# AMSP HIGHER EDUCATION FACULTY SURVEY

## PRELIMINARY REPORT

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## *Executive Summary*

The majority of survey respondents agree or strongly agree with each statement. Respondents agree or strongly agree most with statements about their individual practice, knowledge, understanding, or participation. The degree of agreement decreased as statements moved away from the individual respondent to colleagues and departments, with agreement about departmental changes surpassing agreement about collegial changes.

Table xxx
*Respondents agreeing or strongly agreeing with each statement*

| | Number | Percentage |
|---|---|---|
| Individual | | |
| • I have a better understanding of the problems and challenges in mathematics and science education in this region as a result of my participation in AMSP activities | 66 | 90.4% |
| • I am likely to participate in projects similar to the AMSP in the future | 66 | 86.8% |
| • My knowledge of conditions and practices in K-12 schools increased as a result of my participation in AMSP activities | 65 | 86.7% |
| • The content and/or materials used in my college courses have improved as a result of my experiences with the AMSP | 41 | 85.4% |
| • My participation in AMSP activities led to improvements in my teaching methods | 54 | 83.1% |
| • My knowledge of the resources available to K-12 teachers has improved as a result of my experiences with the AMSP | 58 | 78.4% |
| • Participation in the AMSP improved my understanding of K-12 teachers' responsibilities | 55 | 75.3% |
| • Participation in the AMSP positively changed my view of K-12 teachers' roles and responsibilities | 53 | 72.6% |
| • The AMSP fostered professional relationships between me and one or more K-12 teachers | 51 | 73.9% |
| Colleagues | | |
| • Our faculty members' participation in the AMSP has led to changes in the instructional content of courses in my department | 41 | 67.2% |
| • Professors in my department are likely to participate in programs to improve mathematics and science education, like the AMSP, because of what they have learned about these efforts from me | 42 | 64.6% |
| • Personnel in my department are more positive about teacher preparation as a result of their participation in the AMSP | 34 | 60.7% |
| • Professors in my department are knowledgeable about the work of the AMSP | 37 | 55.2% |
| Department | | |
| • Our faculty members' participation in the AMSP has led to new or improved teacher preparation (preservice) courses at my institution | 49 | 77.8% |

* N varies by question. See report detail.

Further, older respondents were more likely to agree or strongly agree that AMSP had helped them understand the problems and challenges in math and science education in the region.

A greater percentage of professors in mathematics and/or science disciplines agreed that AMSP participation had given them a greater understanding of K12 teachers' responsibilities than did professors in education, science and education, or mathematics and education. Tenured professors also agreed with this question in higher percentages than did non-tenured professors.

Respondents holding appointments at Master's and Research institutions were all neutral or above, with most agreeing, but not strongly agreeing, that their colleagues were more likely to participate in AMSP-like programs because of what they had learned from respondents.

While over half of all professors at all levels indicated they likely to participate in similar projects in the future, professors at Associates institutions were less likely to agree. Also, only respondents from Associates and Research institutions indicated that they were unlikely to participate in future projects. Respondents holding appointments at Master's and Research institutions were all neutral or above, with most agreeing, but not strongly agreeing that their colleagues felt the same.

Table 20 through Table 25 detail other significant differences related to the views and practices of respondents' colleagues, but these are too complex to describe in this summary. Please see these sections in the detailed report.

# AMSP HIGHER EDUCATION FACULTY SURVEY

*This report provides a very preliminary analysis of responses to a survey about participation in Appalachian Math Science Partnership (AMSP) by college faculty. Additional work needs to be done to place these results with a larger research context.*


## Acknowledgements

The author wishes to acknowledge the contribution of the other members of the AMSP evaluation team: John Yopp, Barbara Shoemaker, and Donald Long. All made significant contributions to the construction and administration of this survey. Terry Hibpshman also provided assistance with survey construction and during the statistical analysis. The author is grateful for their assistance, but assumes all responsibility for the contents of this report.


## *Introduction*

AMSP is an NSF-funded project, one goal of which was to bridge the gap between K12 and higher education by fostering, building, and strengthening partnerships between K12 teachers and IHE faculty, and administrators at their institutions.

In early spring 2008, letters were sent to 206 college professors who had participated in one or more project activities conducted over the last six years (i.e., the population of professors was surveyed, not a sample). The letter asked them to participate in an online survey and listed a uniform resource locator (URL) for the survey and a unique ID to use when completing the survey. Eighty-one professors (39.3%) completed the survey sufficiently to be usable for analysis.

Because respondents were free to skip questions or mark a question as "No Opinion/Not Applicable," the *N* varies for each question. The reader should not assume such blank/NO/NA responses to be random, which is of particular importance where the number is quite high. Thus bias does exist both in terms of who responded to the survey and in who chose to answer or skip a question.

After the survey closed, response data were merged with participation data collected by the project as part of its activities over the last 6 years. This allowed the survey data to be augmented with data about the number of hours and activities the respondent had been involved in. It also allowed provided a way to identify the type of activities the respondent had been involved in.

Initial analysis of the data revealed the non parametric nature of respondent characteristics. Also, the small sample sizes made a traditional chi-square test infeasible. As a result, a two-sided Fisher's Exact Test (FET) was used to assess whether respondents with certain demographic and participation characteristics were more likely to indicate their personal practices, knowledge, understanding, and attitudes (along with those of their colleagues) had changed as a result of participation in AMSP activities. Similar questions were asked about department and institutional changes.

## Preliminary Results

The results of the survey can be organized into descriptive characteristics of respondents and their institutions, and respondents' perceptions of how their participation in the AMSP has changed their knowledge, understanding, views, and practices, and those of the colleagues and

departments. These responses reflect the attitudes of respondents at the time the survey was conducted—after the AMSP had been working with these institutions for 5 or 6 years.

The characteristics of respondents may differ from those that existed at earlier points in the project. Over the term of project respondents have obviously aged and gained more experience. They may have also been granted tenure and/or been promoted, and they may have moved into a role that is primarily administrative or changed institutions.

The project database includes the institutional affiliation of those surveyed. This is the institution where the faculty member held an appointment when they last updated their information in the project database. Supplying and updating this information was not required, so 5 or 6 years may have passed since it was last updated, if it ever existed at all. Twenty-two percent of the time the faculty member had not previously provided this information. A comparison of institutions where respondents held appointments at the time of the survey to the institution listed in the project database shows that, of the 77.8% of respondents whose institution was known, 90.4% were still at the same institution (see Table 1).



Table 1
*Respondents whose institution reported on the survey has changed or differs from their institution of record (in the AMSP database)*

| | Respondents |
|---|---|
| No Change | 57 (70.4%) |
| Change | 6 (7.4%) |
| Unknown | 18 (22.2%) |

### *Institutional Characteristics*

Most responding professors hold appointments at the nine AMSP partner institutions, located throughout the Appalachian region. Just under one-quarter have either always worked at non partner institutions and still were involved with AMSP, or they have moved from a participating institution to a non participating institution at some point during the life of the project.

Professors at AMSP partner institutions were slightly more likely to respond to the survey than those at non-partner institutions. Seventy-six and one-half percent of respondents hold appointments at institutions that have partnered with AMSP. This compares with at least 69.9% of professors surveyed (see

Table 2).

Table 2
*Survey/response rates for AMSP partner*

*institutions*

| | Respondents | Surveyed |
|---|---|---|
| Non Partner | 19 (23.5%) | |
| Partner | 62 (76.5%) | 144 (69.9%) |
| Unknown | | 62 (30.1%) |

A comparison of the institutional distribution of respondents reveals that it differs to a statistically significant ($\alpha = .05$) degree from the distribution of the population surveyed, $\chi^2(2, N = 100)$, 55,225,000,000, $p < .001$. The institutional affiliation of respondents is not representative of the surveyed population. However, if the 30.1% of the population surveyed for whom institutional affiliation was unknown is assigned to Non Partner, the institutional affiliation of respondents becomes representative of the population surveyed: $\chi^2(1, N = 100)$, 2.070, $p < .355$. So the possibility exists that the institutional affiliation of respondents is representative of the population.

An overwhelming (93%) number of respondents hold appointments at public institutions. Master's and Research level institutions dominate, comprising sixty-eight percent of all respondents (see

Table 3).



Table 3
*Response rates by type of institutional control and level*

| Type of Control | Level | Respondents |
|---|---|---|
| Private | Baccalaureate | 5 |
| | Master's | 1 |
| Public | Associate's | 7 |
| | Baccalaureate | 14 |
| | Master's | 24 |
| | Research | 30 |

***Personal Characteristics***

Male and Female professors responded to the survey in numbers roughly proportional to the number surveyed. Male respondents, surveyed and responding, outnumbered female respondents by a margin of approximately 2 to 1 (see

Table 4).

Table 4
*Survey/response rates by gender*

| Gender | Respondents | Surveyed |
|---|---|---|

| | | |
|---|---|---|
| Female | 27 (33.3%) | 73 (35.4%) |
| Male | 54 (66.7%) | 118 (57.3%) |
| Unknown | | 15 (7.3%) |

A comparison of respondents' gender distribution reveals that it differs to a statistically significant ($\alpha = .05$) degree from the distribution of the population surveyed, $\chi^2(2, N = 100)$, 8.967, $p < .05$. The gender of respondents is thus not representative of the surveyed population. However, if two models are created that assign the 7.3% of the population surveyed for whom gender was originally unknown to either Male or Female, the gender of respondents becomes representative of the population surveyed:

Model 1: Unknown assigned to Male, $\chi^2(1, N = 100)$, 0.193, $p < .908$.

Model 2: Unknown assigned to Female, $\chi^2(1, N = 100)$, 3.611, $p < .164$.

Therefore, it is possible that the distribution is representative.

Non-white professors responded to the survey at a higher rate than white professors. Non-white professors represented, at most, 3.9% of professors surveyed, but 7.4% to 12.3% of respondents. This compares to white professors, who represented, at most, 99.0% of professors surveyed, but 87.7% to 92.6% of respondents (see

Table 5).



Table 5

*Survey/response rate by race/ethnicity*

| Race | Respondents | Surveyed |
|---|---|---|
| Asian | 3 (3.7%) | 1 (0.5%) |
| Black or African American | 2 (2.5%) | |
| Hispanic | 1 (1.2%) | 1 (0.5%) |
| White | 71 (87.7%) | 198 (96.1%) |
| Unknown | 4 (4.9%) | 6 (2.9%) |

A comparison of the race/ethnicity respondent distribution reveals that it differs to a statistically significant ($\alpha = .05$) degree from the distribution of the population surveyed, $\chi^2(4, N = 100)$, 23.574, $p < .001$. Therefore, the race/ethnicity distribution of respondents is not representative of the surveyed population.

Over half (61.8%) of respondents were over fifty years of age (see

Table 6). This figure compares with the 2004 national average of 49.48 years (Minimum 19; Maximum 89; SD 11.1) for all faculty and instructional staff (Cataldi, Fahimi, & Bradburn, 2005).

Table 6
*Response rate by age*

| Age | Respondents |
|---|---|
| 21-30 | 1 (1.2%) |
| 31-40 | 9 (11.1%) |
| 41-50 | 17 (21.0%) |
| 51-60 | 28 (34.6%) |
| over 60 | 22 (27.2%) |

### *Professional Role*

The majority of respondents are experienced professors who hold permanent, tenured or tenure-track appointments at their institution. Respondents nearly all hold permanent (93%; see

Table 7) appointments; and almost three-fourths (70.4%) of respondents are tenured (see

Table 8). Half (51%) of tenure-track* professors are full professors and 86.4% have over 8 years of academic experience (see Table 10). Tenure status, rank, and years of experience are all consistent with the age reported by respondents, further confirming the senior status of the professors responding.



Table 7
*Responses by type of appointment*

| Appointment | Respondents |
|---|---|
| Adjunct/Temporary | 6 (7.4%) |
| Permanent | 75 (92.6%) |

Table 8
*Responses by tenure status*

| Status | Respondents |
|---|---|
| Non Tenured | 24 (29.6%) |
| Tenured | 57 (70.4%) |

Table 9
*Responses by academic rank*

| Rank | Respondents |
|---|---|
| Lecturer | 1 (1.2%) |
| Instructor | 4 (4.9%) |

* Assistant, Associate, or Full professors

| | |
|---|---|
| Assistant Professor | 13 (16.1%) |
| Associate Professor | 22 (27.2%) |
| Full Professor | 36 (44.4%) |
| Emeritus Professor | 3 (3.7%) |

(N=79)
*Note.* Two respondents are excluded because they listed their rank as "administrator."

Table 10
*Responses by respondents' years of experience*

| Years | Respondents |
|---|---|
| 0-3 | 2 (2.5%) |
| 4-7 | 8 (9.9%) |
| 8 or more | 70 (86.4%) |
| (blank) | 1 (1.2%) |



Table 11
*Responses by role and years of administrative experience*

| Primary Role | Years of Administrative Experience | Respondents |
|---|---|---|
| Non Administrators | 0-3 | 56 |
| | 4-7 | 4 |
| | 8 or more | 5 |
| | (blank) | 3 |
| Non Administrator Total | | 68 |
| Administrators | 0-3 | 5 |
| | 4-7 | 2 |
| | 8 or more | 6 |
| Administrator Total | | 13 |

Table 12 shows the breakdown of disciplines represented in the survey results. Of respondents who can be identified as purely mathematics or science, mathematics and mathematics education outnumbered science and science education 1.4 (49.4%) to 1 (35.8%).

Table 12
*Responses by discipline*

| Discipline | Respondents |
|---|---|
| Communication | 1 (1.2%) |
| Education | 10 (12.4%) |

| | |
|---|---|
| Mathematics | 32 (39.5%) |
| Mathematics and Science | 1 (1.2%) |
| Mathematics Education | 8 (9.9%) |
| Science | 24 (29.6%) |
| Science Education | 5 (6.2%) |

Several individual and institutional characteristics are highly correlated (see Table 13). For example, and not surprisingly, age, tenure status, academic rank, and years of experience are all related at a statistically significant level, as are age, years of administrative and overall experience, and serving in a primarily administrative role.

Table 13
*Correlation between select individual and institutional characteristics*

| **Spearman's rho** | | Appointment | Tenure | Rank | YrsExperience |
|---|---|---|---|---|---|
| Age | Correlation Coefficient | -.181 | .458** | .639** | .461** |
| | Sig. (2-tailed) | .115 | .000 | .000 | .000 |
| | N | 77 | 77 | 75 | 76 |
| Appointment | Correlation Coefficient | | .229* | -.089 | .055 |
| | Sig. (2-tailed) | | .039 | .433 | .631 |
| | N | | 81 | 79 | 80 |
| Tenure | Correlation Coefficient | | | .599** | .496** |
| | Sig. (2-tailed) | | | .000 | .000 |
| | N | | | 79 | 80 |
| Rank | Correlation Coefficient | | | | .452** |
| | Sig. (2-tailed) | | | | .000 |
| | N | | | | 78 |

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The AMSP database shows that a few respondents participated heavily in AMSP activities, with 68% of respondents participating in less than 32 activities totaling 600 hours, and 95% of respondents participating in less than 52 activities totaling 994 hours. Given the significant positive skew of the data, the actual numbers are probably even less.

Table 14
*Level of AMSP participation*

| | N | Minimum | Maximum | Median | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| Number of Activities | 81 | 0 | 109 | 6.0 | 12.69 | 19.4 |
| Number of Hours | 81 | 0 | 2229.5 | 71.0 | 207.9 | 392.9 |

***Summary***

Insufficient information exists about the population surveyed to compare most personal, professional, and institutional characteristics to those of respondents. Only institutional affiliation, gender, and race/ethnicity are comparable. Of these three, the former two respondent characteristics may be representative of the population, depending on assumptions made about members of the population whose characteristics are unknown. Race/ethnicity is not representative of the population.

## Responses to Specific Survey Questions

### *Individual*

#### *Practice*

*The content and/or materials used in my college courses have improved as a result of my experiences with the AMSP.*

Seventy-two percent of respondents indicated that the content and/or materials used in their college courses have improved as a result of their experiences with the AMSP (see Figure 1). A similar number (83.1%) indicated it improved their pedagogy (see Figure 2). Note the large number (44.4%) of professors who responded to the survey who left this question blank or marked it as "no opinion/not applicable."



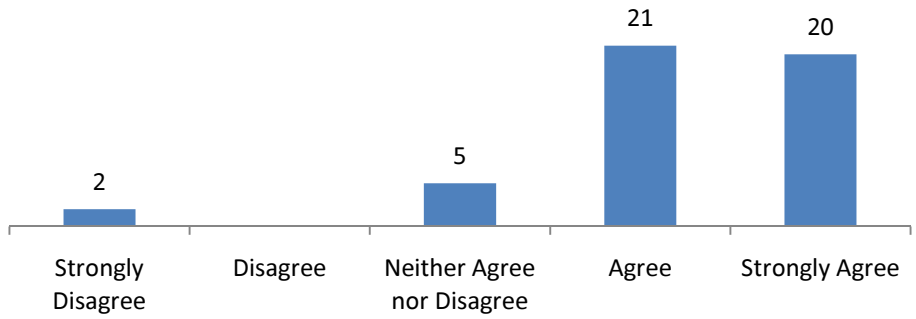


*Figure 1.*
(*N* = 48)

*My participation in AMSP activities led to improvements in my teaching methods.*

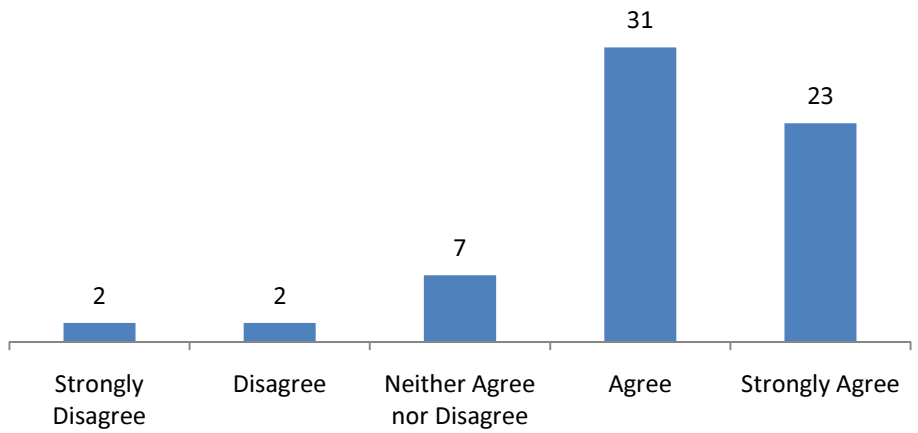


*Figure 2*
Description
(*N* = 65)



***Primary and Secondary Education***

*My knowledge of conditions and practices in K-12 schools increased as a result of my participation in AMSP activities.*

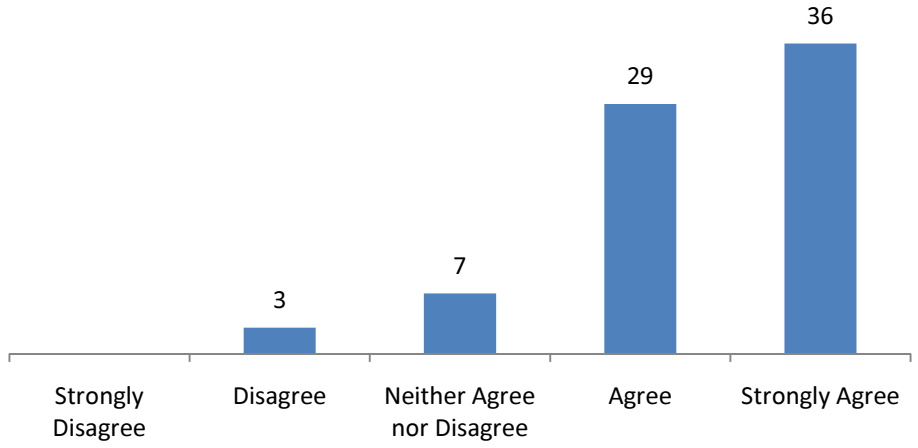


*Figure 3.*
Description
(*N* = 75)

An overwhelming majority of professors (80.2%) agreed or strongly agreed with this question (see Figure 3). Responses were significantly FET(N = 75), $p < 0.047$ associated with

the discipline of the respondent (see Table 15). Respondents in pure mathematics and science disciplines agreed at much higher rates than respondents in other disciplines. Even between these two disciplines, 11.1% more mathematics professors agreed with this statement than did science professors. Such a response could be anticipated, given that education professors would already be familiar with the conditions and practices in K-12 schools. The difference is important, however, because it demonstrates that AMSP participation increased the knowledge of professors in pure mathematics and science fields about primary and secondary education.

Table 15

*Disciplinary differences in increase in respondents' knowledge of conditions and practices in K-12 schools as a result of participation in AMSP activities*

| Discipline | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Total Responses |
|---|---|---|---|---|---|---|
| Communication | | | | | | |
| Education | | | | 3 (33.3%) | 6 (66.7%) | 9 (12.0%) |
| Mathematics | | | 1 (3.3%) | 12 (40.0%) | 17 (56.7%) | 30 (40.0%) |
| Mathematics and Science | | | | 1 (100.0%) | | 1 (1.3%) |
| Mathematics Education | | 1 (16.7%) | 2 (33.3%) | 2 (33.3%) | 1 (16.7%) | 6 (8.0%) |
| Science | | 1 (4.2%) | 3 (12.5%) | 8 (33.3%) | 12 (50.0%) | 24 (32.0%) |
| Science Education | | 1 (20.0%) | 1 (20.0%) | 3 (60.0%) | | 5 (6.7%) |
| Total Responses | | 3 (4.0%) | 7 (9.3%) | 29 (38.7%) | 36 (48.0%) | 75 (100.0%) |

(N=75)

*I have a better understanding of the problems and challenges in mathematics and science education in this region as a result of my participation in AMSP activities.*

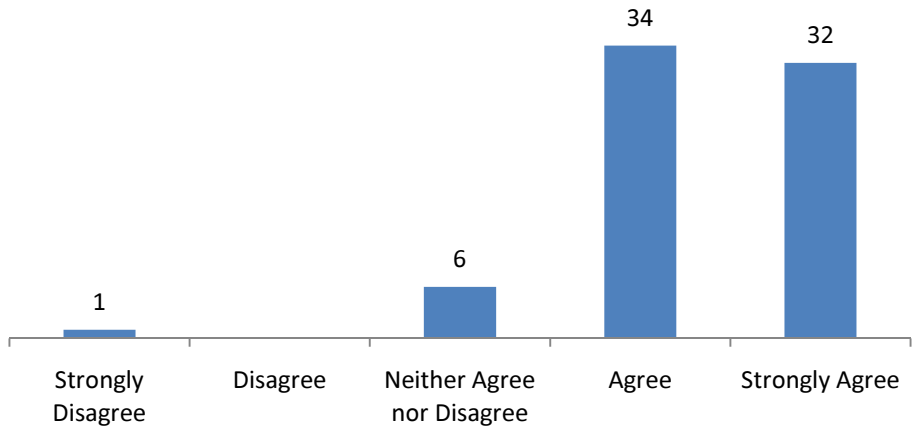


*Figure 4.*
Description
(N = 73)



Responses to this question were significantly associated with a number of demographic and participatory characteristics: Age, FET(N = 70), $p < 0.013$: Older respondents were more likely to agree or strongly agree than younger respondents.

Table 16
*Age differences in respondents with a better understanding of the problems and challenges in mathematics and science education in this region as a result of my participation in AMSP activities*

| Age | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Total Responses |
|---|---|---|---|---|---|---|
| 21-30 | | | | | 1 (100.0%) | 1 (1.4%) |
| 31-40 | 1 (12.5%) | | 3 (37.5%) | 4 (50.0%) | | 8 (11.4%) |
| 41-50 | | | 1 (6.7%) | 7 (46.7%) | 7 (46.7%) | 15 (21.4%) |
| 51-60 | | | 2 (8.0%) | 13 (52.0%) | 10 (40.0%) | 25 (35.7%) |
| over 60 | | | | 8 (38.1%) | 13 (61.9%) | 21 (30.0%) |
| Total Responses | 1 (1.4%) | | 6 (8.6%) | 32 (45.7%) | 31 (44.3%) | 70 (100.0%) |

(N=70)



***Teachers***

*My knowledge of the resources available to K-12 teachers has improved as a result of my experiences with the AMSP.*

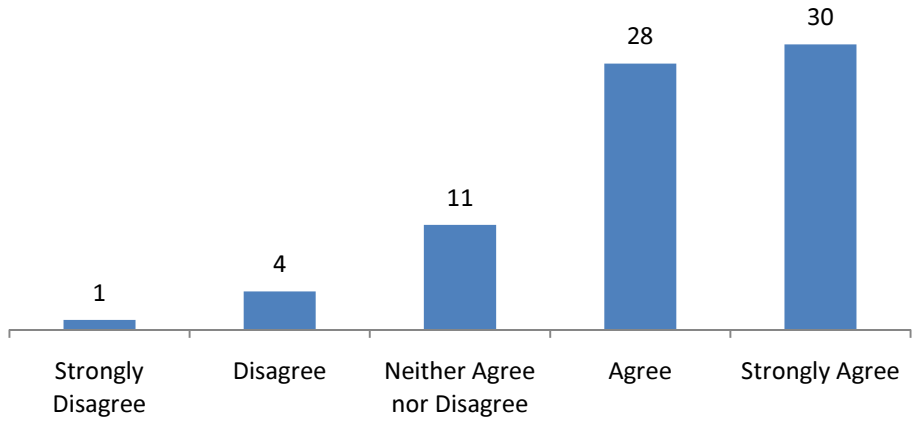


*Figure 5.*
Description
(*N* = 74)

Fifty-eight (78.4%) of respondents felt their participation in AMSP improved their knowledge of resources available to K-12 teachers (see Figure 5). It also helped them under the responsibilities of K-12 teachers (see Figure 6).

*Participation in the AMSP improved my understanding of K-12 teachers' responsibilities.*

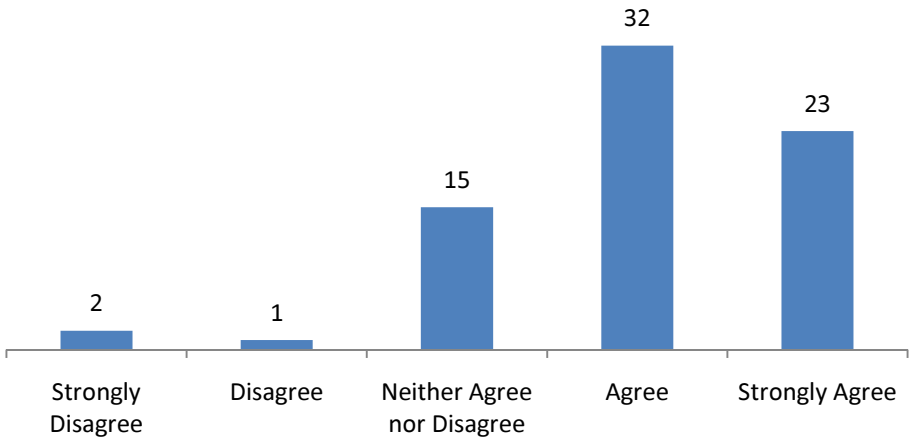


*Figure 6.*
Description
(*N* = 73)

Responses to this question were significantly associated with the professor's Discipline, FET(N = 73), $p < 0.045$ and tenure status (see Table 17 and Table 18, respectively). A greater percentage of professors in mathematics and/or science disciplines responded Agreed or higher to this question than did professors in education, science and education, or mathematics and education; FET(N = 73), $p < 0.009$. Also, tenured professors agreed or strongly agreed with this question in higher percentages than did non-tenured professors; FET(N = 73), $p < 0.039$.

Table 17
*Disciplinary differences in whether AMSP improved respondents' understanding of K-12 teachers' responsibilities.*

| Discipline | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Disagree | Total Responses |
|---|---|---|---|---|---|---|
| Mathematics | 1 (3.4%) | 1 (3.4%) | 3 (10.3%) | 12 (41.4%) | 12 (41.4%) | 29 (39.7%) |
| Science | | | 3 (12.5%) | 14 (58.3%) | 7 (29.2%) | 24 (32.9%) |
| Mathematics and Education | | | 4 (66.7%) | | 2 (33.3%) | 6 (8.2%) |
| Science and Education | 1 (20.0%) | | 2 (40.0%) | 2 (40.0%) | | 5 (6.8%) |
| Mathematics and Science | | | | 1 (100.0%) | | 1 (1.4%) |
| Education | | | 3 (37.5%) | 3 (37.5%) | 2 (25.0%) | 8 (11.0%) |
| Communication | | | | | | |
| Total Responses | 2 (2.7%) | 1 (1.4%) | 15 (20.5%) | 32 (43.8%) | 23 (31.5%) | 73 (100.0%) |

(N=73)

Table 18
*Tenure differences in whether AMSP improved respondents' understanding of K-12 teachers' responsibilities.*

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Total Responses |
|---|---|---|---|---|---|---|
| Non Tenured | 1 (4.5%) | 1 (4.5%) | 6 (27.3%) | 10 (45.5%) | 4 (18.2%) | 22 (30.1%) |
| Tenured | 1 (2.0%) | (0.0%) | 9 (17.6%) | 22 (43.1%) | 19 (37.3%) | 51 (69.9%) |
| Total Responses | 2 (2.7%) | 1 (1.4%) | 15 (20.5%) | 32 (43.8%) | 23 (31.5%) | 73 (100.0%) |

(N=73)

*Participation in the AMSP positively changed my view of K-12 teachers' roles and responsibilities.*

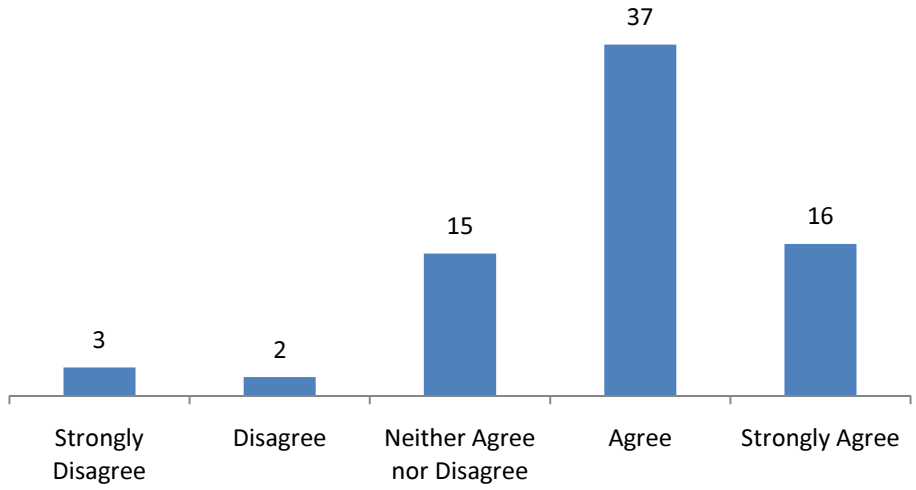


*Figure 7.*
Description
(*N* = 73)



The author wanted to go beyond mere understanding and assess how AMSP participation might have influenced respondents' view of teachers as competent professionals. Respondents (72.5%) agreed or strongly agreed that AMSP had a positive effect on their views. The pattern of response was similar to that of understanding (see Figure 7), but interestingly, while discipline—education, science education, and mathematics education, specifically—and tenure status where associated with understanding K-12 teachers' responsibilities, no such distinction exists for positively changed views.

*The AMSP fostered professional relationships between me and one or more K-12 teachers.*

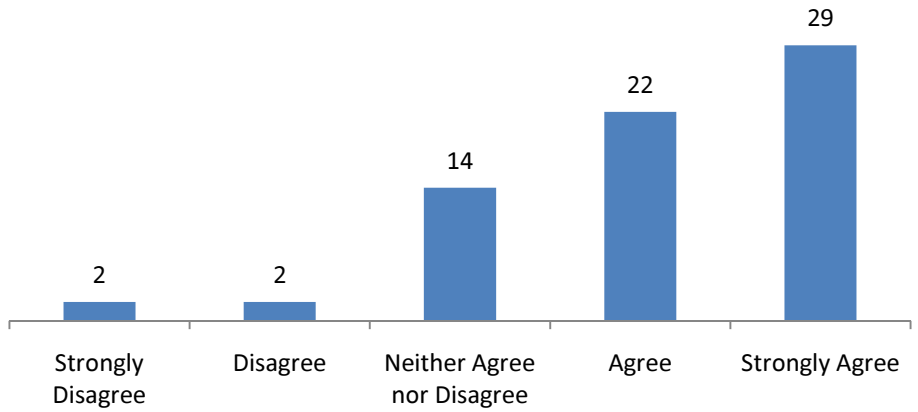


*Figure 8.*
Description
(*N* = 69)



AMSP seems to have fostered relationships between K-12 teachers and college faculty for 73.9% of respondents (see Figure 8). An even higher percentage (86.8%) indicated they are likely to participate in similar projects in the future (see Figure 9).

*I am likely to participate in projects similar to the AMSP in the future.*

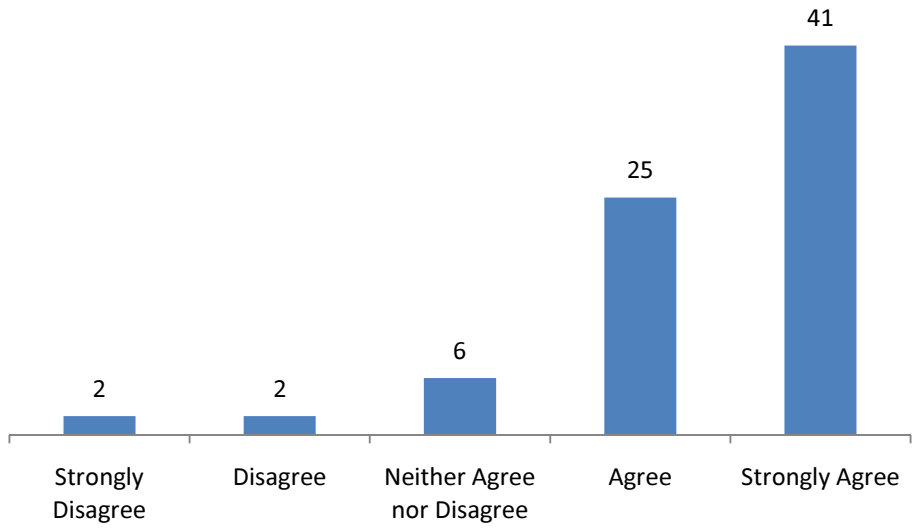


*Figure 9.*
Description
(*N* = 76)

Responses to this question were significantly associated with institutional level (i.e., Carnegie: Associate's, Baccalaureate, Master's, Research); FET(N = 76), $p < 0.033$ (see Table 19). While over half of all professors at all levels indicated they likely to participate in similar projects in the future, professors at Associates institutions were less likely to agree. Also, only respondents from Associates and Research institutions indicated that they were unlikely to participate in future projects.

Table 19

*Likelihood of respondents to participate in projects similar to the AMSP in the future, by level of institution.*

| Institutional Level | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Disagree | Total Responses |
|---|---|---|---|---|---|---|
| Associates | | 2 (28.6%) | 1 (14.3%) | 2 (28.6%) | 2 (28.6%) | 7 (9.2%) |
| Baccalaureate | | | 2 (10.5%) | 7 (36.8%) | 10 (52.6%) | 19 (25.0%) |
| Masters | | | 3 (12.5%) | 5 (20.8%) | 16 (66.7%) | 24 (31.6%) |
| Research | 2 (7.7%) | | | 11 (42.3%) | 13 (50.0%) | 26 (34.2%) |
| Total Responses | 2 (2.6%) | 2 (2.6%) | 6 (7.9%) | 25 (32.9%) | 41 (53.9%) | 76 (100.0%) |

(N=76)

***Colleagues***

*Professors in my department are likely to participate in programs to improve mathematics and science education, like the AMSP, because of what they have learned about these efforts from me. (ClgsFuturePart)*

Responses to this question were significantly associated with the level of the respondent's institution (i.e., Carnegie: Associate's, Baccalaureate, Master's, Research); FET(N = 65), $p < 0.022$. Respondents holding appointments at Master's and Research institutions were all neutral or above, with most agreeing, but not strongly agreeing.

Table 20
*Description*

| Institutional Level | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Total Responses |
|---|---|---|---|---|---|---|
| Associate's | | 2 (50.0%) | | 1 (25.0%) | 1 (25.0%) | 4 (6.2%) |
| Baccalaureate | | | 4 (22.2%) | 12 (66.7%) | 2 (11.1%) | 18 (27.7%) |
| Master's | | | 6 (30.0%) | 12 (60.0%) | 2 (10.0%) | 20 (30.8%) |
| Research | | 5 (21.7%) | 6 (26.1%) | 12 (52.2%) | | 23 (35.4%) |
| Total Responses | | 7 (10.8%) | 16 (24.6%) | 37 (56.9%) | 5 (7.7%) | 65 (100.0%) |

(N=65)

*Personnel in my department are more positive about teacher preparation as a result of their participation in the AMSP. (ClgsViewTPrep)*

Responses to this question were significantly associated with the respondents discipline; FET(N = 56), $p < 0.034$ (see Table 21), especially respondents in Science, Science Education, or Math and Science disciplines; FET(N = 56), $p < 0.027$ (see Table 22). A significant association was also found between responses to this statement and the respondent's institution; FET(N = 56), $p < 0.036$ (see Table 23).

Table 21

*Description*

| Discipline | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Disagree | Total Responses |
|---|---|---|---|---|---|---|
| Mathematics | | | 10 (41.7%) | 12 (50.0%) | 2 (8.3%) | 24 (42.9%) |
| Science | | | 6 (28.6%) | 9 (42.9%) | 6 (28.6%) | 21 (37.5%) |
| Mathematics and Education | | | 2 (66.7%) | 1 (33.3%) | | 3 (5.4%) |
| Science and Education | | 1 (50.0%) | | | 1 (50.0%) | 2 (3.6%) |
| Mathematics and Science | | 1 (100.0%) | | | | 1 (1.8%) |
| Education | | | 2 (40.0%) | 3 (60.0%) | | 5 (8.9%) |
| Communication | | | | | | |
| Total Responses | | 2 (3.6%) | 20 (35.7%) | 25 (44.6%) | 9 (16.1%) | 56 (100.0%) |

(N=56)

Table 22

*Description*

| Discipline | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Disagree | Total Responses |
|---|---|---|---|---|---|---|
| Non Science, Science Education, or Math and Science | | (0.0%) | 14 (43.8%) | 16 (50.0%) | 2 (6.3%) | 32 (57.1%) |
| Science, Science Education, or Math and Science | | 2 (8.3%) | 6 (25.0%) | 9 (37.5%) | 7 (29.2%) | 24 (42.9%) |
| Total Responses | | 2 (3.6%) | 20 (35.7%) | 25 (44.6%) | 9 (16.1%) | 56 (100.0%) |

(N=56)

Table 23

*Description*

| Institution | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Total Respondents |
|---|---|---|---|---|---|---|
| Eastern Kentucky University | | | 2 (33.3%) | 4 (66.7%) | | 6 (10.7%) |
| Kentucky State University | | | 2 (20.0%) | 7 (70.0%) | 1 (10.0%) | 10 (17.9%) |
| Marshall University | | | | 1 (100.0%) | | 1 (1.8%) |
| Morehead State University | | | 3 (37.5%) | 1 (12.5%) | 4 (50.0%) | 8 (14.3%) |
| Pikeville College | | | | 1 (33.3%) | 2 (66.7%) | 3 (5.4%) |
| Tennessee Technological University | | | | | | |
| The University of Tennessee | | | 3 (60.0%) | 2 (40.0%) | | 5 (8.9%) |
| The University of Tennessee at Chattanooga | | | 1 (100.0%) | | | 1 (1.8%) |
| The University of Virginia's College at Wise | | 1 (33.3%) | | 2 (66.7%) | | 3 (5.4%) |
| Union College | | | | | 1 (100.0%) | 1 (1.8%) |
| University of Kentucky | | | 6 (54.5%) | 4 (36.4%) | 1 (9.1%) | 11 (19.6%) |
| University of Louisville | | | | 2 (100.0%) | | 2 (3.6%) |
| Western Kentucky University | | | | | | |
| Other KY/TN/VA/WV Institution | | 1 (20.0%) | 3 (60.0%) | 1 (20.0%) | | 5 (8.9%) |
| Other College Outside KY/TN/VA/WV Region | | | | | | |
| Total Respondents | | 2 (3.6%) | 20 (35.7%) | 25 (44.6%) | 9 (16.1%) | 56 (100.0%) |

(N=56)

*Our faculty members' participation in the AMSP has led to changes in the instructional content of courses in my department. (ClgsChangeCont)*

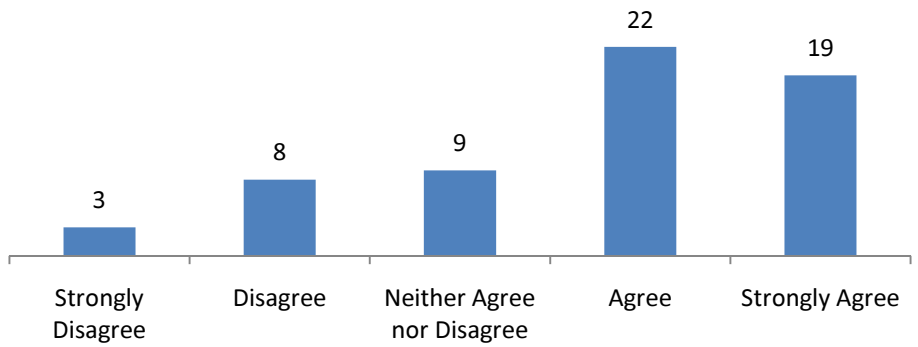


*Figure 10.*
Description
(N=61)

### *Professors in my department are knowledgeable about the work of the AMSP. (ClgsKnowAMSP)*

Responses to this question were generally positive, with 55.2% of respondents agreeing or strongly agreeing (see Table 24). Agreement was significantly associated respondents' academic rank (Lecturer, Instructor, Assistant Professor, etc.); FET(N = 67), $p < 0.021$.

Table 24

*Description*

| Rank | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Total Responses |
|---|---|---|---|---|---|---|
| Lecturer | | | 1 (100.0%) | | | 1 (1.5%) |
| Instructor | | | | 2 (50.0%) | 2 (50.0%) | 4 (6.0%) |
| Assistant Professor | 1 (8.3%) | 4 (33.3%) | | 4 (33.3%) | 3 (25.0%) | 12 (17.9%) |
| Associate Professor | 1 (5.9%) | 2 (11.8%) | 3 (17.6%) | 5 (29.4%) | 6 (35.3%) | 17 (25.4%) |
| Full Professor | | 8 (25.8%) | 8 (25.8%) | 14 (45.2%) | 1 (3.2%) | 31 (46.3%) |
| Emeritus | | 1 (50.0%) | 1 (50.0%) | | | 2 (3.0%) |
| Total Responses | 2 (3.0%) | 15 (22.4%) | 13 (19.4%) | 25 (37.3%) | 12 (17.9%) | 67 (100.0%) |

(N=67)

***Department***

*Our faculty members' participation in the AMSP has led to new or improved teacher preparation (preservice) courses at my institution. (DptChangedCourse)*

Responses to this question were significantly associated with whether or not respondents were in science, science education, or math and science disciplines; FET(N = 63), $p < 0.046$ (see Table 25).

Table 25

*Description*

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Total Responses |
|---|---|---|---|---|---|---|
| Non Science, Science Education, or Math and Science | 1 (2.8%) | 1 (2.8%) | 7 (19.4%) | 16 (44.4%) | 11 (30.6%) | 36 (57.1%) |
| Science, Science Education, or Math and Science | | 4 (14.8%) | 1 (3.7%) | 8 (29.6%) | 14 (51.9%) | 27 (42.9%) |
| Total Responses | 1 (1.6%) | 5 (7.9%) | 8 (12.7%) | 24 (38.1%) | 25 (39.7%) | 63 (100.0%) |

(N=63)

## References

Cataldi, E. F., Fahimi, M., & Bradburn, E. M. (2005). *2004 National study of postsecondary faculty (NSOPF:04) Report on faculty and instructional staff in fall 2003* (No. NCES 2005-172). Washington, DC: U.S. Department of Education, National Center for Education Statistics.