

# Effects of electronic indexes and journals on citation patterns in chemical information

Beth Thomsett-Scott  
University of North Texas Libraries  
ACS Fall Meeting 2006



# Purpose of Research

---

- With the advent of large amounts of information becoming available electronically, are researchers, using more “older” information?

# Materials and Methods

---

- ❑ Examine journal articles published by the Chemistry Faculty at the University of North Texas (UNT) for their time at UNT
- ❑ Group articles by years of publication
- ❑ Count and group items cited in the bibliography
- ❑ Examine trends in citation patterns relative to addition of electronic information at UNT

# Electronic Chemistry Content: UNT

---

- ❑ Science Direct Chemistry backfile **2004**
- ❑ ACS Archives **2004**
- ❑ RSC Archives **2004**
- ❑ ACS Journals **2003**
- ❑ RSC Journals **2002**
- ❑ Web of Science **2002**
- ❑ SciFinder Scholar – **2002**
- ❑ ScienceDirect Freedom Collection 1995 – current **2000**

# Faculty

---

- ❑ Preliminary – 4 faculty chosen based on length of time at UNT
- ❑ Will increase sample size to 10
- ❑ Total chemistry faculty = 21
- ❑ Research areas across all disciplines of chemistry

# Faculty Currently Used

---

## **F1**

- At UNT since 1994
- Analytical and Materials

## **F3**

- At UNT since 1990
- Analytical, Inorganic, and Materials

## **F2 (Female)**

- At UNT since 1981
- Inorganic and Organometallic

## **F4 (Female)**

- At UNT since 2002
- Physical and Computational

# Upcoming Faculty

---

- F5: Analytical, Materials, Chemical Education
- F6: Inorganic, Materials
- F7: Computational, Physical
- F8: Analytical, Chemical Education
- F9: Organic
- F10: Organic

# Faculty Publications

---

## F1

- 1994+
- 24 articles
- 4 unavailable
- 13 journals

## F2

- 1982+
- 20 articles
- 4 unavailable
- 8 journals

## F3

- 1990+
- 59 articles
- 2 unavailable
- 15 journals

## F4

- 2003+
- 20 articles
- All available
- 5 journals

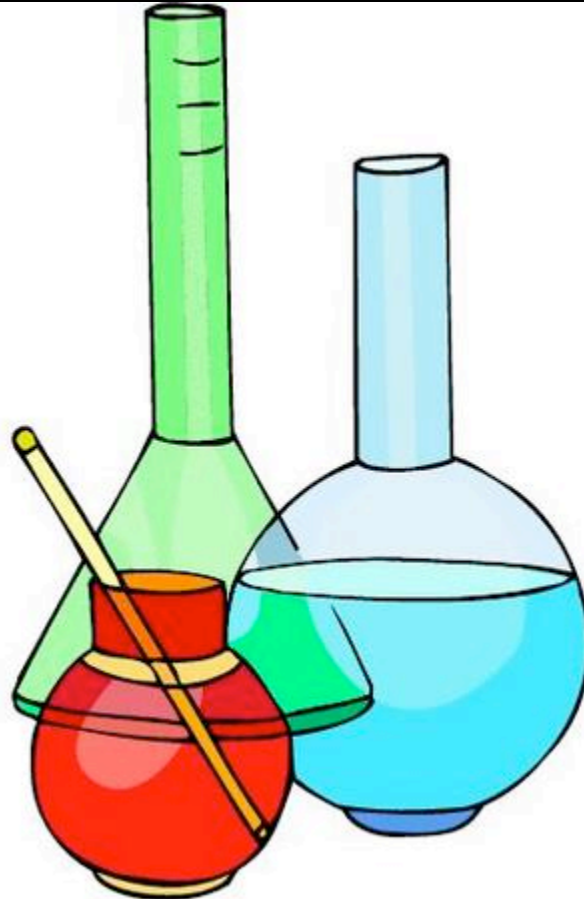


# Number of Articles Over Time

F#	05-06	03-04	01-02	98-00	95-97	92-94	89-91	86-88	82-85
1	4	3	3	2	7	1			
2		1	1	3	2	1	3	4	1
3	3	6	10	20	10	6			
4	12	8							

# Samples of Data

---



Microsoft Excel - ACSWilson

File Edit View Insert Format Tools Data Window Help

Type a question for help

Arial 10 B I U

	A	B	C	D	E	F	G	H
1								
2	Author	Journal	Year	Issue	Page	Title	Online?	UNT?
3	Yockel, Scott; Seals, James J., III; Wilson, Angela K.	Chemical Physics Letters	2004	393(4/6)	448-452	An ab initio study of the noble gas compound HKrCl.	Yes	
4	Bell, Ray D.; Wilson, Angela K.	Chemical Physics Letters	2004	394(1/3)	105-109	SO3 revisited: Impact of tight d augmented correlation consistent basis sets on atomization energy and structure.	Yes	
	Cundari, Thomas R.; Arturo Ruiz Leza, Hector; Grimes, Tom; Steyl, Gideon; Waters, Aubri; Wilson.	Chemical Physics Letters	2005	401(1/3)	58-61	Calculation of the enthalpies of formation for transition metal complexes.	Yes	

Main | Proceedings & Abstracts | Medical

Ready

Start | N. | U. | M. | M. | M. | C. | M. | M. | F. | G. | M. | N. | U. | A. | A. | 5:43 PM

Beyond a T-Shape - Microsoft Internet Explorer

File Edit Go To Favorites Help

Back Forward Stop Refresh Home Search Favorites Print Mail News RSS Feeds

Address <H:\Dept\SCITECH\GLAs\Citation Analysis\Wilson\Beyond a T-Shape.pdf> Go Links

Save a Copy Print Mail RSS Feeds Select 200% Search Web Y! Adobe Reader 7.0

Pages

Attachments

Comments

8.50 x 11.00 in

2 of 2

Done Unknown Zone

Start B. 5:49 PM

(TPA)<sub>2</sub>Cl. How-  
d shows a two-  
ed chloride as a  
s, the chloride is  
l to the P–Au–P  
nable to form an  
counterion upon  
by the results of  
(QM/MM) cal-  
that the crystal-  
plet excited state  
weakened Au–P  
eyond-a-T-shape  
omputational data  
the ground-state  
e underscore the  
nate excited state

## References

- (1) Review: Yersin, H. *Top. Curr. Chem.* **2004**, *241*, 1.
- (2) Recent examples: (a) Omary, M. A.; Kassab, R. M.; Haneline, M. R.; Elbjeirami, O.; Gabbai, F. P. *Inorg. Chem.* **2003**, *42*, 2176. (b) Omary, M. A.; Rawashdeh-Omary, M. A.; Diyabalanage, H. V. K.; Dias, H. V. R. *Inorg. Chem.* **2003**, *42*, 8612. (c) Burress, C.; Elbjeirami, O.; Omary, M. A.; Gabbai, F. P. *J. Am. Chem. Soc.*, published online Aug. 12, 2005 <http://dx.doi.org/10.1021/ja053004i>.
- (3) Long triplet lifetimes lead to brightness saturation due to ground-state depletions. See: Stoffers, C.; Yang, S.; Zhang, F.; Jacobsen, S. M.; Wagner, B. K.; Summers, C. *J. Appl. Phys. Lett.* **1997**, *71*, 1759.
- (4) *Optoelectronic Properties of Inorganic Compounds*; Roundhill, D. M.; Fackler, J. P., Jr., Eds.; Plenum: New York, 1999; Chapter 6.
- (5) McCleskey, T. M.; Gray, H. B. *Inorg. Chem.* **1992**, *31*, 1733.
- (6) (a) King, C.; Khan, M. N. I.; Staples, R. J.; Fackler, J. P., Jr. *Inorg. Chem.* **1992**, *31*, 3236. (b) Forward, J. M.; Assefa, Z.; Fackler, J. P., Jr. *J. Am. Chem. Soc.* **1995**, *117*, 9103. (c) Assefa, Z.; Forward, J. M.; Grant, T. A.; Staples, R. J.; Hanson, B. E.; Mohamed, A. A.; Fackler, J. P., Jr. *Inorg. Chim. Acta* **2003**, *352*, 31.
- (7) (a) Catalano, V. J.; Horner, S. J. *Inorg. Chem.* **2003**, *42*, 8430. (b) Brandys, M.; Puddephatt, R. *J. Am. Chem. Soc.* **2001**, *123*, 4839. (c) Yam, V. W.-W.; Lee, W. K. *J. Chem. Soc., Dalton Trans.* **1993**, 2097. (d) Bojan, V. R.; Fernandez, E. J.; Laguna, A.; Lopez-de-Luzuriaga, J. M.; Monge, M.; Olmos, M. E.; Silvestru, C. *J. Am. Chem. Soc.* **2005**, *127*, 11564.
- (8) Barakat, K. A.; Cundari, T. R.; Omary, M. A. *J. Am. Chem. Soc.* **2003**, *125*, 14228.

	A	B	C	D	E	F	G	H
1		<b>2+</b>	<b>3-5</b>	<b>6-10</b>	<b>11-15</b>	<b>16-20</b>	<b>21+</b>	
2	<b>2006</b>	2004+	2001-2003	1996-2000	1989-1995	1988-1984	1985-	
3								
4	<b>2005</b>	2003+	2000-2002	1995-1999	1990-1994	1985-1989	1984-	
5								
6	<b>2004</b>	2002+	1999-2001	1994-1998	1989-1993	1984-0988	1983-	
7								
8	<b>2003</b>	2001+	1998-2000	1993-1997	1988-1992	1983-1987	1982-	
9								
10	<b>2002</b>	2000+	1997-1999	1992-1996	1987-1991	1982-1986	1981-	
11								
12	<b>2001</b>	1999+	1996-1998	1991-1995	1986-1990	1981-1985	1980-	
13								
14	<b>2000</b>	1998+	1995-1997	1990-1994	1985-1989	1980-1984	1979-	
15								
16	<b>1999</b>	1997+	1994-1996	1989-1993	1984-1988	1979-1983	1978-	
17								
18	<b>1998</b>	1996+	1993-1995	1988-1992	1983-1987	1978-1982	1977-	
19								
20	<b>1997</b>	1995+	1992-1994	1987-1991	1982-1986	1977-1981	1976-	
21								

Microsoft Excel - ACSWilson

File Edit View Insert Format Tools Data Window Help

Type a question for help

Arial 20 B I U

I2 2years to current

	A	B	H	I	J	K	L	M	N	O	F
1				<b>2years to current</b>	<b>3- 5 years</b>	<b>6-10 years</b>	<b>11- 15 years</b>	<b>16- 20</b>	<b>21 +</b>	<b>Total</b>	
2	<b>Author</b>	<b>Journal</b>	<b>UNT?</b>								
3	Yockel, Scott; Seals, James J., III; Wilson, Angela K.	Chemical Physics Letters		6	7	8	5	1	3	30	
4	Bell, Ray D.; Wilson, Angela K.	Chemical Physics Letters		5	3	5	10	2	5	30	
5	Cundari, Thomas R.; Arturo Ruiz Leza, Hector; Grimes, Tom; Steyl, Gideon; Waters, Aubri; Wilson, Angela K.	Chemical Physics Letters		9	14	4	7	2	0	36	
6	Yockel, Scott; Garg, Ankit; Wilson, Angela K.	Chemical Physics Letters		11	8	7	3	1	5	35	
7	Wilson, Angela K.; Dunning, Thom H., Jr.	Journal of Chemical Physics		6	8	5	3	0	0	22	

Main | Proceedings & Abstracts | Medical

Ready

Start | N. | U. | M. | M. | M. | C. | M. | M. | F. | G. | M. | N. | U. | A. | A. | 5:46 PM

Microsoft Excel - ACSDataused

File Edit View Insert Format Tools Data Window Help

Type a question for help

Arial 20 B I U

J39 12.5

	A	B	C	D	E	F	G	H	I	J	K	L	M
38			<b>Year</b>			<b>2years to current</b>	<b>3- 5 years</b>	<b>6-10 years</b>	<b>11- 15 years</b>	<b>16-20 years</b>	<b>21+</b>	<b>Total</b>	
39			<b>2003</b>		<b>03-04</b>	2.5	17.5	30	27.5	12.5	10	100	
40													
41			<b>2001</b>		<b>01-02</b>	3.8	7.7	3.8	19.2	25.0	40.4	100	
42			<b>2000</b>		<b>98-00</b>	0.0	13.9	19.4	19.4	13.9	33.3	100	
43			<b>1999</b>		<b>98-00</b>	13.3	6.7	30.0	10.0	3.3	36.7	100	
44			<b>1998</b>		<b>98-00</b>	9.5	21.4	28.6	11.9	2.4	26.2	100	
45						22.9	42.0	78.0	41.3	19.6	96.2		
46						<b>7.6</b>	<b>14.0</b>	<b>26.0</b>	<b>13.8</b>	<b>6.5</b>	<b>32.1</b>	100.0	
47			<b>1997</b>		<b>95-97</b>	1.6	12.9	37.1	17.7	1.6	29.0	100	
48			<b>1997</b>		<b>95-97</b>	4.2	12.5	14.6	6.3	4.2	58.3	100	
49						5.8	25.4	51.7	24.0	5.8	87.4		
50						<b>2.9</b>	<b>12.7</b>	<b>25.8</b>	<b>12.0</b>	<b>2.9</b>	<b>43.7</b>	100.0	

Sheet1 Sheet2 Sheet3

Ready

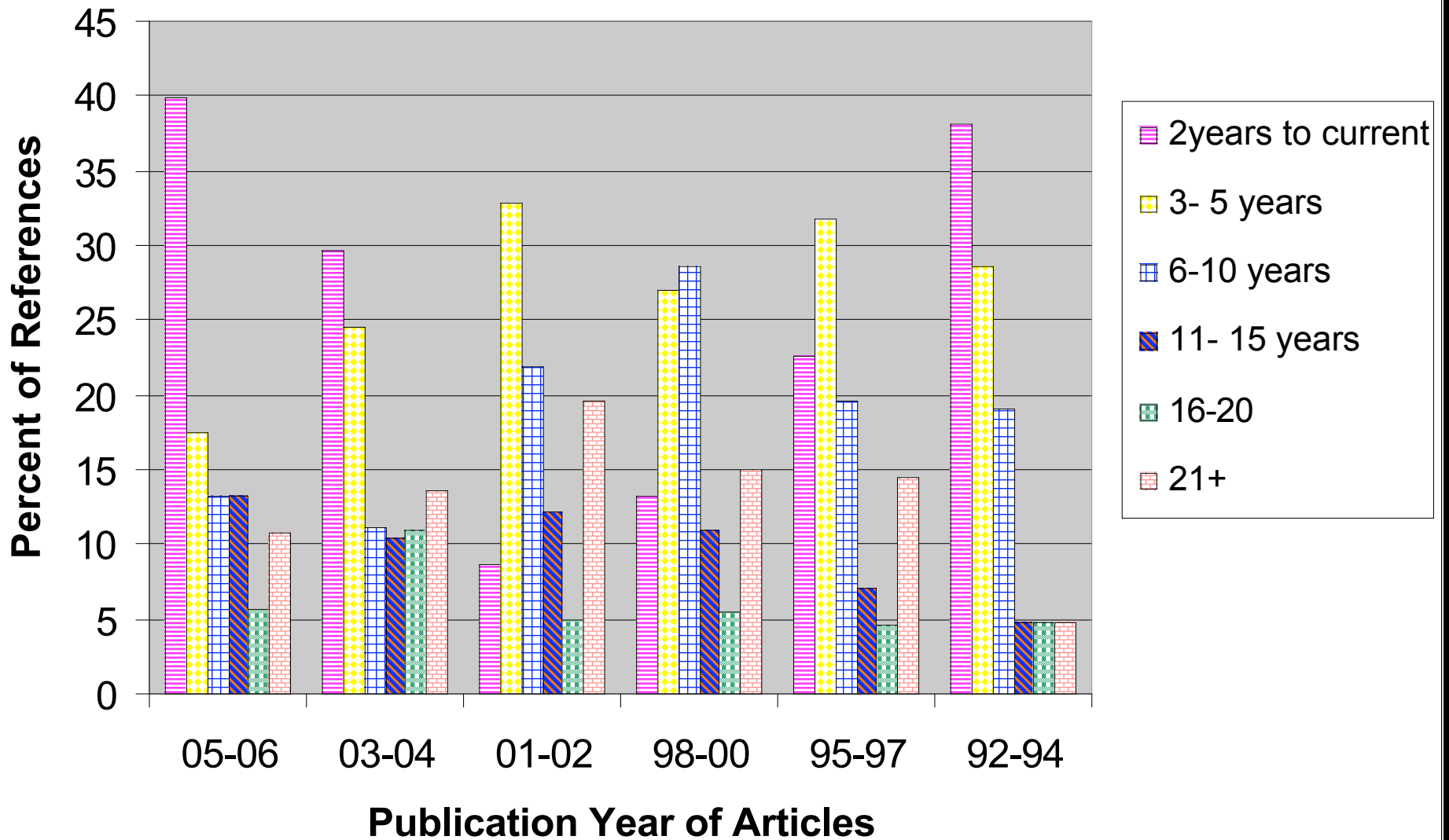
Start N.. U.. M.. M.. M.. C.. M.. F.. M.. U.. A.. A.. B.. C.. 5:55 PM



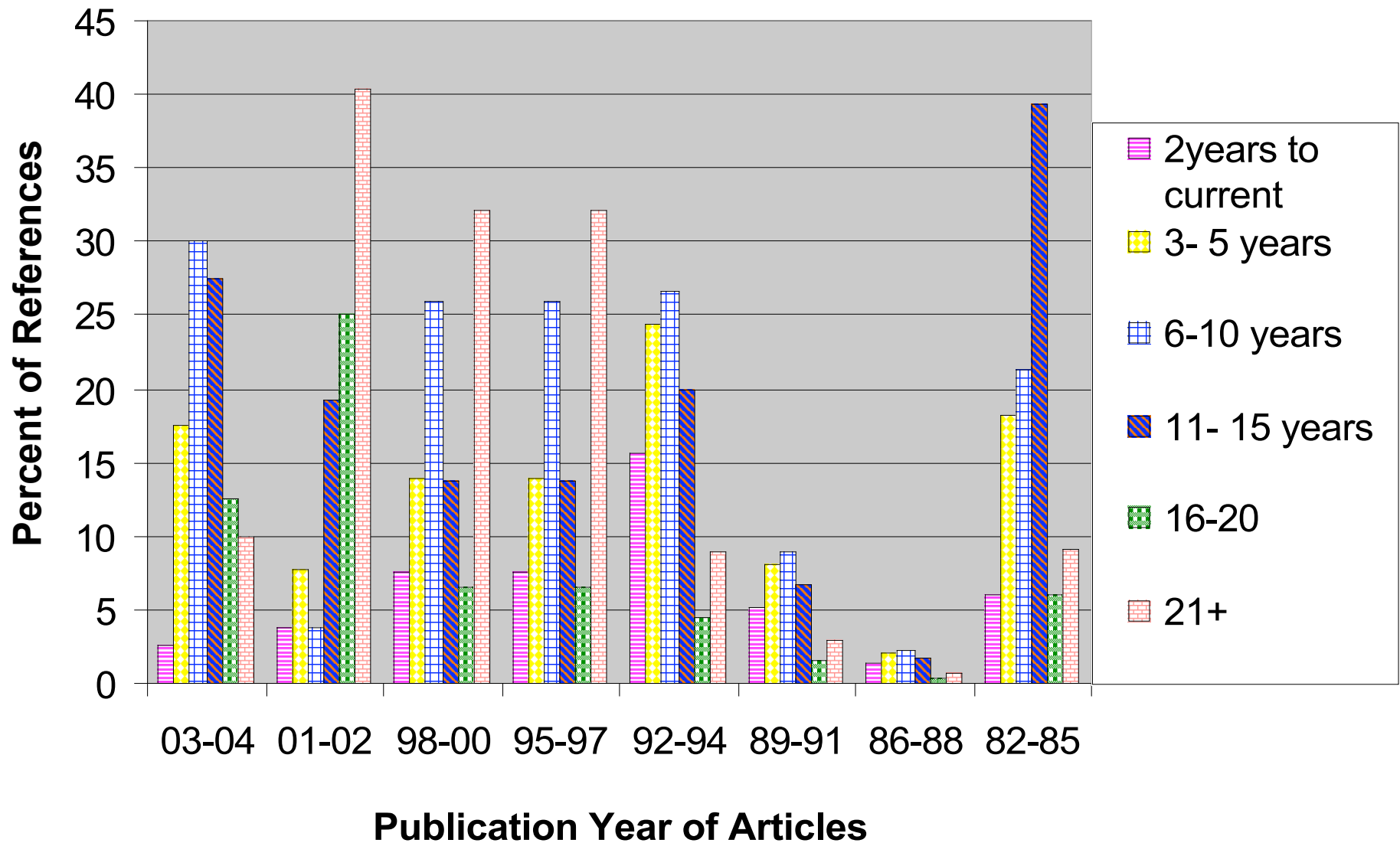
	A	B	C	D	E	F	G	H	I	J	
170			Combined								
171											
172				<b>2years to current</b>	<b>3- 5 years</b>	<b>6-10 years</b>	<b>11- 15 years</b>	<b>16-20</b>	<b>21+</b>		
173			<b>05-06</b>	39.8176	17.406	13.2005	13.148	5.6116	10.817	100	
174				8.61833	30.461	31.8513	12.6995	3.30597	13.064	100	
175				17.3	17.0	22.7	18.9	10.3	13.746	100.0	
176				0	0	0	0	0	0		
177				65.7653	64.912	67.7314	44.7917	19.1727	37.627		
178				<b>21.9</b>	<b>21.6</b>	<b>22.6</b>	<b>14.9</b>	<b>6.4</b>	<b>12.5</b>	100.0	
179			<b>03-04</b>	29.574	24.492	11.1294	10.3318	10.8574	13.616		
180				18.3215	33.499	19.4811	13.5952	6.32004	8.7831		
181				16.7	19.7	24.1	24.0	5.6	9.9274		
182				2.5	17.5	30	27.5	12.5	10		
183				67.1	95.1	84.7	75.5	35.3	42.3		
184				<b>16.8</b>	<b>23.8</b>	<b>21.2</b>	<b>18.9</b>	<b>8.8</b>	<b>10.6</b>		



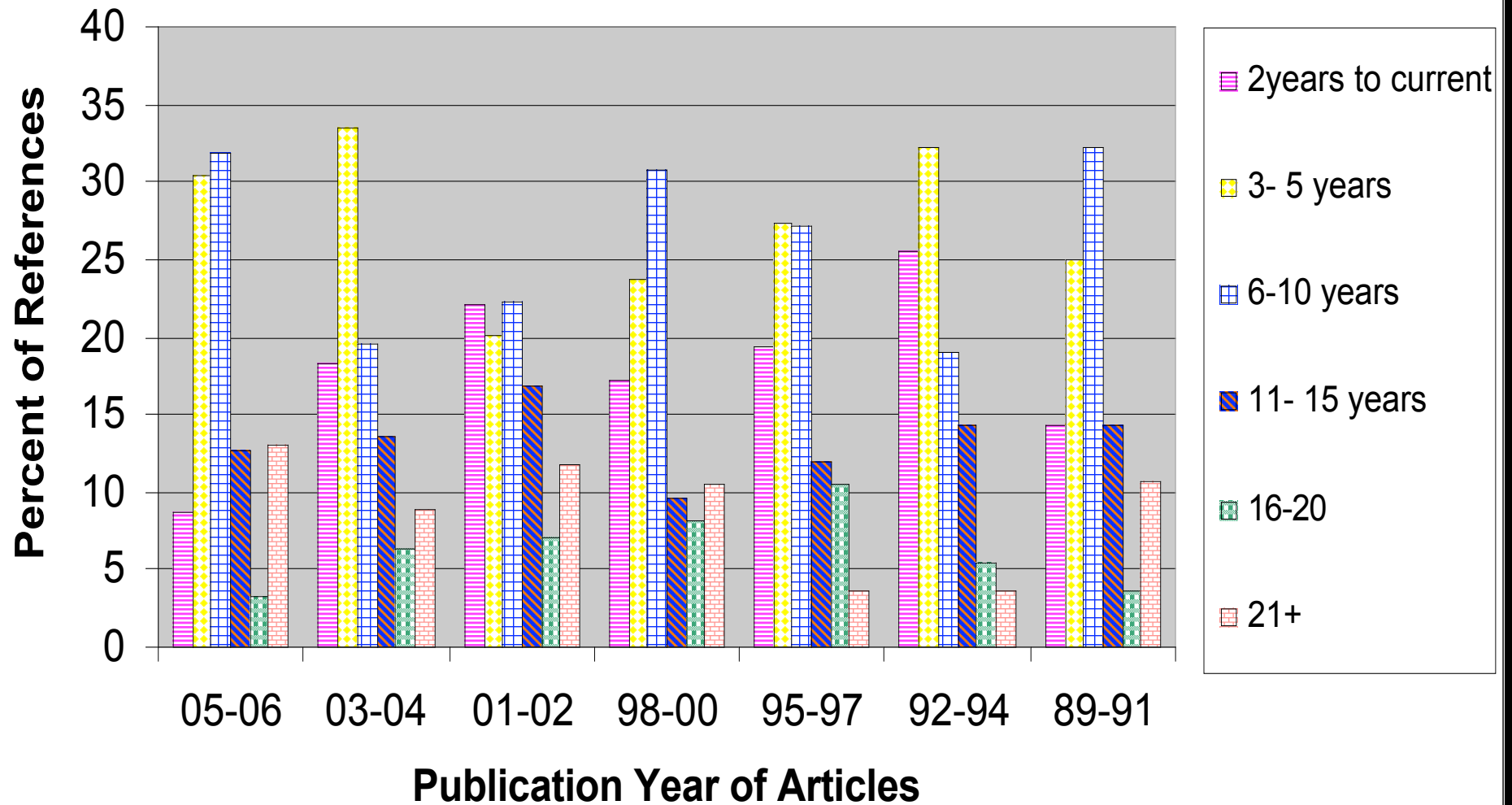
## Cited Reference Year and Article Publication Year for F1



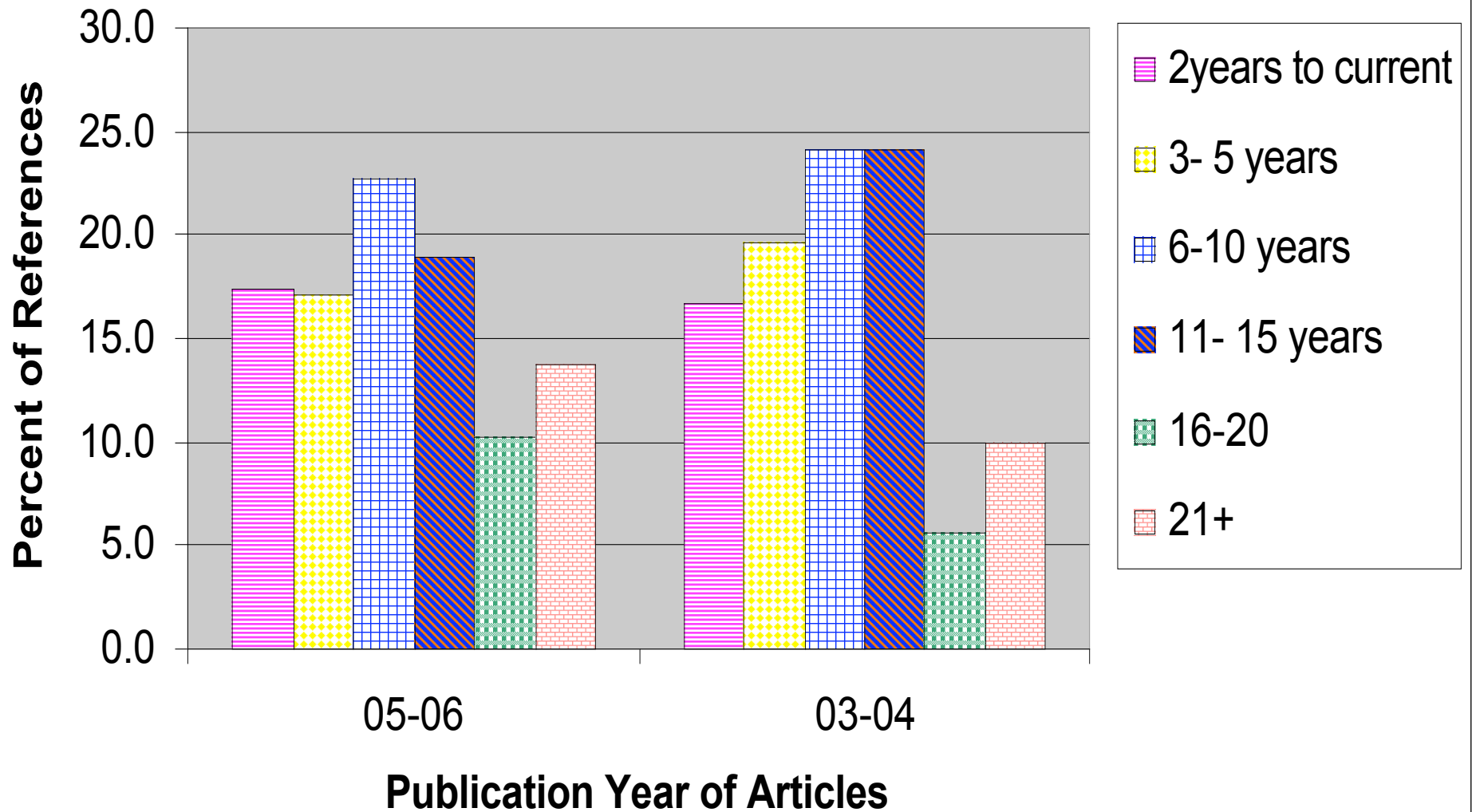
## Cited Reference Year and Article Publication Year for F2



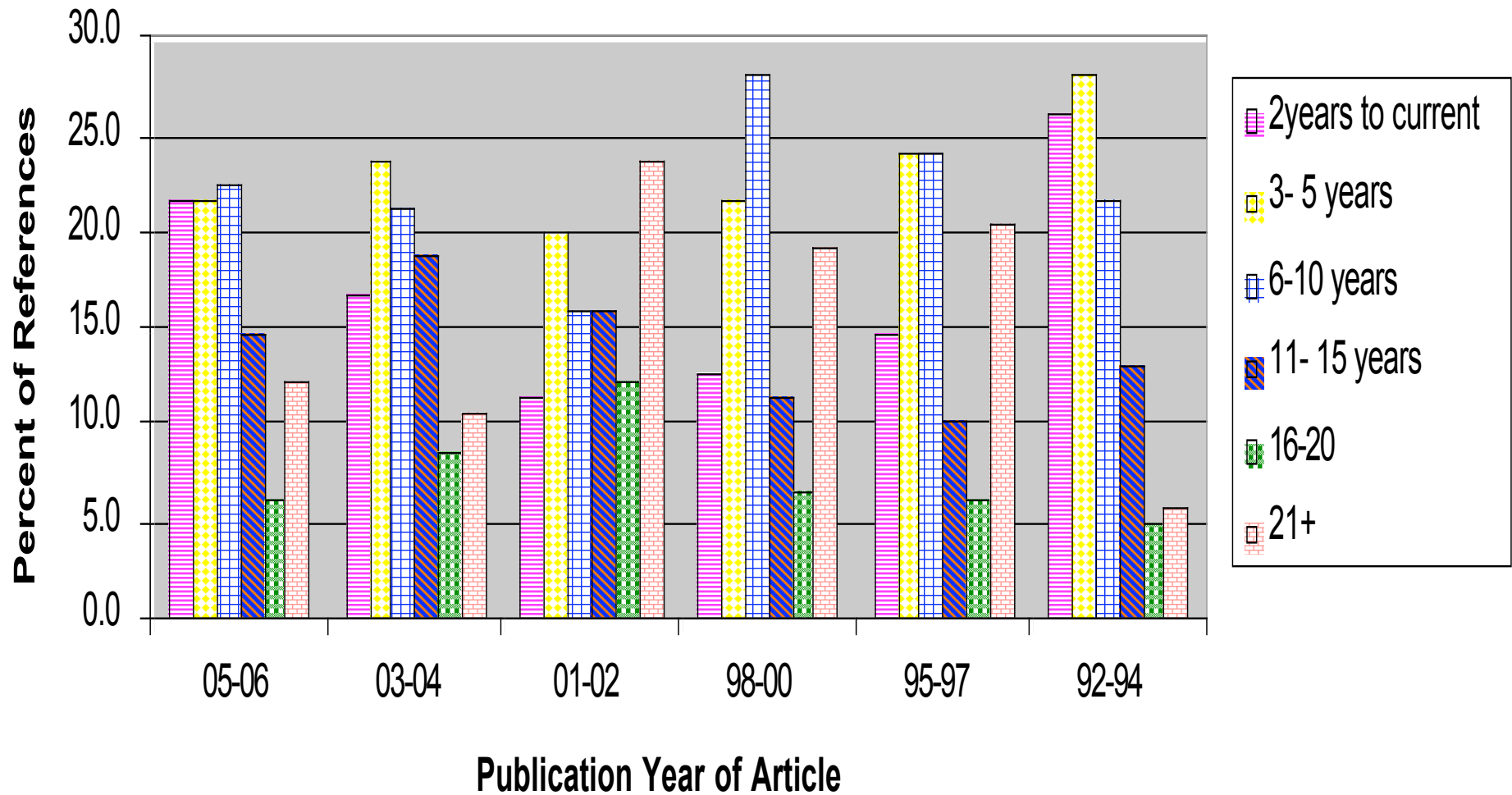
## Cited Reference Year and Article Publication Year for F3



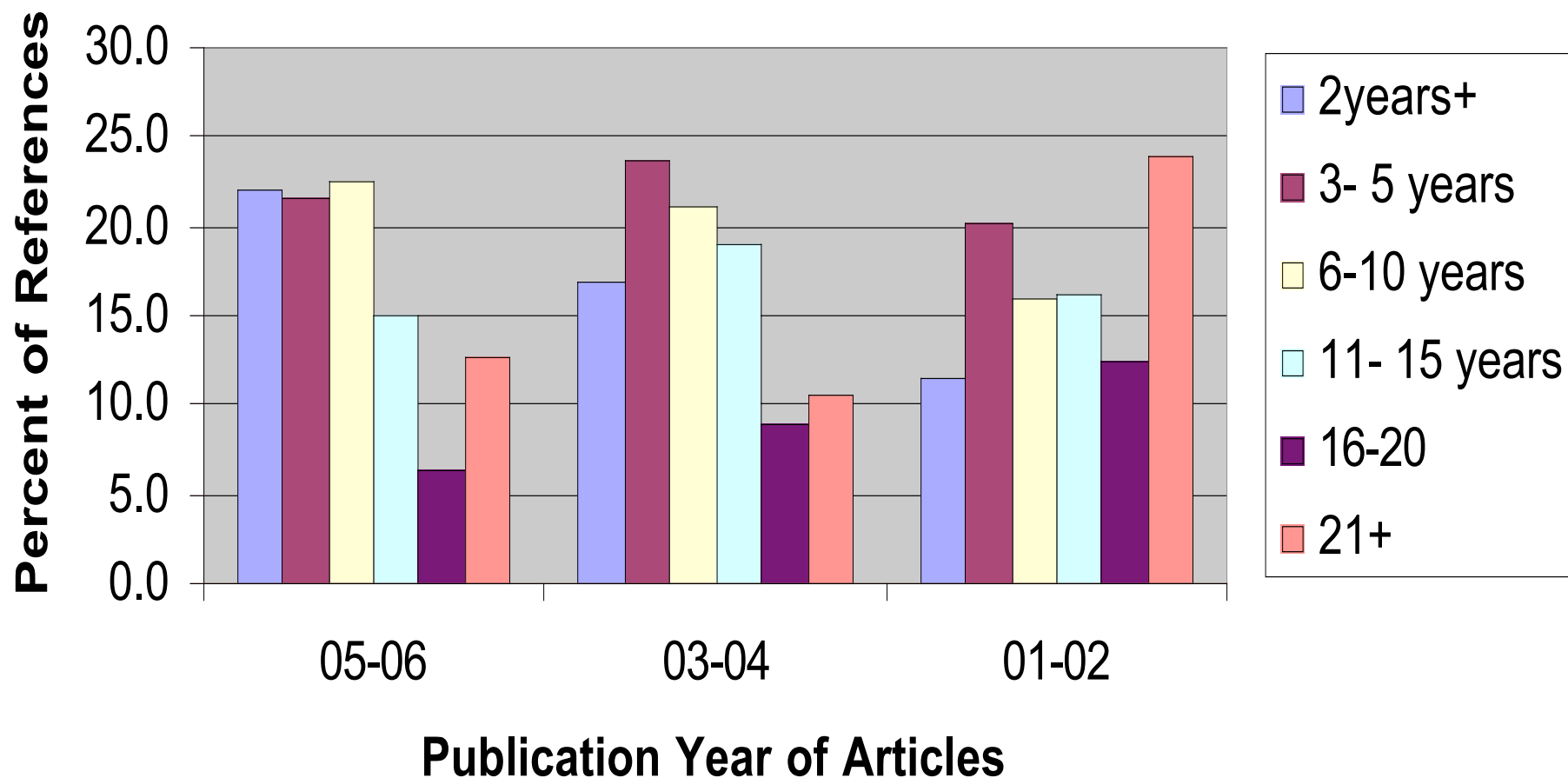
## Cited Reference Year and Article Publication Year for F4



## Cited Reference Year and Article Publication Year - All Faculty - 92+



## Cited Reference Year and Article Publication Year All Faculty - 2001+



# Results

---

- ❑ Preliminary findings do not support idea that a higher proportion of older references are being included with the availability of electronic information
- ❑ Slightly trends to citing older information in articles published in 2003 – 2004

# Discussion (BHQs)

---

- ❑ Need a larger pool of faculty
- ❑ Would analysis by sub-discipline be more accurate?
- ❑ Are micro-specialties a variable?
- ❑ Are year of publication groupings impacting the results?
- ❑ Should analysis on a year-by-year basis be done?



# Discussion

/2

---

- Why the slight trend in 2003-2004?
- Is the growth of publications impacting the results?

- 
- ▣ Wait for Part 2!
  - ▣ Questions or Comments?
    - ▣ Thanks for listening!
  - ▣ [bscott@library.unt.edu](mailto:bscott@library.unt.edu)