



BioCoRE 2002 Survey

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*Items on typical software attributes

**Items on unique BioCoRE attributes



BioCoRE Questionnaire

- Respondents were asked whether or not they had used BioCoRE for their work. Each group then answered a different on-line survey.
- The “user” survey can be found at:
 - <http://www.ks.uiuc.edu/Research/biocore/jan2002survey/regs.shtml>
- The “non-user” survey can be found at:
 - <http://www.ks.uiuc.edu/Research/biocore/jan2002survey/nonregs.shtml>



Response Rates

The 2002 survey was announced on January 14, 2002 to 192 BioCoRE users who had registered since March 1, 2000, and who had logged at least once since the Control Panel, a key BioCoRE utility, was released (November 1, 2000). The survey population was deliberately defined to ensure that it targets researchers who have meaningful experiences with the environment and its multitude of tools. Two reminders were emailed to nonrespondents on January 28, and February 5, 2002, as detailed below.

Date survey notice sent	January 14	January 28	February 5	Total
Number of persons receiving notice by date	192	145	123	-
Responses up to date of next notice	30	22	15	67
Response rate for total population of 192	15.6%	11.5%	7.81%	34.91%
Cumulative response rate	15.6%	27.1%	34.91%	34.91%

Those responses considered incomplete were deleted. Deletions fall into two categories: non-responsive and duplicates. Non-responsive records were those instances in which respondents did not answer most of the the survey items. Duplicates were those instances in which there was more than one response for a person (as indicated by their email address). After deletions 64 records were used for further analysis.

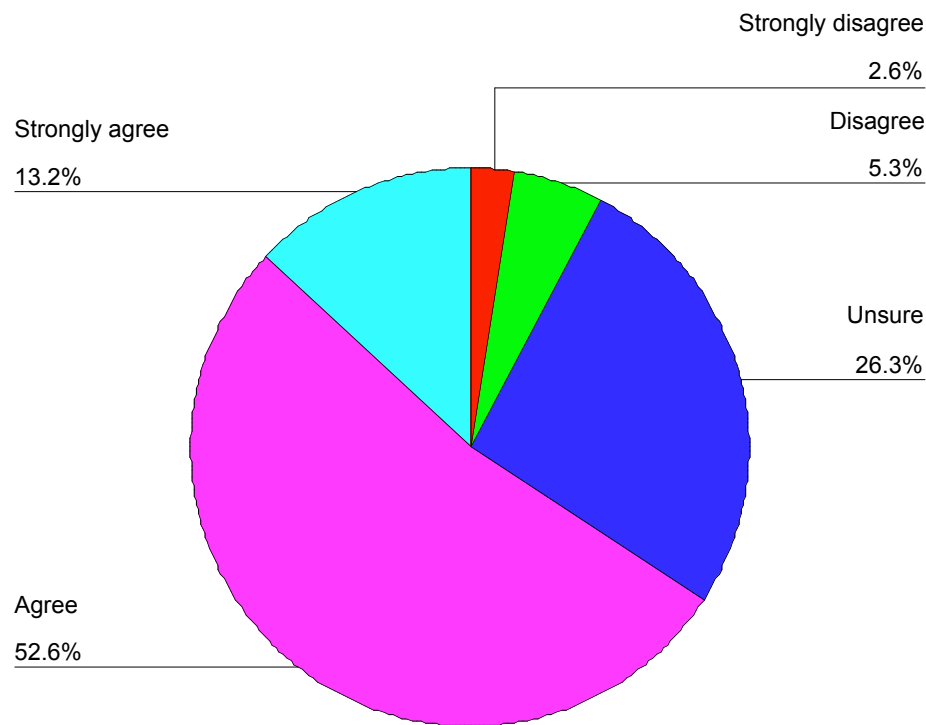
	User survey	Non-user survey	Total
Deletions	2	1	3
Number of records in dataset after removing deletions	40	24	64



User Profile

- The majority of BioCoRE users are affiliated with academic institutions (92.5%), and use BioCoRE for research (89.7%). 60% of the respondents reported to be funded, at least partially, by NIH. In the majority of sites BioCoRE is used by more than one user.
- Through February 2002, there were 69 separate projects registered in BioCoRE. Project teams typically consisting of 4 members and are located at 192 organizations throughout the world (65 in the United States). The organizations are a mix of mostly academic institutions, but also include corporate, non-profit, and government entities.
- While most researchers use BioCoRE to access local computing resources (87.5%) , they also use it to run jobs on remote supercomputers at NCSA (27.5%), PSC (20%) and SDSC (10%).
- The majority of BioCoRE users report to be proficient software users (75.0%).

Distribution of Satisfaction Rating

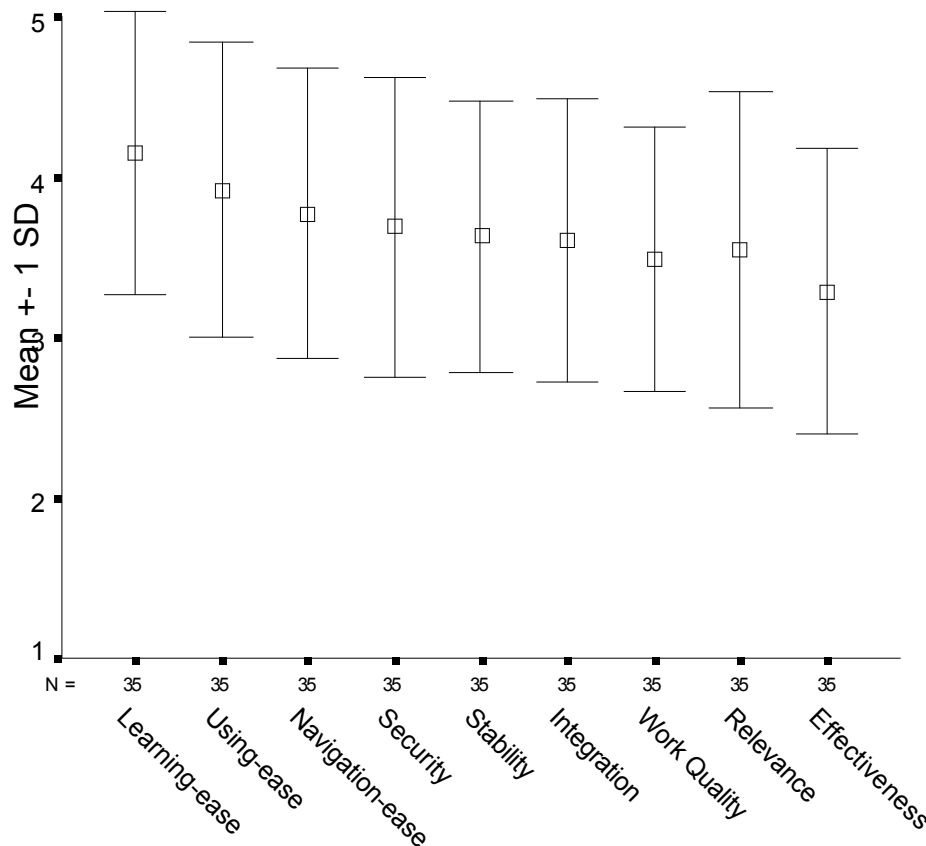


- Item: Overall, I am satisfied with BioCoRE.
- Rating: 5-point scale (1-strongly disagree to 5-strongly agree).
- The standard deviation was .87, indicating high agreement among the respondents. (The higher the standard deviation, the higher the disagreement among respondents.)

Frequency Distribution	
<i>Response</i>	<i>Frequency</i>
Strongly disagree	1
Disagree	2
Unsure	10
Agree	20
Strongly agree	5
Total	38

Mean & Std. Dev. Distribution		
<i>Item</i>	<i>Mean</i>	<i>Std. Deviation</i>
Satisfied	3.68	0.87

Distribution of General Item Rating

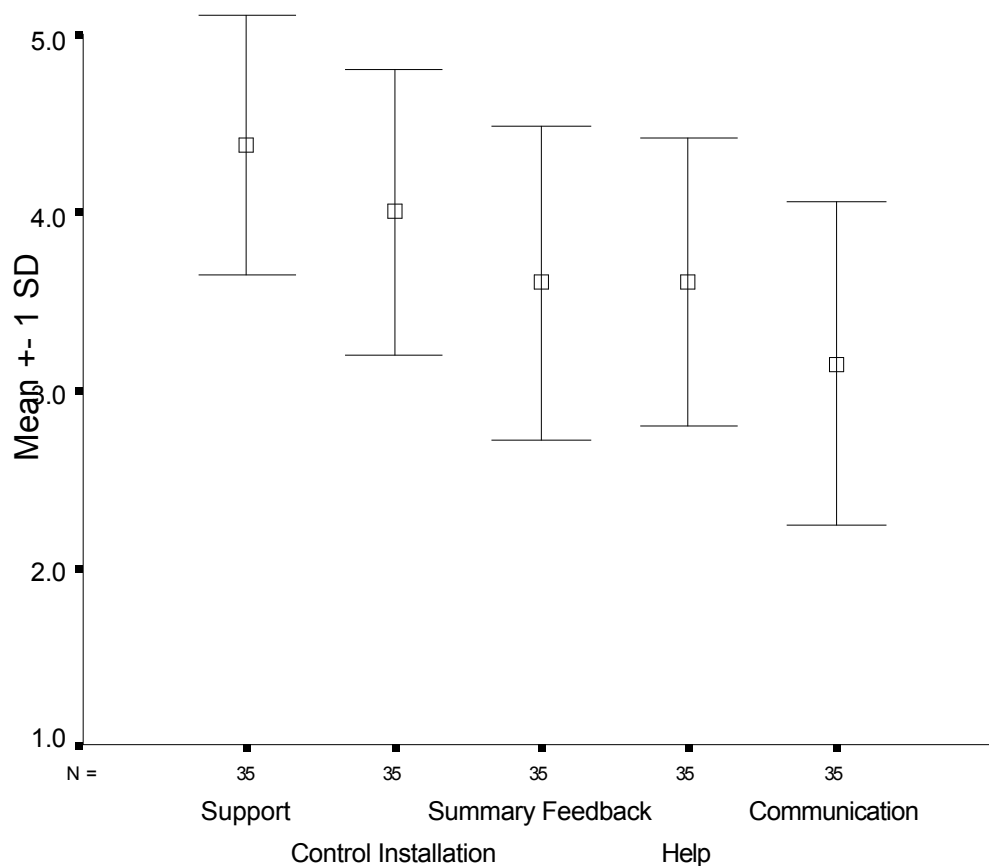


- General items include ease-of-learning, ease of use, navigation ease, security, stability, relevance, and are expected to impact performance and quality of work.
- Mean responses range from 3.29 to 4.13 on a 5-point scale (1-strongly disagree to 5-strongly agree).
- Standard deviations range from .90 to .97. (The higher the disagreement among respondents on the specific item.)

Means & Std. Deviations

<i>Item</i>	<i>Mean</i>	<i>Std Deviation</i>
Learning-ease	4.13	0.86
Using-ease	3.92	0.90
Navigation-ease	3.76	0.94
Security	3.67	0.93
Stability	3.65	0.86
Integration	3.60	0.88
Work Quality	3.51	0.80
Relevance	3.46	0.97
Effectiveness	3.29	0.93

Distribution of Specific Item Rating

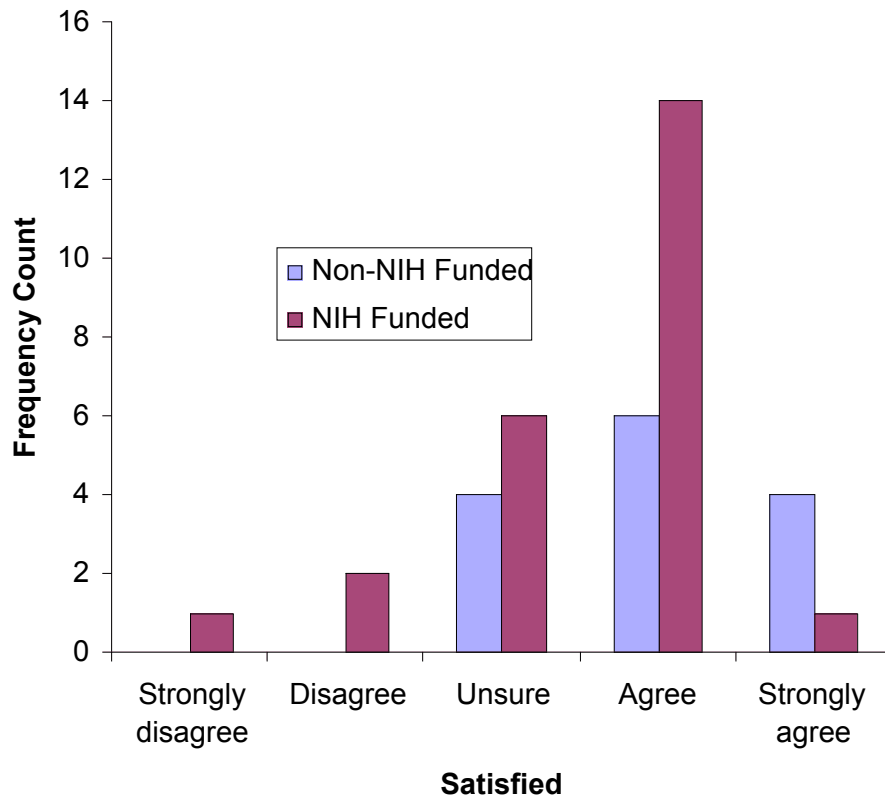


- Mean responses range from 3.15 to 4.37 on a 5-point scale (1-strongly disagree to 5-strongly agree).
- Standard deviations range from .73 to .91. (The higher the std deviation, the higher the disagreement among respondents on the specific item.)

Means & Std. Deviations

<i>Item</i>	<i>Mean</i>	<i>Std Deviation</i>
Support	4.37	0.73
Control Installation	4.00	0.81
Summary Feedback	3.68	0.91
Help	3.64	0.78
Communication	3.15	0.87

Satisfaction by Funding Source

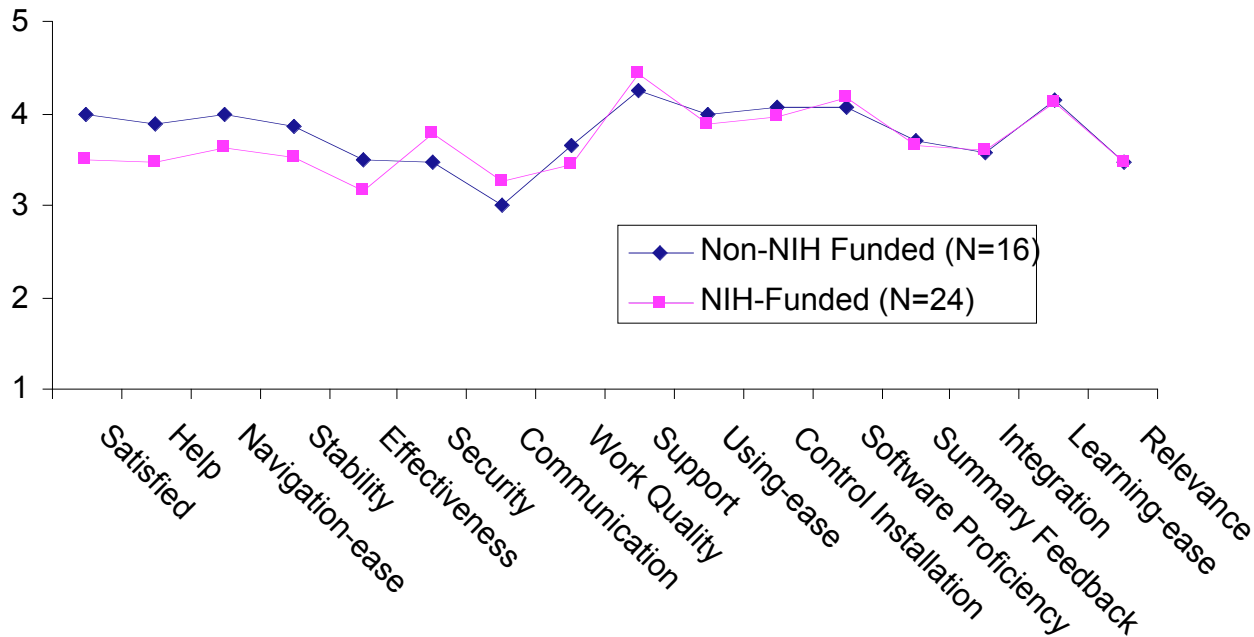


•No significant difference was found between NIH-funded and non-NIH funded respondents.

Mean & Std Deviation		
<i>Item - Satisfied</i>	<i>NIH Funding</i>	
	<i>No</i>	<i>Yes</i>
Mean	4.00	3.50
Std Deviation	.78	.88

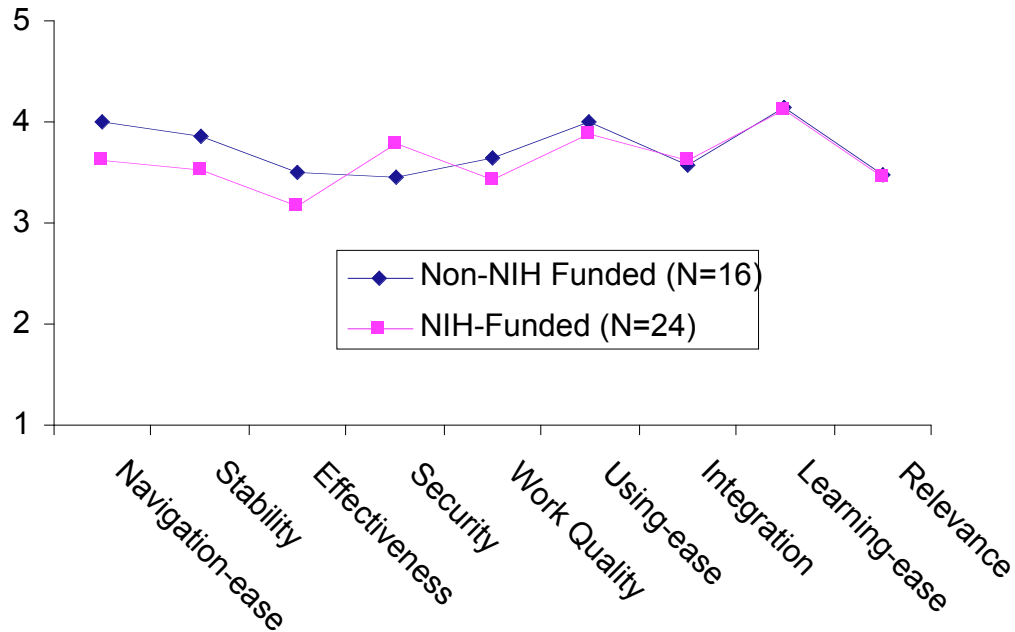
Frequency Distribution		
<i>Item - Satisfied</i>	<i>NIH Funding</i>	
	<i>No</i>	<i>Yes</i>
Strongly disagree	0	1
Disagree	0	2
Unsure	4	6
Agree	6	14
Strongly agree	4	1

Mean Responses by Funding Source



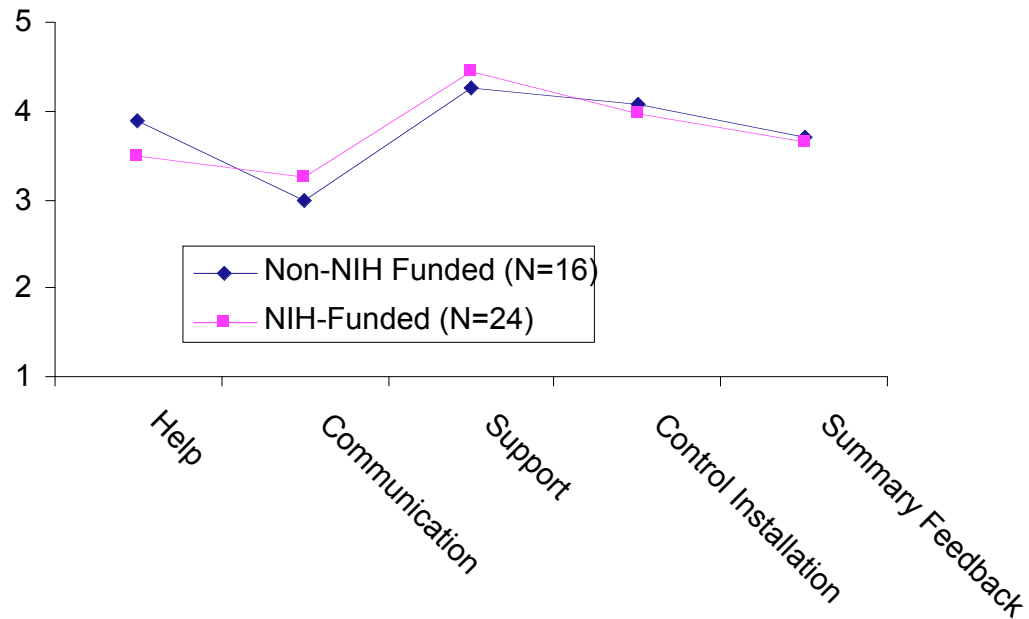
•No significant differences were found between NIH-Funded and non-NIH funded respondents.

Mean Responses to General Items by Funding Source



•No significant differences were found between NIH-funded and non-NIH-funded respondents.

Mean Responses to Specific Items by Funding Source



•No significant differences were found between NIH-funded and non-NIH-funded respondents.



Correlation of Specific Items with Global Satisfaction

Item	Correlations
Work Quality (N=37)	.66*
Effectiveness (N=38)	.85*
Stability (N=36)	.65*
Summary Feedback (N=37)	.60*
Help (N=37)	.59*
Navigation-ease (N=38)	.53*
Using-ease (N=38)	.53*
Control Installation (N=37)	.49*
Communication (N=37)	.45*
Learning-ease (N=38)	.43*
Relevance (N=38)	.34*
Support (N=35)	.25
Integration (N=35)	.20
Security (N=36)	.14
Software Proficiency (N=38)	.01

*Correlation is significant at the .05 level (two-tailed).

•Most items have a significant Pearson's correlation with satisfaction: the higher the item is rated, the higher the satisfaction.



Other Results

- Affiliation: No analysis was conducted based on affiliation, as only three respondents indicated a non-academic affiliation (two commercial, one non-profit).
- Non-users: A majority of non-users indicated that BioCoRE is relevant to their work (58.4%), easy to use (54.1%), that they are aware of their registration (66.7%), that the Control Panel worked (73.9%), and that they did not have browser problems (87.0%). Lack of time, low perceived utility, and installation problems were some reasons cited for not using the collaboratory. There were no differences among non-users by their funding sources; there were not enough respondents to assess non-user differences by affiliation.
- No significant differences were found between local users and “outside” survey responses.



Summary of Findings

- The majority of users are satisfied with BioCoRE.
- Results indicate that BioCoRE is easy-to-learn, easy-to-use, and easy-to-navigate. Most users agree that BioCoRE is secure, stable, and provides an integrated working environment. BioCoRE is perceived as a relevant and effective solution to enhance one's work quality.
- Most respondents express satisfaction with the help and support functions of BioCoRE.
- The satisfaction with individual BioCoRE features is related to overall user satisfaction, with support-associated attributes yielding the highest correlations.
- There were no significant differences in ratings of NIH-funded and other users.



Appendix

Other Analyses



User Comments

- The user survey provided an area for respondents to make comments. 12 users made comments, that were then classified as follows:
 - Feature/Utility: Eight comments indicated that a new feature or quality would make BioCoRE more useable.
 - Dissemination: Two comments suggested dissemination issues, i.e. that BioCoRE needed to develop a critical mass of users and be compatible across platforms.
 - Interface: One comment suggested the collaborative interface needs improvement.
 - File exchange: One comment described how BioCoRE was useful for file exchange.



Table A-1: Means, Standard Deviations, and ANOVA* Results by NIH Funding Status for All Respondents

Question	NIH Funding				Mean diff.	ANOVA p-values
	No		Yes			
	Mean	Std Deviation	Mean	Std Deviation		
Software Proficiency	4.06	1.00	4.17	0.96	0.10	0.743
Control Panel Installation	4.07	0.80	3.96	0.82	0.11	0.686
Easy to Learn	4.13	0.99	4.13	0.80	0.01	0.977
Easy to Use	4.00	1.07	3.88	0.80	0.13	0.679
Navigation Easy	4.00	0.88	3.63	0.97	0.38	0.242
Help is Useful	3.88	0.96	3.48	0.59	0.40	0.118
External Applications	3.58	1.00	3.61	0.84	0.03	0.937
Security	3.46	0.88	3.78	0.95	0.32	0.325
Communication Options	3.00	0.63	3.26	1.01	0.26	0.367
Summary Page	3.71	0.91	3.65	0.93	0.06	0.844
Support Team	4.25	0.87	4.43	0.66	0.18	0.486
Relevant to Work	3.47	0.92	3.46	1.02	0.01	0.980
Stable Environment	3.86	0.77	3.52	0.90	0.34	0.254
Peform Effectively	3.50	0.76	3.17	1.01	0.33	0.291
Satisfied with BioCoRE	4.00	0.78	3.50	0.88	0.50	0.089
Quality of Work Satisfaction	3.64	0.84	3.43	0.79	0.21	0.453

*ANOVA, or Analysis of Variance, is a statistical test for determining differences in means.

**None of the ANOVA p-values are below .05, hence none of the mean differences are considered statistically significant.

Table A-2: Means, Standard Deviations, and ANOVA* Results for All Items, Resource versus non-Resource Respondents

Question Items	Resource Affiliation				ANOVA p-value	
	No		Yes			
	Mean	Std Deviation	Mean	Std Deviation		
Satisfied with BioCoRE	3.89	0.81	3.47	0.90	0.42	0.139
Stable Environment	3.84	0.69	3.44	0.98	0.40	0.161
Support Team	4.18	0.81	4.56	0.62	0.38	0.127
Help is Useful	3.81	0.87	3.44	0.62	0.37	0.146
Security	3.50	0.79	3.83	1.04	0.33	0.287
Communication Options	3.00	0.63	3.33	1.08	0.33	0.240
Relevant to Work	3.60	0.82	3.32	1.11	0.28	0.367
Easy to Learn	4.00	0.97	4.26	0.73	0.26	0.348
Perform Effectively	3.42	0.90	3.16	0.96	0.26	0.389
Navigation Easy	3.89	1.05	3.63	0.83	0.26	0.397
Easy to Use	3.85	1.04	4.00	0.75	0.15	0.609
Quality of Work Satisfaction	3.58	0.84	3.44	0.78	0.13	0.618
Control Panel Installation	3.95	0.83	4.06	0.80	0.11	0.692
External Applications	3.65	0.93	3.56	0.86	0.09	0.764
Summary Page	3.68	0.89	3.67	0.97	0.02	0.954

*ANOVA, or Analysis of Variance, is a statistical test for determining differences in means.

**None of the ANOVA p-values are below .05, hence none of the mean differences are considered statistically significant.



Non-user Profile

- The majority of non-users are:
 - affiliated with academia (79.2%), with the remainder indicating non-profit (12.5%) or industrial (8.3%) affiliations.
 - not funded by NIH (70.8%), though a substantial portion (29.2%) do indicate NIH funding;
 - using a variety of operating systems and browsers, with Windows (52.2%) and Netscape (50.0%) being the most popular;
 - using computer resources at their local site (75.0%);
 - proficient with software (54.1%).



Non-user Results by NIH Funding Status

- Statistical tests were performed to test whether NIH-funding status had any impact on respondents:
 - A one-way analysis of variance (ANOVA) was used to compare means on the relevance to work and ease of use questions for NIH-funded and non-funded groups. No significant differences were found.
 - Chi-square and Fisher's exact test were used to compare responses on the remaining dichotomous questions. No significant differences by funding status were found for any of the questions.