Influences on the Career Transitions of Female Postdoctoral Scholars
NPA ADVANCE FOCUS GROUP FINDINGS
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NPA ADVANCE staff held a series of four focus groups with current and former postdoc women in September and October 2010. The goal of the focus groups was to examine the factors influencing the career choices of female postdoctoral scholars (postdocs) in order to learn more about potential strategies that could help them continue an academic research career. The discussions focused on aspects of postdoctoral training that could be beneficial for their careers as well as other aspects of “life” as a postdoc, such as family and visa requirements, that are significant factors in their career decisions. Participants shared success stories, highlighting institutional and individual practices they felt were beneficial, as well as illustrated a number of challenges they face in continuing their academic careers, many of which follow from structural aspects of the postdoctoral position. Some of these challenges were specific to so-called international postdocs, non-citizens who did their postdoctoral work in the United States on temporary visas and have continued to comprise the majority of the U.S. postdoctoral workforce.

I. Participants
Four focus groups were held in total, each having a slightly different, but complementary, demographic selection of participants. All participants were selected to be women and to have been a postdoctoral scholar at some point in their career. Additional selection characteristics resulted in three primary groups of individuals: (1) former postdoc women who were recipients of NSF’s ADVANCE fellowship in 2002 and 2003 (hereafter called ADVANCE Fellows, and assigned to Focus Group #1); (2) former postdoc women who worked in the U.S. on a temporary visa during one or more of their postdoc positions (hereafter called Internationals, and assigned to Focus Groups #2A & #2B); and (3) current postdoc women in the social, behavioral and economic (SBE) sciences (hereafter called SBE postdocs, and assigned to Focus Group #3).

Participants were recruited via e-mail after a nomination procedure that varied by group. ADVANCE Fellows were nominated by virtue of being in the publicly-available NSF award database. Internationals were nominated by individuals in the postdoctoral community. SBE postdocs were self-nominated during the online registration process for a workshop on postdoctoral diversity in the SBE sciences. Participant selection was conducted via an online screening survey that determined eligibility for one of the focus groups. Following the screening survey, we had enough eligible participants among the Internationals that we held two of the four focus groups with these women. The full selection and recruitment procedure for the focus groups is described in Appendix A: Final Focus Group Protocol.

Across all focus groups, we had a total of 54 participants: 12 ADVANCE Fellows, 31 Internationals split evenly between two focus groups, and 11 SBE postdocs. They
covered a range of disciplines, from anthropology to physics to neurology, and a range of current careers, from current postdoc to tenured associate professor to science policy analyst. Consistent with the predominance of the biomedical sciences among the nationwide postdoctoral population, the most represented discipline was biomedical science (primarily in the Internationals group). A majority of participants were partnered or married during their postdoctoral experience and approximately a third had children, roughly matching the statistics in the general postdoctoral population. Internationals hailed from a range of countries of citizenship during their postdocs, primarily from Europe and Asia, and most were still living in the United States. A little less than half of the Internationals who joined the focus group calls were calling in from abroad. For a detailed description of demographics of the eligible participants, see Appendix B: Screening Survey Results.

II. Focus Group Procedure

Three focus groups, Focus Groups #1, #2A, and #2B, were conducted remotely via teleconference and Web forum: Focus Groups #1 on September 29, 2010, and #2A and #2B on September 20, 2010. The final focus group, Focus Group #3, was conducted in-person on October 29, 2010, in a conference room at the National Science Foundation (NSF).

All participants were asked during the initial screening survey and during the focus group discussion to reflect on their postdoctoral training and how it prepared them to get their next job. They were also asked to reflect on how their family situation, and in the case of the former international postdocs, also their visa situation, influenced their career decisions. The discussions were moderated, recorded and transcribed. Participant identities and responses were kept confidential, and, following initial eligibility determination, all collected data were de-identified prior to analysis. The full protocol for the focus groups, including the screening surveys, initial discussion questions and privacy policy, is attached in Appendix A: Final Focus Group Protocol. Based on the lack of risk involved in the discussion topics, the protocol was determined to qualify for IRB exemption by the Western Institutional Review Board (wirb.com).

III. Key Findings

The primary themes that emerged from the ADVANCE Focus Groups were:

- **For most participants, family influenced their career decisions.** Family concerns loomed large for these women, primarily due to “dual-career” issues with their spouses or partners (herein, “partners” will be used to refer to both spouses and unmarried partners) and secondarily due to children. The vast majority of respondents indicated during the screening survey that their family situation influenced their

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career decisions. The most common concerns were geographic constraints on their careers, as participants felt they needed to find jobs within proximity to their partners’ jobs or to other family, thereby limiting their search to a certain region or institution. There was also concern about not moving older children who were in school and needing to be near a partner or family when rearing small children.

- Fewer participants had children than were partnered, and so it is likely that fewer participants had already experienced issues related to children than those related to partners. A few mentioned concerns related to future plans to have children. One participant noted that her experience as a postdoc gave her the impression that it would be difficult to raise children and be successful in academia and so this led to her decision to leave the academic track.
  - "...being in a postdoc situation actually made me realize that I didn't want to pursue a tenure track position because it was going to prevent me from living where I wanted to live and living with, you know, who and how many children I wanted to live with."

- **International postdoc women have additional family-related career constraints.** Many of these women had more extreme geographical constraints on their career mobility compared with domestic postdocs as well as complications due to visa issues.

  - International women noted that their family-related geographic constraints often involved decisions on returning to their home country, as their partners or extended family may still reside there. For example, one participant noted that when she took a postdoc in the U.S., her husband stayed in their home country. So, ultimately she moved back in order to be with him. Others returned to their home countries because they wanted to be near their relatives, either for their children’s sake or to care for those relatives.
    - "Whether you can continue on living and working overseas or if family demands (old parents, sick parents etc.) will interrupt or influence your decision to stay in the US."

  - For those who stayed in the United States, their visas created a range of challenges.
    - International postdoc women whose partners came to the United States with them noted certain tradeoffs in their choice of visa that ultimately impacted their careers. While many Internationals noted that the H1-B visa gave greater flexibility for getting a job after the postdoc, the associated H-4 dependent visa does not allow its holder to work. Therefore, several noted that they chose the J-1 visa, because the accompanying J-2 dependent visa does allow its holder to work and “help support the family.”
    - Some Internationals noted additional geographic constraints on their job searches due to their visa status. Some had to stay in one place during
permanent residency processing which for some took years. Some had experienced limits on the region where they could job search because of their H1-B visa requirements. Others had to abandon their U.S. job search and return to their home country due to visa expiration or to specific return clauses in their visas.

- “And why I took the job was basically I am married with a husband and he has a very good job. And this was the only postdoctoral position here at the time, and I was bound to having an H1 visa somewhere in this area. And that was the main reason I took the job, because nobody else would hire me as a foreigner.”

- **Finances were a major source of secondary concern.** Family formation often created additional financial hardships for participants that were hard to manage on a postdoc salary (e.g. childcare costs, mortgages, “supporting the family”). For some participants, their low postdoc salary made them feel that they had less influence or “say” in family decisions to relocate for the sake of their postdoc, thereby limiting their job mobility. Finances were also mentioned as an additional burden for international postdocs, since immigration processing is extremely expensive.
  
  - “My husband was making a lot more money than I was making as a postdoc and we had a young child while I was doing my postdoc. And so it just didn't make any sense for me, for practical reasons and financial reasons, to kind of venture out. ...and with the postdoc current NIH pay scales it's just impossible for like a female postdoc to take a stand saying that, no, I want to run the family and let's move and do what I want to do.”
  
  - Finances were a particular concern for those with childcare costs, such that almost every time a participant mentioned childcare she also mentioned the expense of it.
    
    - “Child care is a huge thing because when you're a postdoc you're busy juggling zero money, and I happen to live in a place where it costs an arm and a leg to find a roof over your head.”

- **Participants struggled with the “postdoc clock.” namely the unspecified, but limited amount of time one should be a postdoc.** Many participants expressed concern about the short-term nature of the postdoc, worrying about being a postdoc for “too long” or how to start a family during this short, undefined period. Despite the uncertainty in the postdoc clock, participants seemed to have a good notion of how long was “too long.” Some of the reasons noted for being a postdoc “too long” were: having children, visas, green card waiting periods, and finances. Some talked about exceeding their institution’s limit on the total amount of time one could be a postdoc, and having to transition to an ill-defined “research associate” position, to stay at the same institution.
  
  - “Yes, bcoz [sic] of my son I chose to stay as a postdoc for a lot longer than I would have liked”
Some participants suggested that lengthening the postdoc training period would help with childbearing during that time. However, this reasoning was what led some participants to have been a postdoc “too long.” The real issue is that academic research culture would need to change such that extending the postdoc period for family issues is not viewed negatively.

- **Participants often felt a lack of status at their institutions.** A common concern for participants was the feeling of being in “limbo” or having a lack of clear status, where postdocs fall in the ill-defined grey area between students and faculty. While this concern clearly has practical implications for institutional support structures, in many cases it also had more personal implications, such as fostering feelings of isolation, feeling undervalued, and lacking confidence. A number of participants expressed this feeling of uncertainty, some with regard to their status during their postdoc and others during subsequent non-tenure track career positions, with such titles as “senior postdoc” or “research associate.” This lack of status was commonly described as being in a “gray area” or “limbo,” and led participants to feel undervalued and underserved by their institutions.

  - “[As a research associate,] I'm actually in that uncomfortable position for me, because even in meetings, I don't know how to introduce myself.”
  - “[I was] starting a little bit in nobody's land, right? I mean I was nobody's responsibility any longer really. I was sufficiently grown up and all the practical attention is given mainly to the students and to the faculty members. It seems like that postdocs are like these temporary people in the university and nobody really cares how they feel, right?”

- **The lack of status issue was particularly resonant for the group of current postdocs in the SBE sciences.** SBE postdocs had compounded isolation issues as the number of postdocs in these fields is small and many institutions are just learning what SBE postdocs are and how to serve them. Some participants were the first postdoc to work with their postdoctoral supervisor (herein, typically called their PI), and several noted that they were sometimes treated like students, asked to do menial work or to take classes. This led to participants questioning their identities and the relative respect they receive from the faculty.

  - “To me it's not so much that they’re not mentoring me but as a colleague in the discipline, they're not ...fully recognizing my work. And so I almost feel like it's a commentary on my research and my contributions to the discipline...I am not part of the club.”
  - “Should we be acting more like graduate students or are we closer to faculty members ... sort of, which lunch table to sit at when you walk into the cafeteria. So I think that sort of plays into the confidence issue as well.”

- **Mentoring and networking were among most beneficial aspects of postdoc training.** The top aspects of postdoctoral training that they felt were beneficial were: enhanced scientific skills and knowledge, mentoring, networking and other professional development, like grant writing skills and transitioning to independence.
• **Effort spent on professional development was seen as conflicting with effort on research.** The notion that academic researchers should spend all of their time on research continues to conflict with best practice ideas, even in the view of postdocs. For example, several participants noted that mentoring takes time away from research and that postdocs should not write grants or participate in professional development because they should be working instead.
  
  o “I'm not as positive about the formal mentoring things unless it's very restricted, limited time-wise because when you’re a postdoc, in the sciences anyway, that is the time when you should be getting as much research done as you can and writing as many papers as you can, trying to get other grants.”

• **Postdoc supervisors, often called “PI”s, serve as postdocs’ primary mentors.** Mentoring issues are invariably intertwined with supervisor, or “PI,” issues. In fact, in almost every discussion about mentoring, the word “mentor” typically was used interchangeably with the word “PI.” This was independent of whether that PI was considered to be a good or bad mentor.

• **Lab or group culture was regarded as more important than institutional policy.** With respect to creating a family-friendly environment, participants emphasized the importance of culture over policy for postdocs, since postdocs often work according to more informal norms established at the lab or group level as opposed to the institutional level.
  
  o “But having a postdoc mentor who is supportive of, you know, needing to be home with a sick child or being able to rearrange your schedule to accommodate, you know, daycare hours...is more of a lab by lab, mentor by mentor type of arrangement, rather than an institutional type of thing, especially at the postdoc level.”

  o “…how easy it is to handle the rest of your life, especially when you're a postdoc, will depend on the culture of your lab more than the culture of the institution itself. I mean, yes, the institution can provide child care and things like that, but they're not going to do your laundry for you.”

• **Nevertheless, postdocs continued to do what they had to do in order to succeed.**
  
  o “I was in full labor on the phone doing an interview. ... We're dual career. We were both on the market, we didn't have a job. And we had to do it. And the first three weeks of [my son’s] life we were all on computers preparing job talks. As soon as he was born we were getting calls at the hospital...That was insane.”

  o One woman had lived apart from her family for 7 years: “I simply realized that I have to choose. It will be either the career or it will be the family and unless I choose the career, I will not have a career no matter what.”

  o A number of participants described the need to be flexible in their career path in order to continue doing research: “I echo the sentiments that some of the women have said, that I thought my academic career was basically dead. And so I kept kind of downshifting as I moved through, you know, different career paths.”
IV. Additional Themes

DUAL CAREER

- **Dual-career challenges are different when the partners are not both in academia.** Sometimes this situation was described as an advantage, as the non-academic job offered more stability and possibly a better salary. But there were also disadvantages, as for example, there are few incentives for either employer to help the partner get a job.
  
  - “But if you have two spouses with these kind[s] of professional jobs like my husband [a surgeon] and myself, I mean, my institution can't get him a job and his group doesn't care whether or not I have a job. So, you know, there's not a lot of recourse in terms of infrastructure.”

- **Some participants had taken a postdoc or had remained in a postdoc for longer in order to accommodate family concerns.** For example, SBE scientists do not all do postdocs, but for one participant, taking a postdoc was a way to have more flexibility to move with her family.

- **Many participants who had experienced dual-career constraints during their job search had found themselves to be the trailing spouse, i.e. the one who followed her partner to his or her job.** In some cases, participants speculated that this was because of their status as primary caregiver for their children, as many expressed the desire to keep the family together. One participant stressed that her decisions were more complicated than merely geographic constraints, as keeping the family together entailed a number of financial- and childrearing-related issues. Similarly, some participants expressed some mild embarrassment over being the trailing partner, such as one participant who described how she felt she had to lie to her advisor about only applying for jobs near her partner instead of applying everywhere.

CHILDREN

- **Since postdocs with families and children often have less flexibility to move, to travel or to spend as much time in the lab, there was a sense from some participants that they were therefore less competitive than those without these constraints.** Some participants expressed a feeling of isolation because they had children and felt that they couldn’t be as “visible” or “aggressive” as those without children.
  
  - “I felt abandoned during my postdoctoral years, especially when raising kids...I was feeling very, very isolated.”

  - “So I am basically a single mother during the week, right? So because of the ... constraint of this, I believe I was not involved in the most visible projects and I
was a little bit left on my own in the institution in the years that were most crucial for me. And so it was - I was feeling a little bit lonely...

- Some participants noted that seeing positive female role models, who successfully balanced work and children, encouraged them to stay in academia. Similarly, those who noted that they could not find such models therefore considered leaving.
  - “...she’s accomplished so much and with two little children so I think when she can do it and then I should be able to do it too.”

- The gender-loaded notion that everyone needs a “wife” was mentioned, namely that a busy professional can have need of assistance with other aspects of life, like childcare or laundry. The idea was mentioned somewhat jokingly but also somewhat seriously, with participants lamenting that women often do not have such “wives” while men do. The availability of such assistance seemed also to depend on finances and research group culture. For example, while senior women may be able to afford a nanny, postdoc women cannot. In other cases, postdoc women may need to rely upon their colleagues and thus their colleagues’ attitudes towards such assistance.

TIMING/POSTDOC CLOCK
- There was some discussion of how family planning is difficult with the short-term nature of the postdoc. One participant noted never getting around to having kids because she delayed too long. Another noted that she was teaching as an adjunct and every time she got pregnant, the institution wouldn't re-hire her. Another participant, currently a postdoc, wondered about when the “best” time would be, and that, if the postdoc is the best time, then she was running out of time.
  - “You know having a baby during grad school, maybe not the best idea. Having your baby while you’re tenure track, maybe not the best idea. So does that mean that I have to get pregnant right now because my postdoc is 24 months long and that's it?”

- Having children and other 'delays' can interfere with your eligibility for early-career awards.
  - “So you're always stuck between a rock and a hard place and you just - it doesn't happen.”

LACK OF STATUS
- During three of the four focus groups this lack of status issue came up.
  - The session that talked the most of status issues was the one with former ADVANCE Fellows. This seems to have been a particular issue for this group
when taking their ADVANCE Fellowships. Each institution seemed to treat them differently, some more like faculty with soft money, and others like postdocs with independent fellowships. Therefore, many of them had dealt with the status issue, or lack thereof.

- Curiously one of the two international focus groups (#2B) didn't discuss lack of status issues at all, although that group had a larger focus on visa problems and fixing the visa system -- so it may just not have come up. As mentioned previously, the lack of status issue was particularly resonant for the SBE postdocs.

**Participants noted certain practical issues resulting from a lack of status:**

- Being neither student nor faculty, some participants felt that their institution felt less responsibility towards them.

- Not knowing where you stand also lead to questions of how “good” you need to be as a postdoc in order to get the next job, namely should your publication record be closer to a student's or a faculty member's? This was only mentioned by the SBE current postdocs, and is a particular problem for this discipline since it is still common to get a faculty job without doing a postdoc.

- Lack of status also has implications for those who stay at the same institution, for whatever reason, as they may always be viewed as a postdoc and therefore not have the same opportunities for advancement.
  - “…actually you have to leave the university you are at as a postdoc to move up in your line. Otherwise, you're always seen as the postdoc.”

MENTORING

- Several participants pointed out that their PI mentors were better at helping those who helped themselves. Also, postdocs sometimes need to be proactive to get the mentoring they need.

  - “I made it clear to my professor that I would be writing grants and I am looking for eventually the assistant professor position. So I felt that it helped, because in the beginning he was very clear that I would be writing grants. I would be working to make myself independent. And now when I see, because he has a really big lab, there are people who just joined as, you know, postdocs - just to get a job. And those are the people who are not being helped in writing grants.”

- Several participants talked about a potential downside of mentoring: the perception that being mentored was “asking for help,” “exposing weakness” or being seen as less independent. Could there be a fundamental conflict here for women in particular? Is mentoring helpful or “hand holding”? Could this suggest that the PI can never be the best mentor for the postdoc, since the PI is the boss and therefore responsible for evaluating the postdoc?
“...in terms of mentoring, every once in a while I feel like I would like a little more hand holding but then I am like, I shouldn't ask for hand holding”

- Another issue that came up a few times for the international postdocs was the possibility of competition with the PI and how this can limit opportunities. Several felt that their PI thought of them as competition for some grants. These individuals seemed to perceive a very adversarial relationship with their PIs.

POSTDOCTORAL TRAINING AND PROFESSIONAL DEVELOPMENT
- An interesting contrast between current and former postdocs was their opinion of the aspects of their postdoctoral training that were most beneficial for getting the next job, specifically publications. The most common response on the screening surveys for all groups was enhancing scientific skills and knowledge. The second most common response for the current SBE postdocs, however, was publications (almost half of them mentioned it). In contrast, very few former postdocs mentioned publications. Would this suggest that the other aspects are more lasting for career advancement? Or, could former postdocs have been focused on the more “value added” aspects of postdoc training, taking publications as a given?

  During the focus group discussions, a couple of participants mentioned the importance of publications, emphasizing its importance above grant writing, but this notion was not discussed a lot. (“...if you are a postdoc your main work is to get publications out. Publish, publish, publish - do your research.”)

- Participants had experienced a number of practices they thought were beneficial.
  - Professional society professional development programs.
  - Institutional professional development programs. Participants often spoke about these in general terms.
  - Grant writing experience (usually informal or closely mentored).
  - Career plans.
  - Information sessions on visas and benefits.
  - Informal mentoring and networking opportunities from PI.
  - Finding multiple mentors outside of the PI and also outside the institution.
  - Independent fellowships to help women advance their careers, specifically beyond an interruption, like the ADVANCE fellowships, or that are available to international postdocs.
  - Networking and job search services for partners.
  - Paid maternity leave of 6 weeks or more.
V. Conclusions

The participants in our focus groups had experienced a number of common concerns and challenges regarding balancing work and family that are similar for women at many career stages. However, many structural aspects specific to the postdoctoral position made these challenges more complicated for these women. These structural aspects, many of which are interrelated, included: the temporary nature of postdoctoral positions; the duration of postdoctoral training; the relative isolation and lack of status of postdocs who have closer ties to their research group or supervisor than to the institution at large; and the typically low salaries. Another distinct challenge for postdoc women is the fact that most are international and so face additional constraints on their work-family balance due to immigration issues.

Participants had already experienced a number of practices that had helped them advance their careers. These came from their institutions, professional societies, supervisors, mentors and colleagues. A continuing challenge will be encouraging participation in these promising practices, such as training-related programs and mentoring, that for many are still viewed as taking time away from core research activities.

As postdoctoral training becomes a more common career step in many disciplines, and the length of postdoctoral training increases, family formation and its inherent challenges will increasingly occur during the postdoc years. Therefore, all stakeholders in the postdoctoral community will need to address these challenges in order to retain these women in academia.
APPENDIX A: Final Focus Group Protocol

Study Title: Influences on the Career Transitions of Female Postdoctoral Scholars
Principal Investigator: Cathee Johnson Phillips, Executive Director, National Postdoctoral Association

Focus Group Summary: We held a total of four focus groups with women who were formerly postdoctoral scholars (postdocs). Three of these focus groups were held remotely, and one was held in-person. Participants consisted of three primary groups: (1) The first group participated in Focus Group #1 and consisted of former postdoc women who were U.S. citizens and had previously held at least one postdoctoral position in the U.S.; (2) The second group of participants was split between two Focus Groups, #2A and #2B, and consisted of former postdoc women who were non-U.S. citizen temporary visa holders during their postdoctoral position(s); and (3) The final group participated in Focus Group #3 and consisted of current postdoc women primarily in the social, behavioral and economic sciences (SBE). Participants in the focus groups were first screened for eligibility with a short, online survey.

Focus Group Objective: The objective of the focus groups is to learn about the career choices of female postdoctoral scholars as they moved to their next career step and any lessons learned that could aid them in making the transition to an academic career. In particular we are interested in learning about the factors that influenced their career decisions during and following their postdoctoral appointment, especially those factors relating to their decision to remain (or not to remain) in academia. (See draft research questions in Attachment A.1)

Project Staff: Staff for this project will consist of Principal Investigator (PI), Cathee Johnson Phillips, National Postdoctoral Association (NPA) Executive Director, and the Study Coordinator, Kathleen Flint, NPA Project Manager. The moderator for the remote focus groups was Elizabeth Keene Alton, President of Keene Solutions consulting. Dr. Flint moderated the in-person focus group, Focus Group #3.

Participants: Participants are women who have held at least one postdoctoral research position within the last ten years. All focus groups had the same aim; however, participants for Focus Group #3 were selected to be current postdocs and participants for Focus Groups #1, #2A, and #2B were selected to have since moved on to their next non-postdoc position(s).

Focus Group #1 participants consist of past recipients of a National Science Foundation (NSF) fellowship for women scientists, called NSF ADVANCE Fellows. We are interested in those fellowship recipients who were postdocs at the time of award (approximately half of 61 Fellows awards made in 2001 and 2003). These participants are assumed to have been U.S. citizens or permanent residents at that time due to the NSF citizenship requirements for these awards.
Participants for Focus Groups #2A and #2B also consist of women who have held a postdoctoral position within the last ten years, but these individuals are also selected for having been non-U.S. citizens and temporary visa holders at the time of their postdocs. Since approximately half of all postdoc women in the United States are temporary visa holders\(^1\) it is important for us to include the experiences of international postdocs in our study. Holding a second, separate focus group with these individuals will allow us to examine how the concerns of international postdoc women might differ from domestic postdoc women without the need for participants to identify their immigration status during the teleconference.

The final group of participants for Focus Group #3 complements the others, as they were selected to be current postdoctoral scholars in the SBE sciences. These participants were drawn from among the female postdoctoral invitees to a workshop on “Let’s Talk! Expanding Dialogue in the Postdoctoral Community towards Broadening Participation in the Social, Behavioral, and Economic (SBE) Sciences” hosted at the National Science Foundation (NSF). Workshop invitees were primarily holders of NSF’s SBE Minority Postdoctoral Research Fellowship. The disciplinary focus of this group complements the other focus groups, which – like the national postdoctoral population – have limited representation from the SBE fields.

**Participant Selection and Recruitment:** ADVANCE Fellow awardees for the first focus group were selected from the NSF online award database based on their award title or award code corresponding to the ADVANCE Fellow program. Although additional online research was conducted on each awardee to identify current contact information and any publicly available biographical information that might reveal their Ph.D. date and/or postdoc status at the time of the award, we did not have full *a priori* information on all Fellows as to their former postdoc status. All potential focus group participants were individually contacted via e-mail to ask whether they would be interested in participating in the focus group, and they were asked to complete a short online screening survey to determine their eligibility. The screening survey was important for identifying those approximately thirty postdoctoral recipients of this award out of the 63 total awardees we have identified.

International former postdocs for Focus Groups #2A and #2B were identified through nominations from members of the postdoctoral community, primarily administrative leaders of university and medical center offices of postdoctoral affairs. An e-mail inviting nominations of former international postdoc women was sent out to three listservs: representatives from the NPA’s sustaining member institutions, ADVANCE program participants, and AAAS Fellows. Nominees were contacted individually with an e-mail indicating that they had been nominated and by whom, and asking them to take the online screening survey to determine their eligibility.

The SBE postdocs for the final focus group were identified during the online registration process for the NSF workshop. Workshop invitees were primarily holders of NSF’s SBE

\(^1\) 45% of female respondents are visa holders, according to the Sigma Xi National Postdoc Survey (postdoc.sigmaxi.org) accessed May 2010
Minority Postdoctoral Research Fellowship and their faculty mentors. Additional invitees consisted of other members of the SBE postdoctoral community, including professional society representatives and postdoctoral fellows with other sources of funding. Workshop registrants were asked about their potential interest in the focus group during the registration process. Those interested who also indicated that they were women and postdocs were invited to take the screening survey.

The screening surveys were administered via the online survey tool surveymonkey.com, and only the study coordinator has had access to the survey account and to the stored raw data. The screening surveys (see Attachment A.2) asked participants if they were a female postdoctoral scholar within the last ten years as well as a few additional general questions about their family status and career path, such as how many total postdoc positions they have held, the job sector of their first position following their postdoc(s), and whether they were married, partnered or have children. The three screening surveys for the three recruitment groups, ADVANCE Fellows, Internationals and SBE postdocs, were almost identical, but each included slightly different eligibility questions based on the group. The international survey asked about visa status and country of origin. The ADVANCE Fellows survey asked about some additional questions about the basis of their eligibility for the ADVANCE fellowship and its impact on their career. The screening survey for the SBE postdocs was adapted to ask about their current postdoctoral experience and omitted any questions about jobs following the postdoc. A respondent’s status as a woman and as a current or former postdoc, and her citizenship status during the postdoc determined her eligibility for one of the focus groups, and she was contacted based on this eligibility with an invitation to participate in one of the focus groups. After eligibility had been determined, the study coordinator removed all identifying information from the screening responses, and aggregated the data in order to generally characterize the participant groups. Only the study coordinator has had access to the individual survey responses, and these were not linked to the responses during the focus groups in any way.

Since all participants were selected based on their position as a postdoc at any U.S. research institution at any time, we anticipated that they would be broadly distributed geographically across the nation. Similarly, we expected that the international participants would be broadly representative of the disciplinary distribution in the national postdoctoral population, with its majority in the biomedical sciences.

Remote Focus Group Procedure: The remote focus groups took place via teleconference and were complemented with an interactive Web-based forum through which participants could see slides on the current topic of discussion and provide additional responses and questions via the online chat window. Invited participants were not identified during the call and logged on to the online forum via a confidential identifier selected by (and known only to) the participant. Each call lasted approximately 90 minutes, and was also attended by the PI, study coordinator, and a professional focus group moderator, who moderated the discussion. The discussion topics were generally based on the initial questions listed in Attachment A.3, which built upon the themes that
emerged from the initial screening survey. However, the actual discussion was much more organic and was allowed to flow from participants’ responses.

For the Web-based forum we used Cisco’s webex.com, which is an online meeting tool that provides a common on-screen environment for logged-in participants. Through this tool participants could see any presentation materials or comments shared by the moderator as well as contribute to the discussion by typing in the chat window. The online meeting room was password protected with a common password provided to all participants in their recruitment e-mail. Focus group participants were directed to the online forum by clicking on a Web link in their recruitment e-mail. On the meeting Web page they were asked to enter the focus group password and a login name. Participants were instructed in their recruitment e-mail to select and use a non-identifying, dummy login name that was only known to them. Once logged in, they could see any materials shared by the moderator and were able to type in the chat window to share comments or questions either with the whole group or privately with the moderator only. Only the meeting hosts (project staff and moderator) were able to see a list of logged in participants’ login names. A participant’s typed comments/questions were attributed on-screen to her selected login name; however, since all participants were logged in using coded login names, their comments will not be identifiable to the moderator, project staff or to each other during the focus group. The moderator also emphasized to participants that they should not identify themselves by name or inference during the discussion.

The verbal discussion was recorded by the teleconferencing software, hosted by PGi.com, and transcribed by teleconference staff. The webex forum software automatically provided a transcript of any typed comments submitted online during the discussion. Project staff de-identified the saved transcripts, where needed, in accordance with HIPAA Privacy rule 45 CFR 164.514(b).

In-Person Focus Group Procedure: The in-person focus group took place in a conference room at the National Science Foundation immediately preceding the “Let’s Talk!” workshop on October 29, 2010. It was attended by: eligible participants; the study coordinator, Dr. Flint, who also served as the moderator; the project evaluator, Dr. Laura Kramer of Laura Kramer Consulting; and NPA Administrative Assistant, Hayya Lee. The focus group lasted approximately one hour. Participants introduced themselves during the discussion in order to facilitate their networking for the remainder of the day’s workshop; however, all were instructed that the discussion should remain confidential. The discussion was recorded by Dr. Flint via microcassette recorder and transcribed by Flynn Stenography & Transcription Service in Riverhead, NY. Dr. Flint further de-identified the final transcript, where needed.

Participant Confidentiality & Consent: All participants were advised that their individual identifying information would be kept private and confidential throughout the study. This was explained in an informed consent form (see Attachment A.4) that was provided to participants at the outset of the online screening survey, as well as in an online privacy policy (see Attachment A.5) to which participants were directed. The form informed participants that the study involved research, what the research procedures
were, and that the research was voluntary. It also provided the participant with information about whom to contact with questions, with information that the research involved interactions with participants, and that the circumstances of consent minimized coercion and undue influence. The participant was notified that proceeding with the survey, by clicking “Yes” to the consent form, was construed as her understanding and agreeing to the items laid forth in the form.

Since the responses to the screening survey were used to determine participant eligibility for the focus groups, the raw data included the names of the respondents. However, these data were only accessible to the study coordinator who used them to confirm participants’ eligibility. Once this was determined, she removed the identifiers and used the de-identified responses for the analysis. Moreover, after screening, the de-identified survey responses were only used in the aggregate, and individual responses were not linked to any responses during the focus groups.

Data collected during the focus groups were recorded without names or other real identifiers, and individual responses were de-identified, as needed, in accordance with HIPAA Privacy rule 45 CFR 164.514(b). Since remote participants did not identify themselves verbally on the teleconference and logged in to the webex online forum software using a coded login name, their identity during the discussion was known only to them. The coded login names entered into the Web site were stored securely by the software for only three months following the focus group and were accessible only by project staff; however, there should be no obvious correspondence of these coded identifiers with participants’ identities.

**Minimal Risk to Participants:** The risk to participants from participating in the focus groups was minimal. Participants might have felt some psychological risk when answering questions about their career choices or opinions about their postdoctoral experience. The key perceived risk was that their opinions/answers would be identifiable and thus could have a negative impact on their career. Some aspects of a former postdoc’s career choices could be considered sensitive, especially with regard to external influences on those choices such as her postdoctoral advisor, family status, visa/immigration status or institution. However, the situations about which they will be questioned are primarily past events and have little likelihood of directly impacting their current financial standing, employability, or reputation if participant confidentiality were compromised. These risks are more significant for current postdocs; however, the topics of discussion did not constitute a significant threat. These risks were further minimized by our confidentiality procedures for de-identifying the focus group responses, the geographic dispersion of participants, and in the case of the remote participants, the coded identifiers used for logging in to webex and the use of teleconference as the primary venue for interaction. Little discomfort or inconvenience for participants is anticipated, because the Web-based survey and remote focus group procedure will allow remote participants to answer questions from wherever they choose.
Based on these minimal risks, this study has been deemed by the Western Institutional Review Board to qualify for Institutional Review Board (IRB) exemption. The letter detailing this exemption is included in Attachment A.6.
ATTACHMENT A.1: Draft Research Questions

1. What are the primary challenges or obstacles facing postdoc women during their postdoctoral training and search for their first non-training position?
2. What are the primary challenges or obstacles postdoc women perceive as hindering their pursuit of their first non-training position?
3. What are the factors involved in postdoc women’s decisions to pursue or not to pursue an academic faculty position?
4. What impact does an independently funded fellowship like the ADVANCE Fellows award have on obtaining one’s first non-training position?
5. What are the key characteristics of postdoctoral training that seem to help postdoc women attain their first non-training position?
6. Do these answers differ in any systematic way for international postdoc women on temporary visas from postdoc women who are U.S. citizens or permanent residents?
ATTACHMENT A.2: Screening Survey Questions

Includes:
ADVANCE Fellows Screening Survey
International Screening Survey
SBE Screening Survey

ADVANCE FELLOWS SCREENING SURVEY
FOCUS GROUP #1

Welcome to the screening survey for the National Postdoctoral Association's NPA ADVANCE focus groups examining the influences on the career paths of former female postdoctoral scholars. The purpose of the screening survey is to help us determine your eligibility to participate in the focus group.

The survey will take less than 10 minutes to complete.

You may begin the survey by clicking NEXT below, which will take you to the informed consent form.

NPA ADVANCE is a project funded by the National Science Foundation to foster the career transition of postdocs into the professoriate. This project is supported by the National Science Foundation under Grant No. 0819994. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

INFORMED CONSENT FORM

1. Consent: Yes or No

[IF NO TO CONSENT FORM, ROUTE OUT OF SURVEY]

This information will only be used to determine your eligibility for the focus group and, if you are selected, to contact you with instructions on participating.

At a minimum, we require your name and e-mail address.

2. What is your name? [open response]*required

3. What is your current job position and affiliation? [open response]
4. What is your preferred e-mail address for further communication regarding the focus group? [open response]*required

The following five questions are intended to determine your status as a female postdoctoral scholar at some point within the past ten years.

In order for us to determine your eligibility for the focus group, you must answer all five questions.

5. What is your gender?
   (a) Female
   (b) Male

IF (Q5= a) ROUTE TO Q6;  IF (Q5 = b) ROUTE TO END

6. The definition of a postdoctoral scholar (postdoc) is an individual holding a doctoral degree who is engaged in a temporary period of mentored research and/or scholarly advanced training for the purpose of acquiring the professional skills needed to pursue a career path of his or her choosing. The actual title of the position at different institutions may vary.

Have you been a postdoctoral scholar at any time since the year 2000?
   (a) Yes
   (b) No

IF (Q6= a) ROUTE TO Q7;  IF (Q6 = b) ROUTE TO END

7. Are you currently a postdoctoral scholar?
   (a) Yes
   (b) No

IF (Q7= a) ROUTE TO END;  IF (Q7 = b) ROUTE TO Q8

8. Did you receive an ADVANCE Fellows award from the National Science Foundation?
(a) Yes, as part of the first cohort in 2001.
(b) Yes, as part of the second cohort in 2003.
(c) No, I did not receive an NSF ADVANCE Fellows award.

IF (Q8= a OR b) ROUTE TO Q9;  IF (Q8 = c) ROUTE TO END

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9. As an NSF ADVANCE Fellow, which of the following categories made you eligible for an ADVANCE award?
   (a) At the time of application, you were in a postdoctoral position (or equivalent).
   (b) At the time of application, you were on a break from full-time science and engineering workforce to tend to family responsibilities.
   (c) At the time of application, you had left or planned on leaving a full-time science or engineering appointment due to a spouse’s relocation or other reason.
   (d) I was not an NSF ADVANCE Fellow.

IF (Q9= a ) ROUTE TO Q10;  IF (Q9 = b OR c OR d) ROUTE TO END

<new page>

[IF (a former female postdoc), continue survey]

<new page>

The following questions are intended to gather some general information about you and your career path. They are all optional and will not be linked to any response you give during the follow-up focus group.

10. In what year did you receive your most recent Ph.D.? [Drop down menu of years, including option “No Ph.D.”] (if indicate no PhD and have other indications of not being a postdoc, will not select for focus group; but survey does nothing)

11. Which of the following best matches the primary field of your research?
   (a) Biological sciences
   (b) Physical sciences
   (c) Math and Economics
   (d) Engineering and Computer Science
   (e) Social Sciences
   (f) Arts & Humanities
   (g) Other, please specify

12. How many postdoctoral positions did you have in total?
   (a) 0
13. At any point during one of these postdoctoral positions were you working in the United States on a temporary visa?
   (a) Yes
   (b) No
   (c) Don’t know

14. Are you currently living in the United States?
   (a) Yes
   (b) No

   If No, please specify which country:

15. Which of the following job sectors best corresponds to your current position?
   (a) Higher education, tenure track
   (b) Higher education, non-tenure track
   (c) Industry, research-related position
   (d) Industry, non-research-related position
   (e) Government, research-related position
   (f) Government, non-research-related position
   (g) “Stay-at-home” caregiver
   (h) Not currently employed
   (i) Other

   If Other, please specify

The following questions focus on your job searches following your most recent postdoctoral position.

16. What aspect of your postdoctoral experience best prepared you to apply for your next position [i.e. your first non-postdoc job]? (e.g. Enhanced scientific knowledge or skills? Expanded networks or professional connections? Professional development workshops? Mentoring? Grant writing?) (open ended response)

17. What aspect of your postdoctoral training would you improve, if any, in order to aid you better in your job searching? (open ended response)
18. How would you describe your family situation during your most recent postdoctoral position? Please choose all that apply.
   (a) Single
   (b) Partnered or married.
   (c) Caring for parents or other family members.
   (d) Caring for children younger than age 5.
   (e) Caring for children aged 5 and older.
   (f) Prefer Not to Answer
   (g) Other

   If Other, please specify

19. Did your family situation influence your career decisions? If so, please explain. (open ended response)

20. When applying for your first positions following your most recent postdoc, in what primary work sector(s) were these jobs? (This is likely to be the job search during which you received your ADVANCE Fellow award.) Please choose all that apply.
   (a) Higher education, tenure track
   (b) Higher education, non-tenure track
   (c) Industry, research-related position
   (d) Industry, non-research-related position
   (e) Government, research-related position
   (f) Government, non-research-related position
   (g) Didn’t apply for positions outside of the ADVANCE Fellow award
   (h) Other

   If Other, please explain

21. Approximately how long did you search for a position to follow your most recent postdoc, counting from the time you commenced your search until you received your Fellow award?
   (a) Less than 6 months
   (b) 6-12 months
   (c) Greater than 12 months

22. How interested were you in academic faculty positions during this search for your first position to follow your most recent postdoc?
   (a) Interested
   (b) Somewhat interested
   (c) Neutral
   (d) Somewhat disinterested
   (e) Not very interested
   (f) Prefer Not to Answer
IF (Q22 = e) ROUTE TO Q22a; IF (Q22 != e) ROUTE TO END

<new page>

[ASK ONLY IF (Q22 = e)]

22a. If you were NOT very interested in pursuing an academic faculty position, what factors primarily dissuaded you? Please choose all that apply.

(a) Compensation
(b) Competitiveness for low number of positions
(c) Quality of life in academia
(d) Not interested in research/teaching/other faculty duties
(e) Other reasons
(f) Prefer Not to Answer

If Other reasons, please explain [open response]

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These two questions concern your career step following your ADVANCE Fellow position.

23. How much impact do you think having your own research funding (such as the ADVANCE Fellow award) had on your search for a job to follow your ADVANCE Fellow position?

(a) Positive Impact
(b) Some Positive Impact
(c) Neutral Impact
(d) Some Negative Impact
(e) Negative Impact
(f) Not applicable (i.e. You have not job searched since obtaining your ADVANCE Fellow position)

OPTIONAL: If it did have some impact, please explain how the funding impacted your career outcome: [open response]

24. Following your ADVANCE Fellow position, please describe your immediate next career step. (e.g. Did you stay at the same institution or go elsewhere? Was your next research position on the tenure track or on soft money? Did you seek and obtain tenure? Did you pursue a different career track altogether? Did you pursue another advanced degree? Did you elect to be at home to raise children or for other care giving activities?)

<new page>
In the event that you are selected for the focus group, we would like to determine your availability for two tentative dates and times. This will help us optimize our scheduling of the focus group to accommodate busy schedules and a variety of time zones.

The focus group will be held via telephone and online meeting room, so you would be able to participate from anywhere with phone and internet access.

25. Please indicate if you would be available to participate in a focus group lasting up to 90 minutes at the following dates and times. Times are in U.S. eastern daylight time (GMT/UTC - 4hours).

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<tr>
<th>Date</th>
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<tr>
<td>September 20, 2010</td>
<td>1:00pm-2:30pm</td>
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<tr>
<td>September 29, 2010</td>
<td>1:00pm-2:30pm</td>
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</table>

Thank you for your time in answering this survey.

If you are deemed eligible for the focus group and are selected to participate, you will receive an e-mail invitation with additional instructions within the next few weeks.

Please click DONE to finish the survey.  

FINISH

INTERNATIONAL SCREENING SURVEY
FOCUS GROUPS #2A & #2B

Welcome to the screening survey for the National Postdoctoral Association's NPA ADVANCE focus groups examining the influences on the career paths of former female postdoctoral scholars. The purpose of the screening survey is to help us determine your eligibility to participate in the focus group.

The survey will take less than 10 minutes to complete.

You may begin the survey by clicking NEXT below, which will take you to the informed consent form.

NPA ADVANCE is a project funded by the National Science Foundation to foster the career transition of postdocs into the professoriate. This project is supported by the National Science Foundation under Grant No. 0819994. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.
INFORMED CONSENT FORM

1. Consent: Yes or No

[IF NO TO CONSENT FORM, ROUTE OUT OF SURVEY]

This information will only be used to determine your eligibility for the focus group and, if you are selected, to contact you with instructions on participating.

At a minimum, we require your name and e-mail address.

2. What is your name? [open response] *required

3. What is your current job position and affiliation?[open response]

4. What is your preferred e-mail address for further communication regarding the focus group? [open response] *required

The following four questions are intended to determine your status as a female, international postdoctoral scholar at some point within the past ten years.

In order for us to determine your eligibility for the focus group, you must answer all four questions.

5. What is your gender?
   (a) Female
   (b) Male

IF (Q5= a) ROUTE TO Q6; IF (Q5 = b) ROUTE TO END

6. The definition of a postdoctoral scholar (postdoc) is an individual holding a doctoral degree who is engaged in a temporary period of mentored research and/or scholarly advanced training for the purpose of acquiring the professional skills needed to pursue a career path of his or her choosing. The actual title of the position at different institutions may vary.

Have you been a postdoctoral scholar at any time since the year 2000?
   (a) Yes
   (b) No
IF (Q6 = a) ROUTE TO Q7;  IF (Q6 = b) ROUTE TO END

7. Are you currently a postdoctoral scholar?
   (a) Yes
   (b) No
IF (Q7 = a) ROUTE TO END;  IF (Q7 = b) ROUTE TO Q8

8. At any point during one of your postdoctoral positions were you working in the United States on a temporary visa?
   (a) Yes
   (b) No
   (c) Don’t know
IF (Q8 = a) ROUTE TO Q9;  IF (Q8 = b OR c) ROUTE TO END

[IF (a former female international postdoc), continue survey]

The following questions are intended to gather some general information about you and your career path. They are all optional and will not be linked to any response you give during the follow-up focus group.

9. In what year did you receive your most recent Ph.D.? [Drop down menu of years, including option “No Ph.D.”] (if indicate no PhD and have other indications of not being a postdoc, will not select for focus group; but survey does nothing)

10. Which of the following best matches the primary field of your research?
    (a) Biological sciences
    (b) Physical sciences
    (c) Math and Economics
    (d) Engineering and Computer Science
    (e) Social Sciences
    (f) Arts & Humanities
    (g) Other, please specify

11. How many postdoctoral positions did you have in total?
    (a) 0
    (b) 1
    (c) 2
12. Are you currently living in the United States?
   (a) Yes
   (b) No

   If No, please specify which country:

[CONSIDER ADDING A LOGIC PAGE THAT ASSURES THEM THAT WE CAN REIMBURSE THEM FOR SOME EXPENSES FOR THE CALL IF SELECTED - ?]

13. Which of the following job sectors best corresponds to your current position?
   (a) Higher education, tenure track
   (b) Higher education, non-tenure track
   (c) Industry, research-related position
   (d) Industry, non-research-related position
   (e) Government, research-related position
   (f) Government, non-research-related position
   (g) “Stay-at-home” caregiver
   (h) Not currently employed
   (i) Other

   If Other, please specify

<new page>
*The following questions focus on your job search following your most recent postdoctoral position.*

14. What aspect of your postdoctoral experience best prepared you to apply for your next position [i.e. your first non-postdoc job]? (e.g. Enhanced scientific knowledge or skills? Expanded networks or professional connections? Professional development workshops? Mentoring? Grant writing?) (open ended response)

15. What aspect of your postdoctoral training would you improve, if any, in order to aid you better in your job searching? (open ended response)

16. How would you describe your family situation during your most recent postdoctoral position? Please choose all that apply.
   (a) Single
   (b) Partnered or married.
   (c) Caring for parents or other family members
   (d) Caring for children younger than age
17. Did your family situation influence your career decisions? If so, please explain. (open ended response)

18. When applying for your first non-training positions following your most recent postdoc, in what primary work sector(s) were these jobs? Please choose all that apply.
   (a) Higher education, tenure track
   (b) Higher education, non-tenure track
   (c) Industry, research-related position
   (d) Industry, non-research-related position
   (e) Government, research-related position
   (f) Government, non-research-related position
   (g) Other

   If Other, please explain.

19. How interested were you in academic faculty positions during your search for your first non-training position following your most recent postdoc?
   (a) Interested
   (b) Somewhat interested
   (c) Neutral
   (d) Somewhat disinterested
   (e) Not interested
   (f) Prefer Not to Answer

IF (Q19 = e) ROUTE TO Q19a; IF (Q19 != e) ROUTE TO END

<new page>
[ASK ONLY IF (Q19 = e)]

19a. If you were NOT interested in pursuing an academic faculty position, what factors primarily dissuaded you? Please choose all that apply.
   (a) Compensation
   (b) Competitiveness for low number of positions
   (c) Quality of life in academia
   (d) Not interested in research/teaching/other faculty duties
   (e) Other reasons
   (f) Prefer Not to Answer
If Other reasons, please explain

19. Approximately how long did it take you to obtain your first position following your most recent postdoc, counting from the time you commenced your search?
   (a) Less than 6 months
   (b) 6-12 months
   (c) Greater than 12 months

21. Following your most recent postdoctoral position, please describe your immediate next career step. (e.g. Did you stay at the same institution or go elsewhere? Was your next research position on the tenure track or on soft money? Did you seek and obtain tenure? Did you pursue a different career track altogether? Did you pursue another advanced degree? Did you elect to be at home to raise children or for other caregiving activities?)

In the event that you are selected for the focus group, we would like to determine your availability for two tentative dates and times. This will help us optimize our scheduling, and in particular, help us determine whether two focus groups are needed to accommodate busy schedules and a variety of time zones.

The focus group will be held via telephone and online meeting room, so you would be able to participate from anywhere with phone and internet access.

22. Please indicate if you would be available to participate in a focus group lasting up to 90 minutes at the following dates and times. Times are in U.S. eastern daylight time (GMT/UTC - 4hours).

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</table>

Thank you for your time in answering this survey.

If you are deemed eligible for the focus group and are selected to participate, you will receive an e-mail invitation with additional instructions within the next few weeks Please click DONE to finish the survey. FINISH
SBE SCREENING SURVEY
FOCUS GROUP #3

Welcome to the screening survey for the National Postdoctoral Association's NPA ADVANCE focus groups examining the influences on the career paths of female postdoctoral scholars. The purpose of the screening survey is to help us determine your eligibility to participate in one of two focus groups: one with current female postdoctoral scholars and one with female mentors who are former postdoctoral scholars.

The survey will take less than 10 minutes to complete.

You may begin the survey by clicking NEXT below, which will take you to the informed consent form.

NPA ADVANCE is a project funded by the National Science Foundation to foster the career transition of postdocs into the professoriate. This project is supported by the National Science Foundation under Grant No. 0819994. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

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INFORMED CONSENT FORM

1. Consent: Yes or No

[IF NO TO CONSENT FORM, ROUTE TO THANK YOU PAGE]

<new page>
This information will only be used to determine your eligibility for the focus groups and, if you are selected, to contact you with instructions on participating.

At a minimum, we require your name and e-mail address.

2. What is your name? [open response] *required

3. What is your current job position and affiliation?[open response]

4. What is your preferred e-mail address for further communication regarding the focus groups? [open response] *required

<new page>
The following two questions are intended to determine your status as a female, postdoctoral scholar at some point during your career.

In order for us to determine your eligibility for the focus groups, you must answer both questions.

5. What is your gender?
   (a) Female
   (b) Male

IF (Q5 = a) ROUTE TO Q6; IF (Q5 = b) ROUTE TO END

6. The definition of a postdoctoral scholar (postdoc) is an individual holding a doctoral degree who is engaged in a temporary period of mentored research and/or scholarly advanced training for the purpose of acquiring the professional skills needed to pursue a career path of his or her choosing. The actual title of the position at different institutions may vary.

   Have you been a postdoctoral scholar at any time during your career?
   (a) Yes
   (b) No

IF (Q6 = a) ROUTE TO Q7; IF (Q6 = b) ROUTE TO END

[IF (a current or former female postdoc), continue survey]

YOUR CAREER PATH

The following questions are intended to gather some general information about you and your career path. They are all optional and will not be linked to any response you give during the follow-up focus groups.

7. In what year did you receive your most recent Ph.D.? [Drop down menu of years, including option “No Ph.D.”]

8. Which of the following best matches the primary field of your research?
   (a) Social Sciences
   (b) Behavioral Sciences
   (c) Economic Sciences
   (d) Other, please specify
9. How many postdoctoral positions did you have in total?
   (a) 0
   (b) 1
   (c) 2
   (d) 3
   (e) 4 or more

10. Currently or at any point during one of these postdoctoral positions are you/were you working in the United States on a temporary visa
   (a) Yes
   (b) No
   (c) Don’t know
   If Yes, please indicate your country of citizenship at that time:

11. Which of the following job sectors best corresponds to your current position?
   (a) Higher education, tenure track
   (b) Higher education, non-tenure track
   (c) Industry, research-related position
   (d) Industry, non-research-related position
   (e) Government, research-related position
   (f) Government, non-research-related position
   (g) Other

   If Other, please specify

12. Are you currently a postdoctoral scholar?
    (a) Yes
    (b) No

   IF (Q12= a) ROUTE TO Q13; IF (Q12 = b) ROUTE TO Q16

   <new page>
   [Q13-Q15: ONLY THOSE WHO ARE CURRENTLY POSTDOCS]

**YOUR POSTDOCTORAL PREPARATION**

13. What aspect of your postdoctoral experience do you feel is best preparing you to apply for your next (non-postdoc) position? (e.g. Enhanced scientific knowledge or skills? Expanded networks or professional connections? Professional development workshops? Mentoring? Grant writing?) (open ended response)

14. What aspect of your postdoctoral training would you improve, or what obstacles would you remove, in order to prepare you better for your next, non-postdoc job search? (open ended response)
15. How interested are you in applying for academic faculty positions following your postdoctoral position(s)?
   (a) Interested
   (b) Somewhat interested
   (c) Neutral
   (d) Somewhat disinterested
   (e) Not interested
   (f) Prefer Not to Answer

IF (Q15 = d or e) ROUTE TO Q22; IF (Q15 != (d or e)) ROUTE TO Q23

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[Q16-Q21: ONLY THOSE WHO ARE NOT CURRENTLY POSTDOCS]

YOUR JOB SEARCH
The following questions focus on your job search following your most recent postdoctoral position.

16. What aspect of your postdoctoral experience best prepared you to apply for your next position [i.e. your first non-postdoc job]? (e.g. Enhanced scientific knowledge or skills? Expanded networks or professional connections? Professional development workshops? Mentoring? Grant writing?) (open ended response)

17. What aspect of your postdoctoral training would you improve, or what obstacles would you have removed, in order to prepare you better for your job search? (open ended response)

18. When applying for your first non-training positions following your most recent postdoc, in what primary work sector(s) were these jobs? Please choose all that apply.
   (a) Higher education, tenure track
   (b) Higher education, non-tenure track
   (c) Industry, research-related position
   (d) Industry, non-research-related position
   (e) Government, research-related position
   (f) Government, non-research-related position
   (g) Other

   If Other, please explain.

19. Approximately how long did it take you to obtain your first position following your most recent postdoc, counting from the time you commenced your search?
   (a) Less than 6 months
   (b) 6-12 months
   (c) Greater than 12 months
20. Following your most recent postdoctoral position, please describe your immediate next career step. (e.g. Did you stay at the same institution or go elsewhere? Was your next research position on the tenure track or on soft money? Did you seek and obtain tenure? Did you pursue a different career track altogether? Did you pursue another advanced degree? Did you elect to be at home to raise children or for other care giving activities?)

21. How interested were you in academic faculty positions during your search for your first non-training position following your most recent postdoc?
   (a) Interested
   (b) Somewhat interested
   (c) Neutral
   (d) Somewhat disinterested
   (e) Not interested
   (f) Prefer Not to Answer

IF (Q21 = d or e) ROUTE TO Q22; IF (Q21 != (d or e)) ROUTE TO Q23

<new page>

[ASK ONLY IF SOMEWHAT DISINTERESTED OR NOT INTERESTED IN FAC JOB]

22. If you are not/were not very interested in pursuing an academic faculty position, what factors primarily influenced you? Please choose all that apply.
   (a) Compensation
   (b) Competitiveness for low number of positions
   (c) Quality of life in academia
   (d) Not interested in research/teaching/other faculty duties
   (e) Other reasons
   (f) Prefer Not to Answer

If Other reasons, please explain

GOTO Q23

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FAMILY INFLUENCES

23. How would you describe your family situation during your most recent postdoctoral position? Please choose all that apply.
   (a) Single
   (b) Partnered or married.
   (c) Caring for parents or other family members
   (d) Caring for children younger than age
   (e) Caring for children aged 5 and older
   (f) Prefer Not to Answer
(g) Other

If Other, please specify

24. Has your family situation influenced your career decisions? If so, please explain.
   (open ended response)

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In the event that you are selected for one of the focus groups, we would like to
determine your availability for two possible dates and times. This will help us
optimize our scheduling, and in particular, help us determine whether we have
enough participants for each focus group.

The focus groups will be held in person in Washington, DC, in conjunction with the
upcoming workshop “Let's Talk: Broadening Participation in the Social,
Behavioral, and Economic (SBE) Sciences Postdoctoral Community” on October
29, 2010. We would like to know your availability for a focus group held either
the evening before, or the morning of, the workshop.

In the event that we do not have a sufficient number of participants available at one
of these times for either the current postdoc group or the former postdoc group,
we will cancel that focus group.

25. Please indicate if you would be available to participate in a focus group lasting up to
   one hour and 15 minutes at the following dates and times. Times are in U.S. eastern
time.

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THANK YOU

Thank you for your time in answering this survey.

If you are deemed eligible for one of the focus groups and are selected to participate, you
will receive an e-mail invitation with additional instructions.

Please click DONE to finish the survey.  FINISH
ATTACHMENT A.3: INITIAL FOCUS GROUP QUESTIONS

Included:
Focus Group Questions – ADVANCE Fellows and Internationals
Focus Group Questions – SBE Postdocs

FOCUS GROUP QUESTIONS – ADVANCE FELLOWS & INTERNATIONALS
Revised Sept 28, 2010

INTRODUCTION AND INSTRUCTIONS (10 minutes)

0. About You (3 minutes)
- We wanted to share with you a few findings from the screening survey you all took to give you an idea of who is participating in the focus group today.
- As you know, you are all former postdoc women.
  - You do research in a variety of disciplines, with the largest portion in the biological sciences (INT: 63%; Fell: 43%).
    - **In particular, we know that many of the issues we’ll discuss vary by discipline, so feel free to share about points where you think your disciplinary perspective might differ from someone else’s.**
  - Most of you are currently working in higher education (Int: 70%; Fell: 93%)
  - Most of you were married or partnered during your postdoc (Int: 71%; Fell: 92%), and about a third of you had children (Int: 33%; Fell: 36%).

POTENTIAL NEW QUESTION FOR ADVANCE FELLOWS:
As we explore aspects of your postdoctoral experience and your subsequent career path, we would like to know whether any of you were including your ADVANCE Fellow experiences in your responses to the screening survey. So, for example, during your Fellow position, did you consider yourself a member of the faculty or more like a postdoc or visiting scientist?

I. Postdoc Training (20 minutes)
- The most commonly cited aspect of postdoctoral training that aided respondents to apply for their next job was enhancement of scientific knowledge and skills (Int: 67%; Fell: 55%). This was followed by experience with grant or proposal writing (Int: 29%; Fell: 45%), networking (Int: 29%; Fell: 27%) and some type of mentoring (Int: 16% mentoring others; Fell: 27% mentoring).
- Several of these top responses were also among the top responses for aspects of postdoctoral training you cited that could be improved (INTERNATIONALS: 33% Grant/proposal writing; 23% Networking; 15% Mentoring) (FELLOWS: 40% Networking; 20% Mentoring)
• We would like to hear a bit more about these aspects of your training, and specifically how they helped you, or might have helped you, to get your next position.

• **Quick poll 1:** The following are topics you mentioned, in addition to scientific knowledge & skills, that could be helpful in getting that first non-postdoc job. Please select the one that you think is the MOST helpful.
  
  o Grant writing
  o Expanded network
  o Being mentored
  o Experience mentoring others
  o Professional development
  o Gaining independence
  o Writing papers
  o Inter-disciplinary experience
  o Leadership skills
  o Teaching experience
  o Exposure to career options
  o Career planning
  o Job searching skills
  o Other

• **MENTORING:** For example, many of you mentioned mentoring.
  
  o **What aspect of mentoring was most beneficial to you in your job search?** Was this mentoring from your postdoctoral PI or from another mentor? From your peers? Was it experience you received mentoring others?
    
    ▪ Probe: In what way does mentoring actually help you get that next job?

  
  **Lower Priority:**
  
  o Did your postdoctoral institution have official policies on mentoring?
  o How might you improve the mentoring you received as a postdoc?

• **NETWORKING:** Another common topic was networking.
  
  o **What are some examples of the types of networking you have experienced?**
    
    ▪ Probe: With whom were these networking opportunities?
[Higher priority, but follows from the previous] Which types were most helpful for getting your next job?

Low Priority:
- What additional types of networking would have helped you?

II. Career Path (10 minutes)

- A majority of you indicated that you were interested or somewhat interested in academic faculty jobs following your postdocs (Int: 84%; Fell: 100%), and most of you applied for tenure-track faculty jobs (Int: 63%; Fell: 77%).
- QUICK POLL 2: Did any of you find that your interest in becoming a tenure-track faculty member changed over the course of your postdoc experience?
  - Yes, more interested
  - Yes, less interested
  - No change
  - Other
- What is the one piece of advice you would give to another postdoc woman applying for similar types of jobs?

Low Priority:
- What was most attractive to you about becoming a tenure-track professor or PI?
- What was least attractive to you about becoming a tenure-track professor or PI?
- Seeing where your career has taken you after the postdoc, is there anything you would have done differently regarding your career choices? For example, different training you wish you’d had? Different institutions or positions you would have pursued or not pursued?

III. Family Influence on Career (25 minutes)

- Most of you indicated that family had some influence on your career decisions (Int: 78%; Fell: 92%). We’d like to hear more about these influences.
- In your responses you described some of them. The most common were geographic constraints in order to be near family (Int: 43%; Fell: 92%) and issues related to spouses or partners (Int: 30%; Fell: 77%) and to children (Int: 28%; Fell: 15%).
- Can anyone share an example of how family influenced their career choice following the postdoc?
  - Probe: Examples specific to children? Examples specific to dual-career?
• What are some ways that your institution could have helped you manage these issues?
  o For example are there institutional policies or benefits you could have received that could support your family interests?

**Low Priority:**
• Did your family situation influence your choice of postdoc positions as well? Was this more or less of an influence than when choosing positions following the postdoc? Were the challenges or benefits different?
  o Possible probe: What would be the most useful thing your institution could have done to help you manage a dual-career issue during your postdoc?

**IV. Family-friendly Institutional Environment (12 minutes)**
• Some of the family-related issues we’ve discussed can be helped or hindered by how relatively “family-friendly” your institutional environment is.

• At your postdoc institution, what was your general impression of how family-friendly the institution was? Can you give an example?

**Low Priority:**
• In your own experience, did you feel that your institution was family-friendly? In what ways was it family-friendly? In what ways was it not?

• INTERNATIONALS ONLY: How would you compare your postdoc institution with your experience with an institution in your home country?

**V. Feedback for us (10 minutes)**
• The following are potential intervention types that institutions could implement to help postdoc women advance their careers.
  o Mentoring
    ▪ Formal mentoring programs that encourage committee- or group-based mentoring
    ▪ Peer mentoring
    ▪ Training for mentors
  o Networking
    ▪ Structured networking opportunities, both within and outside your institution
  o Funding and grants
    ▪ On- and off-site childcare subsidies
    ▪ Grants for conference childcare
Research support during maternity leave (e.g. funding to hire a short-term technician)

- Professional & career development
  - Grant writing workshops
  - Negotiation workshops
  - Seminars on becoming faculty
  - Job search workshops (e.g. writing a teaching statement, CV doctoring)
  - Assistance with career planning

- Family-friendly postdoctoral policies
  - Formalized maternity leave policies
  - Paid maternity leave
  - Dual-career assistance
  - Part-time or shared positions

Many of these we’ve already discussed, so we’d like to explore a few of the others.

FUNDING & GRANTS: We haven’t much discussed some specific ways that funding or grants could help with work-life balance.

- Can you share any examples of such initiatives at your postdoctoral institution? How helpful were they?

FAMILY-FRIENDLY POSTDOCTORAL POLICIES: Similarly, can you share any specific examples of such policies at your postdoctoral institution? How helpful do you think these are?

- Probe: Do you know colleagues who took advantage of them?

FOCUS GROUP QUESTIONS – SBE POSTDOCS
Revised October 27, 2010

INTRODUCTION AND INSTRUCTIONS (5 minutes)
- Participants and staff
- Purpose of focus group and NPA ADVANCE

0. About You (3 minutes)
- We wanted to share with you a few findings from the screening survey you all took to give you an idea of who is participating in the focus group today.
- You are all currently postdoc women.
  - All on first postdoc
  - Got PhDs within last two years
Most in the social sciences
Most partnered or married. A third caring for children; a third caring for parents or other family members.

I. Postdoc Training (15 minutes)

- The most commonly cited aspect of postdoctoral training helping to prepare you for the next job was enhancement of scientific knowledge and skills, publications, and grant writing. You also mentioned networking and mentoring.

- Networking and mentoring were also the top aspects you would most improve. You also mentioned exposure to external mentors, strategies for getting the job you want.

- We would like to hear a bit more about these aspects of your training, and specifically how you think they might help you to get your next position.

- MENTORING: For example, many of you mentioned mentoring.
  - In what way can mentoring actually help you get that next job?
  - Would any of you be willing to share your experience being mentored, either from your postdoctoral PI or from another mentor? From your peers?
  - A key topic impacting SBE postdocs, as indicated by registrants to the upcoming workshop, is the availability of mentors. How might this be an issue? Do any of you have such an experience you’d like to share?
    - Are any of you in labs? Does this affect your ability to find or access your mentors?
  - Does your postdoctoral institution have official policies on mentoring?
  - How might you improve the mentoring you are receiving as a postdoc?

- NETWORKING: Another common topic was networking.
  - What are some examples of the types of networking you have experienced?
    - Probe: With whom were these networking opportunities?
  - What additional types of networking would be helpful?

II. Postdoc Experience (15 min)

- ISOLATION: Another important topic noted by workshop registrants as impacting postdocs is isolation.
  - In what ways do SBE postdocs from underrepresented groups feel isolated?
o What are some ways that Principle Investigators/mentors could mitigate this isolation?
o What are some ways that postdocs could mitigate this isolation?

• SELF-CONFIDENCE: Self-confidence was another topic that came up several times in the registration survey.
o First, what do we even mean by self-confidence. For example, is introversion sometimes confused with a lack of self-confidence? Are there other factors impacting the perception of self-confidence in one’s self or others?
o What are some ways that mentors could help to instill confidence?
o What are some ways that postdocs could build or maintain their own self-confidence?

III. Family Influence on Career (15 minutes)
• Almost all of you indicated that family had some influence on your career decisions. We’d like to hear more about these influences.
• In your responses you described some of them. The most common were geographic constraints in order to be near family (64%) and issues related to spouses or partners (45%).
• Can anyone share an example of how family has influenced your career decisions?
o Probe: Examples specific to children? Examples specific to dual-career?
• What are some ways that your institution could have helped you manage these issues?
o For example are there institutional policies or benefits you could have received that could support your family interests?
o What is your general impression of how family-friendly your postdoc institution is? Can you give an example?

Low Priority:
• In your own experience, did you feel that your institution was family-friendly? In what ways was it family-friendly? In what ways was it not?

IV. Career Path (5 minutes)
• Most of you indicated that you were interested in academic faculty jobs following your postdocs.
• What is most attractive to you about becoming a tenure-track professor or PI?
• What is least attractive to you about becoming a tenure-track professor or PI?

V. Feedback for us (2-5 minutes)
• Listed on your handout are potential intervention types that institutions could implement to help postdoc women advance their careers. Many of these are topics we’ve already discussed, but we wanted to share with you some of the promising practices we’ve been developing.
  o Mentoring
    ▪ Formal mentoring programs that encourage committee- or group-based mentoring
    ▪ Peer mentoring
    ▪ Training for mentors
  o Networking
    ▪ Structured networking opportunities, both within and outside your institution
  o Funding and grants
    ▪ On- and off-site childcare subsidies
    ▪ Grants for conference childcare
    ▪ Research support during maternity leave (e.g. funding to hire a short-term technician)
  o Professional & career development
    ▪ Grant writing workshops
    ▪ Negotiation workshops
    ▪ Seminars on becoming faculty
    ▪ Job search workshops (e.g. writing a teaching statement, CV doctoring)
    ▪ Assistance with career planning
  o Family-friendly postdoctoral policies
    ▪ Formalized maternity leave policies
    ▪ Paid maternity leave
    ▪ Dual-career assistance
    ▪ Part-time or shared positions

Low Priority:
• Looking through the list, are there any initiatives you’re aware of or have experienced that you think would be useful additions?
ATTACHMENT A.4 – INFORMED CONSENT FORMS

Included:
ADVANCE Fellows Consent Form
Internationals Consent Form
SBE Postdocs Consent Form

ADVANCE FELLOWS CONSENT FORM

Influences on the Career Transitions of Female Postdoctoral Scholars

INFORMED CONSENT FOR PARTICIPATING IN THIS STUDY

Please note that this informed consent form applies to both this screening survey and to the later focus groups.

The National Postdoctoral Association is conducting a study of the career transitions of female postdoctoral scholars (postdocs). Our goal is to learn about the factors that influenced female postdocs’ career decisions during and following their postdoctoral appointment, especially those factors relating to their decision to remain (or not to remain) in academia. These findings will help us refine a series of recommended practices we are promoting to aid postdoc women to make the transition to an academic faculty position. Approximately 60 former NSF ADVANCE Fellows with awards from 2001 and 2003 have been invited to take this initial screening survey; we expect about half of these individuals to be postdoctoral recipients of this award and therefore eligible for the focus group. If more than 20 respondents are eligible, we will select twenty to invite to participate in the focus group.

This initial screening survey will take less than 10 minutes to complete. The purpose of this online survey is to determine your eligibility for participating in a focus group to be remotely conducted via teleconference and online meeting room. You will be eligible for the focus group if you were a female postdoctoral recipient of the NSF ADVANCE Fellow award in 2001 or 2003 [i.e., you were eligible for the award due to your status as a postdoc (or equivalent) at the time of application]. If you are eligible for the focus group, the survey will ask you a few additional questions about your career path. Answering any or all of the survey questions is voluntary. You may refuse to answer any of the questions if you like, and you may stop the survey at any time.

If you are eligible and selected for the focus group, you will be contacted again following this screening survey with instructions for participating in the focus group. The focus group will be conducted remotely, will last 60-90 minutes, and will be scheduled in September or October 2010. The focus group will be held via teleconference with the assistance of an online meeting room where participants may also type any comments into a chat room. All focus group participants will be asked to use a non-identifying login name known only to them and to avoid the use of any identifiers, such as a name, during
the discussion. Participation in this focus group is also voluntary, and you may refuse to answer any of the focus group questions during the discussion as well.

To protect your privacy, the survey data and focus group data will be stored confidentially. Only the study coordinator will have access to the raw survey dataset, and she will remove and store the names and identifying information separately from the other survey responses. The screening survey responses will not be linked to the focus group responses in any way. In any event, no information that might identify you will appear when we present this study or publish its results. For additional information on the privacy and security of your responses, see the survey privacy policy at http://www.nationalpostdoc.org/advance-focus-groups/448-advance-focus-group-privacy.

There are no known risks to participating in this study. You will get no direct benefit from being a part of this study. Your participation will help us better understand ways to improve the postdoctoral training experience and to help postdoc women advance their careers. If you are currently living abroad and would incur a significant expense by calling the United States for the focus group, we will reimburse you for reasonable telephone call expenses.

If you have any questions about how the study works, you can contact Dr. Kathleen Flint, the National Postdoctoral Association Project Manager for the NPA ADVANCE project at 202-326-6494 or at kflint@nationalpostdoc.org. If you have questions about your rights in this study, you can contact the Office of Regulatory Affairs at the Western Institutional Review Board by calling 800-562-4789, or e-mail RegulatoryAffairs@wirb.com.

You may print out a copy of this informed consent form by clicking HERE [LINK TO PRINTABLE PDF VERSION OF THIS FORM].

Please indicate whether or not you consent to participate in both the screening survey and, if selected, the focus group below. If you indicate that you consent, the survey will be launched.

___I consent to participate in both the screening survey and, if selected, the focus group

___I do not consent to participate in both the screening survey and, if selected, the focus group

INTERNATIONALS CONSENT FORM

Influences on the Career Transitions of Female Postdoctoral Scholars

INFORMED CONSENT FOR PARTICIPATING IN THIS STUDY

Please note that this informed consent form applies to both
The National Postdoctoral Association is conducting a study of the career transitions of female postdoctoral scholars (postdocs). Our goal is to learn about the factors that influenced female postdocs’ career decisions during and following their postdoctoral appointment, especially those factors relating to their decision to remain (or not to remain) in academia. These findings will help us refine a series of recommended practices we are promoting to aid postdoc women to make the transition to an academic faculty position. Approximately 60 former international postdoc women have been invited to take this initial screening survey. If more than 20 respondents are eligible we will select twenty to invite to participate in the focus group.

This initial screening survey will take less than 10 minutes to complete. The purpose of this online survey is to determine your eligibility for participating in a focus group to be remotely conducted via teleconference and online meeting room. You will be eligible for the focus group if you were a female postdoctoral scholar in the United States within the last ten years, were on a temporary visa for one of these postdoc appointments, and are no longer a postdoc today. If you are eligible for the focus group, the survey will ask you a few additional questions about your career path. Answering any or all of the survey questions is voluntary. You may refuse to answer any of the questions if you like, and you may stop the survey at any time.

If you are eligible and selected for the focus group, you will be contacted again following this screening survey with instructions for participating in the focus group. The focus group will be conducted remotely, will last 60-90 minutes, and will be scheduled in September or October 2010. The focus group will be held via teleconference with the assistance of an online meeting room where participants may also type any comments into a chat room. All focus group participants will be asked to use a non-identifying login name known only to them and to avoid the use of any identifiers, such as a name, during the discussion. Participation in this focus group is also voluntary, and you may refuse to answer any of the focus group questions during the discussion as well.

To protect your privacy, the survey data and focus group data will be stored confidentially. Only the study coordinator will have access to the raw survey dataset, and she will remove and store the names and identifying information separately from the other survey responses. The screening survey responses will not be linked to the focus group responses in any way. In any event, no information that might identify you will appear when we present this study or publish its results. For additional information on the privacy and security of your responses, see the survey privacy policy at http://www.nationalpostdoc.org/advance-focus-groups/448-advance-focus-group-privacy.

There are no known risks to participating in this study. You will get no direct benefit from being a part of this study. Your participation will help us better understand ways to improve the postdoctoral training experience and to help postdoc women advance their
careers. If you are currently living abroad and would incur a significant expense by calling the United States for the focus group, we will reimburse you for reasonable telephone call expenses.

If you have any questions about how the study works, you can contact Dr. Kathleen Flint, the National Postdoctoral Association Project Manager for the NPA ADVANCE project at 202-326-6494 or at kflint@nationalpostdoc.org. If you have questions about your rights in this study, you can contact the Office of Regulatory Affairs at the Western Institutional Review Board by calling 800-562-4789, or e-mail RegulatoryAffairs@wirb.com.

You may print out a copy of this informed consent form by clicking HERE [LINK TO PRINTABLE PDF VERSION OF THIS FORM].

Please indicate whether or not you consent to participate in both the screening survey and, if selected, the focus group below. If you indicate that you consent, the survey will be launched.

___ I consent to participate in both the screening survey and, if selected, the focus group

___ I do not consent to participate in both the screening survey and, if selected, the focus group

SBE CONSENT FORM

Influences on the Career Transitions of Female Postdoctoral Scholars

INFORMED CONSENT FOR PARTICIPATING IN THIS STUDY

Please note that this informed consent form applies to both this screening survey and to the later focus groups.

The National Postdoctoral Association is conducting a study of the career transitions of female postdoctoral scholars (postdocs). Our goal is to learn about the factors that influenced female postdocs’ career decisions during and following their postdoctoral appointment, especially those factors relating to their decision to remain (or not to remain) in academia. These findings will help us refine a series of recommended practices we are promoting to aid postdoc women to make the transition to an academic faculty position. Approximately 15 individuals have been invited to take this initial screening survey.

This initial screening survey will take less than 10 minutes to complete. The purpose of this online survey is to determine your eligibility for participating in one of two focus groups: one to be held with current postdocs and one to be held with former postdocs. You will be eligible for the focus groups if you are or have been a female postdoctoral scholar.
scholar in the United States at some point during your career. If you are eligible for the focus groups, the survey will ask you a few additional questions about your career path. Answering any or all of the survey questions is voluntary. You may refuse to answer any of the questions if you like, and you may stop the survey at any time.

If you are eligible and selected for one of the focus groups, you will be contacted again following this screening survey with instructions for participating in the focus group. The focus groups will be conducted in person in Washington, DC, either the evening of Thursday, October 28, 2010, or the morning of Friday, October 29, 2010. They will each last approximately one hour and 15 minutes. Participation in these focus groups is also voluntary, and you may refuse to answer any of the focus group questions during the discussions as well.

To protect your privacy, the screening survey data and focus group data will be stored confidentially. The focus groups will be recorded (audio only) and transcribed by project staff. Only the study coordinator will have access to the raw survey dataset, and she will remove and store the names and identifying information separately from the other survey responses. The screening survey responses will not be linked to the focus group responses in any way. In any event, no information that might identify you will appear when we present this study or publish its results. For additional information on the privacy and security of your responses, see the survey privacy policy at http://www.nationalpostdoc.org/advance-focus-groups/448-advance-focus-group-privacy.

There are no known risks to participating in this study. You will get no direct benefit from being a part of this study. Your participation will help us better understand ways to improve the postdoctoral training experience and to help postdoc women advance their careers.

If you have any questions about how the study works, you can contact Dr. Kathleen Flint, the National Postdoctoral Association Project Manager for the NPA ADVANCE project at 202-326-6494 or at kflint@nationalpostdoc.org. If you have questions about your rights in this study, you can contact the Office of Regulatory Affairs at the Western Institutional Review Board by calling 800-562-4789, or e-mail RegulatoryAffairs@wirb.com.

You may print out a copy of this informed consent form by clicking HERE [LINK TO PRINTABLE PDF VERSION OF THIS FORM].

Please indicate below whether or not you consent to participate in both the screening survey and, if selected, one of the focus groups. If you indicate that you consent, the survey will be launched.

___ I consent to participate in both the screening survey and, if selected, a focus group

___ I do not consent to participate in both the screening survey and, if selected, a focus group
ATTACHMENT A.5 – PRIVACY POLICY

Available online at: http://www.nationalpostdoc.org/advance-focus-groups/448-advance-focus-group-privacy.

Influences on the Career Transitions of Female Postdoctoral Scholars

PRIVACY POLICY

Screening Survey Privacy

Only a limited number of authorized project staff will have access to the data from the study. Only the study coordinator will have access to the raw data from the screening survey, which includes names, affiliations, and preferred e-mail address. This identifying information will only be used by the coordinator to determine eligibility for participation in the focus groups and to contact eligible respondents invited to the focus groups. Once eligibility is determined, she will remove all identifying information from the raw survey data. Any remaining analyses will be conducted without any personal identifiers. Nothing will be presented that could potentially identify the respondents in any publications that are produced from the collected data. The screening survey responses will not be linked to the focus group responses in any way.

Since this Web survey is being hosted by a third party contractor (SurveyMonkey.com), there is joint responsibility for safeguarding the privacy of respondents. SurveyMonkey has a strict data privacy policy found here: http://www.surveymonkey.com/Monkey_Security.aspx (Accessed 7/7/10)

Focus Group Privacy

The focus groups will be held both remotely and in person. The remote focus groups will be conducted via teleconference and online meeting room using Cisco’s webex.com interface. The online meeting room will be password protected with a common password provided to all participants in their recruitment e-mail. Invited participants will not identify themselves verbally during the call and will login to the online meeting room via a non-identifying, dummy login name selected by (and known only to) the participant. Therefore, participants’ identities during the verbal and typed discussion should be known only to them. The coded login names entered into the online meeting room will be stored securely by the software for only three months following the focus group, after which, the names will be deleted, and will be accessible only by project staff; however, there should be no obvious correspondence of these coded identifiers with participants’ identities.

Data collected during the focus groups will be recorded without identifiers. The verbal discussion will be recorded either by the teleconferencing software or via standard audio tape recording and transcribed by project staff. The webex.com meeting room software will automatically provide a transcript of any typed comments submitted online during
the remote discussion. Where needed, project staff will remove any identifying information in the saved transcripts. Any analysis of respondent data will be conducted without any personal identifiers. Nothing will be presented that could potentially identify the respondents in any publications that are produced from the collected data.

Webex.com’s extensive data privacy policies can be found online here: http://www.cisco.com/web/siteassets/legal/privacy.html (Accessed 7/8/10).

Revised 10/7/10
ATTACHMENT A.6: IRB Exemption Letter
(on following page)
Cathee Johnson Phillips  
National Postdoctoral Association  
Suite 610  
1200 New York Avenue NW  
Washington, DC 20005

Dear Ms. Johnson Phillips:

SUBJECT: REGULATORY OPINION—IRB EXEMPTION  
Protocol Title: Influences on the Career Transitions of Female Postdoctoral Scholars  
PI: Cathee Johnson Phillips

This letter is in response to your request to Western Institutional Review Board (WIRB) for an exemption determination for the above-referenced research project. WIRB’s Regulatory Affairs Department reviewed the exemption criteria under 45 CFR §46.101(b)(2):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
(i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects’ responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, or reputation.

We believe that the research fits the above exemption criteria. Any disclosure of the subjects’ responses outside of the research will not reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subject’s financial standing, employability, or reputation. You have also confirmed that the results of this study will not be submitted to the Food and Drug Administration (FDA) for marketing approval.

This exemption determination can apply to multiple sites, but it does not apply to any institution that has an institutional policy of requiring an entity other than WIRB (such as an internal IRB) to make exemption determinations. WIRB cannot provide an exemption that overrides the jurisdiction of a local IRB or other institutional mechanism for determining exemptions. You are responsible for ensuring that each site to which this exemption applies can and will accept WIRB’s exemption decision.
Please note that any future changes to the project may affect its exempt status, and you may want to contact WIRB about the effect these changes may have on the exemption status before implementing them. WIRB does not impose an expiration date on its IRB exemption determinations.

If you have any questions, or if we can be of further assistance, please contact WIRB Regulatory Counsel, R. Bert Wilkins, J.D., M.H.A., at 360-252-2852, or e-mail RegulatoryAffairs@wirb.com.

Sincerely,

R. Bert Wilkins, J.D., M.H.A.
WIRB Regulatory Consultant

RBW:hub
B2-Exemption-Johnson Phillips (06-21-2010)
cc: Kathleen Flint, National Postdoctoral Association (via e-mail: kflint@nationalpostdoc.org)
    WIRB Accounting
    WIRB Follow-Up #266741
APPENDIX B: Screening Survey Results

ANALYSIS OF RESPONSES TO FOCUS GROUP SCREENING SURVEYS
Includes data from all four focus groups
Last update: 2/4/11

RECRUITMENT AND RESPONSE RATE:

International former postdoc women: We recruited former postdoc women who were on temporary visas at the time (hereafter called Internationals) through nominations from the community. We solicited nominations through e-mails to NPA sustaining member representatives (181 institutions), the ADVANCE listserv and the AAAS Fellows listserv. We received a total of 131 nominations and we extended 98 invitations to take the screening survey. Of these 98, 57 responded (58%). NOTE: Most of these were essentially pre-screened and had already opted in.

Former postdoc ADVANCE Fellow awardees: We also recruited past recipients of a National Science Foundation (NSF) fellowship for women scientists, called NSF ADVANCE Fellows (hereafter called ADVANCE Fellows). We are interested in those fellowship recipients who were postdocs at the time of award (approximately half of the 61 Fellows awards made in 2001 and 2003). Of the 61 invitations we sent to take the screening survey, 23 responded (38%). NOTE: Since only half of these were expected to postdocs at the time of application, others may not have bothered to respond to the screening survey.

Current postdocs in the social and behavioral sciences: A final focus group was held with current postdocs in the social, behavior and economic (SBE) sciences. Participants were recruited from among the female postdoctoral invitees to a workshop on “Let’s Talk! Expanding Dialogue in the Postdoctoral Community towards Broadening Participation in the Social, Behavioral, and Economic (SBE) Sciences” hosted at the NSF. Workshop invitees were primarily holders of NSF’s SBE Minority Postdoctoral Research Fellowship and their faculty mentors. Additional invitees consisted of other members of the SBE postdoctoral community, including professional society representatives and postdoctoral fellows with other sources of funding. Workshop participants were asked to indicate their potential interest in the focus group as part of the workshop’s online registration. Interested respondents were invited via e-mail to take an online screening survey. The screening survey was virtually identical to that taken by the other focus group participants; however, given that these individuals are currently postdocs, the questionnaire was adapted to only ask about their current postdoctoral experience and omitted anything about jobs following the postdoc. Of the 12 workshop registrants who said they were interested in the focus groups and were invited to take the screening survey, 10 responded to the survey (83%). Incidentally, one of the non-respondents was actually a man who probably didn’t notice initially that the focus group was about women. Participants in this focus group are hereafter called SBE postdocs (even though one of them was actually in the biological sciences).
ELIGIBILITY:

International former postdocs: 48 of 57 were eligible
Eligibility criteria: (1) Female; (2) Once a postdoc; (3) Not currently a postdoc; and (4) On a temporary visa during one of their postdocs.

Former postdoc ADVANCE Fellow awardees: 14 of 23 were eligible
Eligibility criteria: (1) Female; (2) Once a postdoc; (3) Not currently a postdoc; (4) Once an ADVANCE Fellow; and (5) A postdoc at the time of application for the ADVANCE Fellow award.

Current SBE postdocs: 10 of 10 were eligible
Eligibility criteria: (1) Female; (2) Once a postdoc; and (3) Currently a postdoc.

AVAILABILITY & SCHEDULING:

Internationals: We had enough eligible respondents to assign them to two focus group times. So of the 48 eligible, 37 were available for one of these two times.

Sept 20, 9am ET: 17 participants
Sept 20, 1pm ET: 20 participants

ADVANCE Fellows: 12 of the 14 eligible respondents could attend (most) of the focus group on the selected date.

Sept 29, 1pm ET: 12 participants

SBE Postdocs: All eligible respondents could attend the session time, which was scheduled immediately before the start of the workshop at 7:15 am ET on Friday, October 29, 2010.

Who actually attended the focus group discussions? The number of actual participants in each focus group:
#1: 12
#2A: 15
#2B: 16
#3: 11

DEIDENTIFICATION & CONFIDENTIALITY:

Identifiers and eligibility information were saved into a separate file, and the original raw data set was deidentified according to HIPAA Privacy Rule Standard for De-Identification (45 CFR 164.514(b)). This meant that the following were removed: names,
e-mail addresses, IP addresses, city names, university/institution/company names, job
titles that would reveal the institution, and survey response dates/times.

Note that country information was left in the deidentified data file because the above
privacy rule only required removal of geographic subdivisions smaller than the State.

The electronic files that include identifiers were only accessible by the NPA ADVANCE
project manager. The raw data were collected through a special survey monkey account
to which the project manager had sole access. The downloaded data files that contain
identifiers were stored on her personal computer and were password protected.

GENERAL TRENDS

- **Demographics:** There were some demographic differences between the
  ADVANCE Fellows, the Internationals and the SBE postdocs.

  o **PhD Year:** ADVANCE Fellows tend to be academically older, receiving
    their PhDs on average earlier than the international former postdocs
    (average year of PhD: 1998 vs. 2003). Of course, the current postdocs
    were the youngest academically, with almost all SBE postdocs having
    received their Ph.D. in 2009. See Figure 1.

  o **Current Job Sector:** Many more ADVANCE Fellows are currently in
    tenure-track academic jobs than Internationals (79% vs. 23%); perhaps
    following from their more advanced academic age? Also, many more
    Internationals are currently in non-tenure track academic jobs than
    ADVANCE Fellows (47% vs. 14%). See Figure 2.

    ADVANCE Fellows included no one in an “alternate” career; all were in
    academia or in a research-related industry job. The majority of
    Internationals were in academic or research-related jobs (87%), with the
    remaining in non-research related jobs including 2 stay-at-home caregivers
    and one un-employed. Part of this difference between the two populations
    is because of the much smaller numbers of Fellows. See Figure 2.

  o **Family Status During Postdoc:** ADVANCE Fellows were more likely to
    be married or partnered (85% vs. 58% for Internationals). The relative
    fractions having children less than and greater than age 5 were about the
    same (20% vs.25% and 13% vs.14%), so the primary difference was the
    number of individuals without kids who were married vs. single. In
    contrast, all responding SBE postdocs indicated they are currently
    partnered, three of eleven (27%) have children, and three (27%) are caring
    for parents or other family. One respondent was caring for both children
    and other family/parents. See Figure 3.

  o **Discipline:** Overall, the most represented discipline was biomedical
    science, and these individuals were concentrated in the Internationals
    group. As a group, Internationals had 63% in biomedical sciences and
    23% in physical sciences, which is similar to the distribution seen in the
general postdoctoral population. ADVANCE Fellows have more disciplinary breadth than the Internationals, with only 43% of ADVANCE Fellows in the biomedical sciences. The greater representation of non-biomedical fields among the ADVANCE Fellows, compared with the average in the general postdoctoral population, may in part be due to deliberate disciplinary balance during NSF’s original selection of the ADVANCE Fellow awardees. The SBE postdocs, of course, were partially selected based on their discipline in order to increase representation in this minority discipline. Among the SBE postdocs, almost all (8 of 11) were in the social sciences, two were in the behavioral sciences, and one was in the biological sciences. See Figure 4.

- **Number of Postdoc Positions:** The majority of both the ADVANCE Fellows and the Internationals had done one or two postdoctoral positions, 90% of Internationals and 79% of Fellows. All SBE postdocs were on their first postdoc. See Figure 5.

- Many of the noted differences between the ADVANCE Fellows and the Internationals may follow from the difference in academic age, which may also indicate that the ADVANCE Fellows are older in biological age as well. However, in the case of family situation, respondents were asked about their family situation during their postdoc instead of now; therefore, in principle, academic age should not affect this response.

- Another potential selection effect could be that the ADVANCE Fellows and NSF fellows among the SBE postdocs were recipients of a prestigious fellowship and were likely selected for that fellowship on the basis of being high achievers specifically interested in academic careers. The Internationals, on the other hand, are a more random sample of researchers due to the nomination process. This random sampling likely also resulted in this group’s majority in the biomedical sciences.

- **Citizenship:** The Internationals hailed from a wide range of countries of citizenship. Almost half were from Europe (43%) and about a quarter were from Asia (23%). The most represented individual countries were: India (14%), UK (14%), and Canada (10%). See Figure 6.

  - Most eligible Internationals currently lived in the United States (65%). Of those who were living abroad, 36% were in Europe, 29% in Canada, and 21% in Asia.

  - About 42% of international participants on the calls also currently resided in other countries from which they called in internationally to join the focus group. Of these countries, Canada, UK, and India had multiple callers. They were: Canada, UK, India, China, Argentina, France, Colombia, Sweden, and Germany.

  - We did not have sufficient completeness of responses to compare country of citizenship with country of current residence in most cases. Of those
eleven respondents who provided both pieces of information, most (9 of 11) had returned to their home country.

- **Helpful Aspects of Postdoctoral Training:** For all three groups, the most commonly cited aspect of postdoctoral training that aided respondents to apply for their next job was enhancement of scientific knowledge and skills. This was followed, for the ADVANCE Fellows and Internationals, by experience with grant or proposal writing and networking, and for the SBE postdocs by publications. See Figure 7.
  
  o Other common topics for the ADVANCE Fellows and Internationals were:
    - inter- or cross-disciplinary experience
    - mentoring
    - professional development
  
  o Only the ADVANCE Fellows mentioned teaching, and only the Internationals mentioned experience supervising or mentoring others.
  
  o The results from the SBE current postdoc screen survey asked about the aspect of their current training they feel is best preparing them to apply for the next job, so this group does not have the benefit of hindsight. Nevertheless, their answers are very similar, ranking first scientific knowledge and skills, followed by publications and then grant writing and networking. **It is interesting that this group has a much greater emphasis on publications than the other two groups.**

- **Improvements to Postdoctoral Training:** The most common aspects of postdoctoral training that could have been improved were networking and mentoring for all groups. In addition, a third of the Internationals cited better experience with grant writing. See Figure 8.
  
  o In all groups there were several individuals who said that their postdoc experience was successful and did not need to be improved.
  
  o Internationals included many more topics than the ADVANCE Fellows, even when accounting for the difference in number of respondents. These included:
    - Exposure to or knowledge of career options
    - Enhanced scientific knowledge or skills, scientific training
    - More professional development
    - Paper writing
    - Teaching
  
  o Two International individuals also mentioned language and communication skills.
SBE current postdocs also selected mentoring as the top aspect they would improve. This was followed by a tie between networking, paper writing and no improvement.

- **Family Influences:** Family was a significant influence on the career decisions of all groups, with 75% of Internationals, 92% of ADVANCE Fellows, and 82% of SBE postdocs saying that it did influence their career decisions. The most commonly cited reason was geographic limitations due to the dual-career needs of the respondent and partner/spouse or to the location of children and their schools. See Figure 9.

  - The next most commonly cited consideration for the former postdocs was children, which were mentioned by 28% of Internationals and 15% of ADVANCE Fellows. When limiting this to just those who had children during their postdoc, approximately half mentioned children (43% for Internationals and 50% for Fellows).

  - Among the Internationals, 18% mentioned that they were returning to their home country as part of how family was influencing their career decisions. For some, it was to raise children in their home country, to be near their family, or—in one case—to care for ill parents. One respondent speculated that this is an important issue for all international postdocs: “This is an issue that all foreign postdocs must address. Whether you can continue on living and working overseas or if family demands (old parents, sick parents etc.) will interrupt or influence your decision to stay in the US.”

  - Among SBE current postdocs, the number one reason was geographic limitations (64%). Almost half of respondents (45%) cited a reason related to a partner or spouse and, in contrast to the other two groups, followed by almost a third (27%) citing concerns related to other family, such as parents or siblings, and then 18% citing children. Two of the three parent respondents cited reasons related to children.

- **Career after the Postdoc:** The ADVANCE Fellows and Internationals have advanced beyond the postdoc position, and so were asked about their subsequent job search.

  - When job searching for a position to follow their postdoc, both the ADVANCE Fellows and Internationals were primarily interested in tenure-track academic jobs, with 60% of Internationals and 77% of ADVANCE Fellows applying for jobs in higher education on the tenure track. The next most common job sector was higher education, non-tenure track. Among Internationals there was also significant interest in research-related jobs in industry (33%) and government (23%). The majority of both groups took less than six months to find their next job. SBE Postdocs were not asked this question. See Figure 10.

  - When asked specifically about their interest in academic faculty positions, the majority of all three groups were either somewhat interested or interested (84% of Internationals, 100% of ADVANCE Fellows, and 91%
of SBE postdocs). One SBE postdoc indicated she was neutral. Of the Internationals, 10% were neutral and 6% were either somewhat disinterested or not interested. The only reason cited by the two respondents who were not interested was the competitiveness for a low number of positions.

- The ADVANCE Fellows were also asked about the relative impact of having independent funding (such as the ADVANCE award) on their career, and most respondents indicated that it had a positive impact (86%; 12 of 14). One respondent said it had “some positive impact” and another said it had “neutral impact.” The funding helped them set up successful research programs, gain independence and “credibility,” and negotiate job offers for promotions or relocation with a spouse.
FIGURES

FIGURE 1: Year of Ph.D.

[Bar chart showing the years of Ph.D. for SBE, ADVANCE Fellows, and Internationals.]

FIGURE 2: Current Job Sector for ADVANCE Fellows and Internations (SBE postdocs are all currently postdocs)

[Bar chart showing the current job sectors for SBE, ADVANCE Fellows, and Internations.]
Figure 3: Family Situation

![Family Situation During Most Recent Postdoc Position](image)

Figure 4: Primary field of research for (a) SBE postdocs; (b) ADVANCE Fellows; and (c) Internationals.

(a)

![SBE: Primary Field of Research](image)
Figure 5: Number of postdoc positions
Figure 6: Nationality of Internationals

![Pie chart showing the distribution of international postdoctoral fellows by country of citizenship during postdoc.

Figure 7: Helpful aspects of postdoctoral training

![Bar chart showing the most helpful aspects of postdoctoral training, including scientific knowledge & skills, grant writing, expanded network, mentoring others, professional development, mentoring, gaining independence, writing papers, interdisciplinary experience, leadership skills, and teaching experience.

Figure 8: Aspects of postdoctoral training that could be improved

![Bar chart showing the aspects of postdoctoral training that could be improved, including grant writing, networking, mentoring, career planning, skills, job search skills, skip postdoc, and external member experience.]}
Figure 9: Family Influence on Career Decisions

![Family Influence on Career Decisions](chart1)

- Geographical constraints
- Spouse/partner
- Children
- Other family
- Return to home country
- No family = flexibility
- U.S. not family friendly
- SBE
- ADVANCE Fellows
- Internationals

Figure 10: Job Sector of First Non-Postdoc Job for ADVANCE Fellows and Internationals

![Job Sector of First Non-Postdoc Job](chart2)

- HigherEd, ten track
- HigherEd, non-ten track
- Industry, research
- Industry, non-research
- Govt, research
- Govt, non-research
- Other
- ADVANCE Fellows
- Internationals