The typical introductory psychology textbook contains a section near the beginning that describes the discipline’s many professional branches. We caricature these sections as the “what psychologists do” unit, a phrase borrowed from an American Psychological Association (APA) career booklet (APA, 1996). Interest in such material derives directly from the issue of nonprofessionals’ views of the profession. One component of the public’s image of psychology is informational, involving what people do or do not know about the field’s nature and its members’ activities. Because of the sheer number of general student readers, introductory psychology textbooks are said to be important sources of popular perceptions (Dixon, Vrochopoulos, & Burton, 1997; Whissell, 1997).

Two questions emerge concerning the nature and extent of textbook coverage. First, are different numbers of words devoted to particular subfields? That is, are there systematic numerical differences in the handling of various specialties? Second, are different types of words devoted to particular subfields? That is, are there systematic thematic differences in the handling of various specialties?

The answer to the first question is that subfields do not receive equal coverage. In a prior companion project, we tallied subfield word counts from “what psychologists do” units in dozens of recent texts, and clear patterns emerged. To take selected examples, authors devoted an average high of 105.9 words to the clinical area, whereas experimental (57.7) and engineering (38.6) received far fewer (Anderson, Eiler, & Rajecki, in press). A possibility is that writers highlighted some subfields at the expense of others simply because certain areas have greater intrinsic appeal to student readers or course instructors.

In any event, an answer to the second question is the purpose of the current report. Given authors’ willingness to commit more space to some specialties than others, how might they be inclined to verbally color their various treatments? Earlier, Whissell (1997) offered a computer content analysis of the tone of writing in introductory psychology textbooks along two lines: active-passive and pleasant-unpleasant. Going beyond Whissell, for our characterization of stylistic features.

**Author note.** We thank Jeffrey Lee Rasmussen for statistical support. For information regarding the availability of the MCCA program, see http://www.cites.com

Correspondence concerning this study should be addressed to D. W. Rajecki, Department of Psychology, LD124, IUPUI, 402 N. Blackford Street, Indianapolis, IN 46205–3275. Electronic mail may be sent to: drajecki@iupui.edu.
tures of subfield presentations, we used the Minnesota Contextual Content Analysis (MCCA) program. This software quantifies the comparative patterns of meaning in texts; it electronically reads a passage and then provides an empirical profile of the content of the message (McTavish & Pirro, 1990).

MCCA is based on the assumption that, in written material, different social entities—groups, organizations, institutions, cultures—place a different emphasis on particular idea categories. Theory-based sets of ideas are subsumed under one or another of four MCCA “marker contexts” that are labeled traditional (T), practical (P), emotional (E), and analytic (A). McTavish and Pirro (1990, p. 251) elaborated these categories:

Traditional context. A normative perspective on the social situation predominates and the situation is defined in terms of standards, rules and codes which guide social behavior.

Practical context. A pragmatic perspective of the social situation predominates and behavior is directed toward the rational achievement of goals.

Emotional context. An affective perspective predominates and the situation is defined in terms of expressions of emotion (both positive and negative), and maximizing individual involvement, personal concern and comfort.

Analytic context. An intellectual perspective predominates and the situation is defined in objective terms.

MCCA uses a conceptual dictionary to organize word meanings. For any particular analysis, the program makes two comparisons. It compares the frequency of contextual word use with real-life normed expectations, and then it compares the respective emphasis found in one marker category with the respective emphasis found in all the others.

For our purpose, MCCA output is a set of four deviation scores, one each for the traditional, practical, emotional, and analytic contexts. A positive deviation score indicates a comparative greater-than-expected emphasis on a marker context; a negative deviation score indicates a comparative underemphasis on a marker context. These scores can be treated “as continuous, interval-level measures” (McTavish & Pirro, 1990, p. 254).

To clarify further the MCCA approach, McTavish and Pirro (1990, p. 251) provided short lists of specific words likely to be assigned to each of the four context categories (e.g., traditional: “should, ought, guard, military, stability”; practical: “buy, sell, product, maintenance, office, factory”; emotional: “friendly, wonderful, gladness, refreshment, wish”; and analytic: “solution, signify, alike, comparison, library”). The seminal article also presented (in its Table 3) examples of deviation-score analyses of two pieces of real-world writing having expectable differences in thematic content: an airline financial report versus a religious devotional. For the financial report, the respective T, P, E, and A deviation scores were –5.59, 11.21, –6.77, and 1.15; for the devotional the scores were 6.08, –7.19, 5.44, and –4.33.

The MCCA program has been a fruitful research tool. Among other results, the software has provided objective analyses of scripts in television commercials (Rajecki et al., 1993, 1994), open-ended responses to survey questions (Danes & McTavish, 1997; McTavish, Litkowski, & Schrader, 1997), and placement essays written by college freshmen (Shermis, Rasmussen, Rajecki, Olson, & Marsiglio, 2001). For information on the availability of MCCA, see the Author Note.

Our project had two related goals. The first, of course, was to systematically sort textbook subfield descriptions into potential thematic sets. In terms of predictions, prior to any analysis we first arrived at our own intuitive groupings of 14 fields or subfields frequently encountered in texts. Our intuited assemblies were based on functional affinities. For one type of career category, we had in mind a combination of the practices of clinical and counseling psychology, and psychiatry. Another hypothetical category included the academic areas of developmental, social, and personality psychology. A third imagined group—also of academic orientation—contained biological, cognitive, and experimental psychology. Finally, a fourth assembly was made up of the applied subfields of educational, school, health, industrial/organizational (I/O), and engineering psychology.

We went on to speculate that the first through the fourth of the above career groupings might show a special emphasis, respectively, on the following MCCA contexts: emotional, traditional, analytic, and practical. This speculation was open to direct test and possible revision.

Our project’s second goal was to compare textbook subfield representations with those available from an independent, qualified source. This objective is relevant because professionals who work in particular specialties sometimes express disappointment in textbook treatments of their areas (cf. Dixon et al., 1997; Leong & Poynter, 1991; Wise, 1981). In contrast, we suppose that APA is in a position to represent its member categories fairly. Indeed, APA’s Education Directorate and its Office of Public Communications jointly produced a career booklet that contained subfield descriptions similar in format to those found in many textbooks (APA, 1996, pp. 6–7; online: APA, 2003). Accordingly, this APA material provided a useful opportunity to objectively com-
pare general textbook treatments with that of at least one separate voice.

**Method**

**Textbook and Subfield Selection**

Our prior companion project identified 24 separate subfields that were covered in one or more of 43 different introductory textbooks copyrighted between 1992 and 2002 (Anderson et al., in press). The “what psychologists do” units in these textbooks appeared, on average, within the first 18 pages. For the current analysis, we examined that collection’s 19 most recent books copyrighted between 1998 and 2002.

Based on our aim to analyze representative presentations, five of those texts were set aside because they did not cover at least half (12) of the original set of subfields. Using versions of the Office of Teaching Resources in Psychology online compendium of introductory psychology texts (e.g., Koenig, Griggs, Marek, & Christopher, 2003), we were able to identify the levels of difficulty of one or another edition of the 14 remaining study texts. Twelve books in the Appendix were identified as most in middle level, one as low level (Lahey, 1998), and one as high level (Sternberg, 1998).

Furthermore, a subfield was dropped from the analysis if it did not appear in a majority (8) of the purposive sample of 14 books. The 14 retained subfields were those listed in the introduction, and the 14 books in question covered between 9 and 14 of these areas.

We are not aware of a cutoff for a minimum number of words allowable for an MCCA analysis. In the original MCCA article, a sentence of only nine words—“Work like mine keeps me from doing my best”—was used for a key demonstration of program operations (McTavish & Pirro, 1990, Table 2). To maximize our sample size, the current minimum was set at seven words, eliminating two of the files. Accordingly, there was a final database of 168 textbook subfield passages for MCCA analysis.

**APA Booklet**

The APA booklet provided passages for 10 subfields that had labels more or less in common with our existing terminology: biological (neuropsychology), clinical, counseling, developmental, educational, engineering, health, I/O, school, and social. Experimental psychology per se was not described in the booklet, but there was a passage for quantitative and measurement psychology, which we used as a substitute.

The remaining three APA booklet subfields—forensic, rehabilitation, and sport—were not compatible with our current working set of 14 text types, and these were set aside.

**Electronic Files**

The 168 textbook subfield passages had been stored in electronic files for the previous word-count analysis, and each file was processed separately by the MCCA program. The number of words in these files ranged from 7 to 405. Across individual textbook files, MCCA successfully analyzed from 67% to 100% of word content.

The 11 subfield passages from the APA booklet were scanned into electronic files and processed separately by MCCA. The number of words per file ranged from 33 to 114. Across individual APA files, MCCA successfully analyzed from 72% to 98% of word content.

**Designs and Analyses**

Each of the 168 textbook subfield passages in our database yielded a set of four deviation scores. For an evaluation of trends, the conventional statistical design that came to mind at one point was a $4 \times 14$ factorial. Factor A would be the four MCCA context scores, and Factor B would be the 14 subfields, both factors represented as repeated measures. This analysis would simultaneously compare contexts with one another, and subfields with one another in terms of contexts. However, this elegant design was compromised because our rules of inclusion resulted in unequal textbook sample sizes for several subfields. But even if a modified two-way factorial could be arranged, some separate objective standard would still be required to sort out empirical groupings or clusters of subfields.

As an alternative statistical approach, we used 14 separate one-way, repeated measures analyses of variance (ANOVA) to evaluate context score differences within each of the subfield samples. Because of the many comparisons involved, we set $\alpha$ at .01. Next, to compare subfields with one another in terms of contexts, we used the $k$-means cluster analysis available from the SPSS 11.0 program. For our application, this program chose groupings to maximize the mean differences among MCCA context score patterns in different clusters. The 56 means from the 14 ANOVAs were entered into three independent analyses using $k = 2$, $k = 3$, and $k = 4$. Subfields were thus variously grouped into 2, 3, and 4 clusters based on similarities and differences in MCCA scores. In the end, the $k = 3$ result proved to be the most useful.

For the sake of comparison, MCCA context scores for the subfields in the APA booklet were simply grouped according to the textbook $k = 3$ result. The textbook context cluster score means could then be compared with the corresponding APA group means.

**Results**

**MCCA Analyses**

Taking into account all 14 subfields, there were marked differences in overall average MCCA context...
scores. The analytic context showed the strongest emphasis, with a grand mean of 15.92. Next, the practical (M = 1.81) and traditional (M = –1.82) contexts showed neither much emphasis nor underemphasis. Finally, the emotional context was conspicuously absent (M = –15.91).

Although several individual subfield context scores departed more or less markedly from the grand means, Table 1 indicates that all subfields displayed sharp average distinctions across the four MCCA categories. Every one of the 14 repeated measures ANOVAs indicated a pattern of significance beyond the .01 level. Individual F scores ranged from 11.33 for health psychology, to 106.27 for clinical psychology, with respective degrees of freedom ranging from (3, 24) to (3, 39).

MCCA analysis of the subfield passages from the APA booklet yielded a pattern similar to subfield passages in textbooks. The analytic context was emphasized, with a grand mean of 13.19. The practical (4.10) and traditional (–0.53) contexts were not particularly emphasized or underemphasized, and the emotional context was absent (–16.76).

### Table 1

<table>
<thead>
<tr>
<th>Subfield cluster</th>
<th>Text n</th>
<th>Traditional M (SD)</th>
<th>Practical M (SD)</th>
<th>Emotional M (SD)</th>
<th>Analytic M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Textbook Cluster 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I/O*</td>
<td>14</td>
<td>–5.55 (3.37)</td>
<td>22.27 (7.42)</td>
<td>–20.37 (5.75)</td>
<td>3.65 (6.95)</td>
</tr>
<tr>
<td>Engineering*</td>
<td>9</td>
<td>–6.79 (5.91)</td>
<td>21.47 (14.05)</td>
<td>–14.66 (6.24)</td>
<td>–0.01 (8.23)</td>
</tr>
<tr>
<td>APA group mean</td>
<td></td>
<td>–6.03 (4.45)</td>
<td>21.96 (10.22)</td>
<td>–18.14 (6.47)</td>
<td>2.22 (7.52)</td>
</tr>
<tr>
<td><strong>Cluster mean</strong></td>
<td></td>
<td>–6.35 (1.19)</td>
<td>16.85 (4.28)</td>
<td>–19.33 (6.44)</td>
<td>8.83 (3.36)</td>
</tr>
<tr>
<td><strong>Textbook Cluster 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>10</td>
<td>5.21 (5.24)</td>
<td>2.55 (6.45)</td>
<td>–18.53 (5.66)</td>
<td>10.77 (7.89)</td>
</tr>
<tr>
<td>Social*</td>
<td>14</td>
<td>4.01 (8.68)</td>
<td>–2.80 (5.06)</td>
<td>–18.00 (4.79)</td>
<td>16.80 (9.72)</td>
</tr>
<tr>
<td>Health*</td>
<td>9</td>
<td>2.73 (2.14)</td>
<td>3.48 (11.50)</td>
<td>–15.19 (6.41)</td>
<td>8.98 (9.23)</td>
</tr>
<tr>
<td>Clinical*</td>
<td>14</td>
<td>–0.79 (3.66)</td>
<td>–3.34 (3.53)</td>
<td>–12.04 (3.35)</td>
<td>16.18 (4.25)</td>
</tr>
<tr>
<td>Counseling*</td>
<td>14</td>
<td>–1.19 (5.45)</td>
<td>6.11 (9.13)</td>
<td>–14.75 (7.36)</td>
<td>9.83 (6.61)</td>
</tr>
<tr>
<td>Developmental*</td>
<td>14</td>
<td>–1.34 (2.88)</td>
<td>–2.38 (4.37)</td>
<td>–11.34 (3.53)</td>
<td>15.06 (7.07)</td>
</tr>
<tr>
<td>Biological*</td>
<td>12</td>
<td>–3.92 (3.33)</td>
<td>–1.22 (6.61)</td>
<td>–12.96 (7.05)</td>
<td>18.09 (7.77)</td>
</tr>
<tr>
<td>APA group mean</td>
<td></td>
<td>0.45 (5.74)</td>
<td>0.10 (7.47)</td>
<td>–14.52 (5.97)</td>
<td>13.97 (8.04)</td>
</tr>
<tr>
<td><strong>Cluster mean</strong></td>
<td></td>
<td>0.45 (5.74)</td>
<td>0.10 (7.47)</td>
<td>–14.52 (5.97)</td>
<td>13.97 (8.04)</td>
</tr>
<tr>
<td><strong>Textbook Cluster 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School*</td>
<td>11</td>
<td>0.86 (7.84)</td>
<td>–3.82 (7.33)</td>
<td>–19.28 (6.36)</td>
<td>22.24 (8.19)</td>
</tr>
<tr>
<td>Educational*</td>
<td>13</td>
<td>–2.89 (4.91)</td>
<td>–4.21 (7.21)</td>
<td>–22.97 (6.74)</td>
<td>30.07 (8.79)</td>
</tr>
<tr>
<td>Experimental*</td>
<td>13</td>
<td>–4.23 (5.87)</td>
<td>–6.17 (5.09)</td>
<td>–13.61 (6.93)</td>
<td>24.00 (10.64)</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>11</td>
<td>–5.74 (3.34)</td>
<td>–3.94 (4.79)</td>
<td>–13.60 (4.45)</td>
<td>23.28 (9.74)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>10</td>
<td>–5.98 (5.20)</td>
<td>1.04 (4.80)</td>
<td>–15.53 (10.18)</td>
<td>20.47 (10.13)</td>
</tr>
<tr>
<td>APA group mean</td>
<td></td>
<td>–3.55 (5.94)</td>
<td>–3.62 (6.24)</td>
<td>–17.11 (7.81)</td>
<td>24.28 (9.79)</td>
</tr>
<tr>
<td><strong>Cluster mean</strong></td>
<td></td>
<td>–3.55 (5.94)</td>
<td>–3.62 (6.24)</td>
<td>–17.11 (7.81)</td>
<td>24.28 (9.79)</td>
</tr>
</tbody>
</table>

*Note. Subfields in clusters are ordered on the traditional context. Means are weighted by sample sizes. Subfields marked with an asterisk (*) are represented in APA group means.*
opmental, health, personality, and social. The cluster means showed a marked emphasis on the analytic context and a clear underemphasis on the emotional context. On average, the traditional and practical contexts were neither emphasized nor underemphasized, but were detectable in certain individual cases.

Textbook Cluster 3. The third text cluster contained five subfields: cognitive, educational, experimental, and school, plus psychiatry. On average, this cluster showed an especially heavy emphasis on the analytic context and a typical (by now) underemphasis on the emotional context. The traditional and practical contexts were also comparatively underemphasized.

Textbook K-Means Cluster ANOVAs

The SPSS 11.0 k-means output provided another way to express similarities and differences among the clusters. The program automatically calculated a descriptive ANOVA separately for each MCCA context across the three clusters. According to these analyses, with (2, 11) degrees of freedom for each comparison: the traditional context, $F = 5.42$; the practical context, $F = 47.74$; and the analytic context, $F = 29.35$, were emphasized differently in Clusters 1, 2, and 3. On the contrary, the emotional context was not emphasized differently across clusters, $F(2, 11) = 0.89$.

Textbook Cluster Means Compared With APA Group Means

The 11 APA subfield descriptions were divided into three groups according to membership in the textbook $k = 3$ clusters, as indicated by asterisks in Table 1. Inspection of Table 1 indicates considerable association between the textbook cluster means and the means for the matched APA groupings. In all, there are 12 pairs of scores for comparison. Although the T, P, E, and A scores in any given row are not independent, a Pearson ($r$) coefficient of 0.96 does provide a crude way of expressing the strong resemblance of the text and APA means.

Another way to demonstrate the similarity—or nondifference—of the text and APA means is with a two-way, mixed-design ANOVA based on each textbook cluster. For these three analyses, MCCA context was a within factor (A) and textbook versus APA was a between factor (B). Of sole interest are the separate $A \times B$ interaction terms, none of which proved to be significant: for Cluster 1, $F(3, 69) = 0.61$; for Cluster 2, $F(3, 273) = 0.99$; and for Cluster 3, $F(3, 177) = 0.89$.

Discussion

Our four hypothetical groupings of fields in the introduction were based on assumed functional affinities, and at least a few of our expectations were borne out by the analysis. But textbook authors saw things in a somewhat different light. The $k$-means cluster analysis of textbook MCCA scores in Table 1 conveys writers’ preferences for the “impression management” of psychology specialties. The impression one gets from the analysis of words in our selected textbooks is that psychology subfields fall into one of three characteristic divisions.

The specialty areas in the first cluster, engineering and I/O psychology, are devoted to the proposition that people, organizations, and machines can be made to work better. The practical context ($M = 21.96$) predominated in the treatments of these areas.

The specialty areas in the second cluster are the heart of contemporary psychology. In the main they represent an intersection of intrinsic human-interest subject matter (clinical, counseling, and health) with knowledge gained through the rigor of objective research methods (biological, developmental, personality, and social). The overall treatments of these subfields did not markedly underemphasize the traditional context ($M = 0.45$), were reasonably analytic ($M = 13.97$), and did not depend on emotional appeals ($M = 14.52$). Courses that teach these areas undoubtedly represent the core curriculum in many psychology departments. Indeed, several such courses draw much attention from undergraduates in general (Adelman, 1995, p. 252) and usually receive the strongest endorsements by psychology alumni (Johanson & Fried, 2002).

Some specialty areas in the third cluster may be lacking somewhat in sheer human interest, but they compensate for that with an emphasis on the analytic context ($M = 24.28$). Cognitive and experimental psychology are noteworthy for their complexities and mathematical abstractions, and educational and school psychology fall among them because of their bent for tests and measurement. It is interesting that psychiatry turned up in this cluster, probably because of its direct link with modern medicine.

Table 1 shows both how textbook descriptions of psychology subfields differ and what they have in common. Even so, we are mindful of the limitations of our methodology. The four MCCA marker contexts are but a single way to conceptualize the comparative patterns of meaning in texts, and other analytic programs could lead to different conclusions. Furthermore, wider selections of subfields, or cluster or factor analyses beyond the $k$-means approach, might also produce results that differ from ours.

Nevertheless, it is interesting to observe the similarities in context score means between the current textbook clusters and the APA groupings. Statistically, the sets of means show a clear association with one another, and verbal characterizations of the textbook
clusters apply equally to the APA groups. If someone inquired whether working psychologists would endorse these textbook writers’ treatments of their several fields, the answer from the pen of APA (at least) would seem to be yes.

APA has a history of concern with the public image of psychology; it addressed this issue at its first meeting in 1892. In the late 1990s, APA went so far as to launch a public relations campaign to educate the general public about aspects of psychology (Farberman, 1997; Janda, England, Lovejoy, & Drury, 1998). We suggest that introductory psychology textbooks be viewed as an important part of a continuing public relations campaign. The “what psychologists do” unit in an introductory book has the potential to shape the public image of the field, and text authors should take seriously their responsibilities as publicists.

References

Appendix
Reference Information for Textbooks
Used in this Study