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D. W. Rajecki¹ and Victor M. H. Borden²

¹Department of Psychology, Indiana University-Purdue University Indianapolis, and ²Department of Educational Leadership and Policy Studies, Indiana University Bloomington

Abstract

Psychology is a very popular undergraduate major. Examining wage data from a range of degree holders reveals much about the expected career trajectories of those with psychology degrees. First, regarding baccalaureates, psychology and other liberal arts graduates—compared with those from certain preprofessional and technical undergraduate programs—generally fall in relatively low tiers of salary levels at both starting and later career points. Salary levels among baccalaureate alumni groups correlate with averaged measures of salary satisfaction, repeated job seeking, and perceptions of underemployment. These patterns seem to stem from the specific occupational categories (job titles) entered by graduates in psychology compared with other graduates, calling into question the employability advantage of so-called generic liberal arts skills. Second, psychology master's degree holders also generally fall in a low tier of salary among their science, engineering, and health counterparts. Third, psychology college faculty (including instructors) fall in low tiers of salary compared with their colleagues from other academic fields. Such broadly based indications of the relative economic disadvantages of psychology degrees have implications for career counseling in the field.

Keywords

college majors, baccalaureates, career counseling, career trajectories, employability, liberal arts skills, master's degree holders, occupational categories, wages

As part of their mandate to advance the discipline through effective teaching and advising, academic psychologists recognize the importance to students of “accurate information about earning potential with a psychology undergraduate degree” (Littleford et al., 2010, p. 77). To that end, the news is not always glowing, when there exist such statements as about a “disconnection between the popularity of the psychology major and the potential dissatisfaction with the outcomes of a psychology education indicated by employers [and] students” (Landrum et al., 2010, p. 152). Specifically, research on first-year-out employment outcomes revealed that many new psychology baccalaureates find themselves in jobs that have apparently unsatisfactory characteristics: not requiring a degree, offering relatively low pay, and being unrelated to the major (Borden & Rajecki, 2000; Rajecki & Borden, 2009).

Commentators sometimes caution, however, that early employment outcomes of psychology baccalaureates might not reflect or anticipate subsequent career trajectories. A classic study in this domain indicated that over a number of years following commencement, psychology graduates might expect upward mobility in terms of the increasing percentage of a

cohort who find jobs that require a college degree (Titley, 1978). Attention to a longer view of work life can thus translate directly into psychology advisors' pronouncements. For example: “You'll probably have about eight different jobs that may span three different professions or occupations” (Landrum, 2009, p. 9).

Accordingly, it seemed worthwhile to identify and assess published data on aspects of long-term career development among psychology degree holders. We wanted to compare graduates from psychology with those from a variety of other degree programs and to consider more or less extended periods or critical steps in the working lives of those individuals. To do so, we settled on four nationally prominent research projects or programs (here called cases), all available via the Internet, that had the added advantages of longitudinal or replicated data collection.

Corresponding Author:

D. W. Rajecki, 11245 Garrick Street, Fishers, IN, 46038-1928
E-mail: dwrajecki@sbcglobal.net

But before taking up the four cases, we note that undergraduate programs in psychology generally conform to the liberal arts tradition (Brewer, 2006; Korn, 1985; McGovern, Furumoto, Halpern, Kimble, & McKeachie, 1991) and review some of the ongoing discussion regarding the commercial advantages of a liberal arts education.

Employability With a Liberal Arts Bachelor's Degree

The liberal arts skills message

In the judgment of some authorities, a liberal arts bachelor's degree amounts to a quite positive credential for a job candidate in today's knowledge economy. From the perspective of human resources in business, for instance, a number of publications point to the presumably good fit between results of liberal arts training on the one hand and corporate management needs on the other (Johnston et al., 1986; Useem, 1989). This general view persists:

[Most] hiring managers care more about a job candidate's skills than they do about a college major. And the skills employers say they want most in a candidate, such as communication and critical thinking, are precisely those for which liberal arts students are known. (Gehlhaus, 2007–2008, p. 3)

According to this general line of thought, liberally educated job candidates have had opportunities to acquire valuable generic skills during their undergraduate years. Proficiencies include critical thinking and oral and written communication, as noted in the preceding quote, along with literacy and numeracy and experience with research and teamwork. Additional potential outcomes are a sense of ethics and a propensity for lifelong learning (e.g., Knotts, 2002).

A skills message corollary: The pie-in-the-sky proposition

Employers may speak well of employees' literacy, numeracy, and the ability to think critically, yet it is a long-noted fact that college graduates with liberal arts degrees tend to draw relatively low wages in their entry-level jobs (e.g., Parrish & Duff, 1975; Phelan & Phelan, 1983). For example, in a study of salary dollar differentials of 1985–1986 bachelor's degree recipients, men who had majored in engineering earned more than the average annual wage for their cohort (+4,774), whereas former social science majors earned less (–2,485). The respective values for women from these fields were +6,860 and –2,091 (adapted from Rumberger & Thomas, 1993).

If the economic reality of the paycheck represents an embarrassment to supporters of the commercial utility of an arts and sciences education, there is a way around the difficulty: A number of pundits have put forward what we judge to be a corollary to the basic liberal arts skills message. In our take on this optimistic extension, employment opportunities might be somewhat limited or limiting for freshly minted liberal arts

graduates, but their future circumstances could be much more promising.

This idea can be traced to findings that in at least one large corporation, managers holding humanities and social science degrees fared better by midcareer than did those from engineering programs (Beck, 1981; Howard, 1986). This revelation was noticed:

[There] is clear evidence that in terms of long-term career mobility within the same technically oriented company, humanities and social science majors do as well if not better than those with science, business, or engineering degrees. . . . Consequently, it seems reasonable to expect that the impact of major field may be substantially reduced or perhaps changed when later career earnings is the criterion. . . . [A longitudinal study] found that after twenty years, engineers had lower salaries than economics, business, and English majors. (Pascarella & Terenzini, 1991, p. 517)

In some circles, the emphasis on the long-term career prospects of liberally (broadly) educated individuals still resonates, arguing that liberal arts majors are more adaptable in the face of economic and labor market changes (Knotts, 2002).

We chose to nickname the skills-message corollary a pie-in-the-sky proposition because the formulation reminds us of words from the famous old song having to do with early relative deprivation, continued effort, and eventual reward (“work and pray, live on hay, you'll get pie in the sky when you die”). In this view, comparative career conditions for liberal arts degree holders could improve over time because demands of the contemporary knowledge economy are fluid and changeable; to be successful, employees must adapt (learn). Therefore, appropriate rewards should eventually come to those literate, numerate, and critically thinking lifelong learners (i.e., liberal arts grads) who strive hard and are patient. According to this notion, while their myopic and rigid preprofessionally and technically trained coworkers wither in the flux of the commercial world, far-seeing and flexible former liberal arts majors should thrive (cf. Association of American Colleges & Universities, 2007, p. 16; Jones, 2005, p. 35; Rimer, 2003, p. B7). This is clearly a proposition about career trajectories.

The present research

We now describe the results of four empirical investigations of aspects of career paths, considered separately as cases. Case 1 addresses the matters of starting and midcareer wages—along with a content analysis of actual job titles—of psychology and other baccalaureates who did not attain a higher degree. Case 2 provides information about first-ten-years-out trends and patterns in employment outcomes—such as satisfaction with wages and perceptions of underemployment—for graduates of social and behavioral sciences (including psychology) and preprofessional or technical major fields. Cases 1 and 2 thus bear on the validity of the liberal arts skills message and are useful for an evaluation of the pie-in-the-sky proposition.

Case 3 examines the pay levels and work activities of new psychology bachelor's and master's degree holders compared with those of graduates from other science, engineering, and health fields. Finally, Case 4 considers issues at the very source of psychology and other baccalaureate degrees: college faculty career-span salaries. Cases 3 and 4 thus shed light on career consequences for individuals with advanced psychology degrees.

Each of the four cases makes a contribution to our grasp of career trajectories among psychology degree holders. But as a disclaimer we note that, because of the aims of the original authors, each case is also limited or restricted in one or another feature of its design or procedure so that some questions of interest to psychology career counselors cannot be addressed here.

Case 1: Baccalaureates' Starting and Midcareer Salaries

Source

PayScale, Inc., is a Seattle-based firm that specializes in research and consultation on employment compensation, claiming ownership of the world's largest database of online employee salary information. Among other economic news, the company provides annual reports of the starting and midcareer salaries of baccalaureates. The cross-sectional survey respondents in its recent 2010–2011 College Salary Report were identified as thousands of people who successfully completed PayScale.com's employee survey. These individuals graduated from 120 different undergraduate major programs across America. The academic majors covered in the report fell within a wide range of categories of postsecondary programs of study, including "academic," "arts and sciences," "career-oriented," "liberal arts," "preprofessional," "technical," "SEH" (Science, Engineering, Health), "STEM" (Science, Technology, Engineering, Mathematics), and "vocational." Participants had a bachelor's and no higher degree and were employed full-time. So-called starting employees were typified as 25 years old and having 2 years of experience; midcareer employees were typified as 42 years old and having 15 years of experience (PayScale.com, 2010a).

Salary levels of fields compared

We sorted median 2010–2011 starting salaries of the 120 types of alumni from highest to lowest levels, revealing a clear pattern linking specific former major programs to subsequent group differences in wages. The frequency distribution for these starting salaries is shown in the upper panel of Figure 1. Also shown in that panel are the distribution's mean of medians, standard deviation, and the position of psychology. Baccalaureates from petroleum engineering programs topped the list at \$93,000. Computer engineering alumni came in at \$61,200 and nursing graduates at \$52,700. Among liberal arts majors, economics degree holders came in at \$48,800, history majors at \$38,500, and English majors at \$37,800. Finally, near the bottom of the list were theology majors (\$34,700) and art students (\$33,500) (PayScale.com, 2010a).

Psychology baccalaureates' standing: Starting and midcareer salary distributions

The psychology median starting salary of \$35,300 is well below average ($z = -0.81$, which is less than 79.1% of the other starting salaries sample). The frequency distribution of the 120 median midcareer salaries reported by PayScale.com is shown similarly in the lower panel of Figure 1. The psychology median midcareer salary of \$62,500 is also well below average ($z = -0.60$, which is less than 72.6% of the midcareer salaries sample).

Correspondence of starting and midcareer salary levels

Naturally, median midcareer salaries exceeded levels of starting salaries for workers from all 120 undergraduate major fields in question. Regardless, a general correspondence of level or rank of matched pairs of salary values was evident across the two career points. For example, at midcareer in 2010, median earnings for graduates of petroleum engineering, history, and theology programs were, respectively, \$157,000, \$73,000, and \$51,300. The correlation over the 120 matched pairs of reported dollar amounts was positive and strong, $r(120) = .90$, $p < .01$.

Work activity

Additional insights concerning career trajectories among psychology and other baccalaureates can be gained through an examination of graduates' various work activities as revealed by obtained job titles. The PayScale.com 2010–2011 College Salary Report offered a number of site pages under the heading of "Most Popular Jobs by Major" (PayScale.com, 2010b). For each of the several major programs on record in this section, PayScale.com listed the job titles most frequently reported by employees with that specialization. The samples included workers holding only a bachelor's degree. Workers with all years of experience were included in these popular-occupation profiles, provided they worked full-time in the United States.

Our quick content analysis of the literal titles of the "10 most popular jobs" per major was based on a simple count of keywords. For instance, we found that of the list generated by former biology majors, 8 of 10 of the titles included one or another of the words *medical*, *pharmacy*, *veterinary*, *biotechnology*, or *microbiologist*. Within the list from computer science graduates, all 10 titles made mention of *software*, *programmer*, *information technology*, or *web*. Clearly, at least some college graduates with certain academic specializations obtained jobs definitely related to their former major.

To extend the work activity analysis, Table 1 presents the 2010–2011 PayScale.com top 10 popular job titles and salaries reported by psychology baccalaureates, as well as the lists for economics and English graduates. (Job titles in Table 1 sections are rank ordered by popularity as in the original.) We chose these particular majors for examination because it is not uncommon to encounter reports that aggregate them in various ways, and with other fields, under headings such as "liberal

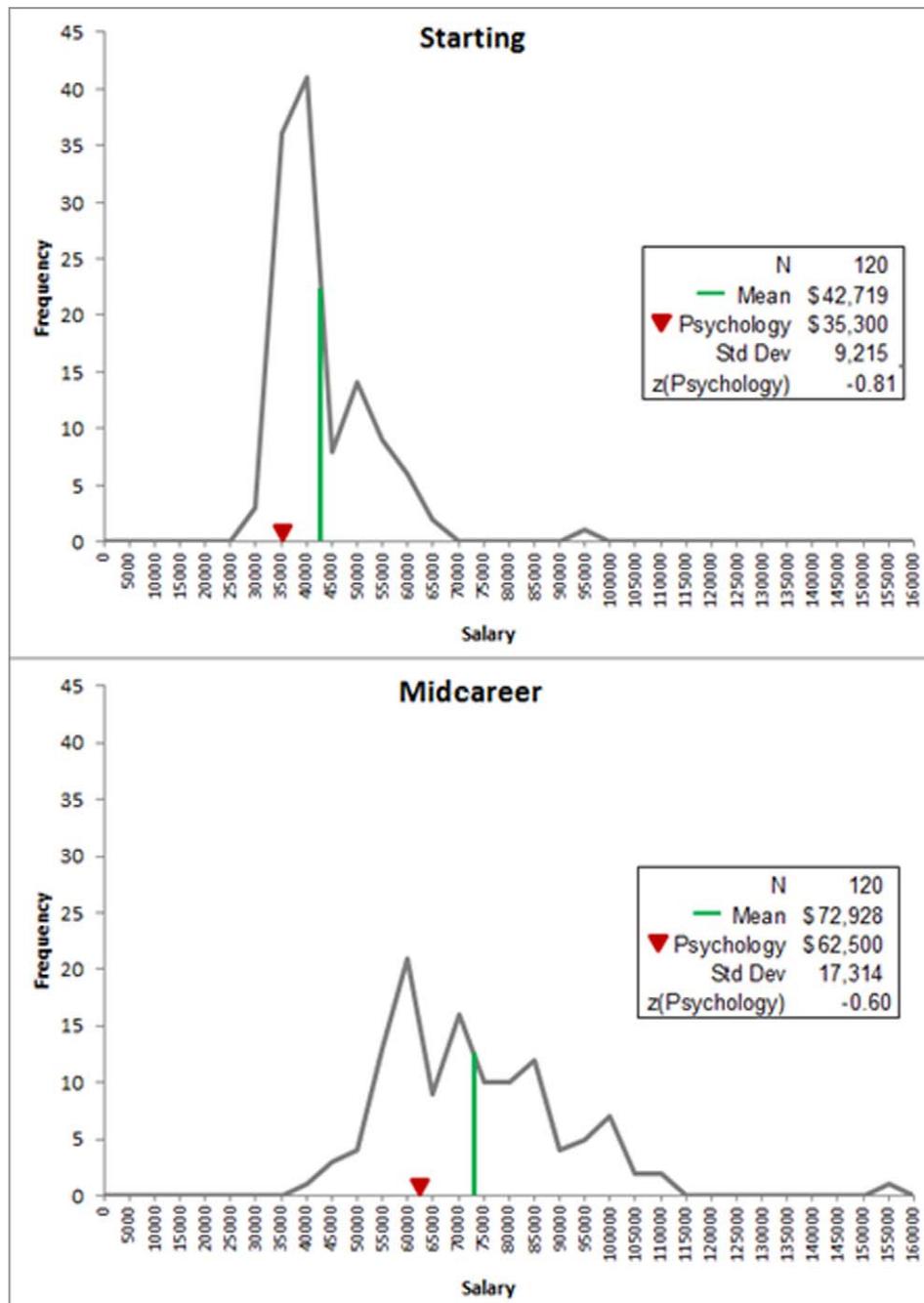


Figure 1. Frequency distributions of median starting and midcareer salaries of baccalaureates from 120 academic fields. Psychology graduates' positions are indicated by triangles. Adapted from PayScale.com (2010a). Std Dev = standard deviation.

arts." Possible differences in employment patterns within this trio may speak to the wisdom of seeking results from disaggregated academic disciplines.

Indeed, the entries in Table 1 indicate strikingly different work activity patterns and average salary levels for these three degrees. Sooner or later, economics, English, and psychology students go their separate ways and enter mostly nonoverlapping work circles that can yield different levels of material

rewards. As seen in Table 1, economics graduates tended toward money matters, those from English were drawn to writing and teaching, and former psychology majors often became involved with helping, counseling, and personnel.

Comment

First, depending heavily on specific undergraduate fields, baccalaureate recipients of relatively low (or high) starting salaries

Table 1. Titles and Median Annual Salaries in 2010 of Jobs Most Frequently Obtained by Baccalaureates From Three Popular Undergraduate Major Fields

Major field/job title	Salary (\$)
Economics (average median = \$69,320)	
Financial analyst	52,800
Staff accountant	46,000
Finance/banking analyst	70,800
Economist	66,200
Data analyst	57,200
Financial advisor	116,000
Investments analyst	71,200
Business process/management consultant	104,000
Financial research analyst	60,500
Marketing analyst	48,500
English (average median = \$48,200)	
High school teacher	50,200
Administrative assistant	35,100
Technical writer	68,900
Paralegal/legal assistant	53,100
Marketing coordinator	39,700
Consumer service representative	34,900
Editor	52,400
Elementary school teacher	46,500
Copy editor	46,300
Managing editor	54,900
Psychology (average median = \$39,640)	
Administrative assistant	35,100
Social services manager	34,900
Social worker	41,000
Mental health counselor	36,500
Mental health case manager	32,800
Applied behavior analysis therapist	40,700
Nonprofit organization program coordinator	38,600
Human resources administrator	44,500
Employment/recruitment or placement specialist	54,800
Substance abuse counselor	37,500

Note. Adapted from PayScale.com (2010b), with permission.

can expect to also receive relatively low (or high) midcareer salaries. That is, the pie-in-the-sky proposition—that at later points in their careers liberal arts alumni, such as those from psychology, might experience advances over their counterparts from more technically oriented or certain preprofessional fields—did not gain support. Figure 1 (lower panel) indicates that, in terms of earnings, at the midcareer point the relative position of psychology alumni ($z = -0.60$) had not nearly overtaken graduates of, say, chemical engineering ($z = 2.03$), computer science ($z = 1.43$), construction management ($z = 0.83$), or occupational health ($z = 0.24$).

Second, Table 1 shows striking differences in the occupations and salaries of graduates of three nominally liberal arts fields. It is awkward to argue that, for example, the large difference in average wages of economics versus psychology alumni was due to differences in their levels of liberal arts skills. Rather, it makes more sense to say that economics graduates were simply more interested in (or cognizant of) money matters than were psychology graduates and that an interest in money

led to involvement with money. For additional career-span salary surveys for years prior to 2010–2011, see PayScale.com (2008, 2009).

Case 2: The Class of 1992–1993: 1, 4, and 10 Years Later

Source

The National Center for Education Statistics (NCES) identified a nationally representative sample of individuals from dozens of different undergraduate major programs who received a bachelor's degree during the 1992–1993 academic year. Follow-up surveys of this sample occurred in 1994, 1997, and 2003, making for a longitudinal design (NCES, 1996, 1999, 2001, 2006, 2008). A strength of this research is that, beyond salaries in dollars, survey instruments included measures of other aspects of employment with a baccalaureate, such as satisfaction with wages and number of jobs held over a period of time. A weakness of the NCES series, however, is that for many of the agency's reports, responses of psychology graduates were aggregated with those of other social sciences, including anthropology/archeology, economics, sociology, geography, and city planning.

Salary levels of fields compared: 1 and 4 years later

An early document (NCES, 1996) covered the 1994 survey of the 1992–1993 graduates. Eleven undergraduate program categories were identified in that report, with psychology treated as a separate field. The percentages of women per program fell in a distinct pattern: education (79%), health professions (75%), psychology (74%), public affairs/social services (60%), humanities (59%), social sciences (51%), biological sciences (48%), business/management (46%), history (40%), mathematics/other sciences (40%), and engineering (14%). Regarding average annual wages in then-current dollars, alumni (men and women combined) from programs in health (\$31,302, $z = 1.75$) and engineering (\$30,948, $z = 1.66$) topped the earnings list. Psychology graduates were near the bottom (\$19,463, $z = -1.04$), exceeding only those from education (\$19,280, $z = -1.08$). For similar findings on first-year employment outcomes of a later cohort (the Class of 1999–2000), see NCES (2003).

In 1997, a subsample was constructed explicitly of 1992–1993 baccalaureates who had not enrolled in graduate education. “These college graduates represented 70 percent of all graduates, and most entered the labor market immediately after finishing their degree” (NCES, 2001, p. iii). The NCES (2001) report presented 1994 and 1997 salary information in summary form for 12 categories of fields (excluding here a 13th catchall “other” grouping), as shown in Table 2. Salary values in Table 2 are expressed in 1997 dollars; rows are arranged in descending order of entries in the 1994 column. Generally speaking, the predominantly technical or preprofessional categories of computer science, engineering, health, and business are

Table 2. Average Salary and Selected Employment Features in 1994 and 1997 for Full-Time Employed 1992–1993 Baccalaureates From Various Major Fields

Major field	1994		1997		Very satisfied with 1997 salary (%)	Number of jobs	Underemployed (%)
	Salary (\$)	<i>z</i>	Salary (\$)	<i>z</i>			
Health/other ^a	35,515	1.68	42,066	1.19	48.4	1.9	53.4
Health/nursing	34,194	1.42	37,012	0.42	38.0	1.6	56.6
Engineering/architecture	32,217	1.05	42,931	1.32	42.0	1.8	46.5
Computer science	29,428	0.51	44,624	1.58	40.7	1.9	54.0
Business	29,017	0.43	37,448	0.48	34.3	1.9	62.8
Mathematics/physical sciences	25,958	-0.16	31,565	-0.42	38.1	2.5	58.5
Biological/interdisciplinary sciences	25,380	-0.27	28,760	-0.85	23.9	2.5	62.7
Social sciences ^b	23,166	-0.70	33,463	-0.13	29.3	2.5	67.4
Humanities and arts	22,359	-0.85	29,630	-0.72	26.6	2.9	66.6
Communications/journalism	22,170	-0.88	32,294	-0.31	30.9	2.8	59.1
Social work/protective services	21,328	-1.04	27,350	-1.07	33.9	2.2	73.5
Education	20,443	-1.21	24,543	-1.50	27.0	2.6	62.9

Note. Adapted from NCES (2001). Salaries are expressed in 1997 dollars. Rows are ordered on the 1994 salary column.

^aIncludes audiology, community/mental health, hospital administration, and more.

^bIncludes psychology.

found in the top part of this list. Next, liberal arts fields such as social sciences (aggregated with psychology), communications, and humanities emerge in a lower tier, followed at the bottom by social work and education.

Social science baccalaureates' standing: 1994 and 1997 salary distributions

Table 2 also presents *z* scores based on the separate distributions of 1994 and 1997 salary entries. In 1994, the social sciences group earned an average salary clearly in the lower part of the distribution ($z = -0.70$). By 1997, however, the relative position of these social sciences baccalaureates was relocated nearer the center of the distribution ($z = -0.13$). This positive shift was due in part to the relatively reduced fortunes of graduates of several other major fields: health/nursing, mathematical/physical sciences, biological/interdisciplinary sciences, and education (and see the following section on changes in specific work activities for social sciences graduates). Even so, the 1997 salary level for baccalaureates in the social sciences was still well below that of several other major fields, including health/other, engineering/architecture, computer science, and business.

Correspondence of fields' 1994 and 1997 salary levels

Comparative pay levels over career trajectory are very stable. The correlation over the 12 matched pairs of dollar amounts in Table 2 is positive and strong, $r(12) = .83, p < .01$. This indicates that levels of 1994 salaries were predictive of levels of 1997 salaries. That is, based on longitudinal information, recipients of relatively low (or high) 1994 salaries also generally earned relatively low (or high) 1997 salaries.

Gender-based wage differentials, 1997

Of additional interest, 1997 salary levels were reported separately for women and men (NCES, 2001). For the 11 (of 12) fields with complete data, men earned somewhat higher average wages (\$36,957) than did women (\$31,506), a common finding in the employment literature. It is noteworthy, however, that over the 11 fields in question there was a high degree of correspondence of men's and women's average annual salaries, $r(11) = .92, p < .01$. This correlation indicates that for the class of 1992–1993, in 1997 those academic fields that produced relatively well (or poorly) paid baccalaureate men also produced relatively well (or poorly) paid baccalaureate women.

Other 1997 employment factors of fields compared

Beyond salary, the NCES (2001) document provided information about three additional types of employment experiences of the 1992–1993 graduates in (or by) 1997, summarized at the level of the 12 major fields identified in Table 2. The first of these measures was the percentage of respondents who were very satisfied with the pay of their 1997 jobs. The highest rate of such satisfaction was for health/other at 48.4%; the lowest was for biological/interdisciplinary sciences at 23.9%. The second measure was the average number of different jobs begun since graduation in 1992–1993. The highest number of such jobs was 2.9 for humanities/arts; the lowest was 1.6 for health/nursing.

The third additional measure had to do with “overeducation.” Overeducation is one term economists use to characterize a situation where a worker has had more schooling than called for by her or his current job (Rubb, 2003). An equivalent expression is “underemployment” (Parrish & Duff, 1975).

Table 3. Intercorrelation Matrix of Alumni Group-Level Variables for 1992–1993 Baccalaureates in 1997

Variable	1	2	3	4
1. Salary, 1997	—	.81**	-.73**	-.77**
2. Very satisfied with 1997 salary		—	-.74**	-.68*
3. No. of jobs since 1992–1993			—	.52
4. Underemployed				—

Note. Adapted from NCES (2001). Degrees of freedom = 12 for all coefficients. * $p < .05$. ** $p < .01$.

Survey researchers at NCES employed a dual standard to reflect underemployment on the part of their questionnaire respondents: having a job that either does not require a college degree or has no career potential (NCES, 1996, p. 60). The NCES (2001) paper reported the percentage of respondents per field who indicated that their 1997 job required a college degree and had career potential (call it D + P). We converted this information to a statement of underemployment by calculating the complement (100 minus D + P) for each major field. The highest rate of underemployment was 73.5% for social work/protective services; the lowest rate was 46.5% for engineering/architecture.

To determine the statistical associations between the several employment variables, the 12 major fields' average 1997 salary levels, percentage very satisfied with 1997 salary, number of jobs since graduation, and percentage reported underemployed were entered in a 4 × 3 bivariate intercorrelation analysis. The resulting six coefficients are shown in Table 3, five of which are significant. The range of salary levels was positively associated with satisfaction with salary and negatively associated with number of jobs since graduation and with underemployment. In turn, salary satisfaction levels were negatively associated with number of jobs since graduation and with underemployment.

Salary levels of fields compared: 10 years later

Baccalaureates from the class of 1992–1993 were surveyed again in 2003 (NCES, 2008). Of individuals in the total 2003 sample, highest degree attained ranged from bachelor's (74.4%), to master's (19.7%), to first professional (4.0%), to doctorate (1.9%). Within the same sample, 25.1% of respondents obtained occupational licenses, 30.2% earned professional certifications, and 44.5% completed work-related classes (NCES, 2006). Taken as a whole, the class of 1992–1993 had not fared badly:

Ten years after finishing college, most graduates had a job they considered a career and used their education, and their average salary, adjusted for inflation, had roughly doubled since 1994. A majority were satisfied with their pay, fringe benefits, job security, and opportunity for promotion (NCES, 2008, p. x).

Particulars of salary and other information for nine aggregated fields were reported by NCES, as shown in Table 4. (Responses

Table 4. Average Salaries in 2003 of 1992–1993 Graduates and Percentages of Respondents Satisfied With Their Salary and Holding an Advanced Degree, by Major Field

Major field	Salary (\$)	<i>z</i>	Satisfied with salary (%)	Advanced degree (%)
Engineering	74,900	1.35	75.0	27.3
Computer science	72,600	1.11	76.7	17.3
Business/management	65,900	0.41	70.7	17.7
Health	65,000	0.32	73.0	22.6
Social/behavioral sciences	62,300	0.03	60.7	31.4
Biological sciences	62,200	0.02	62.5	46.1
Mathematics/physical sciences	58,200	-0.39	67.9	46.9
Arts/humanities	52,800	-0.96	60.6	27.6
Education	43,800	-1.90	55.2	30.7

Note. Adapted from NCES (2008). Rows are ordered based on the salary column.

of individuals who had earned postbaccalaureate credentials were mixed with those with only a bachelor's degree.) In terms of comparative salary levels, a familiar pattern emerged. With 10 years of postgraduate experience, graduates of certain pre-professional and technical undergraduate programs topped the list, with arts and science graduates somewhere in the middle, and former education majors at the bottom. The average 2003 salary for the social/behavioral sciences group fell at about the center of the distribution ($z = 0.03$). Salary level was strongly associated with a measure of satisfaction with salary, $r(9) = .88, p < .01$, but not so strongly with the prevalence of advanced degrees over fields, $r(9) = -.35, ns$.

Work activity from 1994 to 2003

NCES reported percentage distributions over 11 occupational categories in 1994, 1997, and 2003 of 1992–1993 graduates from nine major fields (NCES, 2008). Reminiscent of the PayScale.com “popular job” data discussed in the previous case, in 2003 graduates from preprofessional and technical fields tended to have jobs related to their undergraduate specializations. Fully 48.8% of former engineering majors were identified as having jobs as engineers or architects. Similarly, computer science majors were likely to become computer scientists (48.0%), business/management majors were likely to become business workers or managers (55.7%), health majors were likely to become medical professionals (68.8%), and education majors were likely to become educators (65.1%). Interestingly, biological sciences students were likely to become medical professionals (42.7%).

Where the social and behavioral sciences group was concerned, Table 5 shows that in 1994, 10 occupational categories accounted for 95.9% of all employment. The combined categories of service workers and administrative/clerical/legal support workers accounted for over a third (34.0%) of the 1994 jobs of such graduates. By 2003, however, there were smaller percentages of social/behavioral sciences alumni in those two

Table 5. Percentages of Social and Behavioral Sciences Graduates of 1992–1993 Who Had Jobs in Various Occupational Categories, 1, 4, and 10 Years Later

Occupational category	Total (%)			Change (%)
	1994	1997	2003	
Business workers/managers	26.4	29.1	29.9	+3.5
Service workers	18.3	14.8	12.1	-6.2
Administrative/clerical/legal support workers	15.7	8.2	4.1	-11.6
Human/protective services/legal professionals	14.7	18.5	18.8	+4.1
Educators	9.3	12.6	15.0	+5.7
Researchers/scientists/technical workers	5.6	4.8	5.1	-0.5
Medical professionals	2.2	2.5	4.8	+2.6
Editors/writers/performers	1.9	2.4	3.5	+1.6
Computer scientists	1.7	1.4	3.1	+1.4
Engineers/architects	0.1	0.5	1.1	+1.0
Total	95.9	94.8	97.5	

Note. Adapted from NCES (2008). Rows are ordered based on the 1994 column.

comparatively low-wage categories and larger percentages in most of the remaining, presumably more lucrative or congenial slots (see Table 5). This net change in earning potential over the years helps explain why, as noted in a previous section, the average 2003 salary for the social/behavioral sciences group fell at about the center of the distribution of that sample.

Comment

First, Table 2 shows that some 1992–1993 graduates encountered marked wage premiums in 1994 and again in 1997, whereas other graduates encountered patterns of salaries that might be called pay penalties (Samuelson, 2010) or negative wage effects (Kahn, 2010). This may be so, but most people who have earned a bachelor's degree feel that higher education was worth the time and money (Kiley, 2010; NCES, 2006). Table 4 indicates, nonetheless, that salary differences over fields—and levels of satisfaction with salary level—were still evident a decade after college commencement. It may be obvious to some that salary level would be associated with salary satisfaction. But the intercorrelation matrix seen in Table 3 suggests that satisfaction—even mundane salary satisfaction—is implicated with other variables in a broader dynamic of employment experiences. On the basis of Table 3, we speculate that higher salaries produced more job satisfaction, which feelings prompted less job seeking because of fewer perceptions of underemployment.

Importantly, salary satisfaction is related to undergraduate specialization. Other such findings are worth mention. In a study commissioned and reported by the *Wall Street Journal*, workers who obtained a bachelor's degree between 1999 and 2010 were surveyed in 2010. A central question was, "Overall, how satisfied are you with your current

career path up to now?" (Light, 2010). At the high end, many graduates from chemical engineering (54%) were satisfied, as were those from accounting (50%). Fewer satisfied graduates were found among those from English (44%) or economics (40%). The lowest rate of satisfied alumni was for psychology (26%). This range of satisfaction levels led to a comment that, compared with engineers who embark on a specific career path early on, the least satisfied alumni "tend to be those who fell into general majors, such as philosophy... and ended up in unrelated fields" (Light, 2010, p. 2).

Second, the dollar amounts earned by graduates of certain preprofessional and technical fields tended to be higher than the wages of liberal arts degree holders at 1, 4, and 10 years after graduation. These patterns are most reasonably attributed to the demands and reward structures of the specific jobs involved. Table 5 indicates, for example, that a substantial percentage of first-year-out social sciences graduates became service or support workers and subsequently departed those apparently unsatisfactory positions. The reason those graduates initially found themselves in service or support work may be better understood in terms of deficiencies of college counseling services, rather than anyone's lack of acquired generic skills or penchant for lifelong learning. In any event, beginning a career in a service or support job is a dubious first step toward catching up and surpassing fellow graduates who possess engineering, computer science, or health degrees. So much for the pie-in-the-sky proposition.

Case 3: Bachelor's and Master's Early Salaries

With reference to the preceding Cases 1 and 2, an undergraduate, while majoring in psychology, might learn of the relative disadvantages of such a bachelor's degree in the general workforce. To enhance personal employability, the student might contemplate an additional degree at the next academic stratum—perhaps in her or his chosen major. It would be useful, therefore, to examine certain employment outcomes of new psychology master's degree holders.

Source

The National Science Foundation (NSF) regularly conducts a National Survey of Recent College Graduates (NSRCG). Given NSF's mission, respondents are limited to those earning a bachelor's or master's degree in science, engineering, or health (SEH) fields. However, because psychology and other social science disciplines are included among the science fields, the NSRCG data are useful for the present purpose. A recent NSRCG study collected salary information in 2006 from cross-sectional samples of bachelor's and master's graduates who received degrees from 18 different fields during the academic years of 2002–2003, 2003–2004, and 2004–2005 (NSF, 2010).

Table 6. Median Salaries in 2006 for Bachelor's and Master's Graduates of 2003–2005 by SEH Major or Degree Field and Gender

Major/degree field	Bachelor's				Master's			
	Men (\$)	z	Women (\$)	z	Men (\$)	z	Women (\$)	z
Chemical engineering	56,000	1.76	54,000	1.64	64,000	0.85	63,000	1.35
Electrical/computer engineering	53,000	1.39	52,000	1.42	69,000	1.40	64,000	1.46
Industrial engineering	52,000	1.27	52,000	1.42	61,000	0.52	59,000	0.91
Mechanical engineering	52,000	1.27	53,000	1.53	64,000	0.85	64,000	1.46
Civil/architectural engineering	48,000	0.79	48,000	0.98	55,000	-0.14	56,000	0.57
Health	48,000	0.79	44,000	0.55	67,000	1.18	55,000	0.46
Computer/information sciences	45,000	0.42	40,000	0.11	69,000	1.40	57,000	0.68
Economics	42,000	0.06	39,000	0.00	59,000	0.30	52,000	0.13
Mathematics/statistics	40,000	-0.18	35,000	-0.44	62,000	0.63	57,000	0.68
Physics/astronomy	40,000	-0.18	36,000	-0.33	59,000	0.30	45,000	-0.65
Chemistry	36,000	-0.67	34,000	-0.55	50,000	-0.69	48,000	-0.31
Agriculture/food sciences	35,000	-0.79	28,000	-1.20	44,000	-1.35	42,000	-0.98
Biological sciences	35,000	-0.79	29,000	-1.09	46,000	-1.13	47,000	-0.43
Earth/atmospheric/ocean sciences	35,000	-0.79	34,000	-0.55	48,000	-0.91	44,000	-0.76
Political and related sciences	35,000	-0.79	31,000	-0.87	60,000	0.41	48,000	-0.31
Environmental life sciences	33,000	-1.03	33,000	-0.66	50,000	-0.69	35,000	-1.76
Psychology	32,000	-1.15	30,000	-0.98	42,000	-1.57	39,000	-1.31
Sociology/anthropology	30,000	-1.39	30,000	-0.98	44,000	-1.35	40,000	-1.20

Note. Adapted from NSF (2010). Rows are ordered based on the salary column for men with bachelor's degrees. Distribution z scores were calculated separately for men and women. SEH = science, engineering, or health.

Salary levels of fields compared and psychology graduates' standing

Table 6 shows the 2006 median annual salaries (rounded to \$1,000) for bachelor's and master's degree holders separately for men and women from 18 SEH fields. Engineering, computer application, and health graduates generally occupy the upper part of the list; liberal arts graduates (e.g., chemistry, biological sciences, political and related sciences, and sociology/anthropology) occupy the lower part of the list.

For both sexes and both degrees, psychology median salaries are well below the corresponding distribution mean. For those with baccalaureate degrees, men's median salary was \$32,000 ($z = -1.15$), and women's median salary was \$30,000 ($z = -0.98$); for those with master's degrees, men's median salary was \$42,000 ($z = -1.57$), and women's median salary was \$39,000 ($z = -1.31$).

Correspondence of fields' salary levels

To determine the degree of correspondence over academic fields, the four columns of 18 median salaries each shown in Table 6 were entered in a 4×3 bivariate intercorrelation matrix. Of the resulting six coefficients, all were positive and statistically significant. Of interest to the current discussion, over the 18 fields, salaries for men with bachelor's degrees were predictive of salaries for women with bachelor's degrees, $r(18) = .97, p < .01$; as were salaries for men with master's degree predictive of salaries for women with master's degrees, $r(18) = .83, p < .01$. Also, salaries for men with bachelor's degrees were predictive of salaries for men with master's degrees, $r(18) = .80, p < .01$; as were salaries for women with

bachelor's degrees predictive of salaries for women with master's degrees, $r(18) = .87, p < .01$.

Work activity

For the 2006 survey, NSF researchers determined the degree of relatedness of a respondent's job field to his or her degree field. Three coding categories were defined: job in the same SEH field, job in a different (but related) SEH field, or job in a non-SEH field (NSF, 2010). Based on selected programs, and combining data for men and women, the left side of Table 7 indicates that for bachelor's graduates, a clear majority of those from health, engineering, and computer/information sciences held jobs in the same or a related field. On the contrary, bachelor's graduates from psychology, sociology/anthropology, and economics were quite likely to find employment in some non-SEH field. Where psychology alumni are concerned, this outcome is understandable, simply because in the United States an undergraduate degree in this field does not qualify the holder to be a psychologist (Brewer, 2006).

Approximately the same pattern of degree-field/job-field relatedness emerged in the right side of Table 7. A difference, though, is that master's graduates in psychology, sociology/anthropology, and economics found employment in the same field category at somewhat higher rates than did their baccalaureate counterparts. Where psychology master's degree holders are concerned, this higher rate (28.5% vs. 5.0%) may be due to the fact that a master's degree does qualify the holder for some types of work as a psychologist. In any event, to paraphrase a statement from an earlier section of this article, Table 7 basically shows that sooner or later, preprofessional/technical and social science graduates go their separate ways and enter

Table 7. Relation of Occupation to Major or Degree Field in 2006 for Selected Bachelor's and Master's Graduates of 2003–2005

Major/degree field	Bachelors (%)			Masters (%)		
	Same SEH field	Different SEH field	Non-SEH field	Same SEH field	Different SEH field	Non-SEH field
Health	80.7	—	18.2	73.7	6.9	19.4
Engineering	65.8	15.5	18.7	63.8	21.8	14.2
Computer/information sciences	64.2	3.9	31.9	75.5	5.9	18.7
Biological sciences	20.0	30.1	49.9	52.0	25.1	22.9
Psychology	5.0	9.5	85.4	28.5	7.8	63.7
Sociology/anthropology	3.6	6.7	89.7	36.0	—	56.0
Economics	3.5	9.0	87.6	36.7	—	50.0

Note. Adapted from NSF (2010). SEH = science, engineering, or health. Dashes indicate missing data in the original. Rows are ordered based on the bachelor's same SEH field column.

mostly nonoverlapping work circles that can yield different levels of material rewards.

Comment

There is no doubt, generally speaking, that levels of education correlate positively with levels of salary (Supiano, 2010). But for decades now, another solid generalization is that this education premium is far from equal for all baccalaureates, as shown repeatedly by cases in this review and elsewhere. Table 6 indicates that inequalities also exist for master's degree recipients. Moreover, substantial correlation coefficients reveal the correspondence in men and women's and in bachelor and master's salary levels over fields. Put one way, education beyond the baccalaureate will probably result in a higher salary, but fields with relatively modestly paid baccalaureates, such as psychology, are also the fields with relatively modestly paid master's degree holders. This economic trend is probably best understood as a function of the types of employment encountered by former psychology students, which tend to be outside the science and engineering domain (Table 7). For additional findings along these lines, see NSF (2006).

Case 4: The Professoriate—Academic Fields, Ranks, and Salaries

Motivated psychology majors might decide to avoid completely the vicissitudes of the commercial job market and instead aspire to a place in the professoriate, where learning of many kinds is admired and rewarded. The attractive job of professor (or instructor) is one to which undergraduates are frequently exposed. It would be well, then, to inquire about pecuniary details among various fields in academe.

Source

The College and University Professional Association for Human Resources (CUPA-HR) provides information regarding professors' annual salaries. Findings for the 2010–2011 academic year were drawn from both public and private four-year institutions, represented over 200,000 faculty members, and were based on an identified 31 academic fields in relation

to four traditional ranks among the professoriate: instructor, assistant professor, associate professor, and full professor (CUPA-HR, 2011).

Salary levels of fields compared

To approximate the general levels of remuneration accorded the 31 different fields in 2010–2011, we calculated the unweighted means of the average salaries of faculty across the four academic ranks. For example, top overall average dollars went to preprofessional and technical disciplines: legal professions/studies (\$95,767), business/management/marketing (\$87,627), engineering (\$83,882), and computer/information sciences (\$77,616). Roughly midrange money went to natural sciences and related areas: biological/biomedical sciences (\$66,267), physical sciences (\$64,574), and mathematics/statistics (\$62,520). Lowest salaries went to arts and humanities: history (\$60,094), visual/performing arts (\$59,511), English language/literature/letters (\$59,109), and theology/religious vocations (\$58,036). Thus, in the CUPA-HR set, the ordering of academic fields based on dollar amounts roughly resembles lists presented elsewhere in this review (see Table 2).

Psychology faculty distribution standings: Instructors' and professors' salaries

The various panels of Figure 2 show the frequency distribution of average salaries for college faculty in 2010–2011, along with summary statistics. At all levels, the average salary raw score for psychology faculty is below the mean for that rank: for instructors (\$45,421), $z = -0.34$; for assistant professors (\$55,133), $z = -0.49$; for associate professors (\$64,892), $z = -0.61$; and for full professors (\$84,509), $z = -0.56$.

Correspondence of fields' faculty salary levels

To determine the degree of correspondence of earnings across ranks (career trajectory) over academic fields, four columns—instructor, assistant, associate, and full professor—of 31 average salaries each from CUPA-HR (2011) were entered in a 4×3 bivariate intercorrelation matrix. Of the resulting six coefficients, all were positive and statistically significant, with

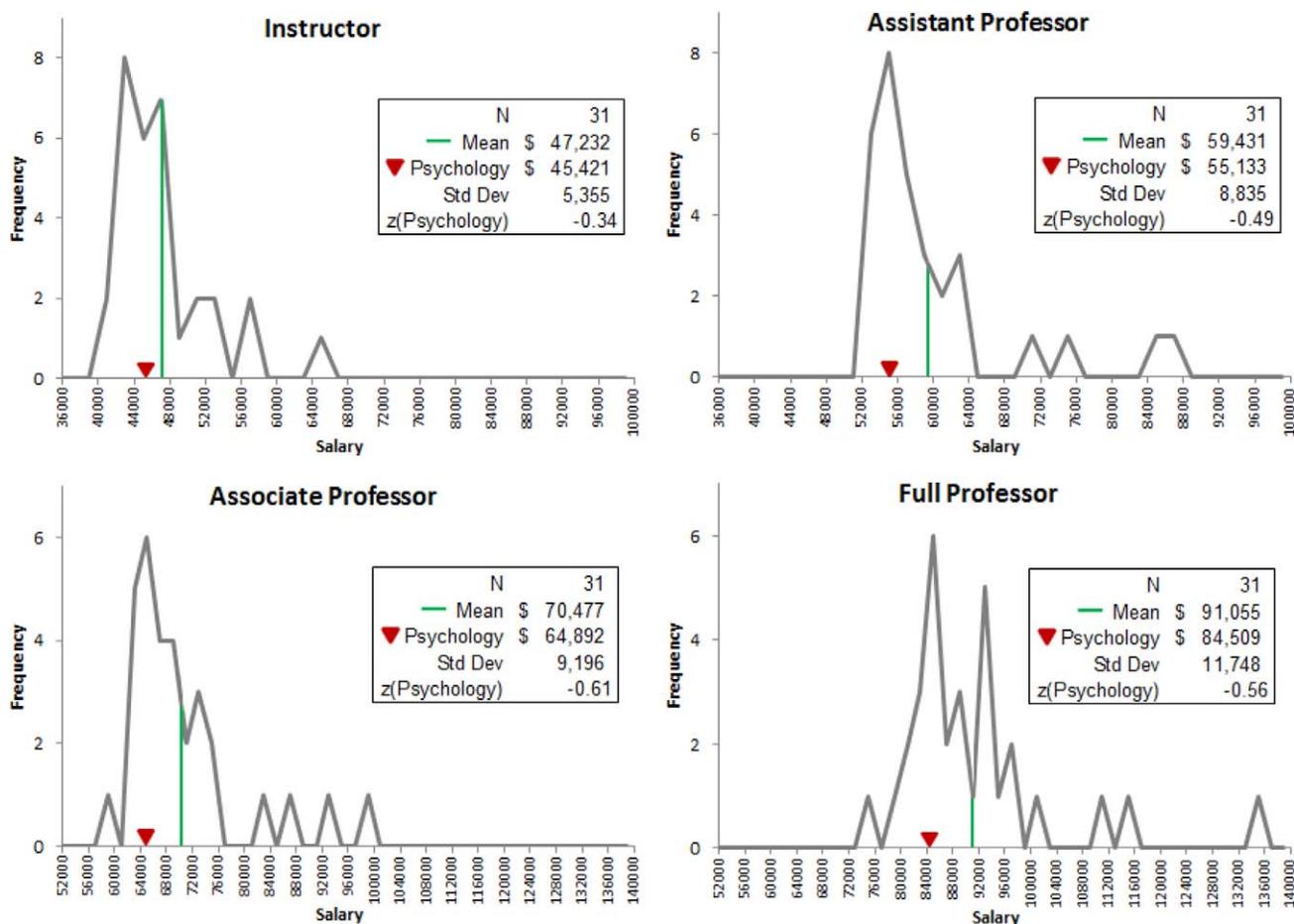


Fig. 2. Frequency distributions of average salaries of instructors and assistant, associate, and full professors from 31 academic fields. Psychology faculty members' positions are indicated by triangles. Adapted from CUPA-HR (2011). Std Dev = standard deviation.

$r(31)$ ranging from .89 to .98, all $ps < .01$. That is, salary levels for any given rank were predictive of levels over fields for every other rank.

Comment

As shown in Figure 2, faculty members in psychology departments are likely to spend their entire careers at low comparative levels of remuneration. Like psychology baccalaureates and master's degree holders employed elsewhere, should some former psychology students find themselves at different stages in a career trajectory defined as instructor, assistant, associate, or full professor, they can also expect to encounter wage deficits in relation to colleagues from other academic fields (CUPA-HR, 2011). For more information on faculty comparative pay levels, see "Average Faculty Salaries by Field and Rank at 4-Year Colleges and Universities" (2008, 2009, 2010).

Discussion

Empirical issues

Liberal arts skills message. Concerning the so-called liberal arts skills message, it is an empirical question whether levels of attainment of those generic proficiencies reliably anticipate

earnings and other outcomes when psychology graduates enter the job market. To date, direct evidence is weak. Papers on various skills measures allude to course grades or self-reported proficiency levels in such generic areas as "communications, computer savvy, creative thinking, and ethics." Perhaps relevant to the current debate, these approximate indexes failed to consistently or strongly correlate with eventual employment factors, including salary, or with estimates of need for a degree, preparedness for a job, or relatedness of a job to one's major (Rajecki & Borden, 2010).

Alternatively to the skills message, this review indicates that much more striking patterns of specific work activities and remuneration are related to peoples' substantive field of undergraduate study. As shown in Figure 1, the median salaries of psychology baccalaureates were below the distribution means at both starting and midcareer points. It is questionable whether these comparatively low wages were due to anyone's deficits in literacy, numeracy, and critical thinking skills (or their disdain for lifelong learning). Rather, Table 1 indicates that those with psychology baccalaureates tend to get specific jobs that simply do not pay top dollar, never mind that the work might involve helping people, a priority for many undergraduate psychology majors (Metzner, Rajecki, & Lauer,

1994). If wages are the proper standard, psychology alumni do not fare particularly well even among kindred liberal arts peers. For example, whether or not former psychology majors were literate and numerate critical thinkers, Table 1 shows that they got neither the jobs nor the pay encountered by economics graduates. Major may not be destiny (as someone said), but a very good way to predict many employment outcomes is to begin not with measured levels or counts of generic skills but simply with the labels of people's choices of undergraduate major field.

Further, apart from sheer wages, something should be said about the quality of jobs encountered by psychology graduates. In the psychology section of Table 1, two of the 10 most popular occupations—social worker and substance abuse counselor—apparently qualify as “stressful jobs that pay badly” (Dickler, 2009). A third job seen in that section of Table 1, administrative assistant, requires only on-the-job training, not a college degree (Rajecki, 2008). Other jobs in the PayScale.com (2010b) full list of popular jobs for psychology majors include some—daycare teacher and home health aide—that pay relatively poorly and do not require higher education. Little wonder that, over first decade of work life, Table 5 shows a discernable movement of social and behavioral sciences graduates away from jobs as service workers and administrative/clerical/legal support workers.

Pie-in-the-sky proposition. As cited in the introduction, Pascarella and Terenzini (1991) were early advocates of what we term the pie-in-the-sky proposition. By the time of their book's second volume, however, these authors seem to have changed their minds:

[A]lthough the net effect of academic major on earnings appears to be most definitive or pronounced in starting salary or early in one's career, the general pattern of economic returns to different majors appears to hold later in one's career. (Pascarella & Terenzini, 2005, p. 507)

This revised view was based in part on the work of an economist, Mark C. Berger. During the 1960s and 1970s, young men ages 14 to 24 years were interviewed, and basing a mathematical model on trends found in data provided by bachelor's degree recipients, Berger predicted such men's wages at the levels of 1, 5, 10, and 15 years of work experience (Berger, 1992). Berger's projected numbers were hypothetical, but his terse conclusion regarding undergraduate specializations was solid:

The differences between the various fields do narrow, but after 15 years of experience the rank ordering of the wages by field is the same as at entry into the labor market. In other words, even after 15 years of experience, liberal arts majors do not catch up to the wages of engineers. (Berger, 1992, p. 155)

To Berger's projected trends in 1992, we can add the real-world findings shown in Figure 1 and Tables 2 and 4. This bigger picture yields the same conclusion: At later points in their careers, liberal arts alumni—including those from

psychology—do not catch up to the wages of alumni from fields such as engineering or computer science, among others. Generally speaking, undergraduate major field is a powerful predictor of career-long salary level. Salary level, in turn, is associated with measures of salary satisfaction, frequency of job shifts, and underemployment (Table 3). The pie-in-the-sky proposition loses credibility in light of these several inter-related findings.

Advanced degrees. To seek a master's degree in psychology seems like a good idea, because such advanced graduates make more money than do their psychology baccalaureate counterparts (Table 6) and are more likely to work in their chosen field (Table 7). Still, a psychology master's degree does not always close the gap, much less confer an advantage, relative to master's degree holders in other fields. Table 6 indicates the positions of the psychology master's degree median salaries for men and women in their respective distributions yielded z scores of -1.57 and -1.31 . In other words, for the psychology master's graduates, the annual median salaries of \$42,000 and \$39,000 were lower than at least 90% of the other dollar amounts in the SEH master's salaries sample. A version of Berger's dictum comes to mind: Psychology master's degree holders do not catch up.

Likewise, Figure 2 show that, among a variety of departments, instructors and assistant professors of psychology earn comparatively low salaries, and so do their associate and full professor counterparts. Surely, we do not believe that professional career patterns are interpretable in precisely the same ways as employment outcomes of bachelor's and master's degree holders. A twist on the Berger dictum may yet apply: Tenured professors of psychology do not catch up.

Conceptual issues

The findings presented here in Cases 1 and 2 and from an earlier analysis (Rajecki & Borden, 2010) do not lend support to the liberal arts generic skills message that such proficiencies are somehow guaranteed to serve bachelor's degree recipients well for their career prospects and trajectories. However, evidence that does not support a hypothesis does not necessarily support its antithesis: that such skills are not helpful. In this section, we consider two alternative hypotheses that might account for the empirical results on hand. First, baccalaureate degree recipients generally do not gain liberal arts skills at levels that make a difference for their career outcomes. Second, liberal arts skills are necessary but not sufficient to ensure satisfying career outcomes.

Liberal arts skills are not being learned. In their recent book, *Academically Adrift: Limited Learning on College Campuses*, Richard Arum and Josipa Roksa (2011) describe the results of a longitudinal study of students enrolled at 4-year colleges and universities. Using the Collegiate Learning Assessment (CLA), an authentic, holistic measure of critical thinking, analytical reasoning, and other liberal arts skills, the authors found discouraging results regarding increases in such learning over students' college careers. The authors cite unsubstantial

academic demands as the main culprit for these small gains, as exemplified by courses that require relatively low levels of reading (fewer than 40 pages per week) and writing (fewer than 20 pages per week) over a semester. Their study also confirms findings typical of national college student surveys, such as the National Survey of Student Engagement and the Higher Education Research Institute Continuing Student Survey, that students carrying a full-time course load (12–17 credit hours) study for about 12 to 14 hr per week. Time spent studying alone (i.e., not with peers) was positively correlated with improvement in CLA performance (Arum & Roksa, 2011). These findings suggest that perhaps many students are simply not picking up the liberal arts skills that would serve them well for career prospects. However, Arum and Roksa also found that students with liberal arts majors experience significantly higher gains compared with students majoring in business, education, social work, and communications.

Liberal arts skills are necessary but not sufficient. But even if liberal arts majors attain these skills-learning outcomes at higher levels than do other types of undergraduates, the relationship between liberal arts skills and career outcomes is likely to be complex. Long-term career trajectories are probably accountable for by a combination of technical skills, the sheer market value of various careers, as well as levels of liberal arts skills. It is certainly the case that careers requiring certain types of technical skills (e.g., engineering, computer science, and health fields), pay far more on average than those requiring other types of skills (e.g., elementary education). For careers requiring advanced (i.e., postbaccalaureate) levels of education and training, this finding extends to other types of specialized skills, such as law, finance, and specific health areas.

In this way of thinking, it is still possible that among students who have attained the requisite technical and specialized skills for these well-paying careers, those with better honed liberal arts skills face more positive career prospects than those who are less proficient. We might conclude, then, that the impact of liberal arts skills on career prospects is conditional upon the more technical and specialized skills related to specific major areas of study. Such a position is consistent with recent data on employers' demands for multiple competencies on the part of modern college graduates, which is seen as "raising the bar":

The majority (59%) of executives think that graduates who want to pursue advancement and long-term career success at their organizations need both a broad range of skills and knowledge that apply to a range of fields and in-depth knowledge and skills that apply to a specific field or position. (Association of American Colleges and Universities, 2010, p. 6)

Taken together, these alternative hypotheses suggest that the career prospects for psychology bachelor's degree recipients depend on the combination of technical and liberal arts skills that they gain through their bachelor's degree and any further education they pursue. However, it is essential to demonstrate that students actually do gain these skills at levels of proficiency that

make a difference in the career marketplace. The lack of credible evidence for such learning gains is a topic of broad concern as all higher education institutions come under increasing scrutiny regarding the value and effectiveness of their programs.

To close, here and there in this review we point to the relative economic disadvantages of a specialization in psychology. Under the circumstances, what should one tell the students? Regarding matters of money, some advisors put things plainly. Referring to the PayScale.com (2010a) wage distributions depicted in Figure 1, Lynn O'Shaughnessy (2010) identified the three "worst-paying" degrees—based on starting salaries—as social work (\$31,800, $z = -1.18$), elementary education (\$31,600, $z = -1.21$), and child and family studies (\$29,500, $z = -1.43$). Her counsel: "If you want to avoid the worst-paying college degrees, think twice before choosing a college major that involves children" (O'Shaughnessy, 2010, p. 1). Were we inclined to adopt O'Shaughnessy's style to serve our current theme, the resulting statement could read: If you want to avoid a comparatively low-paying college degree, think twice before choosing a college major that involves psychology.

On the contrary, some psychology career counselors see wages as merely a proxy for more meaningful measures of the quality of employed life, such as decision autonomy, recognition, and impact on the well-being of others. As one anonymous peer reviewer for this article put it, too much attention to salary at the expense of other information is "a little like the 'drunk and the lamppost' joke. We look where the light is and pretend that is where we dropped the keys. As long as we keep using bad proxies for work satisfaction, like salary, we'll never develop better ones." Still, prospective psychology majors deserve good counseling about financial issues. To mix the metaphor a bit, it is important that advisors do not use employment statistics selectively, as the drunk uses the lamppost, for support rather than illumination.

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The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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