From analog to digital psychology: Results from surveys on information behavior among German psychologists between 1997 and 2010

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Outline

• Background & purpose of present work
• Methods & methodological issues
• Results
• Discussion & outlook
Digitalization in scholarship

• Electronic communication media by now virtually universal in modern societies

• In scholarship, promise of increased quantity and quality of research output

• However, scholarly disciplines differ in extent, timeframe, and forms of digitalization (Kling & McKim, 2000)
  • Social, epistemic, and material foundations (e.g., Becher & Trowler, 2001)

→ Discipline-specific developments must be considered!
Psychology as a special case

• Encompasses both mechanistic and subject oriented theorizing

• As of today, strongly oriented towards natural sciences paradigm, but no unifying framework

• Research-practice-gap
Information behavior in psychologists

- Information behavior (IB) impacts and is impacted by digitalization
- IB in psychologists not investigated systematically
  - To adapt ZPID services, IB (including information needs) in psychology community needs to be considered
- Plans to conduct regular, prospective surveys
  - What do we have so far?
Purpose of present work

• In the preceding years, several surveys carried out by ZPID among German-speaking psychology community, including IB-related items

• Compiled results of four surveys conducted between 1997 and 2010 in order to...
  • Draw preliminary inferences about changes and continuities in IB during digital transition
  • Raise attention to methodological issues
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## Survey sample features

<table>
<thead>
<tr>
<th></th>
<th>Survey #1.1</th>
<th>Survey #1.2</th>
<th>Survey #1</th>
<th>Survey #2</th>
<th>Survey #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sampling date</strong></td>
<td>1997</td>
<td>1999</td>
<td>–</td>
<td>2003-2004</td>
<td>2010</td>
</tr>
<tr>
<td><strong>Target population</strong></td>
<td>Senior members in German university psychology depts.</td>
<td>Junior members in German, Austrian and Swiss university psychology depts.</td>
<td>–</td>
<td>Members of German psychology practitioners' association (BDP)</td>
<td>Members of German psychology researchers' association (DGPs)</td>
</tr>
<tr>
<td><strong>Valid responses (response rate)</strong></td>
<td>265 (48 %)</td>
<td>221 (36 %)</td>
<td>486 (41 %)</td>
<td>324 (22 %)</td>
<td>298 (17 %)</td>
</tr>
<tr>
<td><strong>Academic titles / positions</strong></td>
<td>18 % PD, 82 % FP</td>
<td>45 % Postgrad, 48 % Postdoc, 7 % PD</td>
<td>21 % Postgrad, 22 % Postdoc, 13 % PD, 44 % FP</td>
<td>Not inquired</td>
<td>12 % Postgrad, 26 % Postdoc, 17 % PD, 38 % FP, 7 % missing</td>
</tr>
<tr>
<td><strong>% female</strong></td>
<td>16</td>
<td>32</td>
<td>23</td>
<td>67</td>
<td>38</td>
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<tr>
<td><strong>Mean age</strong></td>
<td>missing</td>
<td>36</td>
<td>missing</td>
<td>44.0</td>
<td>42.9</td>
</tr>
</tbody>
</table>

### Notes
- Abbreviations used: PD – Privatdozent (roughly comparable to assistant professor); FP – Full Professor;
- Gender missing < 3 % in all samples.
Publications referring to samples

• #1.1: Montada, Krampen & Burkard (1999); Krampen & Montada (2000)
• #1.2: Neppl, Wiesenhütter, Krampen & Montada (2001)
• #2: Becker (2004); Krampen, Becker, Labouvie & Montada (2004)
• #3: Krampen, Fell & Schui (2011, 2012a, 2012b)
Comparable survey items

- Surveys #1, #2, and #3: set of items on frequency of use of different information sources
  - Only partially overlapping! Mainly „analog“ sources in #1, mainly „digital“ sources in #3, #2 in between

- Surveys #2 and #3: set of items on subjective importance of „information service“ (i.e., literature database) properties

- Surveys #1.2 and #3: open-ended question about problems / desired improvements in information search
Overview of comparison categories

• Use of information sources
  • Libraries, Literature databases, Publication contents, WWW

• Importance of database properties
  • Up-to-dateness, Quality assurance, Internationality, Cost, Ease of use, Search speed, Workflow integration, Full text access
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Use of information sources – Libraries

• **#1**: for unspecified „libraries“, mean of 71 % on percentile scale, 2nd rank among all 25 sources inquired

• **#3**: 61 % for library OPAC use, ranking 3rd among 32 sources
  - Also, score of 84 % on item „importance of direct access to libraries“

• **#2**: 40 % each for OPAC and local library use (14th / 15th rank among 31 sources)

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#1: Composite researcher survey, end-nineties
#2: Practitioner survey, 2003-2004
#3: Researcher survey, 2010
Use of information sources – Lit. Databases

• **#1:** 63 % (7th) for PSYNDEx, 67 % (4th) for PsycINFO, 38 % (15th) for unspecified „other“ DBs
  - Refers to CD-ROM format; means are only 33 % each for online versions of PSYNDEx and PsycINFO

• **#3:** 57 % (6th) for PSYNDEx, 73 % (2nd) for PsycINFO, 45 % (12th) for „other“ DBs

• **#2:** 25 % (17th) for PSYNDEx, 11 % (21st) for PsycINFO

#1: Composite researcher survey, end-nineties
#2: Practitioner survey, 2003-2004
#3: Researcher survey, 2010
Use of information sources – Publications

- **#1**: 75% and 1st rank for „browsing of top journals in field“, 58% (9th) for „browsing of many books“

- **#3**: 88% (1st) for unspecified use of „online journals“ as information source, 49% (10th) for „print journals“, 56% (7th) for „open access online journals“

- **#2**: 79% (6th) for unspecified journal use, 88% (1st) for unspecified book use

#1: Composite researcher survey, end-nineties
#2: Practitioner survey, 2003-2004
#3: Researcher survey, 2010
Use of information sources – WWW

• **#1**: 48 % (10th) for unspecified „search on the WWW“

• **#3**: Host of items
  - „Conventional search engine“: 59 % (5th)
  - Google Scholar: 56 % (7th); Google Books: 41 % (15th)
  - Author homepages: 44 % (13th)
  - Discipline-specialized websites: 38 % (16th)
  - Document- / Preprint-Servers: 25 % (24th)
  - Researcher social networking sites: 8 % (30th)

• **#2**: 73 % (7th) for unspecified „search engines“, 82 % (4th) for Google, 56 % (8th) for profession-specific websites

#1: Composite researcher survey, end-nineties
#2: Practitioner survey, 2003-2004
#3: Researcher survey, 2010
Importance of database properties - Similarities

• **Up-to-dateness:** 92% in #2 (2nd rank among 12 inquired properties) vs. 97% in #3 (2nd among 31)

• **Quality assurance:** 95% (1st) for „service professionalism“ and 87% (4th) for „certified information“ in #2 vs. 94% (6th) for „correctness“ and 85% (10th) for „professional quality assurance“ in #3

• **Interdisciplinarity:** 70% (9th) in #2 vs. 67% (18th) in #3

• **Search speed:** 78% (6th) in #2 vs. 80% (12th) in #3

• **Workflow integration:** 67% (10th) for possibility of „subsequent processing“ in #2 vs. 72% (15th) for „seamless connections of resources“ and 68% (17th) for „dataset exporting“ in #3

#2: Practitioner survey, 2003-2004
#3: Researcher survey, 2010
Importance of database properties - Differences

• **Cost**: 79% (5th) for „low user fees“ in #2 vs. 88% (7th) for „open access (no charge)“ in #3

• **Internationality**: 71% (8th) in #2 vs. 96% (4th) in #3

• **Ease of use**: 91% (3rd) for „straightforward, uncomplicated search technology“ in #2 vs. 52% (20th) for „‘intelligent‘ search engines“, 38% (26th) for „recommender systems“, 71% (15th) for „powerful search syntax“, and 75% (13th) for „many searchable database fields“ in #3

• **Full text access**: ranked 1st (98%) in #3; in #2, mean of 68% regarding „how important“ full text services would be in the future, and 25% regarding current frequency of use of online full text services

#2: Practitioner survey, 2003-2004
#3: Researcher survey, 2010
Open questions on information search problems

• **#1.2:** „Desired improvements in PSYNDEX“
  • Online access (most often); integration into literature management workflow; linking to full texts; integration with other literature databases; improved up-to-dateness and search features

• **#3:** „Typical difficulties encountered while searching for information“
  • Access to full texts (most often, by far); search strategy (choosing keywords, identifying all pertinent literature); literature coverage in DBs (discipline, language, publication type restrictions); usability flaws in DBs

#1.2: Junior research survey, 1999
#3: Researcher survey, 2010
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IB changes in psychology researchers?

- No fundamental change in IB in psychology researchers in the course of digitalization
- Main concern in information search: efficiently identifying and accessing all pertinent literature
- Now and then, journals and literature databases most important sources
  - Google-style searching increasing, but databases still used more often
- Library search somewhat declining, but still frequently used and considered important
Possible trends

- Ongoing „internationalization“ of German psychology research
  - Increased use of PsycINFO
  - Increasing quota of English-language publications (Krampen, Schui & Bauer, 2012)

- Need for integration of national-level databases like PSYNDENX
  - PubPsych (www.pubpsych.eu)
Possible trends

• **Open access publishing so far not commonplace** in German psychology (lower use of open access journals, low use of preprint servers)
  • But: In 2010, 4.4 % of English-language articles published in open access journals, vs. only 2.4 % in 2009 (Krampen, Schui & Bauer, 2011, 2012)

• **More high quality open access journals need to be established**
  • PsychOpen (www.psychopen.eu)
Practitioners’ perspective

• More use of general-purpose search engines and books, less use of libraries and literature databases

• More emphasis on ease of use, less emphasis on international contents in databases

• Differences most likely due to differences in available resources and work context (more localized)

• If psychological practice is to be grounded in empirical foundations, information providers should not only take researchers’ perspective into account!
Thanks for your attention!
References


References


