tools, resources related to ensuring greater transparency in salaries and benefits, and resources related to diversity, equity, and inclusion.

How often do you attend events to improve your knowledge and skills? [Q14 2014]
Of the total, 27% of the respondents said that they attend events once in 3 months; 25%, once in 6 months; 23%, once a year; 12%, once a month; 9%, never; and 5%, more than once a month. This question was not repeated in the 2020 survey, because the questionnaire went out during the COVID-19 pandemic, when attending events was not possible—the ECPC believes that no valid comparison could be made between the responses to the two surveys in this case.

What professional topics are most aligned with your career aspirations? [Q16 2014]
A career in editing was the choice of 17% of the respondents; 14% chose project management; 13% each, strategic management and relationship building; 12%, people management; 8%, technology; 7% each, stakeholder engagement and marketing; 6%, programme management; and 4%, production. This information was helpful only for the objectives of the 2014 survey.

Mentoring

Have you participated in a publishing-related mentoring scheme and, if so, which? [Q14 2020]

This question, along with questions 15 and 16 from the 2020 survey, were included by the mentoring subgroup to gauge the importance of mentoring as perceived by members of the community and the effectiveness with which the mentoring scheme had been promoted. The question was only posed directly in the 2020 survey, but respondents to the 2014 survey ranked mentoring at 3.5 on a scale of 1 to 10 in terms of importance (Q17). In

2020, 74% of the respondents said they had not participated in a publishing-related mentoring scheme before, 20% said that they had but within their organization, and 7% said that they had participated in the STM mentoring scheme run by the ECPC.

Have you heard of the ECPC mentoring scheme? [O15 2020]

Of the total, 80% indicated they had not heard of the ECPC mentoring scheme, 11% said they were aware of it, and 3% each said that they had been a past participant, were a current participant, or wanted to be participate in the future.

What would make the STM ECPC mentoring scheme appeal to you or to your company? [Q16 2020]

The response being in the form of a free-text field, the more common of the 190 responses are listed here: more diversity, better matching of the mentor to the mentee, more structure and supervision, job opportunities, more awareness or promotion from the STM and member organizations, examples of good outcomes supplied by past participants, and additional networking opportunities.

ECPC communications

How do you prefer to learn about ECPC events? [O17 2020]

This question about the preferred channel of communication, along with the next question, was introduced to help the outreach subgroup. Questions 8, 9, 10, 11, and 15 from the 2014 survey were not in line with the objectives of the 2020 survey and were therefore not repeated. In the 2020 survey, 55% of the respondents said they preferred to learn about ECPC events through email, 22% preferred the STM website, 13% chose LinkedIn, 9% chose Twitter, and 1% chose Facebook.

What types of content would you be most interested in seeing from ECPC on social media? [Q18 2020]

The question allowed the respondents to select multiple answers, which led to a total of 892 responses: 28% indicated that they would be most interested in seeing job postings; 26%, in upcoming events; 24%, in industry news; 13%, in question-and-answer sessions; 8%, in polls; and 1%, in 'Other'.

What social networks do you currently use? [Q9 2014]

The respondents used a wide range of social networks, which, in descending order, were as follows: LinkedIn, 30%; Facebook, 29%; Twitter, 21%; Google+ and Pinterest, 7% each; Tumblr, 3%; Flickr, 2%; Instagram, 1%; and Xing, SocialCast, WhatsApp, Yammer, and ResearchGate, less than 1% each.

What other resources do you regularly use to keep up to date with industry developments? [Q11 2014]

The questionnaire listed 99 specific resources, but many of these were selected by only one or two respondents. The more commonly chosen resources were the following: own company, 162; LinkedIn, 51; newspapers, 45; colleagues from other companies, 28; ALPSP, 27; Scholarly Kitchen, 22; KnowledgeSpeak, 17; Outsell, 15; *Publishers Weekly*, 14; STM, 13; Liblicense listsery, 8; and COPE, Google Alerts, Research Information, UKSG, boersenblatt.net, and the Society for Young Publishers, 7 each.

What industry topics are you most interested in? [Q15 2014]

Open access and new business models were of interest to 14% of the respondents; analytics and metrics, to 11%; social media, 10%; communications, standards and technology, and ethics, 9% each; copyright and text and

data mining, 7% each; government affairs, 5%; and library relations, 4%.

How useful would you find the following types of initiatives from ECPC and what types of ECPC events would you be most interested in attending? [Repeated: Q17 in 2014; Q19 in 2020]

In the 2014 survey, the respondents rated the options on a scale from 1 to 9 (1 being the lowest and 9 being the highest). The means of the ratings were as follows: online forums for ECPs, 6.87; social media channels for ECPs, 6.59; publisher profiles, 5.73; technical events, 5.57; outreach to other ECPs, 4.94; career events, 4.53, document resources and careers guidance, 3.82; networking events, 3.62; and a coaching or mentoring scheme, 3.31.

In the 2020 survey, the respondents could select multiple options, which offered a better fit with the objectives of the 2020 survey, and the wording was revised to make it clearer. Of the 895 responses received, 32% chose training courses; 25% chose topical webinars; 22%, networking; 20%, question-and-answer sessions with industry experts; and 1%, 'Other'.

How frequently do you read industry articles and how frequently do you read publishers' blogs, news posts, or alerts? [Q8 and Q10 in 2014]

These questions from the 2014 survey were combined into a single question in 2020, given their similarity: 24% of the respondents said they read industry articles several times a week; 20%, less than once a month; 17%, several times a month; 15%, daily; 14%, once a week; and 10%, once a month. Publishers' blogs, news posts, or alerts were read by 25% of the respondents several times a week; by 22%, less than once a month; by 19%, several times a month; by 12%, once a week; and by 11% each, daily and once a month.



Discussion

The questions in both the surveys were intentionally broad to provide the STM ECPC with data to refine its mission and strategy and to identify areas that require additional attention in the future. The surveys were informal, intended more to take the community's pulse and to help steer the committee's efforts in the right direction and less as a piece of academic research. This freedom allowed the committee to drop or to revise some questions from the 2014 survey for the 2020 survey, although it meant that a valid comparison between the results of the two surveys was not always possible. This was felt to be an acceptable consequence, all the more so because the new or revised questions led to more relevant responses in line with the objectives of the 2020 survey.

The number of responses differed markedly: 794 in 2014 and 432 in 2020. Given the lack of current data on the approximate number of ECPs in the industry, it is hard to say whether these numbers were representative of the actual size of the community size. In addition, the 2020 survey was completed during the COVID-19 global pandemic, which may have impacted the numbers either 'working' in the industry or their willingness to take a survey. The pandemic may also have influenced some of the responses, especially those related to career development, and a new survey in the near future may be needed to overcome this limitation.

In reviewing the responses, and comparing them where appropriate, several areas of particular interest were selected that offered some opportunities for discovery and improvement. These areas are summarized and discussed below.

Given the concentration of the respondents towards the middle of the range in terms of

years of experience (for example, 3-5 years and 6-10 years), additional efforts will be probably needed to reach the professionals at the beginning of their careers (in their first three years, for example) and to identify the role the ECPC can play to support the professionals later in their careers (after they had worked for 10 years or longer). The committee is particularly interested in understanding how the post-pandemic landscape will change the career paths and opportunities of ECPs because the industry's travel patterns and the nature of industry events may be changing. By working more closely on initiatives shared with other organizations such as the Society for Young Publishers, the Society for Scholarly Publishing, and the Association of Learned and Professional Society Publishers, the ECPC should be able to extend the reach of its own activities.

Similarly, given the predominance of respondents from the UK and the US in both the surveys, greater efforts are required to reach out to ECPs in less represented regions or countries, particularly in the global South, to establish and strengthen connections between publishing communities and to ensure equitable access to tools and resources from the ECPC and the STM. The ECPC's strategic plan for 2022 includes a focus on bringing in more representation from underserved areas to the committee.

Because fewer respondents from the 2020 survey held a degree in publishing than those in the 2014 survey did, it is doubtful whether new opportunities will arise for ECPs without a degree in publishing studies. Specifically, given the ongoing changes in the publishing industry related to open access and large mergers and acquisitions leading to some publishing organizations expanding their role to become service providers as well, what

new roles may be needed that ECPs could fill? What skills can the committee help ECPs to acquire today to meet new challenges in the future? These questions should form the basis for future webinars and other outreach activities of the ECPC.

The publishing industry has changed greatly over the last few years. It would be useful to ask question 23 again to understand how topical interests may have changed over time. Specifically, the committee would like to see if library relations, public or government affairs, and text and data mining are of greater interest in future surveys than before, because all these topics have featured in recent discussion in the industry in addition to such popular topics from the 2014 survey as open access and analytics.

The respondents in the 2020 survey were concentrated into a narrower variety of roles and slightly more heavily weighted in favour of editorial roles than those in the 2014 survey. Additionally, in several of the free-text responses to questions 11, 12, 13, and 16, it was clear that a proportion of the respondents, especially in non-editorial roles, were unaware of STM or ECPC before participating in the survey. How can the ECPC expand the community to include more non-editorial colleagues and to raise awareness generally? If 77% of the respondents preferred such traditional channels as email and websites, do social media offer a viable strategy? How will post-pandemic working norms change the ways in which the ECPC can reach the community (both current and future members) more effectively? These questions have been posed to each of the four ECPC subgroups (career, outreach, mentoring, and graduate publishing), and answering these questions will be part of the strategic objectives for each subgroup in 2022.

Given the relatively high percentage of respondents in the 2020 survey who indicated that they were unsure whether they wanted to develop their career in their current function or transition to a new function and the blend of needs around developing skills within a current role or seeking a new role, the ECPC and STM member organizations will need to consider what tools for career planning and career development opportunities are needed for the wide range of publishing professionals and how clearly the opportunities need to be defined.

Despite the large number of publishingrelated mentoring schemes available both within individual organizations and through such publishing-related organizations as STM, responses to the 2020 survey indicated that a very high proportion of respondents had never participated in such schemes and were not even aware of the ECPC mentoring scheme. There is an opportunity here for the ECPC, STM, and others to enhance the efforts related to the availability and value of mentoring schemes. The ECPC is regularly given the opportunity to participate in the annual STM Conference, which is attended by about 500 publishing-industry representatives, which would be a useful platform to promote such mentoring schemes.

It is interesting that, despite the popularity of LinkedIn and Twitter among the respondents in the 2014 survey, the preferred mode of outreach in 2020 was email. The committee would like to pose the question again as it was in 2014 to see if there has been a rise in ECP engagement with ResearchGate (and other platforms). "ResearchGate, a decade-old start-up disruptor with venture capital investment and a rapidly grown user base, has taken its place at the negotiating table and found not just enemies but allies." It is a moot



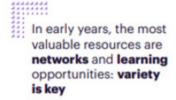




Figure 3. Resources that early-career publishers need the most.

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question whether the survey would have had a higher response rate for online training in question 19 if that question had been included in the 2020 survey and, especially, how the response has changed after the pandemic. The committee would like to pose this question again in a future survey to identify which platforms ECPs use most frequently for online training.

The 2014 survey indicated that 84% of the respondents attend various industry events to improve their knowledge and skills once every 3 months or less frequently, and 9% indicated that they never attend such events. Given the abundance of publishing-related events and conferences every year, the committee would like to ask this question again in future surveys to understand what the barriers to attendance are. It would be helpful to understand whether financial and geographical barriers may be more difficult for ECPs than to professionals in the later stage of their career and whether that continues to be true in the post-pandemic landscape with hybrid models possibly offering cheaper options and a more global reach.

In addition to the top areas of focus identified through the two surveys (Figure 3), the ECPC is interested in exploring new topics in future surveys. A greater understanding about the diversity, equity, and inclusion in ECPs in publishing would be useful, and new questions around geographic location, race, age, ability, etc. would help to support discussions on how the ECPC and STM can enhance diversity, equity, and inclusion in the industry. It is also planned to ask targeted questions on what ECPs are looking for from STM and the ECPC, and the committee is particularly interested in how it can increase engagement and membership as well as how it can make its efforts and initiatives more effective than what is has managed to in the past. Finally, the committee would like to know more about how the ongoing shift to open access is affecting the roles and job security for ECPs to understand what new skill sets are needed to thrive in the new publishing landscape.



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