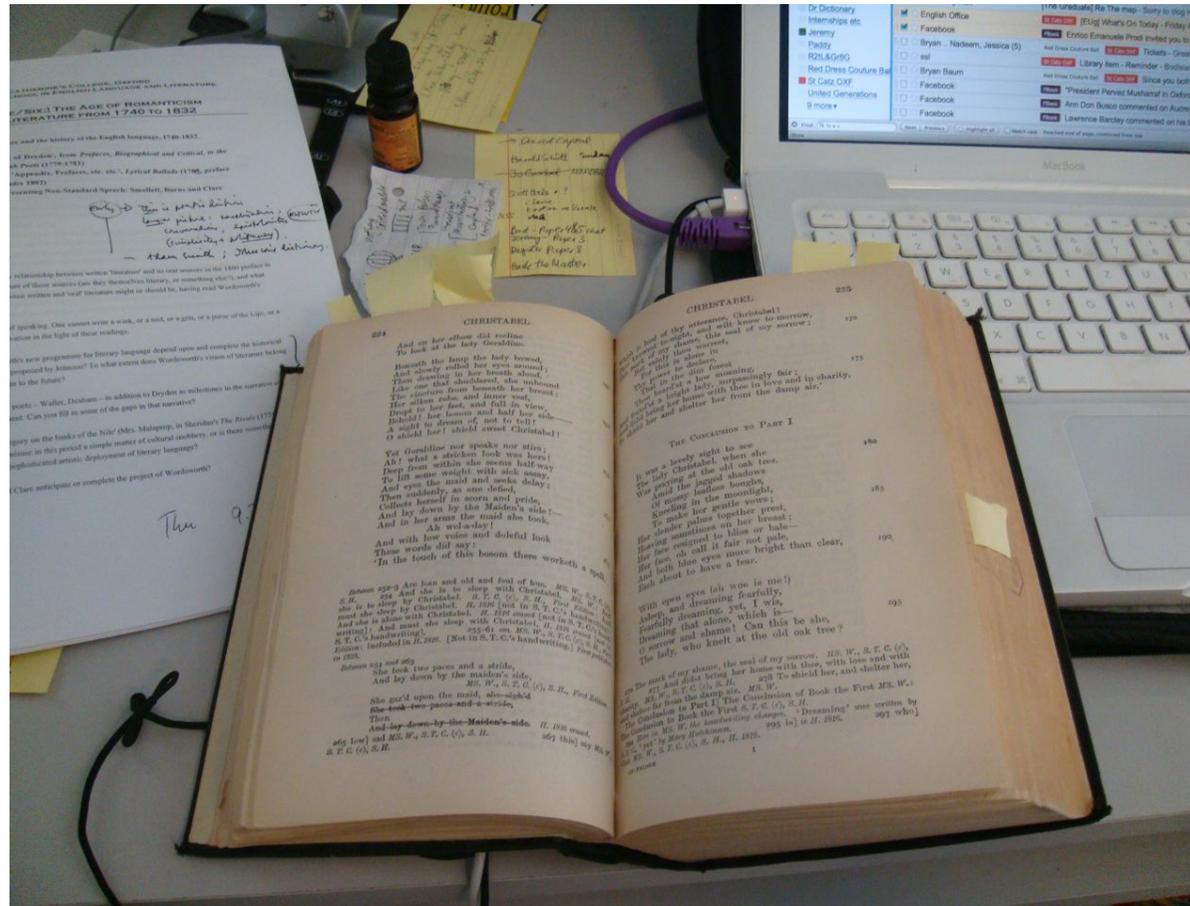


# Reading in Print or on Screen?

## Reading habits of undergraduate students



Alice Keller, St Petersburg, May 2011

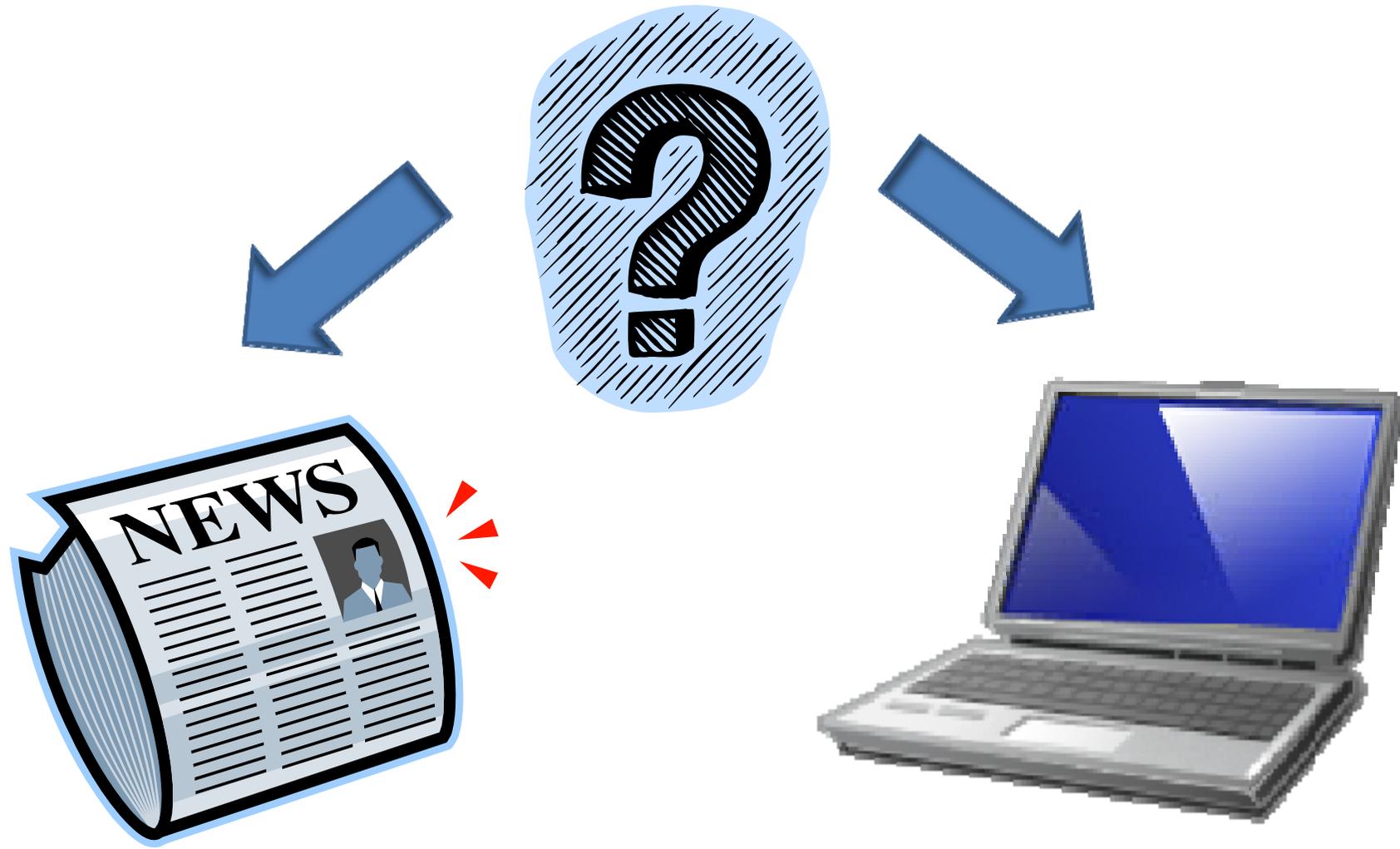
# Why was I interested in this question?

- Usage stats of e-books are high, but lending figures don't drop (Humanities libraries).
- E-journals are well accepted, but books demonstrate 'extraordinary staying power'.
- How much physical shelving space does the library of the future need?
- Should libraries be investing their money in printed or electronic resources?
- Are the Net Generation still book-lovers or are they glued to their computers?

# My research questions:

1. Which are the perceived advantages and disadvantages of print and electronic texts that appear to influence the students' choices between reading in print or on screen?
2. Which of these factors determine the students' choices between reading in print or on screen for different types of study and leisure reading?
3. How important are attitudes towards the medium in students' choices for reading in print or on screen?

# The decision for print or screen



# Methods

- 12 students
  - 2<sup>nd</sup> year English (7) and Philosophy (5)
- Photo-diary over 3 days
- Individual interviews (60mins)
  - Group photos into sets
  - Talk about each set and compare them
  - Give reasons why they chose print or electronic
  - Talk about attitudes toward medium

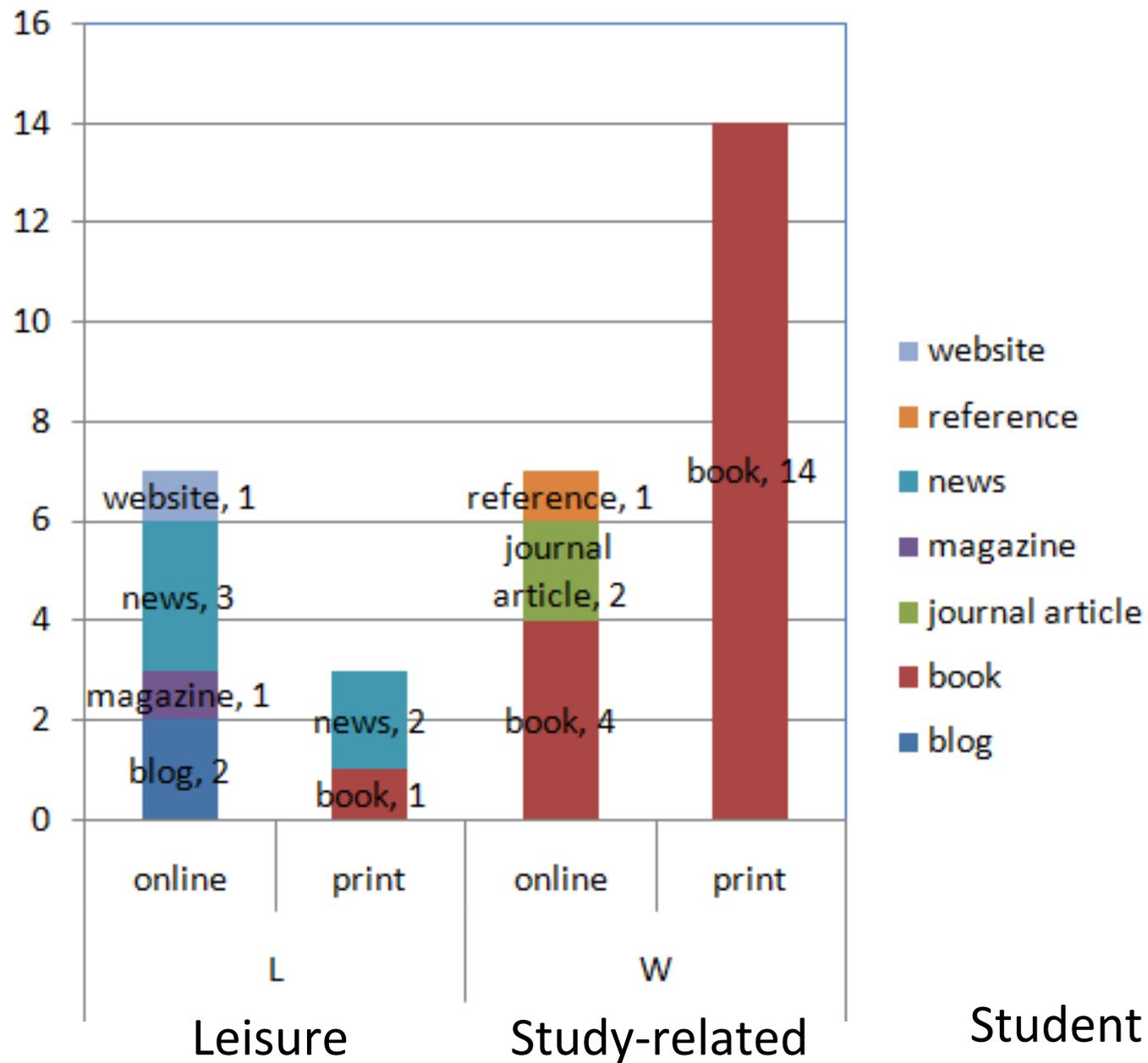
# Show photo-diary of Joseph Sampleman

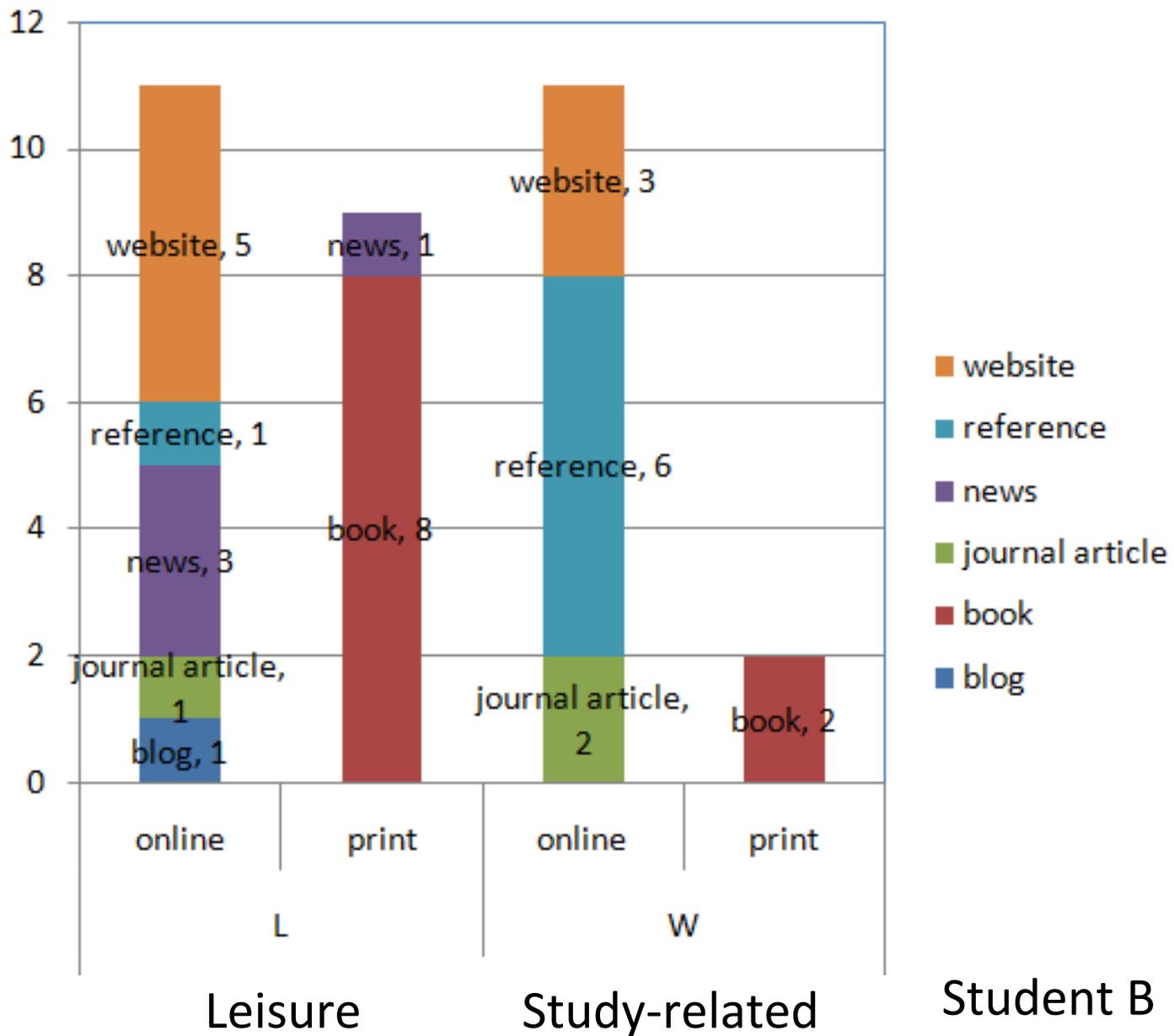


## A. Photo-diaries quantitative results

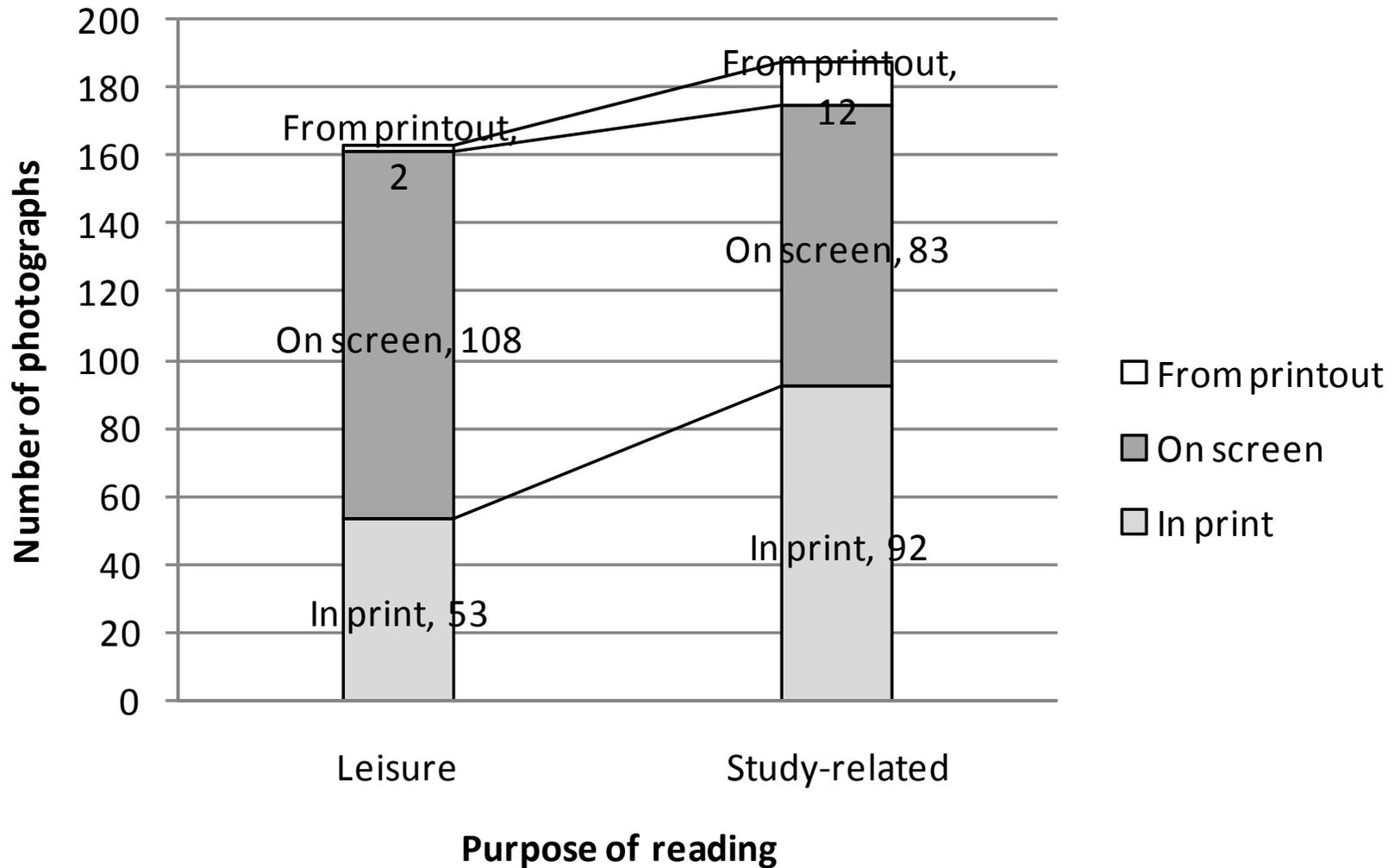


Subject	Name	No	Set	Purpose	Text	date	time	location	doc'type	format
E	Joseph	22	2	Study-related	mon_13.15_lecture_handout_on_genre_my_room	17/05/2010	13:15:00	room	notes	From printout
E	Joseph	23	2	Study-related	mon_15.15_my_room_an_introduction_to_genre_theory	17/05/2010	15:15:00	room	website	On screen
E	Joseph	7	3	Study-related	fri_17.19_taylorian_the_verse_revolutionaries	14/05/2010	04:33:36	taylorian	book	In print
E	Joseph	25	4	Leisure	mon_18.34_my_room_turn_again_lane_script	17/05/2010	18:34:00	room	notes	On screen
E	Joseph	6	5	Leisure	fri_16.55_taylorian_oxford_gazette	14/05/2010	16:55:00	taylorian	magazine	In print
E	Joseph	8	5	Leisure	fri_19.11_my_room_new_york_times	14/05/2010	19:11:00	room	news	On screen
E	Joseph	9	5	Leisure	fri_19.25_my_room_popjustice	14/05/2010	19:25:00	room	website	On screen
E	Joseph	10	5	Leisure	fri_19.41_my_room_guardian	14/05/2010	19:41:00	room	news	On screen
E	Joseph	12	5	Leisure	sun_10.05_jcr_oxfordstudent	16/05/2010	10:05:00	jcr	magazine	In print
E	Joseph	19	5	Leisure	sun_18.38_my_room_the_guardian	16/05/2010	18:38:00	room	news	On screen
E	Joseph	21	5	Leisure	mon_9.30_my_room_mysteries_of_pittsburgh	17/05/2010	09:50:00	room	book	In print
E	Joseph	24	5	Leisure	mon_16.05_LMH_gardens_mysteries_of_pittsburgh	17/05/2010	16:05:00	garden	book	In print
E	Joseph	5	6	Study-related	fri_16.45_efl_study_on_keats	14/05/2010	16:45:00	efl	book	In print
E	Joseph	11	6	Study-related	fri_19.49_my_room_'the_cockney_school_of_poetry_number_i	14/05/2010	19:49:00	room	journal	On screen
E	Joseph	14	6	Study-related	sun_14.05_LMH_computer_room_keats_bio	16/05/2010	14:05:00	computer room	ref'work	On screen
E	Joseph	15	6	Study-related	sun_14.30_LMH_computer_room_shelley_bio	16/05/2010	14:30:00	computer room	ref'work	On screen
E	Joseph	16	6	Study-related	sun_16.50_my_room_'poetry_and_politics_in_the_cockney_schoo	16/05/2010	16:50:00	room	book	On screen
E	Joseph	17	6	Study-related	sun_17.52_my_room_'keats,_narrative_and_audience'	16/05/2010	17:52:00	room	book	On screen
E	Joseph	18	6	Study-related	sun_18.15_my_room_review_of_'negative_capability'_in_the_RES_oct_1940	16/05/2010	18:15:00	room	journal	On screen
E	Joseph	4	7	Study-related	fri_16.16_efl_keats	14/05/2010	16:16:00	efl	book	In print
E	Joseph	13	7	Study-related	sun_11.40_LMH_library_shelley	16/05/2010	11:40:00	library	book	In print
E	Joseph	20	7	Study-related	sun_18.55_my_room_keats	16/05/2010	18:55:00	room	book	In print





# Photo-diaries: format and purpose of reading



	<i>Document type</i>								
<i>Purpose of reading and format</i>	Blogs	Books	Journal articles	Maga-zines	News	Notes	Ref works	Other web-sites	<b>Total</b>
<i>Study-related reading</i>									
On screen		19	13		1	7	29	14	<b>83</b>
In print		87				5			<b>92</b>
From printout			2			3	5	2	<b>12</b>
<b>Study-related reading total</b>	<b>0</b>	<b>106</b>	<b>15</b>	<b>0</b>	<b>1</b>	<b>15</b>	<b>34</b>	<b>16</b>	<b>187</b>
<i>Leisure reading</i>									
On screen	23		1	9	45	2	9	19	<b>108</b>
In print		29		14	10				<b>53</b>
From printout		2							<b>2</b>
<b>Leisure reading total</b>	<b>23</b>	<b>31</b>	<b>1</b>	<b>23</b>	<b>55</b>	<b>2</b>	<b>9</b>	<b>19</b>	<b>163</b>
<b>Grand total</b>	<b>23</b>	<b>137</b>	<b>16</b>	<b>24</b>	<b>56</b>	<b>17</b>	<b>43</b>	<b>35</b>	<b>350</b>

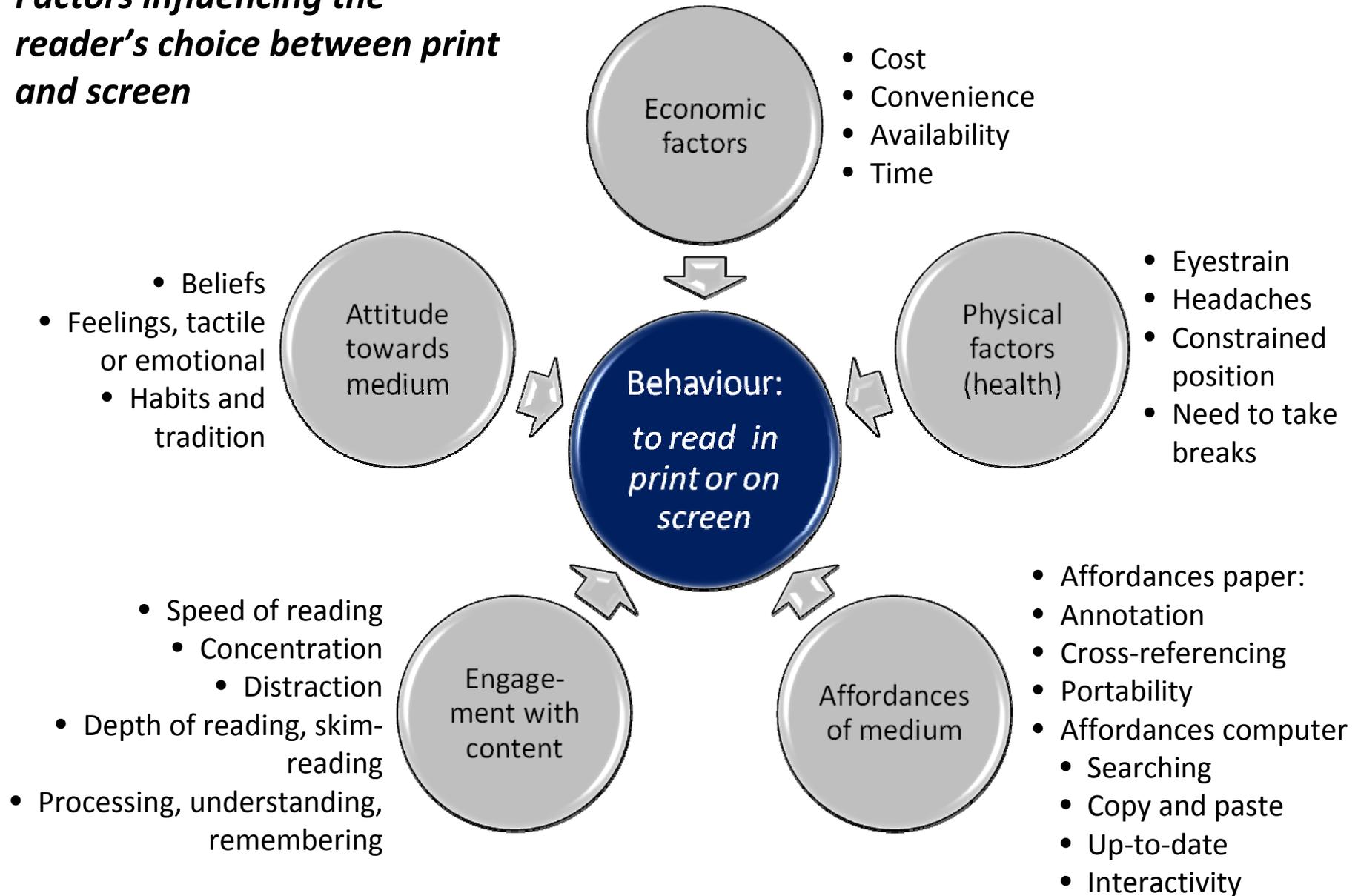
*Distribution of photographs (all participants) by document type, purpose of reading and format.*

## B. Qualitative results from the interviews.



„Why does the student choose print or screen?“

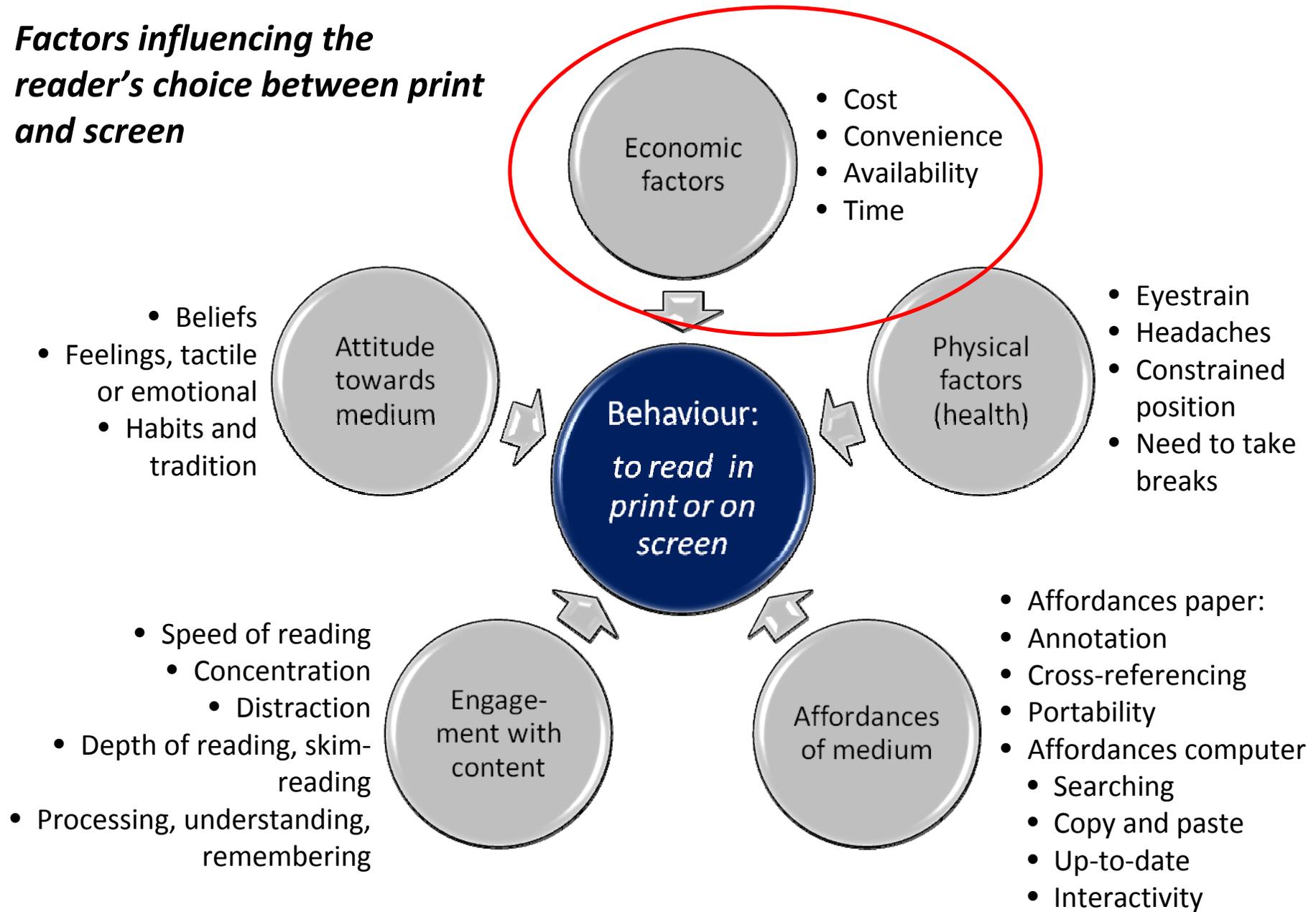
## ***Factors influencing the reader's choice between print and screen***



## Perceived advantages and disadvantages of print and electronic texts

	Document type:	Primary/ key txts	Secondary / jour art	Leisure (books)	News	Magazines	Ref works
<b>Attitudes</b>	Authority of medium	p++	p+	p+	p+		
	Desire to read in the original format	p+	p+	p+			
	Family traditions of building libraries	p++		p++			
	Emotional connection to text	p++		p++			
	Aesthetics aspects	p++		p++		p+	
<b>B) Economic factors</b>							
<b>Economic</b>	Convenience, ease of access		e++		p++ or e++	p++ or e+	
	General availability	p+ or e+	p+ or e+	p+ or e+	p+ or e+	p+ or e+	e++
	Accessibility 24x7	e+	e+				e+
	Accessibility just-in-time	e+	e+				e+
	Ownership (practical reasons)	p+		p+			
<b>Physical</b>	Eyestrain	e---	e---	e---			
	Carrying weight	e+	e+				
	Physical comfort, relaxation			p++	p+	p+	
<b>Affordances</b>	Portability	p+	p+	p++			
	Holding a text	p+		p+			
	Turning page	p+	p+	p+			
	Flicking through, getting an overview	p+		p+		p+	
	Searching for keywords or quotes	e+	e+		e+		e++
	Regular updating, currency		e+		e+	e+	
	Hypertext functionalities (links)				e+		e+
	Annotation, note-taking	p++	p+				
	Source of irritation	e-	e-				
<b>Engage</b>	Facilitate greater concentration	p++	p+	p+			
	Cause of distraction	e---	e---	e---			
	Effortless reading				e+	p+ or e+	
	Length of texts	p++	p+	p++			

## ***Factors influencing the reader's choice between print and screen***



# Economic factors

## Convenience

- ‘(Secondary literature) I probably prefer having them in print. ... If I know that a book is online, I probably won’t go out of my way to get it out of the library.’
- ‘If I’m in college, I pop into JCR and there will be papers everywhere and I just flick through.’
- ‘So, I’ll get up in the morning ... do some stuff on the Internet ... I’ll read bits of the newspaper every so often, but not seriously.’

## Accessibility 24x7

- ‘... because everything is available all the time on the Internet. Whereas with the printed things you are limited by the opening hours of the library, or whether or not it has been taken out by another patron. .... Whereas with the Internet, what is there is always there.’

# Economic factors

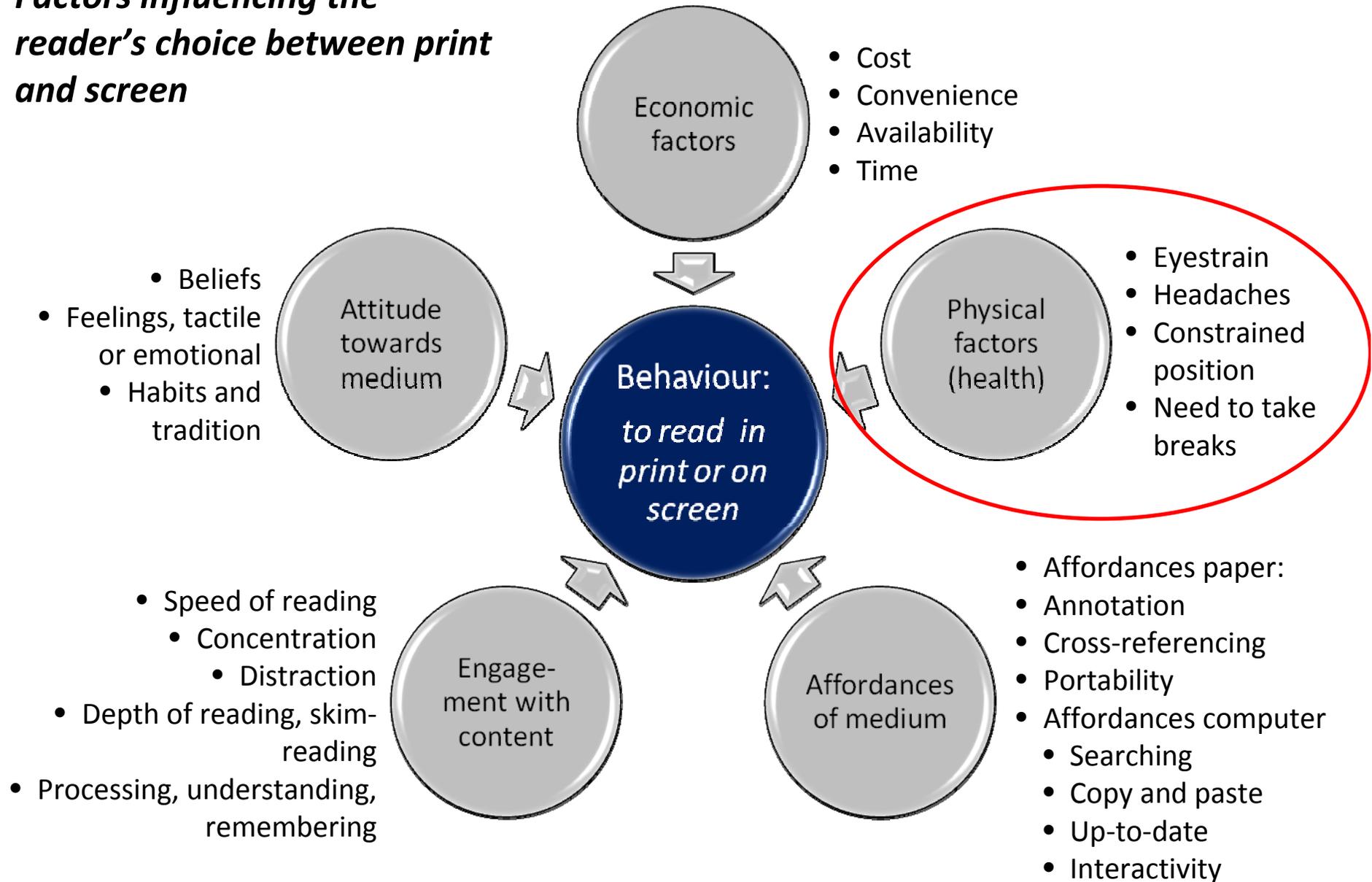
## Availability just-in-time

- ‘[Benefits of electronic books]. (Searching for) words, when you’re getting desperate to find things.’
- ‘I guess one advantage you do have, a lot of books you have (online) like the Cambridge Companions you cannot check out of the library. And if you’re in a last minute stitch you can definitely rely on them.’

## Ownership, practical reasons

- ‘The advantage of a book (I own) over a library book is that I have it, to keep. So that when I’m revising I can look back.’
- ‘Whereas with a book, I tend to scribble all over the books that I own. You cannot do that online.’

## ***Factors influencing the reader's choice between print and screen***



# Physical health & wellbeing

## Importance of being comfortable

- ‘I see it as quite important to have the reading as an experience that is comfortable.’

## Eyestrain

- ‘If I read for a long time from a computer screen I’ll have to go away and read on paper for a while. I find it quite tiring, just visually straining.’
- *3 out of 12 students didn’t experience eyestrain.*

# Physical health & wellbeing

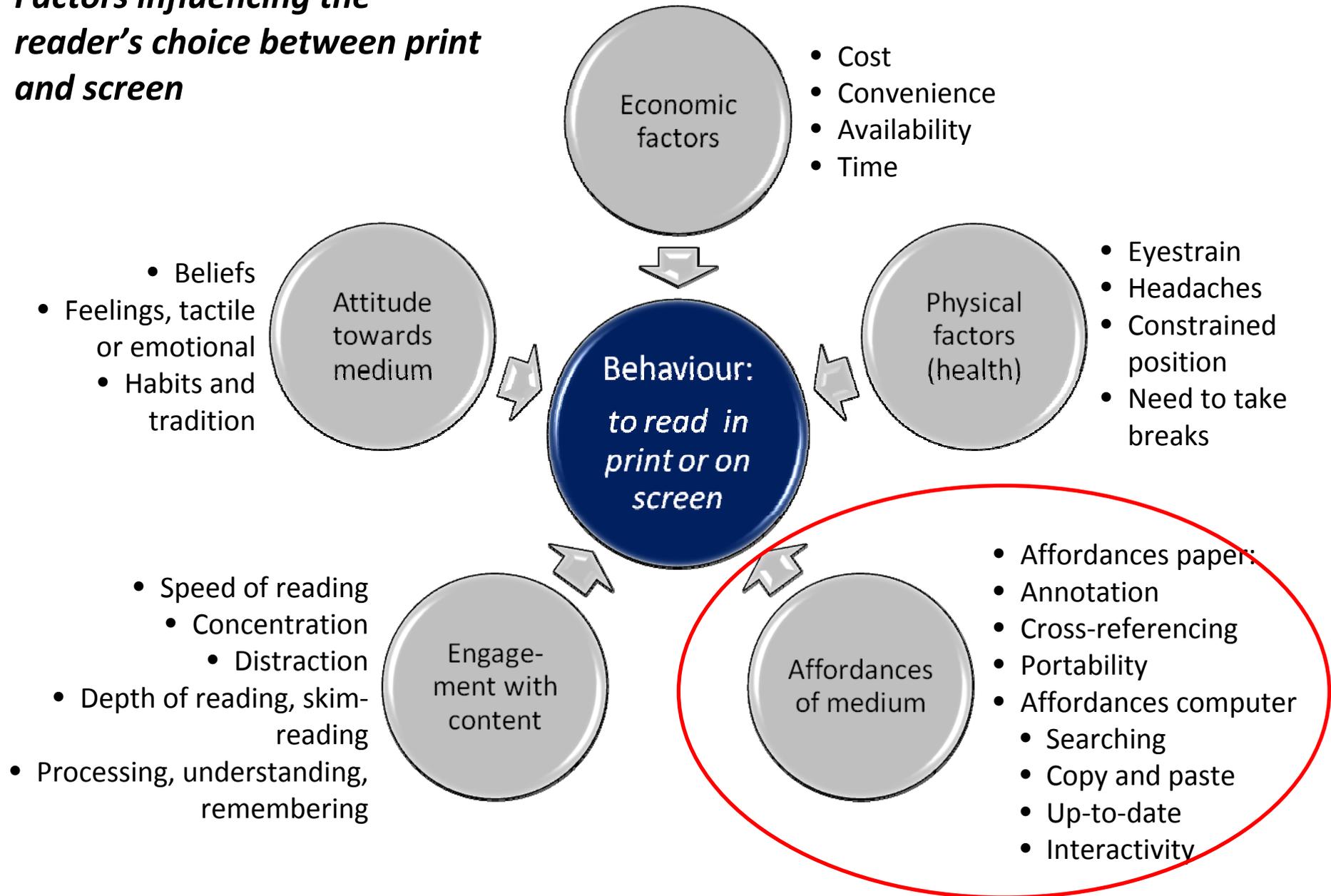
## Carrying weight

- ‘Or my shoulder hurts; I cannot carry so many books as my back is hurting. So I have to prioritise even though I would prefer to read them in print.’

## Physical comfort, relaxation

- ‘If I read a novel for fun, I would never read that online. You have to be able to sit back and carry it around with you.’
- ‘I associate reading a newspaper with reclining on a couch with a cup of coffee. And reading an RSS feed is more sort of hunched over your desk.’

## ***Factors influencing the reader's choice between print and screen***



# Affordances

## 1) Physical affordances:

### Portability

- ‘If I’m in London ... I’d take (printouts) with me.’
- ‘And also it means that I can go ... if it’s really sunny I can go and sit in the gardens ... they’re really lovely gardens. ... Just sit and read ...’
- ‘... and sit somewhere else. Because I get distracted if I’m on my computer.’

### Holding item

- ‘Simple tactile feeling of having a book in my hand. It’s a lot more pleasurable to read primary texts that way.’
- ‘But also, I like to hold the physical object. If you read through a book you have a sense where you are, how large the book is and how much is contained within it.’

# Affordances

## Turning the page

- ‘I think maybe it’s partly because of the page turning aspect. I know it sounds really stupid, but because you kind of go, ‘okay, I’ll read this page’ and then you turn the page ... and then you read the page ... you know that you’re working your way through. Whereas if it’s just a continuous block of text on the computer, there’s less of that, I think.’

## Getting an overview

- ‘I usually have quite a good sense of where it’s going to be. So I just riffle through. I’ve got a very visual memory. I can recognise the arrangement of the page. .... And I know that it comes 3/5 of the way through.’

# Affordances

## 2) Technical affordances

### Searching

- ‘I realised that I needed to look up a particular thing from a letter of Wordsworth and I’m searching online because it wasn’t (in the book I had). ... And the only place I could find it was Google Books.’

### Irritation

- ‘[Do you use Google Books?] No, I don’t. No, I think that’s not true. I have on occasion used them. ... Probably because it really, really annoys me if some pages are missing and you cannot read them. I cannot stand that, to find that two pages are missing; I cannot deal with that.’

# Affordances

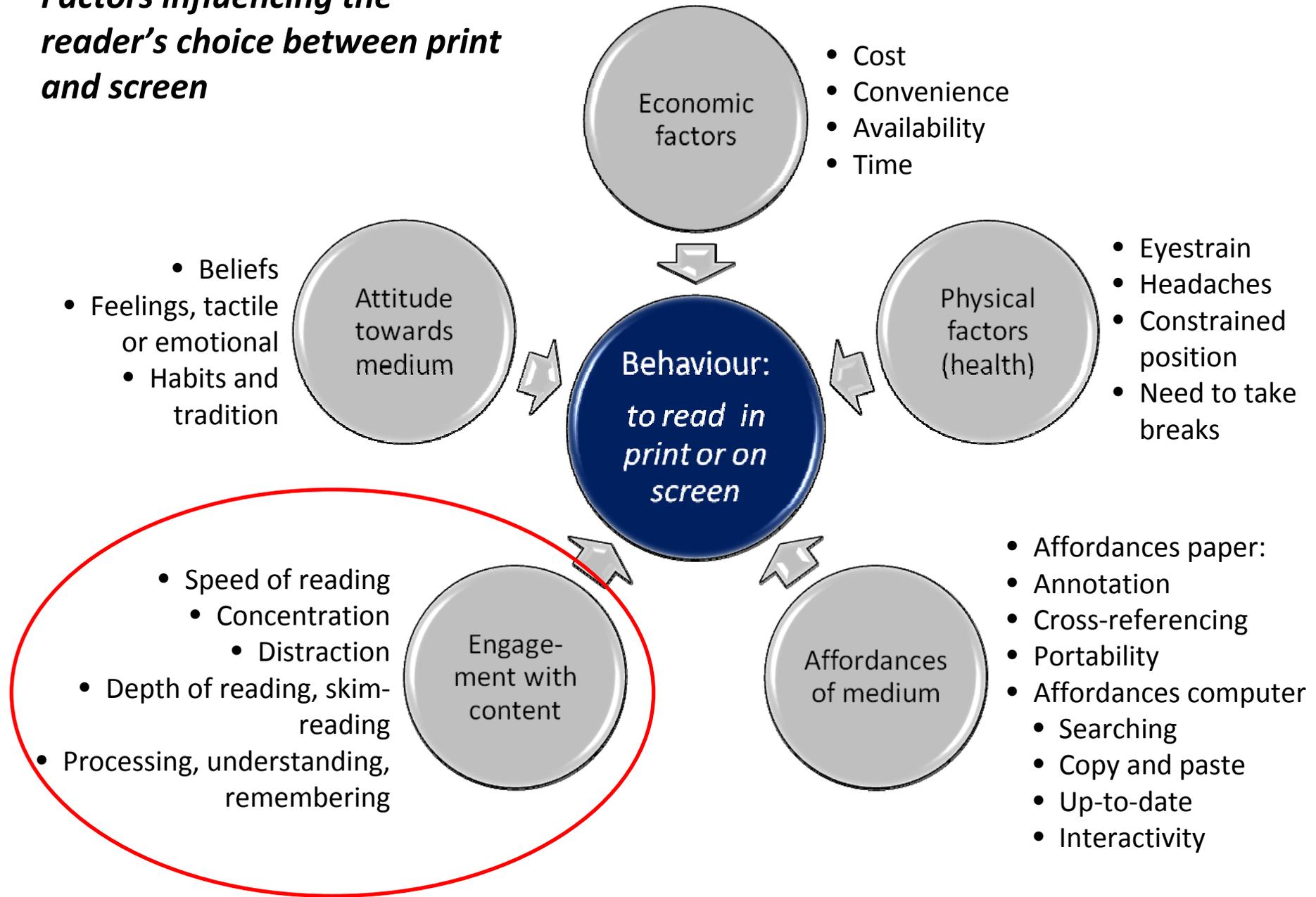
## Search, hyperlinks

- ‘I don’t really like reading newspapers in print as much as online. Because I find it harder to get to exactly what I want, whereas online it’s easy. ... But also ... there would then be links down the side to people ... so I could look up stuff to do with that; as opposed to just looking at the one article.’

## Regularly updated

- ‘I think that the things that I read online are things that are regularly updated ... so newspapers, book review websites, blogs of friends, online magazines.’

# Factors influencing the reader's choice between print and screen



# Engagement with content

## Concentration is not always equally important

- ‘I don’t mind reading criticism online, because I kind of just flick through it.’

## Facilitate greater concentration

- ‘[Difference reading in print or online?] I wonder whether it is because before I came here and had to do a lot of reading texts online, you kind of associated online reading with like email reading – scanning. The screen is not a medium you’re used to putting a lot of understanding towards.’
- ‘Like if I had to write an essay and had to read all of the things [online], I think I’d find it more of a pain to read all the things online, and it would take me longer ... But I’m not sure in the end my essay would come out very different.’

# Engagement with content

## Distraction caused by computer

- ‘I am downloading these pages ... I will take out my Internet cable, and maybe if I am feeling particularly distractable I’ll put it downstairs in the kitchen.’

## Effortless reading

- ‘I think I like the online leisure reading best. ... Because I tend to open lots of pages and then go through them. ... I’ll usually read through and if there are hyperlinks I’ll open them in a new tab and then when I’ve finished this page, I’ll go to the others, the ones I have opened at the side. Yes, I enjoy it.’

# Engagement with content

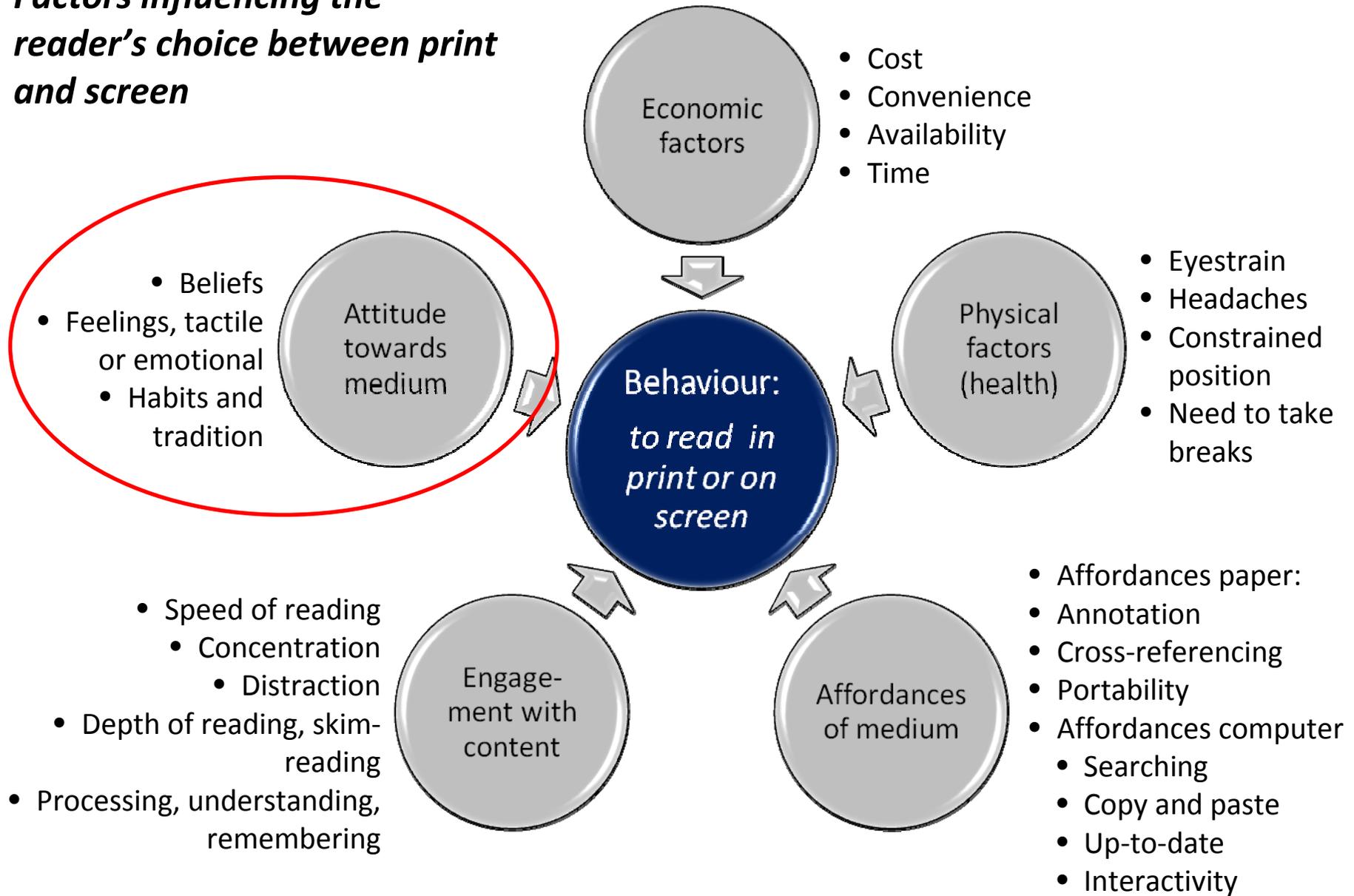
## Length of text

- [Important]

## Reading a whole book online

- ‘There was a book that I really wanted but that I’d left (behind) ... and I was on holiday, and I had my laptop, and I read quite a lot of it on my computer. ... Quite disconcerting, because it doesn’t feel like you’re reading a book like this.’

# Factors influencing the reader's choice between print and screen



# Attitudes

## Authority of printed text

- ‘And I think there is definitely a sense – rightly or wrongly – if something is printed I see it as more authoritative than something on the Internet.’
- ‘The fact that these essays are generated in print first and then go online later, kind of slightly irritates me.’

## Ownership, desire to build collections

- ‘(Ownership) is cultural, as well; a long-term desire to have a library. Well, we have one at home already, and that’s kind of my model. To have all the books at one point that you studied and enjoyed. ... My grandparents, their house is just lined with bookshelves, and most of them are very old books.’

# Attitudes

## Emotional engagement with content

- ‘I think being able to conceptualise the book as an entity gives you much more of a connection to it, like of an emotional connection. Whereas if you just click on it and close it, and it’s just gone, you don’t have this sense, this is an old friend. Which is something I feel with some of my books I’ve had for a long time.’

## Aesthetic aspects

- ‘And also just some books can be really beautiful. ... I borrowed a copy of *Paradise Lost* from the Jesus (College) Library, and it was bound in red leather and really beautifully ... a little picture on the front. ...’
- ‘[Did it bother you that it wasn't a very nice copy?] Yes, it did. Well, not intellectually. I can’t let myself be bothered by that intellectually. But emotionally, yes, I didn’t like it.’

## Perceived advantages and disadvantages of print and electronic texts

	Document type:	Primary/ key txts	Secondary / jour art	Leisure (books)	News	Magazines	Ref works
<b>Attitudes</b>	Authority of medium	p++	p+	p+	p+		
	Desire to read in the original format	p+	p+	p+			
	Family traditions of building libraries	p++		p++			
	Emotional connection to text	p++		p++			
	Aesthetics aspects	p++		p++		p+	
<b>B) Economic factors</b>							
<b>Economic</b>	Convenience, ease of access		e++		p++ or e++	p++ or e+	
	General availability	p+ or e+	p+ or e+	p+ or e+	p+ or e+	p+ or e+	e++
	Accessibility 24x7	e+	e+				e+
	Accessibility just-in-time	e+	e+				e+
	Ownership (practical reasons)	p+		p+			
<b>Physical</b>	Eyestrain	e---	e---	e---			
	Carrying weight	e+	e+				
	Physical comfort, relaxation			p++	p+	p+	
<b>Affordances</b>	Portability	p+	p+	p++			
	Holding a text	p+		p+			
	Turning page	p+	p+	p+			
	Flicking through, getting an overview	p+		p+		p+	
	Searching for keywords or quotes	e+	e+		e+		e++
	Regular updating, currency		e+		e+	e+	
	Hypertext functionalities (links)				e+		e+
	Annotation, note-taking	p++	p+				
	Source of irritation	e-	e-				
<b>Engage</b>	Facilitate greater concentration	p++	p+	p+			
	Cause of distraction	e---	e---	e---			
	Effortless reading				e+	p+ or e+	
	Length of texts	p++	p+	p++			

## Perceived advantages and disadvantages of print and electronic texts

	Document type:	Primary or key texts	Secondary texts, incl journal articles	Leisure reading (books)	News	Magazines	Reference works
<b>Attitudes</b>	Authority of medium	p++	p+	p+	p+		
	Desire to read in the original format	p+	p+	p+			
	Family traditions of building libraries	p++		p++			
	Emotional connection to text	p++		p++			
	Aesthetics aspects	p++		p++		p+	
<b>B) Economic factors</b>							
<b>Economic</b>	Convenience, ease of access		e++		p++ or e++	p++ or e+	
	General availability	p+ or e+	p+ or e+	p+ or e+	p+ or e+	p+ or e+	e++
	Accessibility 24x7	e+	e+				e+
	Accessibility just-in-time	e+	e+				e+
	Ownership (practical reasons)	p+		p+			
<b>Physical</b>	Eyestrain	e---	e---	e---			
	Carrying weight	e+	e+				
	Physical comfort, relaxation			p++	p+	p+	
<b>Affordances</b>	Portability	p+	p+	p++			
	Holding a text	p+		p+			
	Turning page	p+	p+	p+			
	Flicking through, getting an overview	p+		p+		p+	
	Searching for keywords or quotes	e+	e+		e+		e++
	Regular updating, currency		e+		e+	e+	
	Hypertext functionalities (links)				e+		e+
	Annotation, note-taking	p++	p+				
	Source of irritation	e-	e-				
<b>Engage</b>	Facilitate greater concentration	p++	p+	p+			
	Cause of distraction	e---	e---	e---			
	Effortless reading				e+	p+ or e+	
	Length of texts	p++	p+	p++			

## Perceived advantages and disadvantages of print and electronic texts

	Document type:	Primary or key texts	Secondary texts, incl journal articles	Leisure reading (books)	News	Magazines	Reference works
<b>Attitudes</b>	Authority of medium	p++	p+	p+	p+		
	Desire to read in the original format	p+	p+	p+			
	Family traditions of building libraries	p++		p++			
	Emotional connection to text	p++		p++			
	Aesthetics aspects	p++		p++		p+	
<b>B) Economic factors</b>							
<b>Economic</b>	Convenience, ease of access		e++		p++ or e++	p++ or e+	
	General availability	p+ or e+	p+ or e+	p+ or e+	p+ or e+	p+ or e+	e++
	Accessibility 24x7	e+	e+				e+
	Accessibility just-in-time	e+	e+				e+
	Ownership (practical reasons)	p+		p+			
<b>Physical</b>	Eyestrain	e---	e---	e---			
	Carrying weight	e+	e+				
	Physical comfort, relaxation			p++	p+	p+	
<b>Affordances</b>	Portability	p+	p+	p++			
	Holding a text	p+		p+			
	Turning page	p+	p+	p+			
	Flicking through, getting an overview	p+		p+		p+	
	Searching for keywords or quotes	e+	e+		e+		e++
	Regular updating, currency		e+		e+	e+	
	Hypertext functionalities (links)				e+		e+
	Annotation, note-taking	p++	p+				
	Source of irritation	e-	e-				
	Facilitate greater concentration	p++	p+	p+			
<b>Engage</b>	Cause of distraction	e---	e---	e---			
	Effortless reading				e+	p+ or e+	
	Length of texts	p++	p+	p++			

## Perceived advantages and disadvantages of print and electronic texts

	Document type:	Primary or key texts	Secondary texts, incl journal articles	Leisure reading (books)	News	Magazines	Reference works
<b>Attitudes</b>	Authority of medium	p++	p+	p+	p+		
	Desire to read in the original format	p+	p+	p+			
	Family traditions of building libraries	p++	p+	p++			
	Emotional connection to text	p++		p++			
	Aesthetics aspects	p++		p++		p+	
<b>B) Economic factors</b>							
<b>Economic</b>	Convenience, ease of access		e++		p++ or e++	p++ or e+	
	General availability	p+ or e+	p+ or e+	p+ or e+	p+ or e+	p+ or e+	e++
	Accessibility 24x7	e+	e+				e+
	Accessibility just-in-time	e+	e+				e+
	Ownership (practical reasons)	p+		p+			
<b>Physical</b>	Eyestrain	e---	e---	e---			
	Carrying weight	e+	e+				
	Physical comfort, relaxation			p++	p+	p+	
<b>Affordances</b>	Portability	p+	p+	p++			
	Holding a text	p+		p+			
	Turning page	p+	p+	p+			
	Flicking through, getting an overview	p+		p+		p+	
	Searching for keywords or quotes	e+	e+		e+		e++
	Regular updating, currency		e+		e+	e+	
	Hypertext functionalities (links)				e+		e+
	Annotation, note-taking	p++	p+				
	Source of irritation	e-	e-				
	Facilitate greater concentration	p++	p+	p+			
<b>Engage</b>	Cause of distraction	e---	e---	e---			
	Effortless reading				e+	p+ or e+	
	Length of texts	p++	p+	p++			

“Attitudes .... are not good  
predictors of overt behaviour”  
(Wicker 1969)

# Conclusion

- Attitudes are not directly significant for study-related choices, but they may well be for leisure reading or in less pressurised situations.
- “Competition favours rational individuals”

*Tversky and Kahneman (1986)*

