

University of Tennessee, Knoxville

From the Selected Works of Carol Tenopir

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Case Western Reserve University Faculty Journal Reading Patterns

Carol Tenopir, *University of Tennessee - Knoxville*

Xiang Zhou

Lei Wu

Kitty McClanahan

Max Steele, et al.



Available at: https://works.bepress.com/carol_tenopir/79/

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Factual Summary of Results of the Survey Conducted Fall 2005

**Carol Tenopir, Xiang Zhou, Lei Wu, Kitty McClanahan, Max Steele,
and Natalie Clewell University of Tennessee, Knoxville, TN USA
and Donald W. King, University of North Carolina, Chapel Hill
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Introduction.

This is a question-by-question analysis of the results of the Case Western Reserve University survey of faculty, conducted fall 2005 as part of a grant funded by IMLS (see Appendix for the questionnaire). Final results may require further analysis or information about the library context for complete analysis. At the same time as this survey, a survey of reading patterns of Case students was conducted, with results presented in a separate report. Also at the same time, surveys of faculty and students at three other Ohio universities and the University of Tennessee were conducted. Comparisons among these will be included in subsequent articles for publication. This report is for internal use at Case or may be used to prepare presentations and journal articles.

In October 2005 an email message from the Case Western Reserve University Director of Libraries, with an embedded link to a questionnaire housed on a University of Tennessee server, was sent to 2,207 Case faculty members. We received 414 total usable responses to at least the first question, or 18.8% of Case University faculty members. Since respondents were allowed to exit the questionnaire at any time, skip any questions they

chose to, or were timed out automatically if they began the questionnaire and did not complete it, most questions have a lower number of responses.

Demographics of Respondents.

Work Responsibilities.

Case faculty members spend much of their time on research and writing. This is reflected in Table 1, which shows that half of the respondents spend 40 percent or more of their time on research and writing, with a mean of 43.6% of respondents' time (Table 1). They spend approximately a quarter of their time on teaching, with the remaining time split between administration, service, consulting or advising and other.

Table 1. Percentage of Work Time Spent by Case Western Faculty Respondents

		Teaching	Research & writing	Administrative	Service	Consulting /advising	Other
Mean		23.7	43.6	12.4	17.1	9.3	15.0
Median		20.0	40.0	10.0	10.0	5.0	.0
Mode		20	50	10	10	0	0
Percentiles	25	10.0	20.0	5.0	5.0	.0	.0
	50	20.0	40.0	10.0	10.0	5.0	.0
	75	30.0	60.0	15.0	20.0	10.0	20.0

Academic Discipline.

Of the 359 respondents who answered this question, nearly half (47.9%), were from medical or health disciplines, while another 40 percent were split between Social

Sciences (17.8%) and Sciences (18.7%), reflecting the range of Case academic disciplines (Table 2). Although this question used an open-ended text box, we collapsed responses into broad disciplines for analysis.

Table 2. Academic Disciplines of Case Western Faculty Respondents

	Frequency	Percent
Social Sciences	64	17.8
Humanities	27	7.5
Medical/Health	172	47.9
Engineering/Technology	25	7.0
Sciences	67	18.7
Others	4	1.1
Total	359	100.0

Degree, Age, Gender, and Rank.

A large majority of respondents hold the Doctorate or equivalent degree (91.6%, Table 3).

Table 3. Highest Degree of Case Western Faculty Respondents

	Frequency	Percent
Bachelor's (B.A., B.S., or equivalent)	2	.6
Master's (M.A., M.S., M.B.A., M.F.A., or equivalent)	25	7.0
Doctorate (Ph.D., Ed.D., M.D., J.D. or equivalent)	329	91.6
Other (please specify)	3	.8
Total	359	100.0

A majority of respondents are male (39.4% respondents are female) and more than half of all respondents who chose to identify their age (54.9% or 190 of 346) are between the ages of 30 and 49 (table 4). On the whole, the Case faculty respondents are younger than the respondents in our other surveys of Ohio universities. Respondents are fairly evenly spread across the ranks of professor, associate professor, and assistant professors (table 5).

Table 4. Age Range of Case Western Faculty Respondents

	Frequency	Percentage
21-29 years old	4	1.2
30-39	82	23.7
40-49	108	31.2
50-59	106	30.6
60-69	32	9.3
70-79	10	2.8
80 – 86	4	1.2
Total	346	100.0

Table 5. Ranks of Case Western Faculty Respondents

	Frequency	Percent
Professor	105	29.4
Associate Professor	83	23.2
Assistant Professor	115	32.2
Instructor/Lecturer	34	9.5
Adjunct	13	3.6
Other (please specify)	7	2.0
Total	357	100.0

Productivity as Measured by Authorship and Awards.

In our surveys of research universities and non-university research settings, we use authorship as one measure of productivity, and consistently over the years we have found

that faculty who publish more journal articles tend to read more. More than 80 percent (81.4%, $n=280$) of Case's faculty have published in a scholarly journal in the last two years, with over half (56.1%, $n=193$) publishing more than two articles. Fewer have recently published articles in trade journals, chapters in books or proceedings, or complete books (see Table 6.) Taking all of these methods of publication together for the last two years, respondents have published on average over six publications (mean) (with a mode of 3 publications) and almost all (90.4%) have published at least one scholarly publication of some sort (Table 7).

**Table 6. Number of Publications by Case Western Faculty Respondents in the Past
2 Years**

	Frequency	Percentage
Refereed Scholarly Journals	344	100.0
0	64	18.6
1 ~ 2	87	25.3
3 ~ 4	69	20.0
5 ~ 6	59	17.1
> 6	65	19.0
Non-Refereed Journals	344	100.0
0	230	66.9
1 ~ 2	74	21.5
> 2	40	11.6
Chapters in Books, Proceedings, etc.	344	100.0
0	194	56.4
1 ~ 2	110	31.9
> 2	40	11.7
Entire Books	344	91.6
0	315	91.6
1 ~ 2	29	8.4
> 2	0	0

Table 7. Total Numbers of Publications by Case Western Faculty Respondents in the Last 2 Years

	Frequency	Percentage
0	33	9.6
1 ~ 2	64	18.6
3 ~ 4	76	22.1
5 ~ 10	115	33.4
> 10	46	16.3
Total	344	100.0

In terms of amount of publications, no significant differences existed across subject disciplines. However, female and male respondents significantly differed from each other ($t = 10.444, p = 0.001$). Men have published almost twice as much as women, with an average of over eight ($M = 8.41$) publications for men versus over four ($M = 4.41$) for women.

Significant differences also existed in the total number of publications across different levels of rank ($F = 6.381, p < 0.0001$). Professors ($M = 11.18$) significantly published more than assistant professors ($M = 4.44; MD = 6.74, p = 0.009$), instructors/lectures ($M = 2.15; MD = 9.03, p < 0.0001$), adjuncts ($M = 2; MD = 9.182, p < 0.0001$), and others ($M = 2; MD = 9.182, p = 0.001$). Associate professors ($M = 7.59$) also significantly published more than assistant professors ($MD = 3.144, p = 0.003$), instructors/lectures ($MD = 5.434, p < 0.0001$), adjuncts ($MD = 5.585, p < 0.0001$), and others ($MD = 5.585, p = 0.006$). Assistant professors published significantly more than instructors/lectures ($MD = 2.29, p < 0.0001$) and adjuncts ($MD = 2.441, p = 0.024$). No significant differences

existed between the other pairs.¹ Specifically speaking of different types of publications, between-rank differences existed in articles published in refereed scholarly journals ($F = 11.203, p < 0.0001$),² published non-refereed articles ($F = 2.429, p = 0.035$),³ and published entire books ($F = 2.661, p = 0.022$).⁴ The exception to this was published chapters in books, proceedings, etc. where no significance of between-rank difference was found.

Table 8. One-Way ANOVA of Differences in Amount of Publication across Ranks of Case Western Faculty Respondents

	Rank	
	F statistics	P value
Articles Published in Refereed Scholarly Journals	11.203	.000
Published Non-Refereed Articles	2.429	.035
Published Chapters in Books, Proceedings, etc.	1.401	.223
Published Entire Books	2.661	.022
Total Amount of Publication	6.381	.000

¹ The homogeneity of variances was not guaranteed. Tamhane's T2 that does not require equal variances across groups was used in ANOVA.

² Differences existed between the following nine pairs: $MD_{professors - assistant\ professors} = 3.643, p < 0.0001$; $MD_{professors - instructors/lectures} = 5.273, p < 0.0001$; $MD_{professors - adjuncts} = 5.947, p < 0.0001$; $MD_{professors - others} = 4.864, p = 0.011$; $MD_{associate\ professors - assistant\ professors} = 1.8, p = 0.019$; $MD_{associate\ professors - instructors/lectures} = 3.429, p < 0.0001$; $MD_{associate\ professors - adjuncts} = 4.104, p < 0.0001$; $MD_{assistant\ professors - instructors/lectures} = 1.630, p = 0.002$; $MD_{assistant\ professors - adjuncts} = 2.304, p < 0.0001$.

³ Differences existed between the following five pairs: $MD_{professors - instructors/lectures} = 2.222, p = 0.049$; $MD_{professors - others} = 2.434, p = 0.019$; $MD_{associate\ professors - instructors/lectures} = 1.312, p = 0.013$; $MD_{associate\ professors - others} = 1.524, p = 0.001$; $MD_{assistant\ professors - others} = 0.604, p = 0.014$.

⁴ Differences existed only between the following two pairs: $MD_{professors - instructors/lectures} = 0.182, p = 0.002$; $MD_{professors - others} = 0.182, p = 0.002$.

Personal Subscriptions.

One last demographic question asked how many personal subscriptions to professional journals are received by each respondent, including those paid by themselves, received free, or purchased by a grant or other source for personal or shared use in either print or electronic form.

Case respondents have a slightly higher number of personal subscriptions for faculty members today, with an average of almost four (3.99) subscriptions per faculty member. This is understandable, given the high proportion of medical and health faculty at Case. In our surveys of medical faculty and physicians outside of the university, we find that on average they still receive 5-6 personal subscriptions. This is comparable to between 3 and 3.5 for faculty on the whole and under 2 when subject experts from outside the university are averaged in. Similar to other surveys over the last decade, print is still the predominant format for personal subscriptions. In this survey over 60 percent (61.1%) of faculty had at least one print subscription, but only one quarter (26.3%) had at least one electronic subscription (Table 9). As can be expected, medical/health disciplines, social science disciplines and ‘other’ disciplines had the most personal subscriptions (Table 10).

Table 9. Number of Personal Subscriptions by Case Western Faculty Respondents

	Frequency	Percentage
Print-only Subscriptions	350	100.0
0	136	38.9
1	53	15.1
2	49	14.0
3	46	13.1
4	26	7.4
5	19	5.4
6	4	1.1
> 6	17	4.8
Electronic-only subscriptions	350	100.0
0	258	73.7
1	47	13.4
2	25	7.1
3	8	2.3
>3	12	3.5
Print and Electronic Subscriptions	350	100.0
0	258	73.7
1	47	13.4
2	25	7.1
3	8	2.3
4	12	3.5
5	258	73.7
6	47	13.4

Table 10. Personal Subscriptions by Discipline of Case Western Faculty Respondents

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					Social Sciences	61		
Humanities	27	2.9	1.940	.373	2.16	3.69	0	6
Medical/Health	169	4.5	4.014	.309			0	30
Engineering/Technology	23	3.3	2.945	.614	2.03	4.58	0	11
Sciences	67	2.9	3.051	.373	2.15	3.64	0	16
Others	3	6.3	1.528	.882	2.54	10.13	5	8
Total	350	4.0	3.592	.192	3.61	4.36	0	30

Scholarly Journal Article Reading.

Total Amount of Reading per Academic Staff Member.

Although it relies on personal recollection, one of the key questions in all of our surveys from 1977 to the present is an estimate of the total number of articles read monthly by each respondent. We have asked this same question since 1977, so we can compare over time and across populations. To assist memory, we ask for a relatively short period of time and define articles and reading carefully. The first question asked is *“In the last 4*

weeks, approximately how many scholarly articles have you read? Articles can include those found in journal issues, Web sites, or separate copies such as preprints, reprints, and other electronic or paper copies. Reading is defined as going beyond the table of contents, title, and abstract to the body of the article.” The relative amounts are more interesting than the exact number reported. For convenience, we often report results as readings in a year, simply by taking the monthly number reported by a respondent and multiplying it by 12, for a crude approximation of the total amount of reading by respondent per year.

The average amount of scholarly reading in the past four weeks at Case University was 31 articles ($SD = 32.918$, mode = 20) with all 414 respondents included. There is a wide range in this reading, from 0 to 255 articles read in the last month. Although the mean is nearly 31 (30.8), the median is only 20. Extrapolated to an entire year, the average number of articles read by Case faculty across all disciplines was 372, with all outliers included. If a single outlier of 255 is excluded the mean is reduced slightly, to 30.23.

The amount of reading has been rising steadily over the last three decades. This compares to 206 articles across all faculties in three U.S. universities that were surveyed between 2000 and 2003. University of Tennessee in 2000 averaged 186, Drexel University in 2002 averaged 197, and University of Pittsburgh in 2003 averaged 215. In surveys of two research universities in Australia in 2004-2005 we found an even greater amount of reading—over 250 articles per year, showing a continual increase in amount of reading in research universities since our first survey in 1977. The report comparing the U.S. universities concluded: “While there is some difference in average amount of reading

among the three universities ...Nevertheless, reading by faculty is substantial and, perhaps, increasing as shown in the section on 25-year trends in university scientists' use patterns.” (See King, Tenopir, Montgomery, and Aerni.) Among medical faculty, however the amount of reading is considerably higher. In a survey of Tennessee medical faculty in 2001, we found an average amount of reading of 322 articles (Tenopir, King, and Bush.) Case Western faculty’s high average numbers of readings are likely influenced by the large number of medical responses and are much higher than those found at other Ohio universities.

In research universities and non-university research settings we often find a correlation between amount of reading and receiving awards, however, the survey conducted for Case Western showed no significant relationship in this area.

Last Incident of Reading and Novelty of Information in the Reading.

After the question that asks for recollection of amount of reading, we ask respondents to focus on the last scholarly article they read. This is a variation on the “critical incident” technique, where the last article reading is assumed to be random in time, and gives us detailed information on a random sample of total readings by the Case faculty. Again we try to give quite explicit instructions, by asking: “*The following questions in this section refer to the **scholarly article you read most recently**, even if you had read the article previously. Note that this last reading may not be typical, but will help us establish the range of patterns in reading.*” To better focus their minds on this last article reading, we then ask for the title of the journal from which this last article was read or, if not from a

journal, the topic of the article. This question is merely to focus their minds on the reading; we do not use it in our analysis.

Since this reading could be a first-time reading or a re-reading and because reading patterns differ for core journals in a discipline (those from which scholars read many articles each year), we ask if this is a re-reading and, “if this article is from a journal,” “*approximately how many articles did you read from this journal in the last 12 months?*” A journal from which a reader reads more than 10 articles per year could be considered a core journal for that reader or that reader’s subject discipline. We might examine differences in value, form, time spent, purpose, and method of locating articles for core journal readings vs. non-core.

A majority of the journal sources for the last reading were familiar to the readers. The mean number of articles read from this same source is 36.2 (SD =53.789). There is high variability, however, with a median of just 15. Over half of the readings (58.4%, $n =225$) meet our criteria for coming from a core journal, with 11 or more readings from this same title (Table 11). This is typical of medical faculty reading, as they rely more on current awareness reading from personal subscriptions to core journals than do other faculty.

Table 11. Number of Readings by Case Western Faculty Respondents from the Same Source

	Frequency	Percentage
0 – 4	72	22.3
5 – 10	71	19.3
11 – 25	94	25.5
Over 25	131	32.9
Total	368	100.0

Although they tend to read many articles from the same journals, the specific article was new to most readers; the majority of respondents (79.3%) reported that this was the first time they had read this article. On the other hand, the information contained in the article was familiar to almost half (49.5%) of respondents. For the 181 respondents who indicated they knew about the information found in the article, one-third knew it from other journal articles (34.3%), while the remainder learned about the information in other ways (Table 12)

Table 12. How Case Western Faculty Respondents found out about Information in Articles Prior to This Reading

	Frequency	Percent
Specified sources		
1. Journal article	62	34.3
2. Informal discussions with colleagues	37	20.4
3. Conference/workshop	26	14.4
4. Listserv or news group or e-alerts	10	5.5
5. Email from colleague	9	5.0
6. E-print Server	1	.6
7. Website of author	1	.6
Unspecified sources		
Other	35	19.3
Total	181	100.1*

*due to rounding

Date of Readings.

In our surveys from 1977 to the early 2000s, we found a consistent pattern of reading articles older than the first year of publication, with approximately two-thirds of readings

within the first year of publication and the other one-third after the first year, trailing to quite old articles. There are, of course, some differences based on subject discipline, with medical faculty reading a higher proportion of current articles.

In our surveys of two Australian research universities in 2004 and 2005 and other research universities in the U.S. in 2005-2006, we have found an increase in the reading of older articles, with just slightly more than half of readings within the first year of publication. This may be due to a greater availability of electronic back files, an increase in searching which helps identify older articles, and search system features such as linking that allows older articles to be more easily accessed. This pattern at Case is evident in the following tables with just approximately half of all readings within the first year of publication (Table 13a). Since the survey was conducted in October 2005, we add approximately one-fourth of the 2004 readings to get the appropriate number of publications for the current year.

Consistent with our other recent surveys, 55% ($n = 142$) of Case Western faculty readings are from within the first year of publication. The other 45% of readings after the first year of publication are concentrated within the next 2-5 years (31.3%), with a long tail of dates after that.

Table 13. Year of Last Article Read by Case Western Faculty Respondents

Table 13a.

	Frequency	Percent
1959	1	.3
1960	1	.3
1970	1	.3
1973	1	.3
1978	1	.3
1981	1	.3
1983	1	.3
1984	3	.8
1985	1	.3
1987	2	.5
1989	1	.3
1990	3	.8
1991	1	.3
1992	2	.5
1993	4	1.1
1994	3	.8
1995	6	1.6
1996	2	.5
1997	7	1.9
1998	6	1.6
1999	4	1.1
2000	10	2.7
2001	13	3.5
2002	24	6.4
2003	28	7.5
2004	57	15.2
2005	190	50.8
Total	374	100.3*

*Due to rounding

**Table 13b. Year of Articles Read by Case Western Faculty Respondents arranged
by Date Groupings**

Year	Frequency	Percentage
Over 15 years (1959~1989)	14	3.7
11 years ~ 15 years (1990~1994)	13	3.5
6 years ~ 10 years (1995~1999)	25	6.7
2 years ~ 5 years (2000~3/4 of 2004)	117	31.3
1st year (1/4 of 2004~2005)	205	54.8
Total	374	100.0

Time Spent Reading.

Case faculty report spending an average of approximately one-half hour (29.63 minutes) per article reading ($SD = 25.561$), an amount of time consistent with our other recent surveys. We have 95 percent confidence that Case faculty on average spend between 27 to 32.25 minutes per reading.

The average amount of time spent reading an article has gone down consistently over the past three decades. In 1977 the average amount of time spent per article was approximately three-quarters of an hour—recently that has decreased to only about one-half hour, as with Case. Medical practitioners and medical faculty read even more quickly than others—an average of between 20 and 22 minutes per article (Tenopir, King, Bush, 2004).

Table 14. Time Spent Reading per Article by Case Western Faculty Respondents

	Frequency	Percentage
0 – 5	14	3.8
6 – 10	42	11.5
11 – 15	69	18.9
16 - 25	74	20.3
26 – 30	82	22.4
Over 30	85	23.1
Total	366	100.0

Source and Location of Reading.

We also asked “how did you initially find out about this last article you read?” Twelve different choices (plus other), reflect today’s complex information environment, where readers have many ways of finding articles available to them. Choices 1-6 (see Table 15) can be categorized as browsing—that is starting with a table of contents or title of a journal and browsing through that print or electronic journal to locate articles of interest. Approximately a quarter of all readings reported by Case faculty (25.1%, $n = 92$) were found initially by one of these methods of browsing. Browsing through a print personal subscription was most common, closely followed by browsing through an electronic library subscription. Searching accounted for 29.7 percent of all readings, while “other”, including following a citation in another publication or hearing about the article from someone, accounted for 45.2 percent of all readings. The high incidence of “other” in Case faculty, notably finding an article through a colleague’s recommendation, is different from our other Ohio surveys.

Table 15. How Case Western Faculty Respondents Initially Found Out About Articles

	Frequency	Percent
Browsing	92	25.1 (100.0)
1. Print: Personal subscription	33	(39.8)
2. Electronic: Library subscription	29	(34.9)
3. Electronic: Personal subscription	7	(8.4)
4. Free web	6	(7.2)
5. Print: Library subscription	5	(6.0)
6. Electronic: School, department etc. subscription	3	(3.6)
Searching	109	29.7 (100.0)
1. Indexing/abstracting database	57	(61.3)
2. Online journal collection	15	(16.1)
3. Web search engine	13	(14.0)
4. Electronic: other	4	(4.3)
5. Print index or abstract	2	(2.2)
6. Print: other	2	(2.2)
Other	166	45.2 (100.0)
1. Another person told me about it	90	(54.2)
2. Cited in another publication	53	(31.9)
3. Sent to me as a part of alerting service	11	(6.6)
4. Don't know or other	12	(7.3)
Total	367	100.0

Browsing or searching to find out about readings can also be categorized as coming from library provided sources or other; or from print, electronic, or unknown sources. The 92 instances of readings located through browsing, can be categorized as 40 coming from personal subscriptions, 37 coming from library or department subscriptions, and 6 from other electronic sources. Of the articles found by browsing, 38 (45.8%) came from print and 45 (54.1%) from electronic sources. Searching, on the other hand, is almost all from electronic sources, with the exception of the less than 5 percent that used some print

format. It is difficult to distinguish if the 166 “other” readings come from print or electronic or from the library or other. A recommendation from another person, for example, could be through an e-list or email.

Just because an article is located using an electronic source, it does not mean that the final form of reading is on the computer screen. Only 85 of 360 (23.6%) readings reported by Case faculty were actually read on the screen—all of the rest either originated in a print journal or were downloaded and printed on paper (Table 16). This is consistent with our other survey results—although electronic journals are convenient as a means to locate relevant articles, for the most part they are not read on screen. Print on paper is still considered more convenient for reading, even the relatively quick reading of today’s reader. Still, 23.6% is a larger percent of reading done on screen than we have found in earlier surveys, so patterns may be changing.

Table 16. Final Form of Reading by Case Western Faculty Respondents

	Frequency	Percent
1. Downloaded and printed on paper	175	48.6
2. Print article in a print journal	66	18.3
3. Online computer screen	60	16.7
4. Photocopy	33	9.2
5. Previously downloaded/saved and read, on computer screen	25	6.9
6. Facsimile copy	1	.3
Total	360	100.0

Many libraries have observed that faculty rarely read in the physical library, even though their use of the virtual library collections may be substantial. Case faculty, like others,

rarely read from within the library. The vast majority of their article readings are from home or their offices (91.4%, $n = 338$) (Table 17.)

Table 17. Location of Case Western Faculty Respondents When Reading

	Frequency	Percent
Office or lab	237	64.1
Home	101	27.3
Traveling	20	5.4
Library	6	1.6
Other	6	1.6
Total	370	100.0

Purpose and Value of Reading.

Unlike usage log data, survey data provides a picture of purpose, value, and outcomes from reading. We asked respondents to describe one principal purpose for which “*you have used, or do you plan to use, the information obtained from the article you last read?*” In research universities the most common principal purpose for most academic disciplines is research (although medical faculty read more for current awareness). Case’s faculty falls in line with other general faculties, where almost half have used articles primarily for research (49.6%, $n = 178$) (Table 18). This is perhaps surprising given the large numbers of medical faculty at Case Western.

Table 18. Principal Purposes of Reading for Case Western Faculty Respondents

	Frequency	Percent
Research	178	49.6
Teaching	62	17.3
Current awareness/keeping up	28	7.8
Writing proposals, reports, articles, etc.	48	13.4
Consulting, advising others	14	3.9
Internal or external presentations	9	2.5
Continuing education for self	11	3.1
Other (please specify)	9	2.5
Total	359	100.1*

*Due to rounding

Although respondents with different principal purposes of reading did not differ in reading time, significant between-group differences existed in terms of amount of reading ($F = 2.689, p = 0.031$) and total publications ($F = 2.861, p = 0.024$). The differences in amount of reading primarily existed between people reading for research ($M = 35.27$) and for teaching ($M = 22.74$; $MD = 12.528, p = 0.016$).⁵ These two groups also significantly differed in total publications ($F = 2.861, p = 0.024$). People reading for research ($M = 7.09$) published in the past 2 years significantly more than those for teaching ($M = 3.78$; $MD = 3.318, p < 0.000$).⁶ Principal purpose was also associated with form of reading ($\chi^2 = 34.414, p < 0.0001$). Respondents who read for current awareness were significantly distinct from the others in that they most read articles in print (67.9%, 19 of 28) whereas

⁵ Same as Footnote 1.

⁶ Same as Footnote 1.

all the others reported a dominating percentage of reading in electronic formats, ranging from 64.6% to 82.6% (see Table 19.)

Table 19. Estimated Time of Reading by Principal Purpose for Case Western Faculty Respondents

		Reading Form		Row Total
		Print	Electronic	
Principal Purpose	Research	31 17.4%	147 82.6%	178
	Teaching	18 29.0%	44 71.0%	62
	Current Awareness	19 67.9%	9 32.1%	28
	Writing Proposals/Reports	17 35.4%	31 64.6%	48
	Others	15 34.9%	28 65.1%	43
Column Total		100	259	359

Respondents were asked to rank the importance of the reading to the principal purpose of the reading on a 3-point scale of 1 (not important), 2 (somewhat important), and 3 (absolutely essential). On the whole, readings were rated important ($M = 2.40$), a finding consistent with our past surveys. Nearly 60 percent of readings were rated “somewhat important” (59.6%, 212 of 356), with the majority of the remaining readings (39.3%, $n = 140$) rated as “absolutely essential”. Reading for the purpose of writing proposals, reports, etc. was rated most highly ($M = 2.48$, $SD = 0.505$), followed by research ($M = 2.4$, $SD = 0.526$), teaching ($M = 2.39$, $SD = 0.525$), other unspecified purposes ($M = 2.35$, $SD = 0.482$), and current awareness ($M = 2.07$, $SD = 0.378$). There were significant differences between groups ($F = 3.187$, $p = 0.014$), which was mainly mirrored in the differences between current awareness and the three groups, research ($MD = -0.332$, $p =$

0.002), teaching ($MD = -0.322, p = 0.016$), and writing proposals, reports, etc. ($MD = -0.408, p = 0.02$).⁷ Respondents who read for current awareness reported a significantly lower rate of perceived importance of reading than each of these three groups. No significant differences were found between the other pairs of groups.

In addition to rating the value of the reading to the purpose, respondents were asked to choose from a list of outcomes the ones that described the outcome of this reading to them. Respondents could select more than one outcome. Most often the readings “improved the result” or “inspired new thinking” (Table 20.)

Table 20. Outcome of Reading for Case Western Faculty Respondents

	Frequency	Percent
Inspired new thinking	180	50.4
Improved the result	140	39.2
Narrowed/broadened/changed the focus	93	26.1
Resolved technical problems	39	10.9
Saved time or resources	38	10.6
Others	36	10.1
Resulted in faster completion	29	8.1
Resulted in collaboration/joint research	21	5.9
Total	357	

⁷ Same as Footnote 1.

Differences of Reading Patterns by Demographic Factors.

Differences in Reading Patterns by Subject Discipline.

Although respondents from different subject disciplines did not significantly differ in total publications, reading time, principal purpose and perceived importance of reading, they were differentiated from each other in many other aspects. These include total reading ($F = 6.127, p < 0.0001$), total subscriptions ($F = 3.036, p = 0.011$), resource of finding out articles ($\chi^2 = 22.046, p = 0.005$), way of finding out articles ($\chi^2 = 22.046, p = 0.005$), and reading form ($\chi^2 = 27.535, p < 0.0001$).

In terms of total articles read in the past month, medical/health respondents reported the largest mean, 40.24 ($SD = 37.469$), followed by people from sciences ($M = 35.58, SD = 38.185$), social sciences ($M = 23.89, SD = 25.701$), engineering/technology ($M = 22.32, SD = 25.596$), humanities ($M = 10.48, SD = 9.044$), and others ($M = 5, SD = 4.163$). Significant differences existed between eight group pairs (see Table 21 for detailed information), while medical/health people did not differ from any other groups.⁸

⁸ Same as Footnote 1.

Table 21. Amount of Reading by Subject Discipline of Case Western Faculty Respondents

Mean (I)	Mean (J)	Mean Difference (I-J)	Std. Error	<i>p</i>	95% Confidence Interval	
					Lower Bound	Upper Bound
Social Sciences	Humanities	13.409(*)	3.654	.006	2.41	24.41
	Medical/Health	-16.349(*)	4.305	.003	-29.14	-3.56
	Others	18.891(*)	3.828	.001	6.60	31.18
Humanities	Medical/Health	-29.758(*)	3.353	.000	-39.72	-19.80
	Sciences	-25.101(*)	4.979	.000	-40.12	-10.08
Medical/Health	Engineering/Technology	17.920	5.866	.058	-.32	36.16
	Others	35.240(*)	3.542	.000	23.72	46.76
Sciences	Others	30.582(*)	5.108	.000	14.89	46.28

* The mean difference is significant at the .05 level.

More group pairings for the amount of readings had significant differences than the group pairings for total subscriptions. Others ranked top in the mean of total subscriptions ($M = 6.33$, $SD = 1.528$), followed by medical/health ($M = 4.49$, $SD = 4.014$), social sciences ($M = 4.41$, $SD = 3.413$), humanities ($M = 2.93$, $SD = 1.94$), engineering/technology ($M = 3.3$, $SD = 2.945$), and sciences ($M = 2.9$, $SD = 3.051$). Yet, significant difference was only detected only between medical/health and sciences ($MD = 1.59$, $p = 0.025$), because of the unequal variances between groups.⁹

Subject discipline was found to be significantly associated with resource and way of finding out about articles. Humanities respondents were equally split between library-provided resources and personal subscriptions, both with a percentage of 42.3%, in

⁹ Same as Footnote 1.

addition to other resources. In contrast, all the other groups of subject disciplines read most often from library-provided resources, ranging from 53.5% to 68%. Humanities faculty also had a relatively lower percentage of using other resources. Science faculty were distinct for their very low percentage of reading from personal subscriptions, only 4.5% (see Table 22).¹⁰ Faculty from different subject disciplines also differed in terms of using browsing or searching to find out articles (see Table 23).¹¹ Compared to the others, humanities faculty were less likely to search for articles.

Table 22. Association between Subject Discipline of Case Western Faculty Respondents and Resource of Finding out Articles

		Resource of Finding out Articles			Row Total
		Library-Provided	Personal Subscriptions	Other	
Subject Discipline	Social Sciences	37 57.8%	12 18.8%	15 23.4%	64
	Humanities	11 42.3%	11 42.3%	4 15.4%	26
	Medical/Health	92 53.5%	42 24.4%	38 22.1%	172
	Engineering/ Technology	17 68.0%	3 12.0%	5 20.0%	25
	Sciences	48 71.6%	3 4.5%	16 23.9%	67
Column Total		205	71	78	354

¹⁰ Since the number of respondents from other faculties unspecified in the categorization was as few as 3, they were excluded from analysis.

¹¹ Same as Footnote 10.

Table 23. Association between Subject Discipline of Case Western Faculty Respondents and Way of Finding out Articles

		How to find out articles			Row Total
		Browsing	Searching	Other	
Subject Discipline	Social Sciences	18 29.0%	14 22.6%	30 48.4%	62
	Humanities	10 38.5%	3 11.5%	13 50.0%	26
	Medical/ Health	47 28.5%	60 36.4%	58 35.2%	165
	Engineering/ Technology	3 12.5%	10 41.7%	11 45.8%	24
	Sciences	11 16.7%	18 27.3%	37 56.1%	66
Column Total		89	105	149	343

Subject discipline was also significantly associated with reading form.¹² The majority of humanities readings were in print (61.5%, 16 of 26), whereas the others were primarily electronic form, with percentages ranging from 68.6% to 89.6%. Sciences and engineering/technology readings were particularly more likely to be in electronic form, respectively with a relatively lower percentage of print form (10.4%, 7 of 67; 16%, 4 of 25) than social sciences (28.1%, 18 of 64) and medical/health readings (31.4%, 54 of 172) (see Table 24).

¹² Same as Footnote 10.

Table 24. Association between Subject Discipline of Case Western Faculty Respondents and Reading Form

		Form		Row Total
		Print	Electronic	
Subject Discipline	Social Sciences	18 28.1%	46 71.9%	64
	Humanities	16 61.5%	10 38.5%	26
	Medical/Health	54 31.4%	118 68.6%	172
	Engineering/ Technology	4 16.0%	21 84.0%	25
	Sciences	7 10.4%	60 89.6%	67
Column Total		99	255	354

Differences in Reading Patterns by Rank, Degree, Age, Gender, and Productivity.

In terms of rank, no significant between-group differences in amount of reading, time spent reading, source and form of reading, principal purpose, and the degree of perceived importance of reading to achieve respondents' principal purposes. However, significant differences were found in their total subscriptions ($F = 3.354, p = 0.006$), which primarily existed between professors ($M = 5.07$) and instructors/lecturers ($M = 3.03; MD = 2.039, p = 0.038$).

Age made no differences in amount of reading, time spent reading, total publications, source and form of reading, and the degree of perceived importance of reading to achieve respondents' principal purposes. In addition, people who had different principal purposes and used different resources of finding out articles did not differ by age. There was a

significantly positive correlation between age and total subscriptions, with a Pearson coefficient of 0.21 ($p < 0.0001$), although such a correlation was not strong.

Gender was not a significant factor in reading patterns in many aspects, such as amount of reading, time spent reading, the degree of perceived importance of reading to achieve respondents' principal purposes, and total subscriptions. Although principal purpose did not vary with subject discipline or age and rank, male and female respondents significantly differed in principal purpose ($\chi^2 = 14.187, p = 0.007$). Compared to their female peers, male faculty members were less likely to read for teaching, but more likely to read for research and other unspecified purposes (see Table 25). Male and female respondents at Case also differed in total publications ($t = 3.721, p < 0.0001$). Males ($M = 8.25$) published significantly more than females ($M = 4.44$).

Table 25. Association between Gender of Case Western Faculty Respondents and Principal Purpose

	Principal Purpose					Row Total
	Research	Teaching	Current awareness	Writing proposals/reports	Others	
Male	111 53.1%	26 12.4%	16 7.7%	25 12.0%	31 14.8%	209
Female	61 44.2%	33 23.9%	12 8.7%	23 16.7%	9 6.5%	138
Column Total	172	59	28	48	40	347

Role of Library Collections.

As mentioned earlier, how someone found an article can be re-categorized into three basic categories: library-provided, personal subscriptions, and other. These categories were significantly associated with principal purpose ($\chi^2 = 45.984, p < 0.0001$). Case Western faculty rely on library-provided resources for over half of their readings (58.6%) (Table 26). These library-provided readings are principally used for research (56%) (Table 27). This is consistent with other recent surveys that have shown since 1977 faculty have relied more on library provided articles and less on personal subscriptions, and faculty rely on libraries particularly for research-related readings. Personal subscriptions were more likely to be used for teaching and current awareness (Table 27).

Table 26. Source of Reading for Case Western Faculty Respondents

	Frequency	Percent
Library-provided	218	58.6
Personal subscriptions	73	19.6
Others	81	21.8
Total	372	100.0

Table 27. Association between Principal Purpose of Case Western Faculty Respondents and Resource of Finding Articles

	Principal Purpose					Row Total
	Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Library-Provided	116 56.0%	33 15.9%	8 3.9%	30 14.5%	20 9.7%	207
Personal Subscriptions	25 34.7%	14 19.4%	18 25.0%	8 11.1%	7 9.7%	72
Other	37 46.3%	15 18.8%	2 2.5%	10 12.5%	16 20.0%	80
Column Total	178	62	28	48	43	359

Table 28. Mean Amount of Readings by Case Western Faculty Respondents Arranged by Resource of Finding Articles

	N	Mean	Std. Error	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Library-Provided	217	37.17	2.564	32.12	42.22
Personal Subscriptions	73	24.77	2.782	19.22	30.31
Other	81	26.80	3.299	20.24	33.37

We did not find that the resource used to locate articles was associated with the year of articles or rank of respondent. However, significant associations existed between the resource used for finding articles and subject discipline ($\chi^2 = 22.913, p = 0.011$). We found that most disciplines relied more heavily on library-provided resources; however, the humanities discipline was evenly split between library-provided resources and

personal subscriptions. Science faculty were distinct for their less likelihood to take advantage of personal subscriptions (see Table 29).

Most disciplines relied more heavily on library-provided resources; however, the humanities discipline was evenly split between library-provided resources and personal subscriptions (Table 29).

Table 29. Association between Resources of Finding Articles and Disciplines of Case Western Faculty Respondents

Count Row %	Library-Provided	Personal Subscriptions	Other	Row Total
Social sciences	37 57.8%	12 18.8%	15 23.4%	64
Humanities	11 42.3%	11 42.3%	4 15.4%	26
Medical/ Health	92 53.5%	42 24.4%	38 22.1%	172
Engineering / Technology	17 68.0%	3 12.0%	5 20.0%	25
Sciences	48 71.6%	3 4.5%	16 23.9%	67
Others	2 66.7%	1 33.3%	0 .0%	3
Column Total	207	72	78	357

Open Ended Comments.

As part of this study, faculty members at Case Western Reserve University were asked to comment on if and how their use of scholarly resources has changed over time. By and

large, comments showed a growing tendency to make greater use of electronic resources to access scholarly materials due largely to ease and increased efficiency. Many respondents also noted that scholarly journals have moved almost exclusively to online resources, greatly reducing their physical presence in the library:

- *Access to electronic journals and electronic request for reprints has saved me a great deal of time that I previously spent in the library.*
- *Almost entirely online now. The ability to obtain articles online has made it much more efficient and more through.*
- *I tend to read things online much more now. I will glance at the tables of contents of the journals I receive, but if I really want to read them, I go to the electronic version and print it out (easier to read/manage). I also check the electronic TOC on a number of journals each month.*
- *I read online publications almost exclusively. If I can't get it online, I either request an electronic copy from the author or don't read the article.*
- *I have stopped getting personal subscriptions and rely on the electronic journals supplied by the library*
- *I am using online versions of journals or online journals and archives of online journals. My physical presence in the library has decreased about 85%.*
- *I have dropped some personal subscriptions as they have become available on-line. Even the society subscriptions that I maintain are usually accessed through the university e-journals subscriptions. I rarely visit the library in person anymore--not that I did much before anyway as most journals I needed were available somewhere in my department--which compared with the ease and convenience of doing literature searches, downloading and printing from my office/computer takes too much time.*
- *I am using on line info much more. It provides the ability to keep the flow of writing when I can get to a journal immediately via online and find out what I want to know.*
- *Mostly electronic due to ease of access. Download PDF files to disk, so have record. Can print a copy as needed.*
- *Almost no trips to library. Extensive use of online journals*

- *I rely almost exclusively on access to journal articles online*
- *I use electronic media for ca 90% of my literature searching. This has been true for at least 10 years.*
- *I have less time to read and collect articles than I used to. I rarely make it to the library. If it's not online, I will rarely make an effort to get it.*
- *I have stopped buying textbooks. Exclusively use Web based reference texts*
- *Almost totally online now. Need to seamlessly move from PubMed search results to full text online article. Currently Case Library does not make this happen for me. It is very cumbersome to move from PubMed selections to Case's library online. Also, most of the online journals offered by Case are embargoed for the current year, which is useless to me. Then I have to use a personal subscription or someone else's subscription. Not practical. My indirect costs that generate over \$500,000 a year to Case should give me better service than this.*
- *Primarily access published information on-line. Spend very little actual time in the library. Tend not to use information if not available on-line.*
- *Switched to almost entirely electronic versions. Only refer to print versions when the article is too old to get online.*
- *I use primarily institutional subscriptions of e-journals*
- *I use the electronic versions more often. I do, however, still print out the articles because I really don't like to read on-line versions.*
- *Electronic access to scientific journal articles has dramatically expedited the access to information central to my research and review of the literature. As a result more information can be reviewed in the same amount of time, and I am more likely to review the appropriate literature*
- *Electronic journal articles are my primary source of information. I no longer have to spend time going to the library to photocopy articles. I can also print color figures at my desk which is a big advantage. Lastly, I can email important articles to my students.*
- *I have to print out copies of articles I like from journals I only receive in electronic format*
- *Almost all of the journal articles I need are available on line as pdf files. This has made me incredibly more efficient in research and patient care, and leads to increased thoroughness. The downside is that I am less likely to chase down an old article only available in hard copy.*

- *More rapid access to information, ability to find gray literature (if on the web).*
- *Use of online resources has increased dramatically. Seldom go to actual hard copies of journals, though occasionally I need to and then make a photocopy.*
- *I look for more on line - especially for student assignments (if they are as good as hard copy articles)*
- *I am nearly totally dependent on online access, sometimes back issues from library, more often than I would like interlibrary loan.*
- *All searches done on-line. 90% of articles downloaded. Previously, 15% of searches in library from reference sections of articles.*
- *I use electronic journals almost exclusively now. I receive tables of content with direct links to PDFs from my societies, I use PubMed to search topics and most everything I need for basic science is easily available from my institution. I haven't gone to the SOM library itself in years.*
- *I rely tremendously on electronic journals since I do much of my writing and scholarly work from home on my computer. Also, I have severe arthritis and it can be difficult to get to the library to get journals (esp. in bad weather).*
- *Absolute reliance on on-line contents.*
- *I rarely visit the library, but rely on all to most of my information from an electronic source.*
- *Use primarily digital journals. Rarely go to the library to copy journals.*
- *The biggest change is the increasing access to journals on the web. Physical Review articles going back to 1893 are now available. Other journals only manage current plus last few years. Hope they will catch up.*
- *Much greater reliance on OhioLink and databases*
- *Using electronic full text whenever possible. It has huge advantages in terms of access from home or off-site, and lets me read articles in enough detail to decide whether to download and print.*
- *More reliance on electronic journals, I have cancelled several print only journals.*
- *More reliance on electronic copies, even though this survey only asked about the most recent article read (and that one was unique...you should ask about the most recent and representative article)*

- *I do everything electronically - when I can't get what I want or need electronically - I really have no idea how to do it - I hate going to the library - I like to have everything downloaded or printed off my computer in my office or lab! Its more convenient.*
- *Use databases and electronic journals from library much more heavily. Gotten so jaded/lazy? I am surprised and a bit annoyed when I can't get an electronic copy from my desk now.*
- *Much more electronic--almost everything! Can't remember the last time I went/sent a student to the stacks!*
- *Used to but a subscription to MDConsult--now the library does, so I spend even less money on paid sources of print/electronic journals.*
- *Rarely keep journal editions--the ones I subscribe to can be accessed at the professional organizations website (if a member of the organization)--so I scan the print version (while waiting for various events/appointments/experiments to finish) but use the electronic version when I write a grant or publish.*
- *I almost exclusively limit my time to online articles. I only use library print copies, if the article is old. If my library does not subscribe to a current article, available online, I do not bother to incorporate it into my work.*
- *The Internet helps us to work round the clock and from home, and doesn't stall us. I can sit at home at night, and if I have a question, can go online, get to the article and answer my question. But there has been a decrease in the availability of some Internet article access recently that is troublesome. Also, less wear and tear on my back and arms if I am not carrying pounds of articles home with me every night*
- *I rely almost exclusively on electronic journals and rarely go to the Health Sciences Library*
- *More use of on-line materials, especially electronic journals, SciFinder Scholar and Citation Abstracts. Also other on-line sources, especially Google.*
- *I browse different publications online more and spend less time keeping up with and thoroughly reading one or two particular journals.*
- *I am much more comfortable with electronic formats, including reading and markups. So I am using electronic sources more, and am developing a preference for them to reduce paper in my life.*

- *I have substantially increased my use of electronic journals, and I find it extremely convenient to be able to search for articles and print out the full text article right at my desk (home or office). I used to use PubMed almost exclusively, but lately I've started using Google for searches on some topics, also, and Google Scholar.*
- *Access to electronic journals makes writing / research work much more efficient. Saves time and money from going to the library to make copies.*
- *More likely to access full text article on line than to request library loan, but not possible with most of my sub-specialty journals which are not offered on-line*
- *I read the most important journals in my field on line due to library subscriptions.*
- *From a mix of print and electronic to almost exclusively electronic (would be fully electronic if the resources were available)*
- *I do not go to the library. I rely entirely on electronic journals.*
- *Use electronic resources exclusively, unless I cannot obtain the material electronically.*
- *Use electronic journals almost exclusively*
- *Using almost exclusively electronic access to journals and literature searches via PubMed or eTocs. Heavily depend on institutes electronic journal subscriptions rather than personal subscriptions.*
- *It is orders of magnitude easier now that we have access to electronic journals. This access has revolutionized the way we can do chemistry, increased our productivity, and made reporting our results much smoother and easier.*
- *Increase the number of electronic journal subscriptions. I have found a number of journals I routinely accessed at my previous institution (such as Nature Reviews) not available at Case. Make it easy for individuals to suggest electronic subscriptions.*

Criticisms

Numerous responses provided pointed criticisms of the collection policies of the University and note that current policies are largely inadequate. A few comments suggest that faculty participation in selection could be improved.

- *If the administration really wants a superlative learning experience they need to be willing to pay for a superlative library and this includes electronic sources*
- *There is simply too little available electronically for me. What I can get in JSTOR my library has anyway. What I need is the offbeat stuff, not the mainstream.*
- *There are many electronic journal subscriptions that I cannot afford and would find helpful to have direct access to. The lack of availability is likely due to cost. Would it be helpful to help the faculty become more involved in the selection of electronic journal subscriptions?*
- *Many of the library sources available to Case do not include PDF documents or articles "in press" that are placed on the web by the publisher. The whole point of "in press" articles is for faster dissemination of knowledge. Without access to "in press" articles I will be behind in my research*
- *Am disturbed by the fact that can't access some articles in certain journals via Ohio Link (e.g. review articles in some EJC journals). Have had to email authors directly for PDF files to use in teaching.*
- *We need to expand our electronic journals. Many that I need are not available and I pay over \$600 each to subscribe. I bet there are a lot of us doing that.*
- *Access to Electronic full text articles is critical if I am to be successful*
- *Without electronic access this university will never be able to be competitive for research funding and be a real research institution*
- *Biggest frustration is having some key journals not available due to expense (JAMA, JAACAP)*
- *We need more online access to be actually be able to shift our work to anywhere*
- *In our division, we need access to more electronic journals. The division is now subscribing to the most requested journals in our division, since these are not available through the university library system. Even so, requests through interlibrary loan are frequent.*
- *Please let us vote/comment on subscriptions if you are not sure of the usage and want to eliminate them.*

Survey Instrument

Several responses provided some degree of insight into the effectiveness of the survey emphasis on articles:

- *The survey assumes one gets "information" from articles--I often get only "interpretation." In fact I suspect that only about 10-20% of any humanities article is based on "information" in the form of "facts" per se. So some of the questions I found difficult to answer.*
- *This survey privileges informational articles; many in the humanities are about methods, approaches, theories so it is not a case of being able to obtain the 'information' elsewhere.*

Summary.

In summary, the reading patterns of the Case academic faculty are similar to their counterparts in other Ohio universities, yet quite distinct in some aspects. Case has a relatively young faculty with a high number of persons in the medical or health disciplines. Reflective of this, the average amount of reading by Case faculty is higher than other research universities such as Akron University and University of Tennessee, and much higher than the Master's degree institutions surveyed. Case faculty also have slightly more subscriptions on average, typical of medical faculty and practitioners. They are more likely than our other institutions to read from the screen (although the vast majority of readings still are printed out) and to obtain readings from "other" sources, such as a colleague's recommendation. Case faculty are similar to other universities in the average amount of time spent per reading, the age of articles read, and their reliance on library-provided electronic journals for much of their reading.

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Survey of Scholarly Journal Article Reading and Use Faculty and Academic Staff

Your responses are confidential and data will be reported only in aggregated form. Because your answers are extremely important to the accuracy of our study, please submit the questionnaire even if you are unable to answer all the questions. We have tried to keep the questionnaire as short and simple as possible and yet achieve our study objectives. If you have any questions, please contact Carol Tenopir (ctenopir@utk.edu).

Section 1: Scholarly Article Reading

1. In the past month (30 days), approximately how many scholarly articles have you read? Articles can include those found in journal issues, Web sites, or separate copies such as preprints, reprints, and other electronic or paper copies. Reading is defined as going beyond the table of contents, title, and abstract to the body of the article.

Number of articles read/used in the past month: _____ articles

The following questions in this section refer to the SCHOLARLY ARTICLE YOU READ MOST RECENTLY, even if you had read the article previously. Note that this last reading may not be typical, but will help us establish the range of patterns in reading.

2. What is the title of the journal from which this last article was read or, if not from a journal, what is the topic of the article?

Journal Title _____

-or-

General Topic of Article _____

3. What year was this article published/posted? _____

4. From which source/form did you read this article? (Choose only the one best answer.)

- | | | |
|--|--------------------------------|-------------------------------------|
| <input type="checkbox"/> a. Personal subscription: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> b. Library subscription: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> c. School, department, etc. subscription: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> d. Free Web journal | | |
| <input type="checkbox"/> e. Preprint copy of the article: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> f. Personal copy of the article: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> g. Copy of the article from a colleague, author, etc: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> h. Interlibrary loan: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> i. Document delivery service: | <input type="checkbox"/> Print | <input type="checkbox"/> Electronic |
| <input type="checkbox"/> j. An author's Web site | | |
| <input type="checkbox"/> k. Other Web site (please specify) _____ | | |
| <input type="checkbox"/> l. Other source (please specify) _____ | | |

5. Thinking back to the source of the article, where would you obtain the information if that source were not available?

- a. I would not bother getting the information
- b. I would obtain the information from another source
Please specify source here: _____

If b. is checked:

In order to obtain the same information, if this source were not available, I would expect to spend _____ minutes of time and/or \$ _____. (If the answer is zero, please enter "0" instead of leaving a blank.)

6. Where were you when you read this article?

- a. Office or lab
- b. Library
- c. Home
- d. Traveling
- e. Elsewhere (please specify) _____

7. From this same source (e.g., journal, author's Web site, preprint archive), how many articles did you read in the last year (12 months)? (If the answer is zero, please enter "0" instead of leaving a blank.)
_____ Articles
8. How thoroughly did you read this article?
- a. With great care
 - b. With attention to the main points
 - c. Just to get the idea
9. Had you previously read this article, i.e., is this a re-reading?
- a. Yes
 - b. No
10. How long did you spend reading this article most recently?
_____ Minutes
11. Prior to your first reading of this article, did you know about the information reported or discussed in this article?
- a. Yes
 - b. No (Skip to Question 12.)
- 11a. How did you first find out about the information?
- a. Conference or workshop
 - b. Informal discussion with colleagues
 - c. Listserv or news group
 - d. Journal article
 - e. Email from colleague
 - f. E-print server (e.g., arXiv.org)
 - g. Web site of author
 - h. Other (please specify) _____

12. How did you become aware of this last article you read?

a. Found while browsing (i.e., started with a journal name, journal issue, or table of contents):

Personal subscription: Print Electronic

Library subscription: Print Electronic

School, department, etc. subscription: Print Electronic

Other (please specify) _____: Print

Electronic

Approximately how much time did you spend browsing? _____ Minutes

As a result, how many articles did you read and plan to read? _____

Articles

b. Found while I (or someone on my behalf) was searching (i.e., by subject or author's name):

Web search engine (e.g., Google, Yahoo, AltaVista)

Electronic indexing/abstracting service (e.g., Academic Search Premier, ERIC, PsycINFO)

Print index or abstract

Online journal collection (e.g., HighWire, OhioLINK EJC, JSTOR)

Current awareness service (e.g., Current Contents): Print

Electronic

Preprint/e-print service

Other (please specify) _____: Print

Electronic

Approximately how much time did you (or someone on your behalf) spend searching? _____ Minutes

As a result, how many articles did you read and plan to read? _____

Articles

c. Cited in another publication

d. Another person (e.g., a colleague) told me about it

e. Do not know

f. Other (please specify) _____

13. In what form was the last article you read?

- a. Print article in a print journal
- b. Photocopy
- c. Facsimile copy
- d. Online computer screen
- e. Previously downloaded/saved and read on computer screen
- f. Downloaded and printed on paper
- g. Other (please specify) _____

Section 2: Purposes and Consequences of the Last Article Reading

14. For what principal purpose did you use, or do you plan to use, the information obtained from the article you last read? (Choose only the one best answer.)

- a. Research
- b. Teaching
- c. Administration
- d. Current awareness/keeping up
- e. Writing proposals, reports, articles, etc.
- f. Consulting, advising others
- g. Internal or external presentations
- h. Continuing education for self
- i. Other (please specify) _____

15. Do you think the reading of the article affected the principal purpose?

- a. Yes
- b. No (Skip to Question 16)

15a. In what ways did the reading of the article affect the principal purpose?
(Choose

all that apply.)

- a. It improved the result
- b. It narrowed/broadened/changed the focus
- c. It inspired new thinking/ideas
- d. It resulted in collaboration/joint research
- e. It resulted in faster completion
- f. It resolved technical problems
- g. It saved time or other resources
- h. Other (please specify) _____

16. How important is the information contained in this article to achieving your principal purpose?

- a. Not at all important
- b. Somewhat important
- c. Absolutely essential

17. Did you cite this article or do you plan to cite it in a paper or report?

- a. No
- b. Maybe
- c. Already did
- d. Will in the future

Section 3: Demographics

18. What is your academic discipline?

- a. Applied Social Sciences
- b. Arts and Sciences
 - 1. Anthropology
 - 2. Art History and Art
 - 3. Astronomy
 - 4. Biology
 - 5. Chemistry
 - 6. Classics
 - 7. Cognitive Science

- 8. Communication Sciences
- 9. English
- 10. Geological Sciences
- 11. History
- 12. Mathematics
- 13. Modern Languages and Literatures
- 14. Music
- 15. Philosophy
- 16. Physics
- 17. Political Science
- 18. Psychology
- 19. Religion
- 20. Sociology
- 21. Statistics
- 22. Theater and Dance

- c. Dental Medicine
 - 1. Biological Sciences
 - 2. Community Dentistry
 - 3. Comprehensive Care
 - 4. Endodontics
 - 5. Oral and Maxillofacial Surgery
 - 6. Oral Diagnosis and Radiology
 - 7. Oral Pathology
 - 8. Orthodontics
 - 9. Periodontics
 - 10. Pediatric Dentistry

- d. Engineering
 - 1. Biomedical Engineering
 - 2. Chemical Engineering
 - 3. Civil Engineering
 - 4. Electrical Engineering and Computer Science
 - 5. Macromolecular Science and Engineering
 - 6. Materials Science and Engineering
 - 7. Mechanical and Aerospace Engineering

- e. Law

- f. Management
 - 1. Accountancy
 - 2. Banking and Finance
 - 3. Economics
 - 4. Information Systems
 - 5. Marketing and Policy Studies
 - 6. Operations
 - 7. Organizational Behavior

g. Medicine

- 1. Anatomy
- 2. Anesthesiology
- 3. Biochemistry
- 4. Bioethics
- 5. Dermatology
- 6. Emergency Medicine
- 7. Environmental Health Sciences
- 8. Epidemiology and Biostatistics
- 9. Family Medicine
- 10. General Medical Sciences
- 11. Genetics
- 12. Medicine
- 13. Molecular Biology and Microbiology
- 14. Molecular Medicine
- 15. Neurological Surgery
- 16. Neurology
- 17. Neurosciences
- 18. Nutrition
- 19. Ophthalmology
- 20. Orthopaedics
- 21. Otolaryngology - Head and Neck Surgery
- 22. Pathology
- 23. Pediatrics
- 24. Pharmacology
- 25. Physical Medicine and Rehabilitation
- 26. Physiology and Biophysics
- 27. Psychiatry
- 28. Radiation Oncology
- 29. Radiology
- 30. Reproductive Biology
- 31. Surgery
- 32. Urology

h. Nursing

19. What is your rank?
- a. Professor
 - b. Associate Professor
 - c. Assistant Professor
 - d. Instructor/Lecturer
 - e. Adjunct
 - f. Other (please specify) _____
20. What is the highest degree you have earned?
- a. Bachelor's (B.A., B.S., or equivalent)
 - b. Master's (M.A., M.S., M.B.A., M.F.A., or equivalent)
 - c. Doctorate (Ph.D., Ed.D., M.D., J.D. or equivalent)
 - d. Other (please specify) _____
21. What year did you receive your highest degree? _____
22. What is your age? _____
23. What is your sex/gender?
- a. Male
 - b. Female
24. What percentage of your work time do you spend doing the following? (If the answer is zero, please enter "0" instead of leaving a blank.)
- _____ % Teaching
 - _____ % Research and writing
 - _____ % Administrative
 - _____ % Service (to department, college, and wider community)
 - _____ % Consulting/advising
 - _____ % Other (please specify) _____
 - 100 % Total

25. In the past two years, how many of the following have you published? (If the answer is zero, please enter "0" instead of leaving a blank.)
- _____ Articles in refereed scholarly journals
 - _____ Non-refereed articles
 - _____ Scholarly books
 - _____ Chapters in scholarly books, proceedings, etc.
26. What sources did you use for the last substantive piece of information you used for work? (Select all that apply.)
- a. Journal article
 - b. Conference proceeding
 - c. Web site
 - d. Magazine article
 - e. Book or book chapter
 - f. Personal contact
 - g. Other (please specify) _____
27. In the past two years, have you received any awards or special recognition for your research or other profession-related contributions?
- a. Yes
 - b. No
28. How many sections of courses did you teach in the last academic year? (If the answer is zero, please enter "0" instead of leaving a blank.)
- _____ Fall
 - _____ Spring
 - _____ Summer
29. Estimate the number of journal articles assigned to your students or likely to be read by your students in all your courses this year. (If the answer is zero, please enter "0" instead of leaving a blank.)
- _____ Undergraduate courses
 - _____ Graduate courses
30. How many personal subscriptions to professional journals do you receive, including those obtained as a member of a professional society? (Personal subscriptions are those that are personally addressed to you at your home, office, or lab.) If the answer is zero, please enter "0" instead of leaving a blank.
- _____ Print only subscriptions

- _____ Electronic only subscriptions
_____ Subscriptions that include both print and electronic versions

31. How has your use of scholarly materials changed in the last few years?

32. Other comments:

33. How many minutes did it take you to complete this survey?
_____ Minutes

Thank you for your time!

Please return to:

Scholarly Reading and Use Survey
ATTN: Joanne D. Eustis
University Librarian
Case Western Reserve University
11055 Euclid AVE
Cleveland, OH 44106-7151