# Table of Contents

## Part I. Evaluation Overview
- Program Description
- Context for the Evaluation
- Methodology and Data Sources

## Part II. Evaluation Findings
- Motivations for Participating in ASCI
- Immediate-Term Impacts of Participating in ASCI
- Longer-Term Impacts of Participating in ASCI

## Part III. Takeaways and Conclusion

## Appendix A. Semi-Structured Interview Guides
List of Figures and Tables

**Figure 1.** Number of ASCI Fellows & Collaboration Grants awarded per academic year........4

**Figure 2.** Breakdown of ASCI Fellows & Collaboration Grantees, by academic subject area ....5

**Figure 3.** Breakdown of ASCI Fellows & Collaboration Grantees, by academic discipline........5

**Figure 4.** Breakdown of Collaboration Grantees from artistic disciplines, by school .............6

**Table 1.** Sample for in-depth interviews .....................................................................................10

**Table 2.** Summary of immediate-term impacts reported by ASCI participants .....................19

**Figure 5.** Percentage of interviewees who reported longer-term impacts ....................................19

**Table 3.** Summary of longer-term impacts experienced during graduate school .....................24

**Table 4.** Summary of longer-term impacts experienced after graduation .................................27
Part I. Evaluation Overview

This section of the report provides an overview of the mission and history of the Arts, Science + Culture Initiative and provides context about the purpose and methods of this evaluation.

Program Description

Established in 2010, the University of Chicago’s Arts, Science + Culture Initiative (ASCI) cultivates collaboration, sustained dialogue, and transdisciplinary exchange among students working across artistic, scientific, and humanistic disciplines. ASCI’s two-pronged grant program includes its Graduate Fellows Grants, which support individual graduate students’ transdisciplinary work and connection with peers from other disciplines, and its Graduate Collaboration Grants, which allow students from different disciplines to collaborate on the creation of new work. In 2014, the Arts, Science + Culture Graduate Collaboration Grant program initiated a partnership with the School of the Art Institute of Chicago (SAIC) and yearly supports 2-3 teams that bring together MFA candidates from SAIC with graduate students in the sciences or social sciences at UChicago. In total, the two programs awarded 86 grants between the 2010-11 and 2018-19 academic years.

In total, the two programs awarded 86 grants between the 2010-11 and 2018-19 academic years (Figure 1). The Collaboration Grants program, established in AY 2010-11, has supported 49 collaborative projects among 118 individuals, while the Fellows Grants program, begun in AY 2014-15, has awarded 37 individual grants to support 5 cohorts of Fellows.

Figure 1. Number of ASCI Fellows & Collaboration Grants awarded per academic year
As Figure 2 illustrates, three-quarters of grantees have been from the arts (37%) or sciences (38%), while the remaining quarter have been from the social sciences (17%) or humanities (8%). Within these four broad subject areas, grants have been awarded to graduate students from a wide range of academic disciplines (Figure 3).

Figure 2. Breakdown of ASCI Fellows & Collaboration Grantees, by academic subject area

![Pie chart showing the distribution of ASCI Fellows and Collaboration Grantees by academic subject area.]

- **Arts**: 37%
- **Sciences**: 38%
- **Social Sciences**: 17%
- **Humanities**: 8%
While Fellows Grants are open exclusively to students from the University of Chicago, students from both UChicago and the School of the Art Institute of Chicago are eligible to participate in the Collaboration Grants program. And in fact SAIC students have a strong presence in the program: of the artists who have received Collaboration Grants, nearly half have come from SAIC (Figure 4).

Note: One grantee was in an arts/humanities joint degree program, so is counted twice.
Context for this Evaluation

The central mission of both ASCI grant programs is reflected in a broader dialogue occurring within both academic and policy realms about the value of cross-disciplinary opportunities in undergraduate and graduate education. A 2018 National Academies of Sciences, Engineering, and Medicine report describes the limited but promising evidence suggesting that instituting programs and curricula which integrate the arts and humanities with the sciences, medicine, and engineering are associated with a range of positive learning outcomes. The report also stresses the importance of evaluating such programs and curricula to build the evidence base around whether and how cross-disciplinary work results in the expected outcomes, and to measure progress toward intended program goals.

Situated within this broader exploration of the potential benefits of cross-disciplinary collaboration, ASCI seeks to understand the impacts that its grant opportunities have had on participants during and after their involvement with the program. ASCI is structured in part around the assumption that impacts lie more within the process of cross-disciplinary work, collaboration, and dialogue than within the products that are created. Consequently, ASCI partnered with NORC to commission an independent evaluation focusing on the impacts that participation in such cross-disciplinary collaboration has had on students over the course of their graduate studies and beyond. This report summarizes findings from NORC’s analysis of multiple data sources surrounding three central questions:

- What are students’ initial motivations for participating in the program?

---

What immediate-term impacts, if any, did cross-disciplinary engagement have on students during the course of their ASCI grant year?

What longer-term impacts, if any, did participation in the program have on students’ later graduate work and professional careers?

Methodology and Data Sources

As the external evaluator for this program, NORC designed and conducted a mixed-methods impact evaluation centered on understanding the outcomes that may result from graduate students’ engagement with ASCI as well as the transformative processes that support any observed outcomes. Since this evaluation focused exclusively on outcomes, we did not collect systematic data or feedback on the program’s implementation or ways it might be improved.

Data Sources

The impact evaluation leveraged three sources of primary data collected in past years by ASCI staff and supplemented these with an additional wave of primary data collection conducted by NORC. The latter data collection was specifically designed to mitigate the potential for any sample or response bias, described in more detail below. These data sources were as follows:

- **Exit surveys from ASCI participants** (N=31). These 31 exit surveys, which contained a mix of closed-ended and short open-ended questions, were designed by ASCI program staff, given to Fellows and Collaboration Grant participants at the end of the grant year, and returned to ASCI staff on an optional basis. Some respondents completed the surveys individually while others completed the surveys as a group (typically returning one per Collaboration Grant group), but an exact count of the number of individuals who provided input on the surveys is not possible since some of the surveys were completed anonymously. Survey questions also varied between the two programs and changed from year-to-year, disallowing the possibility of longitudinal analysis; however, the surveys served as a primary source of data on impacts and outcomes that students reported experiencing during their grant year.

- **Videos that featured Collaboration Grant projects** (N=32). These short videos (typically 3-6 minutes in length) were commissioned and filmed by ASCI staff and consisted of interviews with Collaboration Grant recipients as well as footage of the collaborations taking place. In all, 70 individual ASCI participants were featured in the 32 videos. NORC transcribed the videos and conducted thematic content analyses of the transcripts, using them as a second source of student impressions and impacts during the grant year.

- **Web profiles of individual grant recipients** (N=14). These profiles featured short write-ups on individuals who participated in the Fellows or Collaboration Grant programs. Commissioned by ASCI program staff and written by ASCI staff, peers, or alumni, these profiles contained a mix of summarized information about their grant activities and quotes
from the individuals. In all, 20 individuals were featured in the 14 profiles. NORC conducted thematic content analyses of the transcripts, using them as a third source of reported impacts during the grant year.

- **In-depth qualitative interviews** (N=19). 19 in-depth interviews with 21 recipients of Fellows Grants and Collaboration Grants, conducted either individually or in pairs, were the primary source of information on longer-term outcomes. Interview protocols were developed and implemented by NORC evaluators with input from ASCI staff; details on the interview guide design, sampling strategy, and interview process are provided below.

### In-depth interviews

The interview guide used by NORC for its primary data collection was developed iteratively in collaboration with ASCI staff. The primary areas of focus were:

- Background information on the individual’s ASCI grant activities
- Reflections on what they learned through their experience with ASCI
- Details on what they have done since their ASCI grant year, what they are doing now, and what they anticipate doing in the near future
- Whether and how their post-ASCI path has been at all shaped or informed by their experience with ASCI

Questions were purposefully constructed using neutral language so as not to bias responses. Two versions of the interview guide were created: one for Fellows Grant recipients and another for Collaboration Grant recipients. The full interview guides can be found in Appendix A.

### Sampling approach

NORC consulted with ASCI staff to develop a sample for the interviews. ASCI provided records of all current and former students from the 2 universities, 4 subject areas, and dozens of disciplines represented between the ASCI Fellows and Collaboration Grants programs. From these complete records, NORC using a targeted quota sampling approach to create a list of potential interviewees. We first divided the records into two categories based on which grant program each individual participated in: (1) Collaboration Grants, or (2) Fellows Grants. Because the total list of participants was comprised of about two-thirds Collaboration Grants

---

3 ASCI Fellows Grants are open to University of Chicago students; while Collaboration Grants are open to students from the University of Chicago as well as, from 2014 onward, the School of the Art Institute of Chicago.

4 ASCI grants have been awarded to graduate students from 4 broad academic subject areas: the arts, the sciences, the social sciences, and the humanities.

5 While the majority of participants have only received one grant from ASCI, several individuals have participated in both the Fellows Grants program and the Collaboration Grants program. For sampling purposes, these individuals was placed on the list of the grant program that they participated in first, and, when interviewed, were asked to speak about their experience with their first ASCI grant only. This approach was taken to maintain parity across all interviews (i.e. all interviewees were asked about their initial—and, in most cases, only—experience with ASCI).
recipients and one-third Fellows Grants recipients, we aimed for a comparable spread in our sample of interviewees. Thus we settled on selecting approximately 6 Fellows Grant recipients and 12 Collaboration Grant recipients to comprise our target of 18 total interviews.

We also used four other sampling criteria to select specific interviewees, with the primary goal of having every grant year and academic subject area represented in the sample, and with a secondary goal of achieving diversity across disciplinary and demographic lines:

■ Representation from both UChicago and SAIC;
■ Roughly equal representation from every grant year;
■ Representation from each of the four academic subject areas in rough proportion to the overall breakdown of grants awarded (i.e. roughly three-quarters of interviewees from the arts and sciences and the remaining quarter from the humanities and social sciences);
■ Maximum diversity across specific academic disciplines; and
■ Roughly equal gender representation

ASCI staff also provided guidance on which past grantees have kept in touch with program staff and thus may be more likely to consent to be interviewed. NORC used these recommendations as an additional fifth factor when selecting between similarly qualified interviewees; however, only some of the selected interviewees had been included on this list of recommendations, so as to reduce the potential for sample bias.

Sampled individuals were contacted by email and invited to interview. As shown in Table 1, our final interview sample consisted of 21 individuals, comprised of 7 Fellows Grant recipients and 14 Collaboration Grant recipients. Some respondents had participated in the program more recently than others (ranging from having completed the program just a few months to a full eight years prior to the interview), and 13 out of 21 had completed their degrees and were working in a range of academic and professional positions. This variation resulted in a wide range of perspectives on the program’s longer-term impacts.

Most interviews were conducted one-on-one, with the exception of two pairs of Collaboration Grant partners who were interviewed together. Interviews were conducted over the spring and summer of 2019, and were typically 30 minutes in length, though several lasted upwards of 45 or even 60 minutes. We conducted interviews over the phone or in-person, as preferred by the respondent, and all were digitally recorded for later analysis.
Table 1. Sample for in-depth interviews

<table>
<thead>
<tr>
<th>Subject area</th>
<th>Discipline</th>
<th>Number of interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>Cinema and Media Studies</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Fiber and Material Studies (SAIC)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Art History</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Art and Technology Studies (SAIC)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Music</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Photography</td>
<td>1</td>
</tr>
<tr>
<td>Humanities</td>
<td>English</td>
<td>2</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>Anthropology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Linguistics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Political Science</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Psychology</td>
<td>1</td>
</tr>
<tr>
<td>Sciences</td>
<td>Astronomy and Astrophysics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Geophysical Sciences</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Integrative Biology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Molecular Engineering</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Neurobiology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Psychiatry</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

Analytic methods

Once data collection was completed, NORC researchers conducted content analyses of all data (exit surveys, video transcripts, web profiles, and in-depth interviews) by coding the open-ended responses for emergent themes. Two sets of possible codes were generated independently and then cross-compared to be merged into a final set of codes. Two separate NORC staff then conducted final coding of the data and reviewed the coded datasets to ensure inter-coder reliability.

To assess the range of outcomes resulting from ASCI grants, we organized the data analysis around separating immediate-term outcomes from longer-term outcomes. Immediate-term outcomes were defined as those that occurred during the ASCI grant year and included data from exit surveys, video transcripts, and web profiles. As previously noted, all of these data were collected during or immediately after each grant year, thus eliminating the potential for recall bias that might occur if we had instead opted to rely on asking interviewees to think back to their grant year.

---

6 Because some of immediate-term outcomes data (e.g. the exit surveys that participants submitted at the end of their grant year) were collected anonymously, it was not possible to provide quantitative summaries of how many individuals reported experiencing any given outcome using these sources. Responses to the in-depth interview questions, however, were able to be counted, so quantitative summaries are reported for those responses.
We defined longer-term outcomes as those which manifested after the grant year had ended, drawing this information from the in-depth interviews conducted by NORC. The in-depth interviews were also used to collect information on students’ initial motivations for participating in the program, as this information was not consistently present in the other data sources.
Part II. Evaluation Findings

In this section we report the results from our review of internal documentation and data sources about the ASCI program and its grantees made available to us by ASCI program staff, as well as findings from data collected independently by the NORC evaluation team.

While program experiences inevitably varied from participant to participant, clear themes emerged regarding students’ initial motivations for participating in ASCI, immediate-term changes that they reported over the course of their participation, and ways that ASCI shaped or influenced the academic and professional paths they took in the years that followed. Taken as a whole these findings are illustrative of the broad range of possible ways that participating in ASCI grant opportunities may impact graduate students’ understanding of both others’ disciplines and their own, their day-to-day experiences of life in academia, and, perhaps most strikingly, their trajectories as emerging scholars and eventually as professionals in their chosen field.

Motivations for Participating in ASCI

We began by exploring the reasons why graduate students pursued ASCI grants in order to assess (1) how well their experiences with the program aligned with their objectives for participating and (2) whether participating in the program led to other, unanticipated outcomes, positive or negative, beyond those initial expectations. As noted above, we primarily relied on interview data to learn how respondents initially heard about ASCI grant opportunities and why they were motivated to pursue them. Although several years had lapsed between the grant year and the time of the interview for some respondents, most were able to give clear, specific answers about how they initially heard about the program and why they wanted to participate. These responses can be grouped into four overarching motives for participating.

1. Pursuing a specific research interest

Several respondents reported that they were initially drawn to the program because it offered an opportunity to explore or further develop a particular research question or idea. While these students came to the program with a pre-formed topical interest, they saw inherent value in approaching that topic from a cross-disciplinary perspective. For example, one art history student who had set out to plan a wildlife photography exhibit specifically sought a collaborator in the natural sciences who could bring a scientific perspective to the endeavor. Others were eager to bring multiple alternative viewpoints to bear, with one humanities student who was writing her dissertation on the topic of waste reporting being “excited at the beginning that I’d get to encounter people who’d have insights on this subject matter from all different kinds of perspectives.”
2. Formalizing a scholarly partnership

Another attraction to ASCI, particularly for the Collaboration Grants program, was that it provided an opportunity to formalize a scholarly partnership whose roots predated the ASCI grant application. In these cases, the grant partners typically viewed ASCI grants as a mechanism for pursuing a mutually beneficial collaboration that would not have been feasible otherwise. For example, a visual artist who collaborated with a mathematician with whom he had a longstanding friendship and mutual intellectual admiration commented that having “an excuse to work with someone like [my collaborator] is a really rare privilege. And it holds [him] accountable to actually working with me – he’s on the line for it too because he agreed to it. Since we both committed to it we actually met up and got it done.”

3. Securing funding and other resources

Yet other students were attracted to the program for more pragmatic reasons—especially the financial support and other resources that ASCI offered. One visual artist reported that he was able to use an ASCI stipend to partially “fund a massive work that I ended up using for my thesis exhibition…I would never have been able to fund that project without…the grant.” Similarly, a social scientist who participated in the Fellows program discussed the critical importance of the stipend that ASCI provided: “At the time, totally honestly, I was looking for funding… I was taking painting classes and was interested in a wide variety of methods and was looking for methods that leaned toward the experimental and the visual. But I was also looking for opportunities for funding. So [participating in ASCI] would be a good way to address both those needs.” Although this respondent noted dual motivations, both intrinsic and extrinsic, the importance of funding as an entry point into the program was mentioned often, with one participant reporting that he first learned about the program by browsing a website listing graduate funding opportunities at the university, and another mentioning that “as a resource-hungry grad student” she asked her peers about grants they’d received, and was told about the program by a former ASCI participant.

4. Requests from peers

Finally, some students reported that their participation in ASCI was prompted by being on the receiving end of a request to participate from peers in other departments who, spurred by one of the previously mentioned motivations, were actively seeking collaborators from other disciplines. For example, a geophysical scientist commented that “I’d heard about [ASCI] before because one of my best friends did it. He had a lot of success with it…and he was telling me all about it. …I hadn’t thought of applying myself really, because I couldn’t think of a project. But then last year [my eventual collaborator] cold-emailed me and a few other people in my department… It was right before the deadline, it was short notice, but I got back to her and we met a few days later.”
Immediate-Term Impacts of Participating in ASCI

Aside from those who were drawn to the program by happenstance, respondents’ initial motivations for pursuing ASCI grants generally revolved around fairly specific needs or goals. Yet by the end of the grant year many reported a range of ways in which ASCI had ended up benefitting them that extended well beyond these initial motives. This range of immediate-term outcomes that participants reported can be grouped into five broad themes: (1) learning, (2) discovering commonalities with other disciplines, (3) experiencing novelty, (4) personal and social fulfillment, and (5) benefits to students’ other academic work (summarized in Table 2).7

1. Learning

First, many ASCI participants across both the Collaboration and Fellows programs reported having learned a substantial amount about other disciplines and ways of working. Several respondents praised the effective foundation that ASCI laid for exploring other disciplines, commenting that the program created an intellectual “safe space” in which participants could comfortably profess ignorance about fields that, as one Fellow put it, they “never even knew existed.” Another lauded the program for fostering an environment that allowed “the safety to ask basic questions,” a rare opportunity in graduate-level education and a novelty for students accustomed to having reached a high degree of expertise in their chosen fields.

By being able “to ask dumb questions to very smart people” participants commented that they were able to learn a great deal about both the substance and the methods of other disciplines, with one stating that ASCI is about “not just learning new facts, but also learning how those facts are acquired.” Similarly, another commented that “I received very keen insight into how students in vastly different disciplines approach the process of both asking questions and creating work,” thereby “expand[ing] my concept of what ‘research’ actually means.” Some also reported that through ASCI they were able to become conversant in the language of other disciplines: one sculptor commented that the project “has given me the opportunity to learn the language of physics.”

Some participants even commented that ASCI helped them learn more about their own discipline or see it in a new light. For example, one humanist who participated in the Fellows program observed that “in sharing our practices and methods with each other, we also learn a great deal about the values, assumptions, and limitations of our primary disciplines. We gain a sharper sense of the unique strengths of our disciplinary ways of thinking, and we also push our self to think in new ways.” Another Fellow in neuroscience remarked that this dimension of the program was particularly helpful to her understanding of her own work, commenting that “People asked questions about my work that I’d never thought about. People who aren’t experts ask very interesting questions.”

---

7 As described in the Methodology and Data Sources section of this report, immediate-term outcomes data were drawn from three data sources: the exit surveys, videos, and web profiles compiled by ASCI staff.
Finally, other respondents reported learning about the very mechanics of collaboration. One anthropologist commented, “I learned a lot of collaborative skills that aren’t often taught in the solitary field of anthropology: how to effectively communicate, how to delegate project tasks between collaborators, how to negotiate feedback and make editorial decisions with another person.”

2. Discovering commonalities

While respondents’ cross-disciplinary interactions often highlighted the differences between disciplines, they also led to the discovery of significant commonalities. For some, this uncovering of “common themes, common values” was not wholly unanticipated: one Fellow commented that “we were all looking for ourselves in each other this year, and the further away the discipline, the harder I wanted to look. That’s the great constructive challenge of this program.” Yet others, as one put it, were more “surprised to find so many connections between what I do and what my co-fellows do.”

One point of intersection that multiple participants discovered was that drastically different fields may actually employ similar methods or processes. A collaboration between an art historian and an evolutionary biologist, for example, revealed a common affinity for a particular approach to historical research: “our working methods are not so dissimilar… we share an interest in modes of historical inquiry that don’t rely on text, and this forms the core of our project.” Along the same lines, a collaboration between a musician and a neurobiologist left the pair with an impression that “what we do is similar. Going into a lab and doing an experiment is not that different from going into a musical piece with this sort of blank slate. You don’t know what’s going to work and not, but you just try different things…”

Other commonalities that several participants identified was the discovery of a shared affinity for and appreciation of certain materials (for example, collaborations between visual artists and scientists unearthed a shared fascination with the composition and properties of materials ranging from salt crystals to webs), or use of common language (one collaboration pair commented that at the start “the only common element that we had was in some terminology we were using… [such as] density, opacity, sheerness, filaments, and nodes.”)

Commonalities related to the nature of working in academia also surfaced. Respondents described discovering a shared appreciation for the significant time and energy it takes to conduct careful research, similar challenges in finding resonant and impactful ways to communicate about one’s work, and a common understanding that all academic work is linked by the ultimate goal of pursuing truth and “contributing to the universal body of knowledge.” On a more personal level, these commonalities also included the discovery of shared frustrations about the stressors of working in academia—anxieties around such matters as feeling pressure to publish, receiving criticism, and working in a highly competitive environment.

Uncovering this range of connections ultimately led many participants to a realization that was
perhaps most concisely stated by one member of a Collaboration group of musicians and psychologists: “Science and art aren’t mutually exclusive…that’s one of the things that this initiative is making very apparent.”

3. Experiencing novelty

One respondent vividly described the cross-disciplinary collaboration process as “the collision of two different universes” that “generates an integrative third space” which allowed new intellectual and interpersonal doors to be cracked open. Reflections by several participants in both the Fellows and Collaboration Grants programs revolved around this general idea of novelty and newness, describing how encounters with peers from other disciplines opened their minds to new ideas and ways of working, often by way of encounters with new perspectives and audiences.

The range of novel experiences ASCI participants reported varied considerably. Some experienced newness in literal ways: one expressed excitement at having a reason to enter the building that houses the Molecular Biology department for the first time, commenting that participating in the program “stretches you to different corners of campus.” Others reported more figurative novelty—often in terms of experiencing surprise. A visual artist expressed that, throughout the course of his collaboration work with chemists, “There have been lots of moments where I’ve been really surprised at what emerges.” This potential to step into the unknown, literally or figuratively, was reported by some to be a driving force for their cross-disciplinary efforts. One English student collaborating with mathematicians expressed excitement at the notion that their work together contained the possibility to “find hidden narratives, hidden trends, things that haven’t been uncovered yet.”

Several participants discussed the value of having the chance to speak about their work with others from different disciplines, which enabled them to receive feedback from new audiences and “experience perspectives that I otherwise never would have.” One Fellow commented that “I deeply appreciated the questions that were raised during my presentation in response to connections that I’d normally take for granted,” while another commented that it “is always beneficial to get an outside perspective on something you have thought about/worked on.” Notably, these interactions with new audiences extended beyond graduate student peers. Several ASCI participants described the benefits of having had the opportunity to get to know faculty from across the University; one described the “opportunity to more easily meet with faculty in different areas of study” to have been among the most beneficial aspects of the program.

4. Personal and social fulfillment

Beyond strictly intellectual pursuits, several ASCI participants reflected on the benefits to their sense of personal and social wellbeing that the program afforded. One visual artist commented that, in addition to his Collaboration project work bearing intellectual fruit, he and his collaborator
“genuinely enjoy spending the time together.” Another remarked that time seemed to speed up when she got together with her collaborator—“those moments seem so fast.” About her cohort of Fellows, a third simply stated, “It has been such a joy to get to know them.”

But beyond being a pleasant social experience, several participants cited ASCI as having filled a more critical social need, given the isolation inherent in pursuing a graduate degree. “What bothers me most about academia is the solitude,” commented one social scientist, citing her Collaboration Grant as having been a rare and meaningful opportunity “to think with someone.” Creating these personal connections also deepened a sense of connectedness to the wider academic community at the university and beyond. As one Fellow described, “Our meetings always left me with an increased feeling of belonging, as well as a deep admiration for my counterparts throughout the university (and academia more broadly).”

Some also reflected on the renewed energy and optimism that they felt as a result of making these social connections. Speaking of the intense highs and lows one almost inevitably experiences in graduate school, one Fellow described academia to be “as toxic as it is nurturing” and discussed how it can be easy to become disillusioned or burnt out. For him, however, ASCI proved to be the antidote to this dissatisfaction by renewing his appreciation for academic mission: “I am particularly grateful to have spent a year experiencing anew, and from a variety of disciplinary angles, the forms of enchantment each of my colleagues brings to his or her work, and which each was so eager to share.”

5. Benefits to other academic work

As her grant year neared its end, one linguist engaged in a Collaboration Grants project with an English student remarked that “As we’ve been collaborating on this…I’ve actually found that I’ve discovered some really interesting connections to my own research, which I didn’t really expect to find.” This remark illustrates another outcome that several participants described. Beyond feeling that they had learned, generated new ideas, or found commonalities between or camaraderie with peers from other disciplines, a number of respondents reported that participating in the program delivered benefits that carried over to their other academic work.

For instance, one musical composer stated that, while his work is “influenced by a lot of things outside of music,” he had never drawn much inspiration from science until undertaking Collaboration Grant work with a neuroscientist, which had proven to be an exciting “new source of inspiration” for his compositions. A physicist who partnered with a visual artist on a Collaboration Grant pinpointed more specifically that participating in ASCI had inspired him to take a fresh approach to problem-solving: the collaboration “showed me that there’s flexibility in how to go about solving a specific problem. [In art] there’s different ways to go about it, whereas in physics we’re just like, ‘No. Where’s the equation?’”

Beyond helping participants approach their own work with renewed enthusiasm, some also reported that ASCI provided useful practical training. For example, a few participants reported
having learned specific methodological approaches from other disciplines that they intended to apply to their own work. One social scientist explained that, through collaborating with a humanities student, “I gained insight about text- and archival-based research methods that… will actually support my dissertation research going forward.” Another commented that “discussing my work with scientists… has spurred me to formulate hypothesis-driven research questions.” She went on to describe that this was “hugely influential” because her participation in ASCI occurred at a crucial time in her academic career: the drafting of her dissertation proposal.

Others remarked that, rather than benefitting the work itself, participating in ASCI benefitted their ability to communicate about their work. One Fellow commented that their ASCI grant year was pivotal in helping them to better define their research interests and communicate those interests to others, thanks to the “attentiveness and expertise of my colleagues” who asked “questions that invited me to articulate my research in clear and relevant terms.” Similarly, a Fellow from the sciences remarked that ASCI provided a much-needed platform to learn how to talk about his work with diverse audiences: “It was very helpful to share my research with graduate students of a different background because it gave me an opportunity to practice science communication with a broad audience, which I think is an incredibly important and undervalued skill in the scientific community.”

By the end of their grant year, a number of participants could also already anticipate ways in which what they’d learned through ASCI would help their future work. One Fellow cited the experience as being useful for future creative problem-solving, stating that “meeting with other disciplines provided a foundation for looking at problems from different angles and allowing for ‘out of the box’ thinking when encountering a problem.” Another hypothesized that having had the opportunity to get comfortable speaking to non-expert audiences about her work would be beneficial to her longer-term professional trajectory: “this is a particularly important skill in my work because I hope to address audiences beyond the academy.”
### Table 2. Summary of immediate-term impacts reported by ASCI participants

<table>
<thead>
<tr>
<th>Immediate-term impact</th>
<th>Description</th>
<th>Representative comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>Participants reported having gained a better understanding of other academic disciplines’ and their own, in addition to learning more general collaboration and communication skills</td>
<td>“It was very interesting to me to learn about everyone’s day-to-day processes, because the mechanisms of most of my peers’ fields were previously opaque to me. I had no idea how a composer composed music or interacted with musicians. I had no idea how an anthropologist does field research and builds projects around that research. I had no idea that the University had a large collection of butterflies, or the underground machines we were shown for the chemistry and physics presentations. There is so much I learned from everyone… it would be impossible to list.”</td>
</tr>
<tr>
<td>Discovering commonalities</td>
<td>Participants described discovering commonalities or overlaps with peers from other disciplines. These included discovering similarities in methodological approaches, similar substantive interests, or similar experiences with life in academia</td>
<td>“At the end of the day, despite the large disparity in our academic histories, I came away with a renewed appreciation of the commonalities that guide our respective efforts to search for truth, to express our ideas in new and interesting ways, and to ultimately contribute to the universal body of knowledge.”</td>
</tr>
<tr>
<td>Experiencing novelty</td>
<td>Participants described ASCI as an outlet for generating creative and innovative ideas, and interacting with new perspectives and audiences</td>
<td>“Our conversations inspire me to think in new directions. I remember hearing once that one of the most important things a graduate student can have is a good imagination. When I’m with the other Fellows, it feels like we have a collective imagination that is ten times bigger.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Working on a collaborative project gave me the chance to try out new ways of thinking and making that I don’t normally feel comfortable doing in my research. I really appreciated having the opportunity to feel licensed to take risks and try things out even if they might not always work out.”</td>
</tr>
<tr>
<td>Personal &amp; social fulfillment</td>
<td>Participants described the genuine enjoyment they felt participating in the program and the sense of social camaraderie it fostered</td>
<td>“I have fantastic memories of hanging out at [my collaborator’s] studio talking…about art and life and putting the project together… We really formed a friendship out of it, we really got to know each other and each other’s process even though we do wildly different things.”</td>
</tr>
<tr>
<td>Benefits to other academic work</td>
<td>Participants described numerous ways in which participating in ASCI benefitted their other academic work</td>
<td>“It renewed my interest in my own work. It felt like taking a step back, not just focusing on data and analysis but focusing on what the bigger picture is. It was a nice boost to [see that], ‘Oh, [my work] is actually important and people are actually interested in it.’”</td>
</tr>
</tbody>
</table>
Longer-Term Impacts of Participating in ASCI

It seems clear that many ASCI grantees learned and grew academically and personally while participating in the program. Yet this evaluation was equally concerned with assessing what happened after the grant year ended: did participants mostly experience outcomes while actively involved with the program, or did outcomes extend into the months or years after the grant ended? Was students’ participation in ASCI in any way formative for what came next for them academically or professionally? And if so, in what ways?

The in-depth interviews conducted by NORC focused on these questions and found that ASCI had meaningful impacts on participants’ academic or professional trajectories with remarkable frequency. 81% of interviewees reported that the ASCI grant in some way impacted their work throughout the remainder of their time in graduate school, while an even higher 92% of interviewees who had completed their graduate program by the time of the interview reported that their time in ASCI had some bearing on their post-graduate professional paths (Figure 4). The remainder of this report explores the specific impacts on graduate and post-graduate work that interviewees shared (summarized in Table 3 and Table 4).8

Figure 5. Percentage of interviewees who reported longer-term impacts

8 As described in the Methodology and Data Sources section of this report, longer-term outcomes data were drawn from a sole data source: the in-depth interviews conducted by NORC over the spring and summer of 2019.
Impacts participants experienced during graduate school

The previous section on immediate-term outcomes noted that by the end of the grant year several students anticipated that what they’d learned and experienced during their ASCI grant year might in some way shape or influence the remainder of their graduate work. For a majority of interviewees, this proved to be true. Of the 21 individuals interviewed by NORC, 17 (~81%) reported that participating in ASCI had direct benefits to their graduate work after the grant ended. The most commonly reported benefits from this stratified sample of program participants are described below. It is worth noting that no respondent reported having experienced negative impacts during graduate school (e.g. opportunity costs of having put time and energy into this particular program instead of pursuing other opportunities).

1. Informing dissertation or thesis work

One-third of interviewees (7 in all) said that participating in ASCI shaped or informed their work on their dissertation or thesis project, making it the most frequently reported outcome experienced during the remainder of graduate school.

Some reported eventually adopting methods for their dissertation or thesis work that they became familiar with through their ASCI grant activities; for example, a political scientist spoke of learning qualitative interviewing techniques through ASCI that she has since employed for her dissertation project, while a linguist spoke of learning applied computational methods for her Collaboration Grant project that she eventually used in her dissertation and that have since “become my specialization” as an academic.

In other cases, ASCI participants formed key connections that aided their later work. A first-year psychology PhD student who partnered with a music student for a Collaboration Grant commented that when it came time to begin his multi-disciplinary dissertation work on music cognition he found it “a lot more manageable to… approach people in Music to talk about my [dissertation] research” because of the earlier relationship he’d built with the department through his ASCI collaboration. An anthropologist commented that her Collaboration project unexpectedly played an important role in facilitating her dissertation research by getting her acquainted with the scientific language she needed to interview key informants in the sciences for her dissertation. She commented that having this knowledge “made dissertation conversations with them much easier than I think it otherwise would have been. I don’t think I knew that I would need to learn that [language], and I definitely didn’t know that that’s something I’d be learning from my ASCI project.”

Even a Fellow in the arts who had finished participating in ASCI just a month prior to being interviewed described how her experiences over the past academic year had made her begin to reimagine her ideas about her dissertation: ASCI “has encouraged me to continue pursuing ways to make my dissertation beyond just my field… Just having those discussions with [other
Fellows, particularly in the social sciences, was really useful for me and helped me realize that…these are the kinds of ways I could expand my work.”

2. Achieving academic markers of success

More than a quarter of interviewees credited their ASCI work with helping them build their academic credentials in graduate school by way of receiving additional grants or securing publications in peer reviewed journals.

First, interviewees across all four ASCI academic subject areas (the arts, the sciences, the social sciences, and the humanities) spoke of ASCI’s instrumental role in their having received further grants. An anthropologist, for example, stated that her “experience with ASCI had a lot to do with me managing to get a lot of grants in the last few years of graduate school, partly because I got more comfortable writing grants…and partly because of having these conversations about how to put things in different ways and make my research legible to different audiences, especially more scientific audiences.” One scientist who collaborated with a humanist similarly commented that ASCI improved her grant-writing skills by providing “a really good opportunity to get practice in…how to talk about your science for a general-audience perspective” and then “to get feedback about what didn’t make sense”—an opportunity that “the way our [graduate] programs are structured, they don’t really teach you.” She continued that this opportunity was “one of the most directly practically helpful things about the [ASCI] program.”

Participants’ sense of having developed better general-audience communication skills also led, for some, to being published. In one interview, an art historian who participated in a Collaboration Grant with a biologist described how the pair’s project resulted in a paper published in the Proceedings of the National Academy of Sciences. This interviewee was quick to attribute this achievement to the very fact that the paper was co-authored by two individuals who possessed different knowledge bases and skillsets. He commented:

“One of the really successful parts of our partnership…was having someone from the humanities be able to intensively revise and shape a manuscript that was being submitted to a scientific journal. I’m guessing that…a lot of the manuscripts they receive[d] were much less accessible, and more jargon-filled and opaque in terms of their prose. So, I think the experience of co-authoring our write-up on our research was really useful on both sides—insofar as [my scientist collaborator] was able to make clear what the conventions of the genre were... and then I was able to say, “Can we say this like a normal person?”

This remark suggests that, through the collective powers of two different but complementary skillsets, the pair was able to reach a significant achievement that neither individual may have been able to accomplish on his own. (It is also worth noting that this project also reached a much wider audience as the subject of numerous stories in major media outlets.)

While not all grantees had experienced such tangible successes, several additional interviewees noted that better communication skills developed through participation in ASCI
were likely to pay off in the future. One visual artist commented, “This experience has made me more confident about applying to future grants. I feel like I better know how to communicate across disciplines.” While lamenting the “very boring” standards of presentation in his field of molecular engineering, another student reported having gained through ASCI a new vision for how the “richer forms of communication that other departments are embracing” might increase the impact of his field’s research by “helping people see what we find important in our work.”

3. Spurring additional cross-disciplinary work

A third type of impact on participants while in graduate school was that for some ASCI created an interest in pursuing additional opportunities for cross-disciplinary work. Approximately one-fifth of interviewees reported availing themselves of the opportunity to take classes and attend conferences outside their core discipline, develop new interdisciplinary workshops, or pursue new projects with collaborators from different departments.

The year after participating in ASCI, one photography student took an advanced coding course that focused on computer vision—a course that having partnered with a computer scientist for his ASCI Collaboration Grant “made seem more possible [to take]...I don’t think I’d have taken it otherwise.” Having taken this course then paid off at a media and technology conference in Brussels where his advanced technical questions led one speaker, an expert technologist, to remark to him that “‘you’re not an artist, you’re a scientist!’”

The interviewee added that “having some of the technical know-how goes a long way in establishing credibility,” a side-benefit of participating in ASCI which also allowed a doctoral candidate in English to carve out multiple cross-disciplinary opportunities for himself, from helping out with research in a neuroscience lab to leading an interdisciplinary workshop. He commented that his impetus to pursue the latter “was really an excuse to recreate the atmosphere of the [ASCI] Fellows’ meetings.” Two other interviewees were in the planning stages of further cross-disciplinary projects, agreeing with their peers that, as one political scientist put it, ASCI has “given me good practice of being a multidisciplinary scholar and someone who can represent my discipline across campus” as she lines up her next cross-disciplinary venture.
Table 3: Summary of longer-term impacts experienced during graduate school (n=21)

<table>
<thead>
<tr>
<th>Number of mentions</th>
<th>Longer-term impact</th>
<th>Description</th>
<th>Representative comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Informing dissertation or thesis work</td>
<td>Participants reported that their experience with ASCI helped shape or inform their dissertation or thesis work later in graduate school</td>
<td>“I was a Fellow during the year I wrote the first draft of my dissertation proposal, so these conversations came at a crucial stage of my movement through the Ph.D. program and have been formative for my research.”</td>
</tr>
<tr>
<td>6</td>
<td>Achieving academic markers of success</td>
<td>Participants attributed their ASCI grant to having helped them receive further grants or secure academic publications</td>
<td>“[My] experience with ASCI had a lot to do with me managing to get a lot of grants in the last few years of graduate school. I think my experience with ASCI made it possible. Partly because I got comfortable writing grants…and partly because of having these conversations about how to put things in different ways and make my research legible to different audiences, especially more scientific audiences, which helped a lot when I was writing grants for the National Science Foundation.”</td>
</tr>
<tr>
<td>4</td>
<td>Spurring additional cross-disciplinary work</td>
<td>Participants reported that their experience with ASCI led them to pursue further cross-disciplinary opportunities or projects later in graduate school</td>
<td>“I like doing lots of collaborations…I think having ASCI as a model, and as a thing that implicitly gives you permission to make more interdisciplinary work, makes it really easy to just feel authorized to find a person and make a thing happen.”</td>
</tr>
</tbody>
</table>

Impacts participants experienced post-graduation

By the time of the NORC-conducted interviews in mid-2019, 13 of the 21 interviewees had received their graduate degree. Among them, an overwhelming 12 (~92%) reported that their participation in ASCI had directly benefitted their professional careers. Once again, no respondent reported having experienced negative impacts on their post-graduate career.

1. Securing a post-graduate position

Remarkably, just over half (~54%) of these respondents, who collectively represented all four academic subject areas, reported that their ASCI work had in some way helped them to secure their academic or professional positions after graduation.

For those going into academia, multiple interviewees linked their involvement with ASCI to obtaining coveted postdoctoral positions. As one humanist who received two postdoctoral fellowships partly on the merits of her ability to work across disciplines bluntly stated that “being part of Arts Science + Culture has probably hugely affected the course of my academic career.” On her successful application to one of these highly competitive postdoctoral fellowships, she conjectured that “I would have been a strong candidate regardless, but there are lots of strong candidates, and I think the fact that I’d had this interdisciplinary experience [through ASCI] made me appealing to this group.” A social scientist similarly commented that “I couldn’t have
foreseen this, but the Arts-Science Initiative really prepared me for my two postdocs to come,” attributing her postdoctoral success to the fact that “my interdisciplinary training just shines through in my work now…I’m a good interdisciplinary candidate.”

A psychologist found a more indirect route from ASCI to his current fellowship, explaining that he got a foot in the door at his current institution because his former collaborator had landed an academic appointment there and invited him to give a talk. He observed that “it seems pretty unlikely that this’d be the case had [my collaborator and I] not developed such a good working relationship as part of the Arts-Science Initiative.” Finally, an astrophysicist credited ASCI with helping him secure a tenure-track job, stating point-blank that:

I just got a faculty position, and this [ASCI work] was totally relevant. I talked about this work, in fact some people asked me about it…during the interview. I was explicitly told afterward that they thought it was really cool, and it shows that as a scientist you can think a little beyond the standard ‘write as many papers as you can’ approach… Almost nobody wants to hire these kinds of people anymore who are very limited in their perspective of what science is and who it can reach.

Participation in ASCI proved useful outside academia as well. A recent medical school graduate credited ASCI with having helped secure a desirable residency placement, noting that her ASCI grant “came up a couple of times in my residency interviews. People saw it on my application and asked about it because it sounded interesting. Or they asked directly, ‘What was the most interesting project you were able to work on?’ and I talked about the Collaboration Grant… [the interview committee was] really interested in these questions [we explored in our project].” Two artists similarly credited residencies they had received post-graduation to the work they began through ASCI. A fiber artist who collaborated with a physicist on an ASCI project reported having been the first-ever recipient of a yearlong artist-in-residence fellowship housed in a science research center, while a musical composer applied for and received two separate residencies that allowed him to expand on experimental works that he began with support from his ASCI Fellows grant.

Even those interviewees who were still working toward their degrees have begun to anticipate the value of their ASCI projects upon entering the job market. Reflecting on her Collaboration Grant from a few years prior, one anthropology student remarked, “Because we got that grant and did this project I have a second project [in addition to my dissertation]. It might not be a second book project, but it could be, which is huge for when I go on the job market. I know I have this other project in my pocket that started early and was well informed.”

2. Finding a professional niche

Over one-third of interviewees who had graduated reported that their experiences with ASCI provided direction in shaping their professional identity and finding their niche within their chosen profession.
A visual artist who recently completed an MFA commented that his Collaboration Grant project “really has enlightened the way I want to work and the way that I see my own work. I’ve found a niche that I want to dedicate myself to through this project. It was something I was looking for, I didn’t know how to develop it, but [ASCI] has really influenced the way I want to take the rest of my work moving forward.” Similarly, an MD/PhD stated that her participation in both the Fellows and Collaboration Grants programs have collectively “really affected how I approach my own work,” including taking it in a “more naturalistic direction” than she was previously inclined toward. She also commented that her longer-term professional ambition is “to eventually have my own lab and focus on…cross-disciplinary questions” like those she began to work on through ASCI.

A second visual artist echoed these sentiments in more specific terms, talking at length about how the post-ASCI “success I’ve had is so huge that it’s important to me that it’s conveyed that I owe a lot to this project.” He went on to describe how his initial Collaboration Grants project with a mathematician has snowballed into more opportunities for him. Explaining that he has produced subsequent ASCI-based work that has been shown at national and international festivals and exhibitions, he called these opportunities an “absolute success” for his burgeoning career and noted that the other artists in an upcoming exhibition are “much bigger than I am,” a significant step for gaining exposure in the art world.

Two other interviewees also noted that their ASCI grants led to a wider exposure that has helped them become more established in their chosen field. One musical composer who initially partnered with a neurobiologist through ASCI to, as he put it, “make sound from raw data” discussed how this project has both continued to “influence how I approach my own art form” and led to more exposure among wider audiences. He stated that producing work that integrates music and science “definitely brought more attention to the work I was doing…It’s something that can be appealing to people who aren’t musicians, are outside the field…It mixes things up and is helpful to have something else that can pique people’s interest.” One interviewee even said that his ASCI Collaboration Grants project, the results of which “went viral” after a publication garnered extensive attention in popular news outlets, has become the core of his work as an academic. He explained, “My work and this project have definitely merged together… In part because it’s what’s taken up my interest, but also strategically in terms of positioning myself [in my field], it makes sense to work on material that’s related to the thing that people… have come to know me for.”

3. Building professional capacities

Finally, several interviewees stated that ASCI had helped build their capacity for success in their chosen field. In addition to helping participants learn to write grants and effectively communicate about their work, some described ways in which having participated in ASCI has helped in their teaching. One Cinema and Media studies graduate stated that participating in the Fellows program “was a useful experience for teaching later on…I later taught an undergraduate course that was specifically on the intersection of science and media. So, having the practice of
articulating my research and some of the ways I’m thinking about science to that group really helped translate for that teaching experience.” Similarly, a practicing doctor who also teaches at a medical school noted that today she employs the languages and tools of “both science and art” in her teaching. A third who noted that the core challenge of the Fellows program is figuring out “How do I have conversations with these people [from different backgrounds]?” credited her experiences in ASCI as having helped her craft conference presentations to mixed audiences of humanists and medical professionals.

Yet others spoke of the ways that what they learned through participation in ASCI help them in the day-to-day core functions of their jobs. One neuroscience graduate who now works as a professional medical writer shared that “I’m at a creative agency, and we write about new medicines coming out… so that people who are outside of science can understand it… So, we have to be super creative in figuring out… How do we get the most important point across? What is the exciting part about this new scientific thing that we really want people to understand? So that concept definitely carries over [from the ASCI Fellows program], because it’s the same question: what’s the most interesting part of this work, and how do you share it? ASCI certainly prepared me for that.”

### Table 4. Summary of longer-term impacts experienced after graduation (n=13)

<table>
<thead>
<tr>
<th>Number of mentions</th>
<th>Longer-term impact</th>
<th>Description</th>
<th>Representative comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Securing a post-graduate position</td>
<td>Participants attributed ASCI as having helped them successfully secure their desired post-graduate positions, including fellowships, postdocs, and both academic and non-academic jobs</td>
<td>“I just got a faculty position, and this [ASCI work] was totally relevant. I talked about this work, in fact some people asked me about it because of my website, during the interview. I was explicitly told afterward that they thought it was really cool, and it shows that as a scientist you can think a little beyond the standard ‘write as many papers as you can’ approach. I think that’s extremely important these days. Almost nobody wants to hire these kinds of people anymore who are very limited in their perspective of what science is and who it can reach.”</td>
</tr>
<tr>
<td>5</td>
<td>Finding a professional niche</td>
<td>Participants attributed their ASCI work as having helped shape their professional identities or interests</td>
<td>“[ASCI] has really has enlightened the way…that I see my own work. I’ve found a niche that I want to dedicate myself to through this project. It was something I was looking for, I didn’t know how to develop it, but [ASCI] has really influenced the way I want to take the rest of my work moving forward.”</td>
</tr>
<tr>
<td>4</td>
<td>Building professional capacities</td>
<td>Participants attributed their ASCI work as having helped them develop professional communication skills for teaching, presenting, and writing</td>
<td>“As someone who’s still in academia…it’s been helpful to have learned to articulate the specifics and importance of what I do… [ASCI] was the beginning of me learning how to think about how to talk to people.”</td>
</tr>
</tbody>
</table>
Part III. Takeaways and Conclusion

Although it would be an exaggeration to conclude that every ASCI participant would agree with one who described it as “the highlight of my doctoral education,” several grantees did indicate in both the exit surveys and the interviews that they had found enough intellectual and personal gratification through the program to spur them to continue the cross-disciplinary work they began through ASCI even after the grant ended. Indeed, interviewees from 9 Collaboration Grant projects (out of 14 total projects about which interviews were conducted) reported continuing to collaborate or build on their initial ASCI grant project. A fiber artist and an astrophysicist have received 9 subsequent grants to support their continued partnership, for example, while a humanist and a psychiatrist are currently working on a book. And a few years after their initial collaboration, a psychologist and a musician again teamed up to serve as co-coordinators of an ongoing University of Chicago workshop, which “felt like a nice natural progression and a very tangible outcome of the collaboration.” Even some Fellows reported remaining in touch personally or professionally with at least one other individual from their ASCI cohort. And several were motivated to find a way to do more collaborative work in the future; as one remarked, “I’m really inspired to keep finding ways to work with others both in my field and beyond.”

While all the possible impacts of participating in the Arts, Science + Culture Initiative have yet to be realized, combined analyses of data collected over the past decade by ASCI program staff and recent data collected by NORC suggest that students who participated in ASCI grant programs experienced a host of positive outcomes, some of which manifested readily and others which unfolded more slowly over time. Below are the main takeaways from these analyses:

- **Graduate students’ initial motivations for pursuing ASCI grants mainly were focused on immediate interests or needs**, ranging from pure intellectual curiosity to a more practical need for funding. None reported being motivated by some hope that participation in ASCI would reap benefits in the longer-term.

- **Yet for a significant number of individuals, participation in ASCI grant programs had real, lasting ramifications** for their personal and social lives, academic paths, and professional careers.

- **During the grant year**, outcomes participants experienced included learning, discovering commonalities with other disciplines, generating new ideas and encountering new perspectives, reducing a sense of personal and academic isolation, and helping improve their other academic work.

- **Later in graduate school**, outcomes included producing stronger dissertation/thesis work, building academic credentials such as publications or additional grants, and pursuing other cross-disciplinary opportunities.
Post-graduation, outcomes included help securing academic or other professional positions, finding their professional niche, and performing better in their chosen profession.

Finally, it should be noted that while most participants had only positive things to say about their ASCI grant, a few respondents did report facing specific logistical challenges—such as the brevity of the grant year or the difficulty of coordinating schedules with collaborators—though none reported that these logistical hurdles dampened the immediate- and longer-term benefits they experienced. Even projects that, as one Collaboration Grant recipient remarked thinking back to final presentations he watched, failed to “end up [producing] something beautiful or wonderful” still gave participants a window into previously inscrutable subjects, an opportunity to examine their own discipline with fresh eyes, and a platform for bridging institutional and disciplinary barriers. And that, he went on to add, is precisely “where the Arts-Science Initiative hits its stride.”

This remark suggests one final takeaway reflected in the collective set of outcomes participants reported: that these outcomes were generated by the very fact and process of collaborating across disciplines, as opposed to the product created using the grant funds. The necessary elements of the collaboration process—becoming familiar with a new discipline, getting to know a new person, beginning to work in a new way, coming to see things in a new light—are the very same elements that respondents reported as having led to their academic, personal, and professional gains. As one individual who participated in both the Collaboration Grants and Fellows programs (and has since pursued several other collaborative opportunities) put it, “In all of these [projects] the goal is never ‘What kinds of things will we produce?’ but rather ‘What is the experience of the process?’” For this precise reason, another participant described the program as “a real gift to graduate students,” with a third adding that ASCI “has a niche that’s actually quite important… The kinds of projects that ASCI supports don’t get supported anywhere else at the University.”
Appendix A. Semi-Structured Interview Guides

I. Collaboration Grants

The Arts, Science + Culture Initiative Graduate Collaboration Grants encourage independent transdisciplinary research between students in the arts and the sciences. Graduate students from areas such as art history, English, music, cinema and media studies, theater and performance, creative writing, or visual arts are encouraged to pair up with graduate students from astronomy and astrophysics, biological sciences, chemistry, computer science, geophysical sciences, math, physics, psychology, or statistics areas for joint research projects. Each group may consist of two or more graduate students, with at least one in the arts and one from the sciences, who work together over the course of the academic year to investigate a subject from the perspectives offered by their disciplines. During course of the academic year, grant recipients are invited to participate in a series of “dinner table” conversations with faculty and visiting scholars or practitioners who work across the arts and the sciences. Beginning in 2014, the Arts, Science + Culture Graduate Collaboration Grant program initiated a partnership with the School of the Art Institute of Chicago (SAIC). Each team may apply for up to $3000 per project.

Collaboration Grants: Interview guides

Past Cohorts

Background (Pre-ASCI)

1. What was your academic focus at [R’s institution]?
2. Why did you want to apply for ASCI?
   a. PROBE: Why did you want to apply for a Collaboration Grant specifically (as opposed to Fellows Grant)?
3. How did you come to collaborate with your partner(s)?
   a. PROBE: Were you interested in working with a specific individual? A specific discipline?
4. How much prior exposure did you have to your partner’s discipline?
5. Had you done any similar cross-disciplinary collaboration before?

Experience with ASCI

6. Please tell me about your experience with your collaboration project.
   PROBES:
   a. What was the best thing about the collaboration process?
   b. What was the most challenging thing?
   c. Is there anything that would have made your experience better?
7. What, if anything, do you feel that you learned from the collaboration process?
   PROBES:
   a. Did it make you look at the other discipline(s) differently?
   b. Did it make you look at your own discipline differently?
c. Are there any other ways that participating in this program changed how you think or what you do?

Post-ASCI

8. *(If graduated)* What have you done since leaving the university?
   a. What are you doing now?

9. *(If not graduated)* Where are you in your program?
   a. What do you anticipate doing upon finishing your program?

10. Was this path at all influenced/shaped by your experience with ASCI?

11. Since finishing ASCI, have you similarly worked across disciplines/departments?
   a. *(If yes)* Did this come about passively or did you seek it out?
   
   b. *(If yes)* Have you applied anything you learned during ASCI to this collaboration?

12. Have you kept in touch with your collaborator(s)?

13. What advice would you give to…
   a. The new cohort of ASCI collaboration grant recipients?
   b. People in your discipline who have not worked beyond it?

Current Cohort

Background *(Pre-ASCI)*

1. What is your academic focus at [R’s institution]?

2. Why did you want to apply for ASCI?
   a. PROBE: Why did you want to apply for a Collaboration Grant specifically (as opposed to fellows grant)?

3. How did you come to collaborate with your partner(s)?
   a. PROBE: Were you interested in working with a specific individual? A specific discipline?

4. How much prior exposure did you have to your partner’s discipline?

5. Had you done any similar cross-disciplinary collaboration before?

Experience with ASCI

6. Please tell me about your experience with your collaboration project. PROBES:
   a. What has been the best thing about the collaboration process?
   b. What has been the most challenging thing?
   c. Is there anything that would have made your experience better?
7. What do you feel that you are learning from the collaboration process? 
   **PROBES:**
   d. Has it made you look at the other discipline(s) differently?
   e. Has it made you look at your own discipline differently?
   f. Are there any other ways that participating in this program changed how you think or what you do?
8. What do you hope you’ll take away from this experience?
   g. How do you anticipate continuing to use these takeaways in the future?

*Post-ASCI*

9. Where are you in your program?
10. What do you anticipate doing upon finishing your program?
   a. Has this anticipated path changed at all based on your experience with ASCI?
11. Do you anticipate doing future work across disciplines/departments?
12. What advice would you give to…
   b. The next cohort of ASCI Collaboration Grant recipients?
   c. People in your discipline who have not worked beyond it?

**II. Fellows Grants**

The Arts, Science + Culture Initiative Graduate Fellows program is for University of Chicago graduate students whose work is firmly anchored in the humanities, social sciences, or sciences, but for whom crossing disciplinary boundaries is integral to the particularities of the research, writing, artistic practice, or scientific inquiry. Nominated by faculty from across the University, the Graduate Fellows program is specifically designed to fertilize exchange among those graduate students on campus who are interested in engaging with scholars and practitioners they would not typically encounter within their disciplinary studies.

The Graduate Fellows meet monthly throughout the academic year to discuss each other’s work and exchange methodological insights and tools from their respective fields. While the emphasis of the program is on points of connection between scholars of the sciences and social science and the arts, any student who is centrally invested in work that presses the borders of his or her own field will be considered. Students must have a particular interest in questions of methodology and a willingness to engage in discussion about unfamiliar forms of inquiry. At the end of the fellowship, each participant can request $2400 to attend a conference, or research that takes their work beyond the University.

**Fellows grants: Interview guides**

**Past Cohorts**

**Background (Pre-ASCI)**

1. What is/was your academic focus at [R’s institution]?
2. Why did you want to participate in ASCI?
   a. PROBE: Why were you interested in the Fellows Grant specifically (as opposed to a Collaboration Grant)?

3. As best as you can recall, what were the other fellows’ departments/disciplines? (Especially those from opposite fields)
   a. PROBE: How much prior exposure did you have to these disciplines?

4. Had you done any similar cross-disciplinary collaboration before?

Experience with ASCI

5. Please tell me about your experience with the Fellows program.
   PROBES:
   a. What was the best thing about the Fellows program/monthly meetings?
   b. What was the most challenging thing?
   c. Is there anything that would have made your experience better?

6. What do you feel that you learned from the process of working across disciplines and getting feedback from peers in other disciplines?
   PROBES:
   a. Did it make you look at the other discipline(s) differently?
   b. Did it make you look at your own discipline differently?
   c. Are there any other ways that participating in this program changed how you think or what you do?

Post-ASCI

7. (If graduated) What have you done since leaving the university?
   a. What are you doing now?

8. (If not graduated) Where are you in your program?
   a. What do you anticipate doing upon finishing your program?

9. Was this path at all influenced/shaped by your experience with ASCI?

10. Since finishing ASCI, have you similarly worked across disciplines/departments?
    a. (If yes) Did this come about passively or did you seek it out?
    b. (If yes) Have you applied anything you learned during ASCI to this work?

11. Have you kept in touch with your cohort of fellows?

12. What advice would you give to…
    a. The new cohort of ASCI Fellows Grant recipients?
    b. People in your discipline who have not worked beyond it?
Current Cohort

Background (Pre-ASCI)

1. What is your academic focus at [R’s institution]?
2. Why did you want to participate in ASCI?
   a. PROBE: Why were you interested in the Fellows Grant specifically (as opposed to a Collaboration Grant)?
3. What are some of the other fellows’ departments/disciplines?
   a. PROBE: How much prior exposure did you have to these disciplines?
4. Had you done any similar cross-disciplinary collaboration before?

Experience with ASCI

5. Please tell me about your experience with the Fellows program.
   PROBES:
   a. What is the best thing about the Fellows program/monthly meetings?
   b. What is the most challenging thing?
   c. Is there anything that would have made your experience better?
6. What do you feel that you’re learning from the process of working across disciplines and getting feedback from peers in other disciplines?
   PROBES:
   a. Has it made you look at the other discipline(s) differently?
   b. Has it made you look at your own discipline differently?
   c. Are there any other ways that participating in this program changed how you think or what you do?

Post-ASCI

7. Where are you in your program?
8. What do you anticipate doing upon finishing your program?
   a. PROBE: Is this anticipated path at all influenced/shaped by your experience with ASCI?
8. Do you anticipate doing future work across disciplines/departments?
9. What advice would you give to…
   a. The new cohort of ASCI Fellows Grant recipients?
   b. People in your discipline who have not worked beyond it?