Seeking help as a strategy for ethical and professional decision-making in research:

Perspectives of researchers from East Asia and the United States

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Abstract

A person's cultural background shapes how they interpret and navigate problems. Given that large numbers of international researchers work and train in the U.S., we sought to better understand how researchers use the decision-making strategy of seeking help to navigate ethical and professional challenges. Participants (*N*=300) were researchers working or training in the U.S. who were born in East Asia (EA) or born in the U.S. They completed a screening survey; then a subset completed think-aloud interviews (*n*=66) focused on how they would respond to three hypothetical research scenarios. Thematic analysis of the transcripts showed that seeking help was a commonly endorsed strategy, with some nuances between groups. Themes included seeking help in the form of getting advice, seeking someone to help solve the problem, and gathering information. Endorsement of the seeking help strategy frequently depended on participants' relationships; desiring to seek help from people they trusted. Notably, EA participants tended to prefer seeking help in ways that avoided reputational harm to others. A better understanding of how researchers from different cultural backgrounds use decision-making strategies can inform how to make educational programs more inclusive and comprehensive to more effectively develop researchers' ethical and professional decision-making skills.

Keywords: Responsible conduct of research training, professional decision-making, research ethics, seeking help, SMART strategies

Introduction

Conducting scientific research requires researchers to make decisions about how to navigate ethical and professional issues, which are often complex, ambiguous, and can affect the integrity of the research (DuBois et al. 2015; Shamoo and Resnik 2015; Steneck 2007). Certain conditions can make quality decision-making especially challenging, such as when the situation is unfamiliar, when there is uncertainty about what to do, or the researcher is in a period of stress or other heightened negative emotions (DuBois et al. 2015; Thiel et al. 2012; Angie et al. 2011; Gross 2013). Previous research has identified several decision-making strategies that can help support quality ethical and professional decision-making. One of which, and the focus of this article, is seeking help (DuBois et al. 2015; Antes et al. 2016; Caughron et al. 2011).

Professional decision-making strategies: Seeking help

Seeking help is one of the strategies comprising the SMART Strategies professional decision-making framework (DuBois et al. 2015; Antes et al. 2016; DuBois and Antes 2018; McIntosh, Antes, and DuBois 2020). This framework reflects an evidence-informed social cognitive plan developed and acted upon in response to an ethical challenge or problem (Neck and Manz 1992, 1996; Thiel et al. 2012; Bazerman & Moore 2013; Sonenshein 2007; Mumford et al. 2007). The SMART Strategies include: **S**eeking help, **M**anaging emotions, **A**nticipating consequences, **R**ecognizing rules and context, and **T**esting your assumptions and motives (Antes et al. 2016; DuBois et al. 2015; DuBois and Antes 2018; McIntosh, Antes, and DuBois 2020). Research examining the use of SMART strategies has shown that their use is associated with greater responsible conduct of research (RCR) knowledge and lower cynicism and compliance disengagement (Antes et al. 2016). Studies have also shown the potential for training

interventions to increase the use of SMART strategies (Mumford et al. 2006; DuBois et al. 2018).

Seeking help can take several forms (Antes et al. 2016). It can include seeking additional information in the form of facts and opinions, and information about options for action and potential outcomes (McIntosh, Antes, and DuBois 2020; Sonenshein 2007). Help-seeking can involve asking for advice or perspectives of people uninvolved in the situation. It can also involve a relational element of seeking feedback, emotional support, advocacy, or mediation from colleagues, peers, or people in positions of power like department chairs, deans, or journal editors (McIntosh, Antes, and DuBois 2020; Sonenshein 2007). For example, seeking help from a department chair may provide individuals with new resources when a lack of resources is causing problems. A department chair may also advocate or provide mediation when interpersonal dynamics in a research team have grown difficult to address. Seeking help can yield new or overlooked information, novel viewpoints on the problem, or information that was originally discounted or misinterpreted (Mumford et al. 2007). This process can help researchers gain perspective, challenge their assumptions, and better understand their potential biases so that they can make better and more informed ethical decisions (McIntosh, Antes, and DuBois 2020).

Cultural background and professional decision-making

Research suggests there are differences in how researchers from different cultural backgrounds approach decision-making in response to professional or ethical issues in their work (Fischer 2009; Hughes, Seidman, and Williams 1993; Singh et al. 2007). In one study conducted in the U.S., researchers completed a scenario-based measure of professional decision-making (Antes et al. 2019). Responses indicated that researchers born internationally engaged the SMART strategies less frequently than researchers born in the U.S. (Antes et al. 2019). These

results do not necessarily imply that international respondents are outright less ethical than their U.S. counterparts. Rather, they were less likely to gravitate toward options reflecting SMART strategies, suggesting researchers born outside of the U.S. may have different approaches to and preferences for handling professional challenges that need to be better understood.

Another study conducted in the U.S. examined researchers' perceptions of the seriousness of violating research regulations and compared those to research integrity officers' perceptions (Antes et al. 2018). U.S.-born researchers were better at distinguishing between the seriousness of violating research regulations than internationally-born researchers. U.S.-born researchers were also more accurate in their predictions of research integrity officers' seriousness ratings compared to internationally-born researchers. The cultural backgrounds of the researchers might partially explain such differences, given that understanding the complex rules and regulations of science in the U.S. requires comprehending both the rule itself and how it is applied in various contexts (Antes et al. 2018).

A third study examined cultural background and willingness to seek social support for coping with stress (Taylor et al. 2004). Asians and Asian Americans were less likely to seek social support than European Americans. This was due to East Asian cultural norms discouraging seeking help from others because doing so may strain relationships (Taylor et al. 2004). While this study was not focused on seeking help in a professional context, it suggests that there are cultural differences involved in a person's preference for seeking help.

Studying the role of culture in professional decision-making in research is important given that science is a highly international and multicultural environment. Large numbers of international researchers work and train in the U.S. Specifically, approximately 30% of research faculty, 50% of postdoctoral researchers, and 35% of graduate students in the U.S. are

international researchers (National Science Foundation 2015; National Foundation for American Policy 2017; National Science Board 2018). Furthermore, the majority of international researchers in the U.S. are from East Asia (National Science Board 2018; Kent 2011).

Given the collaborative nature of research and the large number of international scholars working in the U.S., understanding the decision-making approaches used by researchers from various cultures is a necessity. A person's cultural background shapes the way they interpret and navigate problems, including the strategies they use to identify and address ethical issues. Furthermore, understanding and applying the norms and rules of a research environment can be challenging, especially if a researcher is from a culture with norms and rules that differ from where they conduct scientific work (Antes et al. 2018). We seek to understand the similarities and differences in how U.S. researchers and East Asian researchers working in the U.S. make decisions when faced with challenging professional and ethical situations. Specifically, we focus on their approaches to seeking help as a decision-making strategy. Understanding these differences can help cultivate a shared understanding among researchers and help them understand the perspectives of their colleagues in order to more easily resolve conflict, have difficult conversations, and navigate ethical challenges effectively (Higgins, Power, and Kohlberg 1984). In what follows, we compare biomedical researchers from East Asia and the U.S. who work at a U.S. based research institution on how they use seeking help as a strategy for addressing ethical and professional challenges.

Methods

We examined how researchers born in East Asia and the U.S. who work in the U.S. approach seeking help as a part of ethical and professional decision-making. This effort was part of a larger National Science Foundation-funded study focused on exploring multiple decision-

making strategies. The study produced a rich and complex dataset, and here we report specifically on the portion of the data focused on the seeking help strategy.

We focused only on East Asian-born and U.S.-born researchers because East Asian-born researchers make up the largest portion of the international research workforce in the U.S. (National Science Board 2018; Kent 2011). Although those born in East Asia who work in the U.S. are not a homogenous group, they are a compelling group to begin understanding the issue at hand.

We administered a screening survey to identify participants to invite for think-aloud interviews. Three hundred participants completed the screening survey, and we conducted in-depth think-aloud interviews with 66 of them. Participants did not have training in SMART strategies prior to participation.

Participants and procedure

We recruited faculty, postdocs, and graduate students (*N*=300) in biomedical and biological science fields at a large academic institution in the Midwestern U.S. These are fields where ethical challenges are not uncommon. We partnered with deans in biology and biomedical departments and other institutional administrators who sent emails to their faculty, postdocs, and graduate student listservs encouraging participation. Our recruitment partners also posted the study to their institutional social media accounts and included information about the study in their monthly newsletter. In each of these recruitment approaches, we provided a link to the screening survey and a link to a study website that contained additional information about the study. Survey participants could enter a raffle to win one of 30 $50 Amazon gift cards. Participants were screened to include only participants that were born in East Asia (EA; defined

as China, Hong Kong, Japan, Macau, Mongolia, South Korea, or Taiwan) or the U.S. The majority of EA participants lived in East Asia for the majority of their childhood (up to age 18; 87%).

Participants first completed the screening survey. We then used purposive sampling to recruit participants for think-aloud interviews (*n*=66) to gather perspectives on decision-making from both the EA and U.S. groups. All interview participants received a $40 Amazon gift card. Participant demographics can be found in Table 1.

[Table 1 near here]

Materials

Screening survey. Participants completed an online Qualtrics screening survey which contained the Professional Decision-Making in Research (PDR) measure (DuBois et al. 2015) and demographic items. The PDR is a 16-item vignette-based measure of decision-making in research, specifically the use of SMART strategies in decision-making (DuBois et al. 2015; Antes et al. 2016). For each item, participants are first presented with a hypothetical scenario describing an ambiguous or challenging research situation. They are then presented with 6 response options describing actions that they could take in response to the situation. Three of the response options represent a SMART strategy, and 3 are distractor options not reflective of a SMART strategy. Participants select the two response options that best describe what they might do if they were in the situation. For every item in which both their response selections represent SMART strategies, they receive 1 point. If they select one or more "incorrect" options, the item receives no points. Thus, participants can earn up to 1 point per item and have overall scores ranging from 0 to 16 points.

The screening survey data was analyzed using SPSS software version 27. The mean PDR score was 13.31 (*SD*=2.51), which replicates averages from previous studies (DuBois et al. 2015; Antes et al. 2016; Antes et al. 2019). Prior research has identified cut points for evaluating scores. A score of 11 or below is considered "low", 12 is "marginal," 13-14 "proficient," and 15-16 is considered "exceptional" (Antes et al. 2016; Antes et al. 2019). Using these cut points, we stratified recruitment for the think-aloud interviews so that our sample would include those scoring exceptional (scores of 15 or 16), and those scoring low or marginal (scores of 12 or below), as well as those from East Asia and the U.S., to ensure a full range of participant views and approaches were represented in interviews. There were 113 participants (38%) who scored 15 or 16 on the PDR and 81 (27%) who scored 12 or below on the PDR.

Think-aloud interview. Semi-structured think-aloud interviews were conducted via Zoom and lasted 60 minutes. The interview guide included 3 scenario-based vignettes from the PDR measure and the 6 corresponding response options for each scenario. Brief summaries of the vignettes can be found in Table 2. The PDR items were shared on the Zoom screen so that participants could read and reference them while responding to the interview prompts. Scenarios were presented first without the response options, and participants were asked for their initial reaction to how they would respond in that situation. Then, the 6 PDR response options were presented one at a time, and participants were asked what they thought about each response option individually. Participants were instructed to say everything that came to mind during the interview, and interviewers asked follow-up prompts and clarifying questions when needed. Interviews were audio recorded and professionally transcribed.

[Table 2 near here]

Data analysis

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Interview transcripts were uploaded and coded in Dedoose qualitative analysis software (Dedoose 2021). We developed a codebook in an iterative process informed by past literature (Mumford et al. 2008; DuBois et al. 2015; English et al. 2017; Antes et al. 2018; Antes et al. 2016; DuBois and Antes 2018; Hofstede 1984, 1980). We also reviewed 20% of the interview transcripts to inductively identify additional potential codes, and all codes were developed via iterative discussions during weekly team meetings. We shared drafts of the codebook with experts in the fields of research ethics and RCR, and solicited feedback from East Asian scholars. The final codebook consisted of several types of codes. Structural codes were used to code which of the 6 PDR response options the participant was discussing and whether it was a SMART strategy response option. For each response option, we first applied a code to evaluate whether the participant generally endorsed or rejected the response option. Second, codes representing each of the SMART strategies were applied to the transcript any time a participant's response reflected a SMART strategy, whether it was during the initial discussion of the scenario or when any of the 6 response options were being discussed.

ES served as the gold standard coder and three graduate research assistants (SC, NC, and YC) were trained on their assigned section of the codebook. Training included iterative rounds of coding and discussion, along with refinement of the codebook. Inter-rater reliability was established by requiring all coders to attain a Cohen's kappa of .80 or above with the gold standard coder. To prevent coder drift, Cohen's kappa was calculated with each coder again when they had coded approximately one-third of the interviews, and a final time after coding two-thirds of the interviews.

We conducted a thematic analysis of the transcript excerpts in which the seeking help structural codes or the seeking help SMART strategy code was applied. Thematic analysis

(conducted by ES, AA, and TM) involved identifying themes in the coded excerpts. EA and U.S. groups were analyzed separately and then compared. During thematic analysis, the full team met weekly to discuss interpretation of emerging themes, including similarities and differences between groups. The team meeting discussions were an iterative process in which the team discussed themes at length and came to consensus, including clarifying and refining themes. We also gathered the perspectives of East Asian scholars regarding the identified themes. In what follows, we report how frequently the seek-help strategy response options were endorsed during the think-aloud interviews and present the themes identified, illustrating them with participant quotes.

Results

We first calculated how frequently participants in each group endorsed the seeking help response options during the think-aloud interviews (see Table 3). Each of the four participant groups generally endorsed the PDR seek help response options presented in the interviews.

[Table 3 near here]

Next, we identified five overarching themes related to seeking help in the think-aloud interviews, with one of the themes having two subthemes:

1. People seek advice or consultation from others

2. People seek someone to help solve the problem

3. People seek help by gathering information from others

4. Seeking help from people depends on relationships

5. Additional caveats to seeking help

      5a. Priorities and preferences to seeking help

5b. Alternatives to seeking help

Overall, there were more similarities between the EA and U.S. groups on each of the themes than differences, yet there are some noteworthy differences and nuances (see Table 4).

[Table 4 near here]

1. People seek advice or consultation from others

Both EA and U.S. participants expressed a desire to seek help by soliciting advice or guidance from other people. They described wanting to reach out to peers or colleagues, and to individuals with more experience or authority like a senior colleague or department chair.

> *"I would definitely then reach out to probably one of my colleagues who's been in a similar situation and just ask them, like, "Hey, this has happened to me. I'm not sure why this happened or how this happened, but this is the situation that we're in. Can you give me some guidance as to how to move forward?"* U.S., graduate student, female, Scenario 1

> *"The first thing I would do is go to a trusted colleague here. Somebody that I would consider a mentor. A secure professor just to ask their advice about what I should do."* EA, faculty, male, Scenario 1

Differences and nuances. Sometimes participants expressed a desire to reach out to an individual with regulatory or compliance expertise. Their goal was to talk to someone to better understand rules and regulations of research so they could better understand the situation and determine how to act. U.S. participants appeared more likely to mention this than EA participants.

"Then I think, also, maybe reaching out to whatever agency the protocol was submitted to and asking them, "Can you please walk me through step by step? This is when I submitted the first protocol. This is what I thought happened in the meantime. Can you help me understand better what's happened throughout the process and why?" U.S., graduate student, female, Scenario 1

Relatedly, U.S. participants seemed more comfortable seeking advice or guidance from a wider range of people and from positions of authority than EA participants. EA participants tended to express a preference to seek advice from peers or colleagues and expressed a reluctance to bring in an authority for advice or guidance.

"I don't really see it's necessary to bring in my department chair as a way to side with you or something because it's not necessary. It could be just a misunderstanding from Dr. Tham." EA, faculty, female, Scenario 3

2. People seek someone to help solve the problem

Both EA and U.S. participants described potentially seeking help from someone to help them solve the problem directly, instead of seeking their advice or guidance. This was often someone seen as having authority over the situation, like a journal editor or department chair.

"I think I would tell the journal editor the circumstances and let them make the decision…There's no advice I want. I know what I would want. [Laughter]…I would write a letter to the editor saying that I think this paper potentially has an integrity issue, and I would explain it to them, but I wouldn't do [it] to ask for advice." U.S., faculty, female, Scenario 2

"I think I need to talk with the office…I was taught that if you have such conflict, don't send emails to that person. Directly go to the office." EA, graduate student, female, Scenario 2

Differences and nuances. While both groups were open to going directly to an authority to help solve the problem, participants often desired to resolve the situation themselves by going directly to the person involved in the situation to solve the problem. Some participants reported wanting to discuss the situation with the other person involved first, and to find a solution that resolved the problem quickly. This was more common with EA participants than U.S. participants. EA participants were more likely to investigate whether they can resolve the issue with the other person first, before involving a third party.

"It sounds to me like Dr. Searle will be the corresponding author, right. I will talk to Dr. Searle first. Wait. I feel like I will contact Dr. Searle and my former students at the same time, actually, 'cause they are obviously on the same project. I wouldn't just go straight out and tell them they are doing—this is plagiarism. I'll like to say that I would like to know why I wasn't informed on all the decisions you made during the process." EA, graduate student, male, Scenario 2

"The first thing that you do is to communicate with Dr. Tham [to]…explain the situation. Second, I will talk to Dr. Tham how we teach Dr. Lei and what kind of progress he made through those six months. I can also offer a second chance for Dr. Lei to come to my lab to learn cell culturing." EA, graduate student, female, Scenario 3

3. People seek help by gathering information from others

Participants from both groups described gathering information from others as a form of help seeking. They reported wanting to speak with others to better understand the situation and to help determine their course of action.

> *"I don't know what advice I would seek from the principal other than just to get a sense of what he's dealing with or she's dealing with at the school and try to understand what the concerns are from the school side and the principal side. To, I guess, gather information to know what steps I need to take afterwards.*" EA, faculty, male, Scenario 1

> *"I think the first thing would be to contact Dr. Searle and ask about the situation, say what you suspect happened, ask her about her side of the story, her timeline with the study."* U.S., postdoc, male, Scenario 2

Differences and nuances. U.S. participants described a desire to gather information from people more than EA participants. Additionally, U.S. participants tended to want to communicate with a broader range of people to gather information. In some cases, U.S. participants wanted to gather information from others as a means for verifying their suspicions about the person involved (e.g., because the person may have had bad intentions) and protecting their interests and their career.

> *"I would say the first thing I would do is probably go to my department chair. I know there's departments that protect your ongoing funding projects and whatnot, and so I think I would go directly to them and determine if there was foul play and what the next approach could be."* U.S., postdoc, female, Scenario 2

EA participants tended to want to hear what others involved in the situation were thinking, and why they acted as they did.

"The first thing I would do is to talk to the person or the people who trained Dr. Lei, to get things more clear, how the training was done, whether or not really Dr. Lei's bad [cell] culture was from the bad training that he or she received." EA, graduate student, male, Scenario 3

4. Seeking help from people depends on relationships

Participants from both groups reported that determining whether to ask someone for help depended on their relationship with them. They reported wanting to seek help from people they knew and trusted.

"Yeah, I mean I would definitely talk to the principal if it was somebody I had a relationship with." EA, faculty, male, Scenario 1

"I don't think it's ever wrong to ask for advice if you have a good relationship with them." U.S., postdoc, male, Scenario 3

Differences and nuances. Notably, some EA participants expressed a desire to navigate the difficult situation without hurting their collaborator's reputation. Being concerned about others' reputations suggests that participants want to maintain collaborations, or at the very least want to maintain a non-hostile relationship with the other people involved.

"It might hurt Dr. Searle and the graduate students. Although I think they are not good people, but I'm not sure whether I need to do that. I think that's the issue. That's not the editor's issue. That's something I need to talk with the institution [about] 'cause the editor is only responsible for the quality of the paper." EA, graduate student, female, Scenario 2

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"I don't want to hurt Dr. Searle's reputation. Maybe she didn't do it intentionally. Maybe she's just [does] not know that this is not a right thing or an ethical thing to do." EA, faculty, female, Scenario 2

5. Additional caveats to seeking help

5a. Priorities and preferences for seeking help.

Using the seeking help strategy was nearly universal among participants, but there were some minor caveats. Generally, when the seeking help strategy was rejected during the think-aloud interviews it was it was because the person named in the response option did not seem like the appropriate person to turn to or because seeking help was not the first step or priority.

"I don't really think the editor is really a part of this, so I wouldn't involve the editor." EA, faculty, male, Scenario 2

"I just don't think my department chair would be very relevant. I might talk to some other more senior faculty member in my department who could give me some advice, who has experience with this." U.S., faculty, male, Scenario 3

"I mean, [asking the principal for advice] might be a slight solution, but I don't see it as the main solution…It does not address the key problem, which is to solve the interaction between the graduate student and the high school environment." EA, graduate student, female, Scenario 1

Occasionally, participants did not want to seek help from someone because they did not want to look incompetent.

"I don't know if I would ask my department chair for advice…I know I can deal with—or I should be able to deal with this situation. I don't want him or her to think that I'm not competent enough." U.S., faculty, female, Scenario 3

"I guess there is a risk that [the department chair] would perceive that you didn't handle it well and that it was your fault." U.S., postdoc, male, Scenario 3

Differences and nuances. Some participants described not needing to seek help because of their seniority. Of those, nearly all were U.S. born.

"Now that I'm a senior, I feel like I have had a lot of situations. I feel like I honestly solve it for other people now, but when I was junior, I asked for a lot. After a while, you have seen about everything. All these scenarios, there's some aspect of it that you've already seen in your career. It's not that I don't ask for advice because I asked for a ton when I was junior." U.S., faculty, female, Scenario 3

5b. Alternatives to seeking help.

Both groups indicated the value of gathering information from documents. For example, they mentioned wanting to review prior email communications, protocols, lab manuals, or other documents like formal policies or rules. Participants seemed to interpret this particular information gathering strategy as seeking help, even though it represents an avoidance of seeking help.

"It's probably worth it to gather all of our previous agreements and correspondence with Dr. Searle and any lab notebooks from people in the lab just to get a sense of any understandings or agreements, timelines for when ideas or decisions or things related— just so everyone can be clear." U.S., postdoc, male, Scenario 2

"First, perhaps I would find a communication history, like email or anything or documents that we had before to look in detail if the criteria for a graduate student's presence in the classroom is addressed." EA, graduate student, female, Scenario 1

Differences and nuances. EA participants described a desire to gather information from documents more than they described gathering information from other people. EA participants were particularly concerned about seeking information as a way to confirm that they were understanding the situation and correctly interpreting that a problem was occurring.

"I will try to understand the situation before write any report or letter to the district because I might not understand exactly or can misunderstand some situation." EA, postdoc, male, Scenario 1

"There should be some document to approve the… details of the study that's performed with the high school or with any school…there seems to be a gap on that. It has to be remedied before continue the research… You have to get those documents first, to get approval." EA, graduate student, male, Scenario 1

Discussion

Nearly all EA and U.S. participants endorsed seeking help to some degree as a response to the hypothetical scenarios presented. This suggests that this decision-making strategy is valued and applied by both groups. There were more similarities between EA and U.S. participants in their descriptions of help seeking in the interviews than there were differences. However, the differences and nuances have important implications.

Cultural differences in professional decision-making

Differences between EA and U.S. participants were seen in the type of help they preferred to seek and whom they wanted to seek help from. EA participants were more concerned than U.S. participants with resolving the situation by going directly to the other person involved. They reported wanting to discuss the situation with the other person involved, and to find a solution that resolved the problem quickly. This may relate to another finding, that EA participants were more likely to be concerned with maintaining existing collaborations and making sure that they are not harming their collaborators' reputations. Going directly to the person involved would be a good way to resolve the situation without involving others, as the latter may harm reputations if the involved person is perceived as engaging in wrongdoing or unethical behavior. Maintaining quality interpersonal professional relationships and minimizing reputational harm is a new dimension to the seeking help strategy, such that existing literature on seeking help tends to focus on seeking advice, consultation, advocacy, support, and self-correction (DuBois et al. 2015). In general, these findings point toward the tendency for EA individuals to adopt a collectivistic worldview, which values maintaining interpersonal harmony (Triandis 1995; Markus and Kitayama 1991; Brewer and Chen 2007).

Furthermore, EA participants tended to perceive they were seeking help in the form of gathering information from documentation, including relevant past emails, protocols, regulatory or compliance documents, or other formal policies, more so than U.S. participants. They indicated wanting to understand the situation better to ensure they were correctly interpreting the situation as a problem that requires action. This may be a way of dealing with language barriers, such that reviewing written documentation may help to understand the situation better. Perhaps this desire represents an effort to confirm their understanding of the rules and regulations in place before directly confronting others involved, to help determine a diplomatic approach. Or it

may represent a desire to avoid talking with someone about rules and regulations as doing so could impose on the other person or embarrass them. This might also be related to the sense of insecurity that minority scholars tend to have in the U.S. research environment (Beasley and Fischer 2012). EA participants might be more concerned with others' perceptions of them, thereby affecting their approach to help seeking from others.

EA researchers' preference to seek help in the form of gathering information from documentation is somewhat concerning because gathering information from documents represents an incomplete help-seeking strategy. Participants preferring this strategy are not help-seeking so much as seeking information on their own, and avoiding seeking help. This strategy may be useful in aiding with understanding the situation better, but does not represent seeking help, even though some participants interpreted it as such. Gathering information from documentation is a reasonable first step when confronted with professional challenges, but is often insufficient for solving them. There is a risk that information may be misinterpreted or important information may be overlooked, whereas additionally seeking help from a knowledgeable individual could yield new important information or provide a more accurate and nuanced interpretation of information. Use of SMART strategies has been associated with many positive outcomes (Antes et al. 2016), so it is essential to better understand why EA participants tended to seek help from documentation over people in these instances, and how the seek help strategy can be adequately adapted in a way that feels comfortable for use by EA researchers.

U.S. participants tended to prefer seeking advice or consulting with someone outside of the situation more so than EA participants, often with someone more experienced or in a position of authority. U.S. participants tended to want to gather information from people rather than gather information from documents or materials as EA participants preferred. Furthermore, U.S.

participants tended to seek help from a wider range of people than EA participants. U.S. participants' general tendency to want to talk through their problems demonstrates a tendency toward consultative decision-making, which is a strategy often used when situations are complex and ambiguous (Northouse 2015; Yukl 2013). This approach also demonstrates a tendency toward extraversion, which is in contrast to individuals from East Asia who tend toward lower extraversion (McCrae 2004; McCrae and John 1992; Lucas et al. 2000).

One consideration that emerges from these findings is the role immigration may play in seeking help. Immigration was not a theme that emerged in the interviews and was rarely, if ever, mentioned. However, experiencing the immigration process and a person's immigration status could affect how EA researchers address ethical and professional challenges. For example, immigrating to another country can result in unfamiliarity with the country's culture and norms, fewer social connections, and a relative lack of economic alternatives, all of which may contribute to a person's hesitation to seek help (Yeh and Inose 2003; Yoon, Lee, and Goh 2008; Taylor et al. 2004). However, seeking help from peers or people in positions of authority could help a person navigate difficulties that may arise from immigration. While seeking help and other SMART strategies are not the only solution for addressing structural issues related to immigration, they can be a useful method for addressing such challenges. Future research should more directly examine the relationship between immigration experiences and seeking help.

Implications for RCR education and training

Findings from this study can help inform revisions to educational programs for researchers in the U.S., especially RCR training. RCR training is mandated by numerous academic programs and research agencies and was initially developed in a Western context using Western research rules and norms as a basis (Plemmons and Kalichman 2007; National Science

Foundation 2017; National Institutes of Health 2021; Kalichman 2013). Some RCR programs include ethical or professional decision-making as part of the curriculum, but to our knowledge few explicitly explore how culture affects the interpretation of rules, ethical principles, or decision-making strategies (Mulhearn et al. 2016; Mumford et al. 2008; McIntosh, Antes, and DuBois 2020). These findings can inform revisions to RCR curriculums to be more culturally inclusive, comprehensive, and relevant. They will also be useful in adapting SMART strategies to different cultures to aid in professional decision-making.

RCR trainings could be revised to acknowledge the importance of maintaining good relationships with collaborators and anticipating possible reputational harm to others. In particular, it may be useful for trainees to learn about ways to approach ethical or professional problems so that damage to reputations and relationships is minimized while also communicating assertively to work through conflict or misunderstanding (Plemmons et al. 2020; Parker et al. 2015). Perhaps this means that a first step in solving the problem may not be to seek help from someone who has authority over the other person(s) involved (e.g., department chair) and instead help could first be sought from a peer or someone in a lateral position at the researcher's institution. Revisions to RCR training could also include guidance on how to approach someone in a non-accusatory way to maintain a positive reputation and yield positive outcomes for those involved (Plemmons et al. 2020; Parker et al. 2015). RCR training can also benefit by incorporating discussion to understand and address trainees' hesitancy in seeking help from people, including their sense of insecurity and perceived stigma or "penalty" around help seeking (Feenstra et al. 2020).

The finding that U.S. participants tended to seek help from a wider variety of people may imply RCR trainings can be revised to emphasize that there are a multitude of individuals to seek

help from in any given situation. That is, the seeking help strategy can be presented as a menu of possible sources and individuals to seek help from. This menu might include seeking the advice of a peer, seeking consultation with a regulatory or compliance specialist, or seeking input from the person directly involved to facilitate quick resolution of the problem. Trainings can explain who and what are the most appropriate sources to turn to in different contexts and how to leverage these connections to work together to solve problems.

Importantly, both groups reported that when seeking help from other individuals, their relationship with the person often influenced whether they would seek help from them. For example, some participants reported only seeking help from a particular person if they already had a good relationship. Some participants also questioned whether to seek help from someone who may have stronger ties with the other individuals involved, fearing that loyalties may be stronger among the others involved. These findings suggest that reinforcing researchers' tendency to seek help from people they know and trust could be a good starting point and promote more routine adoption of the help seeking strategy in a way that feels comfortable.

Ultimately, these findings suggest that RCR trainings should include content that reflects and acknowledges the diversity of the scientific workforce. Curriculums could be revised in a way that acknowledges that researchers from different backgrounds operate under different degrees of understanding of the rules and norms of science and professional situations. This type of content can also normalize discussion of cultural considerations and perspectives in research (Byars-Winston et al. 2018). Training researchers to think about the multiple approaches they can take to solving ethical and professional problems, and helping them evaluate which approaches are best for a given situation, will ultimately help support better ethical and professional decision-making in science (Plemmons and Kalichman 2017).

Limitations

This study has certain limitations. The university from which the sample was recruited draws faculty and trainees from around the nation and around the world, but it is possible that institutional culture played a role in shaping participant views. A majority of interview participants (75%) were trainees (e.g., graduate students and postdocs), and it is possible that findings may differ among a more experienced sample. Additionally, participants were sampled from biomedical and biological science fields, and while ethical and professional challenges exist in all disciplines, future research should continue to investigate decision-making among researchers in diverse fields and career stages. Additionally, we focused on researchers born in East Asia and the U.S. This was because a large number of international researchers working in the U.S. are from East Asia (National Science Board 2018; Kent 2011; National Science Foundation 2015; National Foundation for American Policy 2017), and this focus provided a starting point for better understanding cultural differences in professional decision-making in research. Future research should examine cultural differences in professional decision-making among other cultures and in contexts outside of the U.S., including East Asian sub-cultures. It could also examine how the intersectionality of different identities (e.g. gender, career status) within a cultural identity influences the use of help seeking strategies. Finally, the SMART strategy framework was developed by Western researchers, and may be biased toward Western research environments. It may be that researchers from non-Western cultures value using entirely different strategies when faced with ethical challenges. Additionally, there may be norms in non-Western cultures that limit the utility or acceptability of the SMART strategies in these contexts. However, our findings point to at least some perceived value of the SMART strategies by researchers from East Asian cultures.

Conclusion

How researchers approach ethical and professional challenges depends in part on their cultural background. Seeking help is a valued and familiar strategy for approaching such problems for both EA and U.S. researchers, with a few key differences and nuances between groups. Knowledge gained from this research can be used to refine RCR or other training curriculums, especially those focused on ethical or professional decision-making, to better address the diversity of approaches to navigating inevitable professional challenges in the research workplace.

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Table 1. Demographic characteristics of the survey and interview samples

	Screening survey sample (N = 300)		Interview Sample (n = 66)	
	N	%	N	%
Role				
Graduate Student	135	45.0	26	39.4
Postdoc	101	33.7	24	36.4
Faculty	60	20.0	16	24.2
Other	4	1.3	0	0
Gender				
Female	168	56.0	37	56.1
Male	125	41.7	27	40.9
Other/Prefer not to answer	7	2.3	2	3.0
Ethnicity				
Hispanic or Latino/Latina	15	5	2	3
Not Hispanic or Latino/Latina	284	94.7	64	97.0
Prefer not to answer	1	.3	0	0
Race[a]				
American Indian or Alaskan Native	5	1.7	1	1.5
Asian	116	38.7	33	50.0
Black or African American	11	3.7	3	4.5
Native Hawaiian or Pacific Islander	1	.3	0	0
White	177	59.0	29	43.9

Prefer not to answer	3	1	0	0
Origin				
U.S.-born	205	68.3	35	53.0
East Asian-born	95	31.7	31	47.0
China	56	18.7	17	25.8
South Korea	15	5.0	8	12.1
Taiwan	14	4.7	4	6.1
Japan	7	2.3	2	3.0
Hong Kong	3	1.0	0	0
Macau	0	0	0	0
Mongolia	0	0	0	0
Type of Research [a]				
Human subjects: social or behavioral	22	7.3	6	9.1
Human subjects: clinical	62	20.7	11	16.7
Animal subjects	170	56.7	42	63.6
Dry lab	115	38.3	23	34.8
Wet lab	214	71.3	51	77.3
Other	11	3.7	3	4.5
Group				
East Asian, PDR score 15 or 16	21	7.0	15	22.7
East Asian, PDR score ≤12	47	15.6	16	24.2
U.S., PDR score 15 or 16	91	30.3	18	27.3
U.S., PDR score ≤12	37	12.3	17	25.7

Note. The interview sample was a subset of the survey sample. ᵃ Participants could select all

response options that applied.

Table 2. Interview scenarios.

Scenario	Brief summary of the scenario
1	You are a developmental psychologist studying genetics and television violence in elementary school children. Your study involves observing the children in the classroom, and thus your work depends heavily upon having good relationships with the local schools. One of your graduate students wants to extend the research to examine adolescents, and starts gathering data at the local high school. Some high school teachers are not happy with her presence, saying students feel she is a spy. One of the teachers discovers that the district was never asked to extend the study to the high school. The district sends you a letter suspending all of your studies.
2	You study a bird species in Mexico. You observe the species has an unusual mating pattern inconsistent with prevailing theory. Your graduate assistants are working to verify this pattern. You obtain funding for the project and decide to collaborate with Dr. Searle. After visiting Mexico, Dr. Searle does not send the analysis she agreed to conduct. When you ask about this, she replies that she may not want to continue with the project because she is busy. Six months later, you receive a manuscript to review for possible publication in the journal Nature. It is by Dr. Searle and your former graduate students. The data are clearly from your project.

3	You are a biologist collaborating with a top international chemist, Dr. Tham. As part of the collaboration, Dr. Tham sent a post-doctoral fellow, Dr. Lei, to your lab for 6 months to learn the cell culture techniques. Dr. Lei has little background in biology and makes a lot of mistakes that kill the cultured cells. After months of training, Dr. Lei achieved modest success in the cell culturing technique. However, 2 months later you receive a very angry email from Dr. Tham accusing you of not living up to the agreement. He blames you for providing bad training. He asks whether this is your way of trying to protect intellectual property. He copied your department chair on the email.

Note. The scenarios presented to participants contained more detail. Participants were also presented with 6 response options with each scenario, 3 of which represented SMART strategies. They were first presented with the scenario and asked how they would respond if they were in the situation. Then they were presented with each of the 6 response options one by one and asked their thoughts on each.

Table 3. Percentage of seek help PDR response options that were generally endorsed by group in the think-aloud interviews.

PDR score	East Asian	U.S.
PDR score 15 or 16	88%	87%
PDR score ≤12	84%	86%

Note. Numbers in the table represent the percentage of each group who generally endorsed the PDR seek help response options presented during the think-aloud interviews. For example, of all the excerpts focused on a seeking help response option, the East Asian PDR score 15 or 16 group generally endorsed 88% of them.

Table 4. Summary of themes and differences between EA and U.S. participants.

Theme	Description of theme	Key differences and nuances between EA and U.S. groups
1. People seek advice or consultation from others	Seeking help by getting advice or guidance from other people.	U.S. participants tended to seek advice or guidance from a wider range of people. For example, seeking the advice of someone with more experience, in a position of power, or with regulatory or compliance experience. EA participants tended to seek advice or guidance from colleagues or peers.
2. People seek someone to help solve the problem	Seeking help in the form of someone to help solve the problem directly.	EA participants tended to want to resolve the situation themselves by speaking directly to the person(s) involved in the situation, instead of involving others outside the situation to intervene or provide advice.

3. People seek help by gathering information from others	Seeking help by gathering information from others to help understand the situation.	U.S. participants favored wanting to gather information from people, and in some cases to verify whether the other individuals involved had bad intentions by consulting with someone outside the situation. EA participants tended to want to hear what others involved in the situation were thinking, and why they acted as they did.
4. Seeking help from people depends on relationships	Seeking help from someone depends on their relationship with them. Participants wanted to seek help from people they knew and trusted.	EA participants tended to be concerned about harming collaborators' reputations, and maintaining good relationships with collaborators.
5. Additional caveats to seeking help		

5a. Priorities and preferences for seeking help	Nearly all participants identified seeking help as a means of addressing the challenge, but there were some additional minor caveats. Some of these included priorities and preferences for seeking help, such as the person named in the response option not seeming like an appropriate person to seek help from, that seeking help would not be the first step or a priority, or that they did not want to look incompetent by seeking help.	Occasionally, U.S. participants thought they did not need to seek help due to their own seniority and experience.
5b. Alternatives to seeking help	Some participants interpreted seeking help as gathering information from documentation. This might be from prior email communications, protocols, lab manuals, or other documents like formal policies or rules.	EA participants favored wanting to gather information from documents over people, particularly to confirm whether or not a problem was occurring.

Note. EA = participants born in East Asia (defined as China, Hong Kong, Japan, Macau, Mongolia, South Korea, or Taiwan). U.S.= participants born in the United States.