


Barriers to and facilitators of success for early and Mid-Career professionals focused on bipolar disorder: A global needs survey by the International Society for Bipolar Disorders

Sarah H. Sperry¹ | Katie M. Douglas²  | Olivia M. Dean^{3,4}  | Gabriel R. Fries⁵  |
Fabiano A. Gomes⁶ | Georgina M. Hosang⁷ | Emma Morton⁸  | Bronya Sandorffy¹ |
Tamsyn E. Van Rheenen^{9,10} | Ni Xu^{11,12,13,14}  | Rebekah S. Huber^{15,16} 

¹Department of Psychiatry, University of Michigan, Ann Arbor, Michigan, USA

²Department of Psychological Medicine, University of Otago, Christchurch, New Zealand

³Deakin University and Barwon Health, IMPACT, The Institute for Mental and Physical Health and Clinical Translation, School of Medicine, Deakin University and Barwon Health, Geelong, Australia

⁴Florey Institute for Neuroscience and Mental Health, University of Melbourne, Parkville, Australia

⁵Faillace Department of Psychiatry and Behavioral Sciences, The University of Texas Health Science Center at Houston, Houston, Texas, USA

⁶Department of Psychiatry and Behavioural Neurosciences, McMaster University, Hamilton, Ontario, Canada

⁷Centre for Psychiatry & Mental Health, Wolfson Institute of Population Health, Queen Mary, University of London, UK

⁸Department of Psychiatry, University of British Columbia, Canada

⁹Melbourne Neuropsychiatry Centre, Department of Psychiatry, University of Melbourne, Melbourne, Australia

¹⁰Centre for Mental Health, School of Health Sciences, Swinburne University, Melbourne, Australia

¹¹Peking University Sixth Hospital, Beijing, China

¹²Peking University Institute of Mental Health, Beijing, China

¹³NHC Key Laboratory of Mental Health (Peking University), Beijing, China

¹⁴National Clinical Research Center for Mental Disorders (Peking University Sixth Hospital), Beijing, China

¹⁵Department of Psychiatry, Huntsman Mental Health Institute, University of Utah School of Medicine, Salt Lake City, Utah, USA

¹⁶Department of Psychiatry, Oregon Health & Science University, Portland, Oregon, USA

Correspondence

Rebekah S. Huber, Department of Psychiatry, University of Utah School of Medicine, Salt Lake City, Utah, USA.
Email: rebekah.huber@utah.edu

Abstract

Introduction: The International Society for Bipolar Disorders created the Early Mid-Career Committee (EMCC) to support career development of the next generation of researchers and clinicians specializing in bipolar disorder (BD). To develop new infrastructure and initiatives, the EMCC completed a Needs Survey of the current limitations and gaps that restrict recruitment and retention of researchers and clinicians focused on BD.

Methods: The EMCC Needs Survey was developed through an iterative process, relying on literature and content expertise of workgroup members. The survey included 8 domains: navigating transitional career stages, creating and fostering mentorship, research activities, raising academic profile, clinical-research balance, networking and collaboration, community engagement, work-life balance. The final survey was

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deployed from May to August 2022 and was available in English, Spanish, Portuguese, Italian, and Chinese.

Results: Three hundred participants across six continents completed the Needs Survey. Half of the participants self-identified as belonging to an underrepresented group in health-related sciences (i.e., from certain gender, racial, ethnic, cultural, or disadvantaged backgrounds including individuals with disabilities). Quantitative results and qualitative content analysis revealed key barriers to pursuing a research career focused on BD with unique challenges specific to scientific writing and grant funding. Participants highlighted mentorship as a key facilitator of success in research and clinical work.

Conclusion: The results of the Needs Survey are a call to action to support early- and midcareer professionals pursuing a career in BD. Interventions required to address the identified barriers will take coordination, creativity, and resources to develop, implement, and encourage uptake but will have long-lasting benefits for research, clinical practice, and ultimately those affected by BD.

KEYWORDS

barriers, bipolar disorder, early career, facilitators, midcareer, needs assessment

1 | INTRODUCTION

Bipolar disorder (BD) is a serious mental illness that affects more than 40 million people worldwide.¹ In 2013 and 2017, the Global Burden of Disease Study reported that BD contributed to approximately 9 million disability adjusted life years, ranking it as the 19th leading cause of years lost to disability worldwide.^{2,3} The total economic burden of BD is estimated to be more than \$195 billion in the United States (US) alone.⁴ Despite its prevalence and impact, there is a lack of funding dedicated to researching BD. In the United Kingdom (UK), BD accounts for 17% of the total burden of disease for mental illness,⁵ but only receives 1.5% of research funding that is allocated to mental health.⁶ In the United States, approximately 5% of research funding allocated to mental health goes to BD.⁷ In addition to lack of funding, few clinical services are specific to BD and there is an absence of BD-dedicated care pathways. This contrasts with other serious mental illnesses, such as schizophrenia, that have dedicated care pathways for early intervention in first-episode psychosis. Lack of specialized care leads to a delay in proper diagnosis and treatment. It takes an average of nine years from the onset of symptoms to obtain an accurate diagnosis of BD, even in countries with well-established tertiary health services.^{8,9}

Diagnostic and care-pathway problems are further exacerbated by the increase in mental health needs worldwide and the shortage of mental health providers.¹⁰ Shortages of psychiatrists reflect increased demand for services, a lack of residency positions for training, and retirement—more than 60% of psychiatrists are 55 years or older.¹¹ In the past 10 years, there has been a 7% decrease in the number of psychologists entering academic research.¹² At the same

time, growing funding constraints in some countries and inequality in academia are increasing the difficulty of maintaining a career in the field, and contributing to the mass exodus of talent.^{13,14} There is a critical need for researchers and clinicians to advance the prevention and treatment of BD especially given recent findings that there is a pronounced lack of funding for clinical research and treatment development for BD.⁷ Investing in the career development of early and mid-career (EMC) researchers and clinicians to offset these issues will ensure enhanced understanding of BD and progress toward new or refined treatment strategies to improve the lives of those living with it. EMC researchers and clinicians in the field of BD face increasing challenges and need to be properly supported during critical transitions in their career stages.

The International Society for Bipolar Disorders (ISBD) is committed to supporting the development of early-career (including students and trainees) and midcareer professionals who are pursuing research and clinical work focused on BD and have created the Early- to Mid-Career Committee (EMCC) with the remit of supporting the next generation of professionals in the field.¹⁵ Specifically, the EMCC comprised individuals at the early- and midcareer stage working with BD from different geographic locations and specific interests.¹⁵ The group includes clinicians and investigators with different expertise mentored by senior investigators in the field of BD, with the goal of nurturing and supporting the career development of the next generation of clinicians and researchers specializing in BD and related conditions. It was acknowledged that the creation of new infrastructure and initiatives to support EMC researchers and clinicians interested in BD must be based on an assessment of the current limitations and gaps that restrict their recruitment and

retention. Thus, one of the first charges of the EMCC was to initiate a Needs Survey to evaluate the landscape of facilitators and barriers to successfully pursuing a career focused on BD.

A needs assessment is a formal process whereby investigators determine the critical gaps between the current state of affairs and desired outcomes in order to develop appropriate training, response, and initiatives that address these gaps.¹⁶ In contrast to other types of evaluation, needs assessment emphasize gaps at societal, organizational, and individual levels as well as diverse needs with varying levels of importance, and allow for planning and strategy development that can be prioritized based on the gaps identified.¹⁷ Importantly, needs assessments increasingly emphasize the identification of assets in addition to gaps, which can further shape the development of solutions and reform.

A working group of the ISBDD EMCC, the EMCC Needs Survey Workgroup, was formed to develop and conduct an online Needs Survey.¹⁵ The goal of this study was to disseminate the Needs Survey to EMC researchers, clinicians, and trainees working in the field of BD and to conduct a mixed methods analysis of responses to identify facilitators of and barriers to success for EMC's. This paper describes the results of the Needs Survey, highlighting key findings in terms of both assets and gaps in the interests of prioritizing strategies and planning for enhanced support to EMC individuals interested in a career focused on BD.

2 | MATERIALS AND METHODS

2.1 | Participants

The Needs Survey online deployment targeted EMC individuals working in the field of BD. Participants were informed about the purposes of the survey and that their responses would remain anonymous and be kept confidential. Following providing consent to participate in the study, a screening question was asked regarding inclusion/exclusion criteria as follows: "Do you currently work or are you interested working in research, education, or clinical work in the field of bipolar disorder?" Inclusion criteria required participants to select "yes." Participants who selected "no" were thanked for their interest in participating and ended the survey. No other inclusion/exclusion criteria were included. The study was approved by the University of Utah Institutional Review Board #00160451 and undertaken by the ISBD EMCC.

2.2 | Survey development

The EMCC Needs Assessment Workgroup met to identify domains relevant for EMCs. Based on an initial literature review,¹⁸⁻²⁵ in combination with expertise from individuals comprising the EMCC, eight domains were identified: navigating transitional career stages, creating and fostering mentorship, research activities, raising academic profile, clinical-research balance, networking and collaboration,

community engagement, and work-life balance. The Needs Assessment Workgroup then developed a mixed-methods survey including both qualitative (open free text responses) and quantitative (forced choice numeric responses) questions across domains. Through an iterative and collaborative process, final items were selected to balance survey length with the granularity of information to be collected. The goal was for the survey to take approximately 15 minutes. All EMCC members were asked to provide feedback on the survey content and questions, and the final survey was piloted with a small number of individuals to ensure questions were accurately programmed. The final survey consisted of 82 questions, with a mixture of quantitative and qualitative formats. Branching logic was included so that participants only completed sections relevant to their career status. For example, participants who described their role as involving clinical work only did not complete domains relevant to research activities; thus, the number of participants in each selection differ. The full survey is available in Supplemental Materials.

2.3 | Survey procedure

The Needs Survey was available for completion online on Qualtrics software from 16 May 2022 to 15 August 2022. Participants were recruited in several ways. An email providing information about the study and a link to the Qualtrics survey was sent to local and international networks of EMCC members (e.g., departments, universities, medical centers, and other professional organizations). ISBD administration forwarded this email to their listserv as well as leaders of independent chapters of ISBD around the globe and posted information about the study and the Qualtrics link to the ISBD website. The ISBD and EMCC Twitter accounts posted about the study and how to participate each week for the duration of the enrollment period. These posts were retweeted by all EMCC members who belonged to Twitter. Further promotion occurred at the ISBD 2022 Conference [13]. To maximize outreach, the survey was made available in English, Spanish, Portuguese, Italian, and Chinese. Multilingual ISBD EMCC members translated the survey and any qualitative responses. Responses were reviewed and efforts were made to target distribution and recruitment to underrepresented areas (through independent chapters of ISBD, e.g., ISBD Kenya). EMCC members made additional outreach efforts and invited individuals from underrepresented countries to participate in the survey. To encourage participation, participants were entered into a draw for one free registration to the ISBD annual conference.

2.4 | Data analysis

All analyses were completed in Rstudio (V.2022.02.0+443). Chi-square analysis and linear regression were used for categorical and continuous outcomes, respectively. Quantitative models included the following covariates: gender identity (female, male, other), country socioeconomic status (SES), ISBD membership (current, past,

never), and underrepresented status (yes, no, prefer not to say). “Underrepresented” status was defined using a self-reported question and defined as individuals from certain gender, racial, ethnic, cultural, or disadvantaged backgrounds including individuals with disabilities who have been shown to be underrepresented in health-related science fields. Accordingly, if an individual self-identified as “underrepresented” in this question, it is likely that they did so relative to their own demographic region, context, and definitions. SES was categorized as low-income, lower middle income, upper middle income, and high-income using World Bank Classifications, which are calculated using the World Bank Atlas Method and GNI per capita.²⁶ Reference groups were female, lower middle SES, not a ISBD member, and “not underrepresented.”

For questions limited to qualitative responses, we applied conventional content analysis.²⁷ For each response, the primary coder (SHS) identified the individual meaning units, wrote a condensed meaning unit, and created a code to capture the theme of the response. Each meaning unit was allowed one code. Next, 20% of responses were randomly selected using a random number generator for reliability coding. The second coder (RSH) was given the list of codes created by the primary coder. Inter-coder reliability was assessed using percent agreement with values $\geq 75\%$ viewed as acceptable and $\geq 90\%$ as high. Note that all surveys completed in another language were reverse translated to be included in the content analysis.

3 | RESULTS

A total of 444 participants opened the survey with 110 initially being excluded ($n=4$ indicated they were not interested or did not have a career focused on BD; $n=106$ opened the survey but did not complete demographics). Of the remaining 334, 300 were considered “completers” (i.e., completed at least one full section of the survey) and 34 “noncompleters” (i.e., only filled out demographics information). As designed, response rates differed for individual sections of the survey (Table 1). Overall, “completers” took a median of 13 min to complete the survey. For those who completed all sections of the survey ($n=160$), indicating that their careers included clinical work, research, and community engagement, the survey took a median of 15.2 min. Overall, responses were obtained from all continents around the world except Antarctica, with the majority of responses from North America (36.2%), Europe (14.8%), and the Middle East (13.8%) (Figure 1). The vast majority of survey responses were collected in English ($n=314$), followed by a small proportion of responses in Chinese ($n=16$) and Spanish ($n=4$). Basic demographics for both groups are presented in Table 1. Roughly half of completers ($n=153$) self-identified as belonging to an underrepresented group in health-related sciences, defined as individuals from certain gender, racial, ethnic, cultural, or disadvantaged backgrounds including individuals with disabilities. Thirty nine percent of respondents indicated they were a member of the ISBD (current = 77, past = 40).

Below, we highlight key findings from each of the eight domains. Note that we provide all survey results in Supplemental Materials. Distributions of work domains among EMC individuals (e.g., clinical, research, and supervision) are presented in Figure 2. Overall, participants indicated that they were least involved in community engagement, which is reflected in more unanswered data in this section (Figure 2). In addition, work-life balance had the lowest number of responses, which could be due to survey fatigue—this was the last possible section of the survey. After each section, participants were asked to identify ways that ISBD could help facilitate success and reduce barriers. We outline the top three approaches that participants indicated ISBD could help with across each domain in Table 2.

3.1 | Navigating transitional career stages

Participants were asked about the current stage of their career or training and responded to questions about navigating the transition to the next stage. Those applying to graduate school ($n=18$) highlighted the following challenges they anticipated facing when applying to doctoral programs: did not know how to identify funding sources (38.9%), lack of experience preparing application-related materials (33.3%), and lack of research experience (22.2%). Those applying to postdoctoral fellowships ($n=35$) indicated the biggest challenges to applying for fellowships were: not knowing how to identify open postdoctoral positions in the field of BD (48.6%), limited number of postdoc opportunities in the field of BD (45.7%), not knowing how to identify funding sources (40%). Those applying to faculty and academic positions ($n=73$) highlighted the following challenges: limited experience in teaching or research profile (33.8%), difficulty in balancing academic and personal life (29.6%), not knowing how to identify open faculty positions or jobs in the field of BD (29.6%). Participants' ratings of their confidence in navigating transitional career stages are presented in Figure 3 and did not differ based on any covariates (see Supplemental Table S1). The majority of participants indicated that they had some confidence in transitioning to graduate school (72% agree; 22% disagree; 6% neutral) and faculty/academic positions (75% agree, 18% disagree, 7% neutral). In contrast, only 40% of participants indicated that they felt confident applying for and transitioning to postdoctoral fellowships (34% disagree, 26% neutral).

Of those participants ($n=159$) who identified as being at a professional career stage (e.g., Research Fellow, Psychologist, Social Worker, Occupational Therapist, Lecturer, and Assistant Professor), 27.9% reported being an independent researcher with their own lab or program. Researchers reported the following challenges when transitioning to independence: obtaining funding necessary to establish their own lab or program (67.4%), having lack of time for their own research due to clinical/administrative/or other research tasks (58.1%), and needing additional mentoring support or training (39.5%). In contrast, facilitators to success included strong mentorship, funding, collaborations, publications, institutional support and resources, and personal qualities such as persistence.

TABLE 1 Demographic information of survey participants.

	Completers (n=300)	Noncompleters (n=34)	Statistics
Age, mean (SD)	37.18 (9.49)	40.18 (13.0)	t(332)=1.67, p=0.095
Gender (F/M/N/NR)	184/112/4/0	18/13/1/2	X ² (3, 334)=18.5, p<0.001
Highest degree			X ² (4, 334)=2.6, p=0.626
Associates	10	1	
Bachelors	33	6	
Masters	75	7	
Doctoral	174	18	
Other	8	2	
Underrepresented group (Y/N/NR)	116/153/31	6/22/6	X ² (2, 334)=6.26, p=0.044
Member of ISBD (Y/N/P)	77/183/40	4/24/6	X ² (2, 334)=3.3, p=0.192
Survey sections (number of responders)			
Navigating transitional career stages	280		
Mentoring	280		
Clinical-research balance	276		
Raising your academic profile	266		
Grant writing and security funding	260		
Networking and collaborating	248		
Community engagement	230		
Work-life balance	216		

Note: "Completers" are defined as participants who completed at least one full section of the survey, while "Noncompleters" only filled out demographics information.

Abbreviations: F, female; ISBD, International Society of Bipolar Disorders; M, male; N, no; N, nonbinary; NR, prefer not to respond; P, previous member; SD, standard deviation; Y, yes.

3.2 | Creating and fostering mentorship

Participants were asked about their experiences as both a mentee and a mentor. The majority (68.9%) reported having either a formal or an informal mentor, of which 73.6% had mentors in the field of BD. Most were satisfied with the quality of the mentorship (78.2%). Common benefits perceived from mentor relationships included research discussion and/or supervision (72.5%), career advice and support (65.3%), and clinical discussions and/or supervision (50.8%). Of those who did not have a mentor, the majority desired a mentor (66.7%), 23.0% were not sure, and 10.3% would not like to have one. There were no differences in SES index, gender, or underrepresentation status in any questions relating to mentorship (see Supplemental Table S3).

Approximately half of the participants (51.1%) reported currently having a formal or informal role as a mentor to a student or staff member. Most common reported mentorship areas were education/teaching (62.9%), clinical work (62.3%), and research (60.1%). Most

participants (63.6%) did not receive any training in mentorship, but most (69.9%) were confident with their mentorship skills. There were no differences in gender, SES Index, ISBD membership, or underrepresentation in participants reporting having a mentor, being satisfied with the quality of the mentor, and receiving training in mentorship skills (Supplemental Table S2). Male participants were more likely to feel confident about their mentorship skills than female participants ($\beta=0.60$, 95% CI [0.13–1.07], $p=0.013$).

3.3 | Clinical-research balance

Most participants indicated that their work involves clinical activities ($n=206$; 74.6%), representing an average of 44.95% (SD=12.37, Range=1%–56%) of their work time. The majority of participants were satisfied with their clinical workload (70.87%) and most indicated they have some flexibility (14.56%) or flexible clinical practices (64.08%) to accommodate research

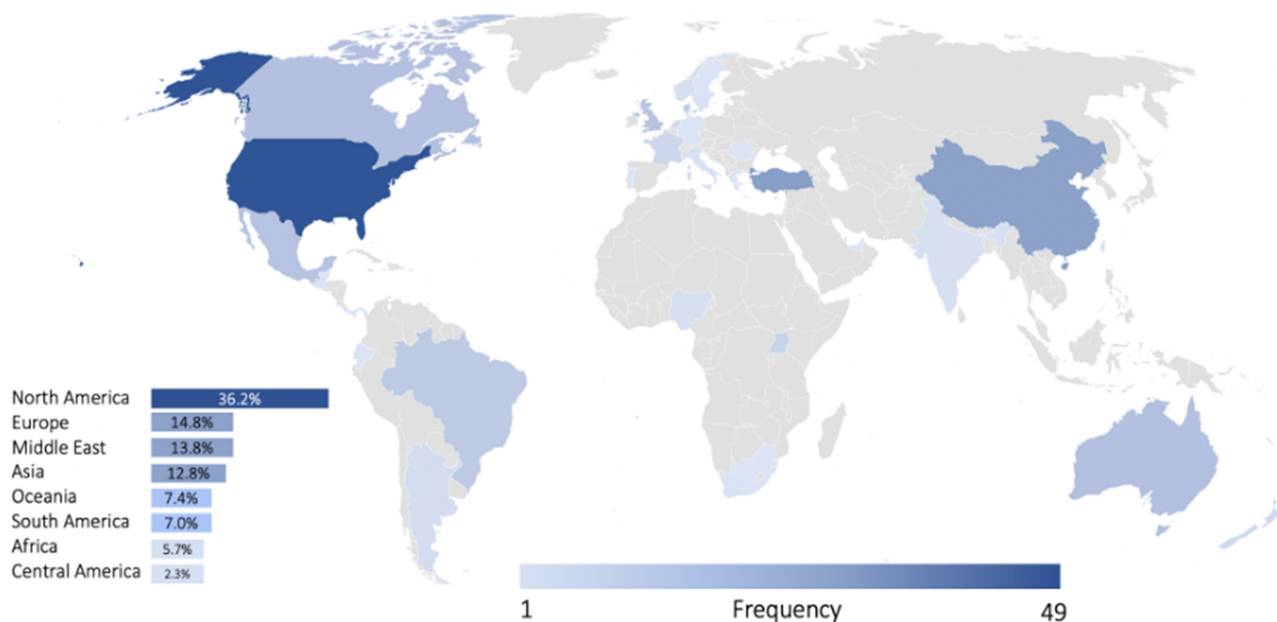


FIGURE 1 Global completion of the Needs Survey.

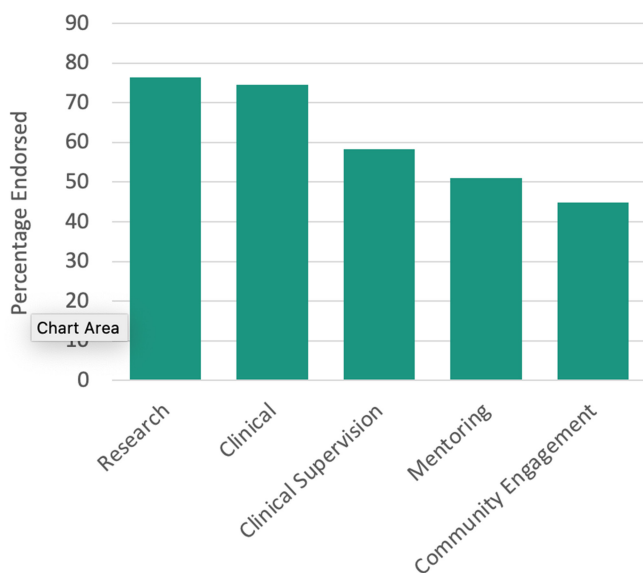


FIGURE 2 Percentage of participants involved in each type of work ($n=300$).

and/or education activities. Most participants reported having opportunities to discuss complex cases with peers or supervisors (78.16%). Regarding clinical supervision, most participants (59.71%) supervise other clinicians and 86.18% have confidence in their supervision skills. Although there were no differences in gender or underrepresentation for those involved in clinical work (Supplemental Table S4), participants from low/middle income SES countries were more likely to report involvement in clinical activities ($X^2(1)=24.49$, $p<0.001$). There was no association of SES index, ISBD membership, gender, or underrepresentation with confidence in clinical supervision skills (Supplemental Table S2).

3.4 | Raising your academic profile

Seventy six percent ($n=203$) of participants indicated that research was a part of their work, on average spending 47% of their time on research ($SD=31.38$, Range=5%–100%). Those in high income countries were more likely to report being engaged in research activities than those in low/middle income countries ($X^2(1)=7.17$, $p=0.007$) (Supplemental Table S5). When asked whether participants were meeting their publication goals, 68% indicated that they were publishing fewer manuscripts than their goal with only 17% meeting their publishing goals. Participants were given the opportunity to qualitatively describe challenges or barriers that they have experienced in reaching their writing goals. Content analysis revealed 10 codes with excellent interrater reliability (93% agreement; see Table 3 for descriptions of each code and frequency of use). The three most common barriers included time constraints, writing efficiency, and training in writing skills. Responses that were coded as *time constraint* highlighted difficulties making time for writing and running analyses as well as spending greater amounts of time on grant writing than manuscript writing. Responses that were coded as *writing efficiency* highlighted that participants felt like they needed to become more efficient in their writing. Responses that were coded as *training in writing skills* highlighted needing additional training and mentorship in writing in academic/scientific styles and writing in English.

Fifty percent of participants ($n=102$) reported that they use online forums/social media to help share scholarly work and enhance their academic profile. Participants indicated whether they use any of the thirteen online forums/social media outlined and were given the option to write in other platforms used (three additional platforms were identified). The three most popular online forums/social media outlets used by participants include ResearchGate (33%), Twitter (28%), and Google Scholar (27%).

TABLE 2 Recommendations for ISBD EMCC programming to facilitate success.

Navigating transitional career stages
Applying to graduate school
Providing a platform for posting available postgraduate study and research opportunities (66.7%)
Access to online training material (55.6%)
Access to information regarding PhD supervisors in the field of bipolar disorder (55.6%)
Applying to postdoctoral fellowships or positions
Providing a platform for posting available postdoctoral opportunities (77.1%)
Connecting with a mentor in the area of bipolar disorders (74.3%)
Offering a peer networking/support group (57.1%)
Applying to faculty/academic/tenure positions
Connecting with a mentor in the area of bipolar disorder (69.9%)
Providing a platform for posting available faculty positions and career opportunities (47.9%)
Access to online training material (42.5%)
Resource guide for individuals applying for positions in another country (e.g., documents required, local websites) (42.5%)
Creating and fostering mentorship
Formal mentorship programs (74.3%)
Mentorship webinars (55%)
Mentorship sessions during scientific events (53.6%)
Clinical-research balance
Mood disorders assessment and treatment educational programs (73.7%)
Resources on the ISBD website to download the newest treatment guidelines or recent articles regarding treatment (64.1%)
Case based discussion webinars (61.2%)
Raising your academic profile
Provide a workshop on raising your academic profile (68.0%)
Provide a workshop on knowledge translation (e.g., sharing information with diverse stakeholders including clinicians and individuals with lived experience) (65.0%)
Provide member highlights on the website/twitter/newsletters (especially early career, students, and underrepresented individuals) (59.1%)
Research activities
List federal/governmental, nonprofit, and/or private funding agencies that have a history of supporting bipolar disorder research on the website (72.0%)
Offer grant writing workshop during the annual experience: (68.2%)
Have successful grant examples provided for all career levels on the website (65.9%)
Networking and collaborating
Continue to offer networking sessions at conferences/meetings (80.2%)
Offer formal mentorship programs (74.6%)

(Continues)

TABLE 2 (Continued)

Create an online community or forum for members to network and exchange ideas (62.5%)
Work-life balance
Provide resources to help explain common career disruptions (e.g., parental leave, caring for dependents) in grant applications or promotion materials (99.2%)
Offer workshops on work-life balance (91.0%)
Provide resources on setting boundaries (91.0%)

3.5 | Research activities

Fifty percent ($n = 132$) of participants indicated that acquiring research funding was a part of their work with those from low/middle income countries answering yes less frequently than those in high income countries ($\chi^2(1) = 5.27, p = 0.02$) (Supplemental Table S6). EMC individuals' confidence in writing a grant, knowledge of information sources related to grant announcements, and history of funding are presented in Figure 4. Participants identified several barriers and challenges that they have experienced when applying for funding to support BD research. Content analysis revealed 10 codes (see Table 4) with excellent interrater reliability (93% agreement). The three most common barriers included lack of opportunities for funding, grant writing skills, and grant reviewers. Responses that were coded as *lack of opportunities for funding* highlighted a lack of funding agencies focused on BD and not enough federal dollars spent on mental health funding in general. Responses that were coded as *grant writing skills* highlighted a lack of experience in applying for grants and a need to improve grant writing skills. Responses that were coded as *grant reviewers* highlighted specific difficulties with grants focused on BD getting through review processes. Specifically, some participants highlighted that their grants were unsuccessful in review panels due to an overemphasis on biology over social/psychological studies of BD.

3.6 | Networking and collaborating

Seventy-seven percent of participants reported trying to network by attending conferences and presentations. The majority of participants had tried making a connection with someone in their department/institution (66.1%) or reaching out to colleagues outside of their department or institution (58.1%). There were no differences in gender, SES Index, or underrepresentation status in participants reporting feeling successful establishing and maintaining collaborations (Supplemental Table S7). EMC individuals identified several facilitators to developing collaborations. Content analysis revealed 10 codes (see Table 5 for descriptions of each code and frequency of use) with good interrater reliability (87% agreement). The three most common facilitators of successful collaboration were: having networking opportunities, interpersonal relationships/qualities, and mentorship. Responses that were coded as *having networking opportunities* highlighted having opportunities to meet collaborators through social media, conferences, and committees. Responses that

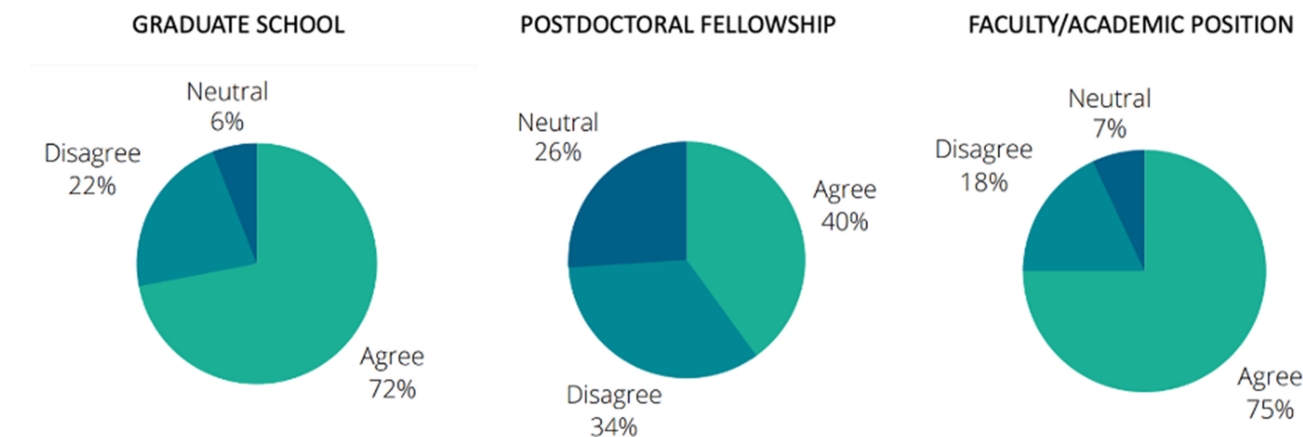


FIGURE 3 Confidence regarding applying to next stage of career path.

Code theme	Examples	Frequency
Protected time	Making time to write, time management, time to run analyses, too much time spent on grant writing instead of manuscripts	127
Training in writing skills	Writing in academic style, writing in English, skill of academic writing, guidance and feedback on writing, lack of training, need more training	27
Efficiency	Efficiency in writing and analysis	23
Lack of resources/opportunities	Lack of co-authors or collaborators to help reduce burden, lack of funding, lack of dedicated research staff to help co-author, lack of finances to publish, lack of statistical support	21
Publishing barriers	Choosing the right journals, getting papers accepted, organizational barriers to publishing	9
COVID-19	COVID-19 made publishing slower, increased workload, interruptions to workflow and recruitment	7
Intrapersonal attributes	Lack of motivation, lack of self-confidence, anxiety, perfectionism	5
Study related	Difficulty recruiting participants with BD, difficulty getting ethics committee approval	4
Unsure/not applicable		3
None		2

TABLE 3 Content analysis of barriers to writing goals.

Note: Participants were asked, "What challenges or barriers have you experienced in reaching your writing goals (e.g., making time to write, efficiency in writing and publishing)?" and given a free text response box to answer.

were coded as *interpersonal relationships/qualities* emphasized having collaborations or friends/peers that are pleasurable to work with. Others emphasized the importance of having collaborators that are kind. Responses that were coded as *mentorship* highlighted having a mentor that introduces you to potential collaborators and supports the seeking of collaborative relationships.

3.7 | Community engagement

Participants were asked about their community or public engagement, defined here as service or involvement with the public

community to reduce stigma, increase awareness, improve health, reduce health disparities, or change policies. Participants were advised that community engagement may involve scientific communication, educational activities, community board/panel memberships, World Bipolar Day events, or similar. Only 44.8% of participants reported that community/public engagement was part of their work, although 59.2% indicated that the time they currently dedicated to community/public engagement was too little. Thirty-six percent of participants felt the time they dedicated to community/public engagement was just right, and 5% indicated that it was too much. There were no differences in country SES index, gender, or underrepresentation status (Supplemental Table S8).

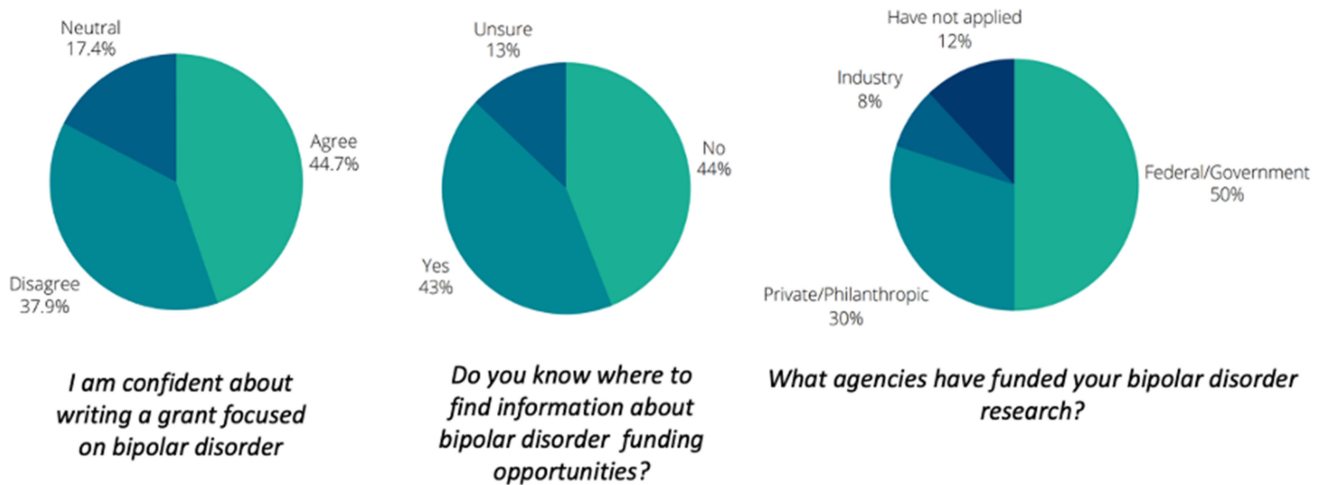


FIGURE 4 Grant Funding for Early–Mid-Career Professionals.

TABLE 4 Content analysis of barriers to grant funding.

Code theme	Code examples	Number of codes
Opportunities for funding	lack of opportunities, lack of grant mechanisms, less grant money for BD, high competition for funding	54
Grant writing skills	Lack of experience applying to grants, ineffective grant writing	16
Grant reviewers	Reviewers not understanding BD, over emphasis on biology over social/psychological in review panels	14
Not applicable	n/a, have not done it yet	10
Systemic issues	National and institutional structures, bureaucracy, being a woman	9
None		9
Protected time	Not enough protected time to write grants	8
Mentorship	More specific training and mentorship needed in studies of BD	5
Lack of resources	Do not have enough money or staff to run studies	5
Study/research methods	Difficult to recruit patients with bipolar disorder, need pilot data, exclusions needed for BD research is complicated	4

Note: Participants were asked, “What challenges or barriers have you experienced when applying for funding to support bipolar disorder research?” and given a free text response box to answer.

Participants were given the opportunity to qualitatively describe the types of community or public engagement opportunities that they would find valuable. Content analysis revealed two reliable codes (100% agreement): *Community education* ($n=53$) and *Advocacy and Patient Engagement* ($n=17$). Participants indicated that they would like opportunities to raise awareness about BD and reduce stigma through *community education*, including through public events (talks and discussion panels), social media (including Twitter outreach and YouTube), formal webinars, lay publication writing (e.g., *The Conversation*), traditional media (print, radio, or TV interviews), and online resources (e.g., fact sheets on ISBD website). Groups explicitly identified by participants as targets of this public education and community outreach included school groups and young people,

workplaces, people with BD who are vulnerable to relapse, caregivers of people with BD, LGBTQIA+, as well as the academic and public service communities. Participants further indicated that they would like resources and assistance to improve *advocacy and patient engagement* including translating research into practice, engaging with people with lived experience as part of research co-design, and engaging with organizations involved in policy making.

3.8 | Work-life balance

The final section of the survey asked participants about work-life balance, defined as prioritizing or balancing time between professional

Code theme	Code examples	Number of codes
Networking opportunities	Emphasized opportunities to meet collaborators through social media, conferences, and committees	38
Interpersonal relationships/qualities	Emphasis on having collaborators or friends that are pleasurable to work with and kind	29
regular meetings & communication	Emphasized regular in person meetings or frequent communication via phone/zoom	28
Mentorship	Mentor helping to introduce people	27
Shared interests	Having collaborators or peers with similar interests	20
Dedication/perseverance	Emphasis on needing to push yourself to reach out, keep trying, and dedication	19
Unsure/not applicable		14
Publishing	Publishing and working collaborative on results of a project	7
Environment	A good department, a supportive institution	6
Time	Not enough time	3

Note: Participants were asked, "What helped facilitate successful collaborations?" and given a free text response box to answer.

and personal demands and activities (e.g., managing relationships, family responsibilities, and hobbies). Forty-nine percent of participants ($n=106$) reported being satisfied with work-life balance, with 38% ($n=82$) being unsatisfied (13% were partially satisfied). Men were significantly more likely to be satisfied with their work-life balance than women ($\chi^2(1)=10.94$, $p=0.03$) (Supplemental Table S9). Sixty-seven percent of participants reported they had flexibility in their work schedule to be able to fulfill responsibilities in their personal life. However, men reported having significantly more flexibility than women ($\chi^2(1)=13.35$, $p=0.01$). Sixty-two percent ($n=133$) reported having difficulty maintaining a boundary between work and home-life. Of these participants, difficulty maintaining this boundary most impacted leisure activities (86.5%), friendships (69.2%), and intimate relationships (69.2%). In relation to caregiving responsibilities, 46% ($n=99$) reported being a parent or a caregiver. Within this group, 64.6% felt that having dependents affected their career. Only 24% of participants felt funding bodies adequately considered career disruptions (e.g., as a result of parental leave, medical illness, or moving country).

4 | DISCUSSION

To our knowledge, this is the first study to explore the needs of EMC researchers and clinicians working in the field of BD to facilitate success in their careers. This global Needs Survey focused on examining barriers to career progression and identifying interventions to address such barriers. The ISBD EMCC (of which all authors are members) was the central launch point to publicize the survey. The ISBD EMCC has diverse global representation and attempted to include as wide a representation as possible, specifically including underrepresented groups by translation of the survey into several languages and engaging in targeted outreach during the recruitment

TABLE 5 Content analysis of facilitators for networking and collaborating.

phase. A number of barriers were identified including lack of funding (especially specific to BD), lack of awareness of opportunities (e.g., employment roles), lack of experience and training opportunities, and limited resources (e.g., protected time). The needs and related interventions appear to be focused on creation of directories (e.g., funders), training, and mentorship programs facilitated by ISBD.

Our findings are comparable to those of other needs surveys focused on groups included in our survey demographic, such as Early Career Psychiatrists, who cite lack of funding, opportunities, and resources (especially protected time) as key barriers to research engagement.²⁸ However, our novel results are centered on the challenges of working in the field of BD specifically. For instance, we found that one of the barriers for obtaining research funding is the preference for investigating biological mechanisms of BD—participants highlighted that funding proposals exploring psychosocial aspects of the illness have been rated less favorably and have been less likely to be funded. Additionally, participants highlighted that grant reviewers often request specific inclusion and exclusion criteria for their BD-related proposals that can be very difficult to implement in practice (e.g., recruiting during a specific mood state or during euthymia, and unmedicated). Lastly, there is a clear barrier to EMC's successfully transitioning from being a student to being a fellow with only 40% of participants indicating that they felt confident applying to fellowships. Significant variation exists in postdoctoral fellowships in terms of the type of fellowship (100% research, 100% clinical, research/clinical mix), pay/salary, and length (1–6 years) may leave trainees unsure of the best path to take depending on their independent goals. Furthermore, these results may reflect challenges in obtaining a fellowship—there tends to be a lack of funded opportunities for fellows and a need to receive independent funding (e.g., National Institute of Health F32 postdoctoral training award in the US) to pursue research-based fellowships. An actionable intervention resulting from this survey could thus be in the form of an ISBD

sponsored grant writing workshop during the annual conference, or the provision of a library of successful grant applications for all career levels on the ISBD website. This seems warranted as only 45% of participants felt confident about writing a grant focused on BD.

One of the most striking findings of the survey was that 68% percent of participants indicated that they were publishing fewer manuscripts than their goal with only 17% meeting their goals. While some barriers to publishing, such as having enough protected time, will require significant systematic and structural change, others, including improving writing efficacy and skills in academic writing, can be addressed more promptly. ISBD sponsored workshops on general scientific writing and strategies for efficient writing by senior mentors in the field could help build confidence in EMC individuals.

Our results also highlight unique barriers to pursuing a career in BD for select subgroups. Indeed, those individuals interested in pursuing a career in BD from low/middle income countries, compared to high income countries, are disproportionately less likely to have protected time for research or opportunities to write grant proposals. Our content analysis also revealed that participants identified a need for training in scientific writing in English, as most journals interested in publishing BD work require submissions to be in English.

Content analysis revealed that EMC individuals rely on attending conferences and workshops to present their work, exchange ideas with other researchers, and build collaborations. The COVID-19 pandemic has brought both challenges (e.g., lack of opportunities to travel to meetings and network with peers in person) and opportunities (e.g., lower cost to attend virtual meetings). Funding to support travel expenses and fees may pose an additional burden to ECRs. Hybrid conference models and travel awards are concrete actions that may support EMC individuals, particularly from low/middle income countries.

Areas of relative strength for the field did emerge. First, of those EMC individuals who obtain postdoctoral fellowships, 75% felt confident about applying to faculty/academic positions. Although the hope is for that number to improve, this was the most confident people felt about navigating to the next career stage, indicating that postdoctoral fellowships in the field of BD may be especially helpful to EMCs. Second, the majority of participants reported being satisfied with the quality of their mentorship. This is critical, as content analysis revealed that strong mentorship was viewed as one of the most critical factors for success of EMC individuals. Taken together, increasing the number of postdoctoral fellowships available in the field of BD with strong mentorship is critical.

4.1 | Limitations

There are several limitations of this study that should be considered when interpreting the findings. For instance, participants from North America and Europe were overrepresented in the sample, which may bias the results and significantly limit the transferability of findings to other countries and regions. Specifically, it is likely that specific recommendations for North America and Europe may be different

than for other regions, but our limited sample size precluded us from doing recommendations stratified by region. Some participants may have been excluded due to language barriers since the survey was only published in English, Spanish, Portuguese, Italian, and Chinese excluding various regions (e.g., Africa and South Asia). Lastly, our recruitment strategy was limited to email listservs, social media, and websites. This may have biased the sample to include those who already have academic connections within ISBD (e.g., EMCC members and ISBD members) and may not represent all individuals interested in a career in BD that have not yet made those connections. Of note, 64% of participants were or have been members of ISBD indicating that this recruitment method did reach beyond the ISBD membership. Notwithstanding, future studies should consider replicating these findings in groups not represented here.

5 | CONCLUSION

The results from this needs survey are a call to action to support the next generation of clinicians and researchers interested in pursuing a career in BD. Although many of key findings are comparable to those of other groups of early- and midcareer individuals, our survey also identified specific bottlenecks directly related to the field of BD. The retention and success of EMCs are essential in securing the future of the field. The benefits of this will be felt not only by the researchers and clinicians themselves but also by those who live with BD. The interventions required to address the identified barriers will take much coordination, creativity, and resources to develop, implement, and encourage uptake. Fortunately, at the ISBD, the EMCC has been tasked with such activities, which will be a lasting component of their remit and manifesto. In a forthcoming paper, the EMCC aims to detail specific strategic directions for the future that could be realistically implemented by the ISBD based on the findings of the Needs Survey.

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CONFLICT OF INTEREST STATEMENT

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID

Katie M. Douglas  <https://orcid.org/0000-0002-5344-2959>

Olivia M. Dean  <https://orcid.org/0000-0002-2776-3935>

Gabriel R. Fries  <https://orcid.org/0000-0002-5468-2612>

Emma Morton  <https://orcid.org/0000-0001-6179-1983>

Ni Xu  <https://orcid.org/0000-0002-4207-5655>

Rebekah S. Huber  <https://orcid.org/0000-0002-6718-9683>

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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