### The 2011 SIOP Graduate Program Benchmarking Survey Part 4: Internships

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Welcome to the fourth installment of the report on the 2011 SIOP Graduate Program Survey. In this issue, we offer norms on assorted features of I-O program internships. As an applied discipline, I-O psychology is clearly invested in the scientist–practitioner model, and many I-O psychology programs, accordingly, see fieldwork experience as an important part of graduate training (Aamodt, 2013). Programs vary considerably, however, in the importance placed on internships, the nature of such experiences, their management, and associated requirements. Based on a survey conducted in 2003, Munson, Phillips, Clark, and Mueller-Hanson (2004) offer detailed descriptions of internships from the organization's perspective (e.g., intern recruitment and selection, duties, supervision, feedback), and Mueller-Hanson and Phillips (2005) provide a follow-up on internships for undergraduate and high school students. Results reported here offer a complementary snapshot of internships from the perspective of I-O graduate programs, in terms of both mainstream practice and variability across programs.

As in previous articles in this series, we sought not only general benchmarks but also comparisons between master's and doctoral degree programs crossed with psychology versus business/management departments. Insufficient data are available for business/management programs on most of the internship variables, precluding norms (minimum N = 3) and comparisons involving those programs. As in the earlier articles, (a) programs outside the U.S. are excluded due to questionable representativeness; (b) online-only programs are excluded from the sub-group comparisons; (c) means, standard deviations, medians, and skewness, min, and max values are reported for continuous variables, whereas frequencies and percentages are offered for nominal variables; and (d) norms are provided separately for three "top-10" lists identified by Gibby, Reeve, Grauer, Mohr, and Zickar (2002; most productive doctoral programs), and by Kraiger and Abalos (2004; top master's and doctoral programs, separately, based on student ratings). Owing to the low *N*s for business/management programs, ANOVAs and multiway frequency analyses are replaced in most cases by independent sample *t*-tests and chi-squares, comparing degree types within psychology departments. We begin with basic internship features; then consider policies and procedures, intern performance, internship site locations, distinctive internship qualities of the three top-10 lists; and conclude with exploratory derivation of internship procedural dimensions and linkages with key applicant variables.

#### **Basic Internship Features**

Table 1 summarizes for the total available sample, as well as by degree and department type, whether internships are available, whether they are required, and at what point in the student's program of study they tend to be engaged. Internships are available in 80% of all (U.S.) programs, significantly more so in psychology departments compared to business/management departments (91% vs. 19%;  $X^2 = 45.8$ , p < .001). Internships are especially uncommon in business/management doctoral programs (0 of 11 responding programs). Given the noted applied focus of I-O psychology, it may be somewhat surprising that internships are required in only 46% of (U.S.) programs. This rate drops to 38%, based on the 119 programs responding to the availability item (i.e., programs in which internships are not available obviously do not require them). The requirement rate is significantly higher for master's versus doctoral programs within psychology departments (58% and 33%, respectively), reflecting a more applied focus at the master's level. We did not ask programs what types of applied experiences are available to students in lieu of internships (e.g., consulting-type projects undertaken in a practicum class). This would be a reasonable pursuit for future study.

Regarding when internships are undertaken, the norm for master's students is at the end of the first year and into the second, whereas, for doctoral students, it is in or beyond the third year. This difference is to be expected, given the respective graduation timelines (typically, 2 vs. 5 years); but it suggests doctoral students may be better

# Table 1 Main Internship Features: Nominal Variables

	Psychology									Business/Management							
	All	l Prograr	ns <sup>a</sup>			Masters	0		Doctoral	b			Masters <sup>t</sup>	b	[	Doctoral	b
Item/variable	Ν	Freq	%	sig. <sup>c</sup>	Ν	Freq	%	Ν	Freq	%	sig. <sup>d</sup>	Ν	Freq	%	Ν	Freq	%
Internship available	119	95	79.8		53	51	96.2	39	33	84.6		5	3	60.0	11	0	.0
Internship required	97	45	46.4		51	30	58.8	33	11	33.3	*	4	1	25.0	0	-	-
Year of study internship generally completed																	
First	85	3	3.5		45	3	6.7	30	0	.0		2	-	_	0	-	-
End of first	85	36	42.4		45	30	66.7	30	3	10.0	**	2	-	-	0	-	-
Second	85	36	42.4		45	28	62.2	30	5	16.7	**	2	-	-	0	-	-
End of second	85	22	25.9	*	45	6	13.3	30	11	36.7	*	2	_	-	0	-	-
Third or beyond	85	32	37.6		45	5	11.1	30	25	83.3	**	2	-	-	0	-	-

<sup>a</sup>Excluding non-US.

<sup>b</sup>Excluding non-US and on-line only.

°Chi square significance test comparing frequencies of programs in which internships are required versus optional; \*p < .05, \*\*p < .01, two-tailed.

<sup>d</sup>Chi square significance test comparing Masters and Doctoral program frequencies within psychology departments; \* $\rho$  < .05, \*\* $\rho$  < .01, two-tailed.

prepared for more advanced internships, as more coursework is likely to have been completed prior to internship. For both degree types, internships within the first year of study are rare (7% of psychology master's programs and 0% of psychology doctoral programs), suggesting that most programs seek to ensure their students have relevant expertise before starting their internships. We did not ask for details here, but obvious aims include protection of students from failure and protection of the program's reputation as an intern source. Interestingly, programs requiring internships are more than twice as likely as programs where internships are optional to have students undertake internships at the end of the second year (37% vs. 16%, respectively).<sup>1</sup> This suggests that programs requiring internships may tend to seek stronger assurances that students are adequately prepared for fieldwork.

Norms for continuous variables describing basic internship features for all available (US) programs combined are presented in Table 2. The mean of 9.4 internship placements per year amounts to 764 in the 81 responding programs collectively. Given the 59.8% survey response rate (see the initial October, 2012 article) and assuming unbiased representation with respect to internship placements, the total number of I-O interns placed each year is estimated to be around 1,278. This offers a useful benchmark for tracking trends in I-O internship placements over time. Not surprisingly, number of internships per year correlates positively with number of yearly graduates (r = .30, p < .01, one-tailed), both variables reflecting program size. Contrary to what might be expected, however, internships per year are not significantly more numerous in programs requiring internships than where they are optional (means = 10.7 vs. 8.2; p = .06, one-tailed). This suggests that students seek internships regardless of whether or not their programs require them, perhaps due to expected competitive value of fieldwork when job hunting.

Considerably fewer programs reported min and max working hours per internship (around 50% and 25%, respectively), suggesting that upper and lower limits are not often specified in hourly terms. Results show notable variability across programs in total working hours for both the min and max values. Two programs reported < 50 hours as a minimum for an entire internship, whereas six reported 600 or more. At the other pole, five programs reported maximum values of 150 hours or less, whereas three reported at least 1,000 hours. Such variability is mirrored in the overall length of internships. Around 11%, on average, last 8 weeks or less; 28% are completed over an entire semester, and around 20% are completed in each of the 9- to 15-week, 9-month, and 1-year intervals. Regarding the overall time commitment for I-O internships, there is no single, well-defined norm.<sup>2</sup>

Respondents were asked to rate the difficulty of arranging internships, using a 1 to 5 scale (see table note). The mean of 2.7 falls just on the "easy" side of the midpoint; 8% of responding programs rated difficulty at 4 or higher, and 34% rated it at 2 or lower. Around 62% of the effort taken to secure internships was attributed to students (versus faculty), on average, although there is considerable variability across programs. Not surprisingly, the most common time of year for internships is summer (mean = 39%), followed by fall (mean = 30%). The low value for winter (mean = 9.5%) may reflect the winter term being recognized in relatively few programs.

<sup>&</sup>lt;sup>1</sup> In psychology master's programs, the comparison is 22% vs. 0% (p < .05, two-tailed), and, in psychology doctoral programs, it is 54.5% vs. 26% (p > .05). <sup>2</sup> Combining categories, 48% of internships, on average, last between 9 weeks and 1 full semester.

Table 2Main Internship Features: Continuous Variables

Item/variable	Ν	Mean	SD	Skew	/	Median	Min	Max
Average number of total placements per year	81	9.43	7.17	2.84	**	9.0	1	50
Range of required working hours								
Min	39	278.59	207.81	2.05	**	225.0	40	1,100
Max	20	472.50	322.67	.94		425.0	100	1,200
Percentage of internships of given duration								
< 5 weeks	81	4.38	17.54	4.83	**	.0	0	100
6 to 8 weeks	81	6.79	17.42	3.04	**	.0	0	80
9 to 15 weeks	81	20.19	33.22	1.49	**	.0	0	100
1 semester	81	28.02	35.27	1.05	**	10.0	0	100
2 semester or 3 quarters	81	19.81	30.95	1.64	**	.0	0	100
Full year	81	20.80	33.24	1.42	**	.0	0	100
Difficulty of arranging internships <sup>a</sup>	91	2.68	.74	23		3.0	1	5
Relative effort spent arranging internshps (%)								
Students (vs. faculty)	87	61.67	28.61	61	*	65.0	0	100
Percentage of internships per time of year								
Fall	76	29.83	26.03	1.43	**	25.0	0	100
Winter	76	9.54	12.17	.75	**	.0	0	40
Spring	76	21.47	19.67	1.84	**	25.0	0	100
Summer	76	39.16	28.52	.59	*	25.0	0	100
Range of pay (\$/hr.)								
Minimum	54	9.96	7.55	.01		12.0	0	30
Maximum	54	28.85	16.81	1.86	**	25.0	0	100
Average	58	18.29	9.07	.20		20.0	0	45

Excluding non-US. \*p < .05, \*\*p < .01, two-tailed

a1 = Very easy, 2 = Somewhat easy, 3 = Some easy, some difficult, 4 = Somewhat difficult, 5 = Very difficult

We asked respondents to indicate minimum, maximum, and approximate mean pay for interns in terms of dollars per hour. About a third of programs completing this section of the survey skipped over these values. The reason for this is unclear. One possibility is lack of certainty on intern pay; another is concern over the loss of confidentiality regarding pay as a potentially competitive metric. Taking observed data at face value, the average low-end of the pay scale (around \$10/hr) is above the 2011 US minimum wage (\$7.25/hr.), the average high end is around four times minimum wage (\$29/hr), and the average midpoint is around \$18/hr. Values vary substantially around those means. Notably, three programs reported \$0/hr at the high end, indicating all internships in those programs are unpaid. At the other extreme, some programs report \$30/hr as the lowest rate, and \$100/hr as the highest. Many factors are likely in play here, including local cost of living, wage norms, and supply/demand involving internship opportunities and the availability of gualified interns.

Breakouts by degree type on the basic continuous variables (within psychology departments) are reported in Table 3. Few variables yield significant differences. A pair of differences is evident on internship durations: the man for one-semester-long placements is about double for master's students compared to doctoral students (35.4% vs. 16.4%), and this pattern reverses for full-year-long placements (14.5% vs. 32.4%). Internship pay is also significantly different at the low end (mean = \$8.10/hr. vs. \$13.65 for master's and doctoral, respectively) and at the midpoint (mean = \$16.97/hr. vs. \$21.59/hr.). Interestingly, mean hourly wages at the upper end are similar (\$29.93 vs. \$28.53). This could reflect a ceiling effect on intern pay, whereby host organizations pay only up to a certain amount

#### Table 3

Main Internship Features: Continuous Variables in Master's and Doctoral Programs in Psychology Departments

	Masters Programs							Doctoral Programs							
Item/Variable	N	Mean	SD	Skew	Median	Min	Max	Ν	Mean	SD	Skew	Median	Min	Max	sig. <sup>b</sup>
Average number of total placements per year	44	10.11	5.51	1.60 **	10.0	2	30	29	8.34	9.36	3.38 **	6.0	1	50	
Range of required working hours															
Min	27	250.74	152.08	1.30 **	200.0	40	600	9	405.56	318.95	1.41 *	300.0	120	1100	#
Max	13	401.54	253.87	.98	400.0	100	1000	5	726.00	422.35	25	600.0	150	1200	#
Percentage of internships of given duration															
< 5 weeks	42	4.76	18.61	4.52 **	.0	0	100	29	4.66	18.90	4.94 **	.0	0	100	
6 to 8 weeks	42	8.21	17.59	2.64 **	.0	0	80	29	6.03	19.38	3.43 **	.0	0	75	
9 to 15 weeks	42	21.55	33.79	1.42 **	.0	0	100	29	12.24	24.99	2.07 **	.0	0	90	
1 semester	42	35.36	38.99	.61	17.5	0	100	29	16.38	23.94	2.16 **	10.0	0	100	*
2 semester or 3 quarters	42	15.60	28.05	2.14 **	.0	0	100	29	28.28	34.78	1.18 **	15.0	0	100	
Full year	42	14.52	27.63	2.04 **	.0	0	90	29	32.41	39.45	.80	10.0	0	100	*
Difficulty of arranging internships <sup>a</sup>	48	2.77	.72	.02	3.0	1	5	33	2.61	.70	40	3.0	1	4	
Relative effort spent arranging internships (%)															
Students (vs. faculty)	46	58.70	26.88	60	60.0	0	100	31	66.94	28.68	76	80.0	10	100	
Percentage of internships per time of year															
Fall	43	29.05	26.43	1.47 **	25.0	0	100	24	31.67	27.69	1.68 **	25.0	0	100	
Winter	43	7.44	10.71	.92 *	.0	0	25	24	11.46	11.84	.18	7.5	0	25	
Spring	43	21.02	14.51	.05	25.0	0	50	24	17.50	16.49	1.67 **	20.0	0	75	
Summer	43	42.49	30.67	.47	34.0	0	100	24	39.38	24.46	.55	25.0	0	90	
Range of pay (\$/hr.)															
Minimum	29	8.10	7.14	.09	10.0	0	20	17	13.65	5.77	-1.60 **	15.0	0	20	*
Maximum	29	29.93	18.81	2.10 **	25.0	0	100	17	28.53	6.79	1.96 **	30.0	20	50	
Average	33	16.97	9.02	.28	18.0	0	45	17	21.59	4.53	1.62 **	20.0	15	35	*

Excluding non-US and on-line only. \*p < .05, \*\*p < .01, two-tailed

<sup>a</sup>1 = Very easy, 2 = Somewhat easy, 3 = Some easy, some difficult, 4 = Somewhat difficult, 5 = Very difficult

<sup>b</sup>Comparing Masters and Doctoral program means within psychology departments using the *t*-test #*p* < .10, \**p* < .05, \*\* *p* < .01, two-tailed.

regardless of intern degree level. In addition, higher variability in pay at the master's level may reflect correspondingly greater variability in master's-level intern work demands. Notably, 19% of master's programs reported \$0 at the low end, compared to just 5% of doctoral programs.

#### **Internship Policies and Procedures**

Table 4 presents norms for all available programs and separately for psychology master's and doctoral programs on various logistical aspects of internship management. For the total sample, we compared programs in which internships are required versus optional, under the general expectation that policies would be more formalized in the former. Students in most programs are informed of internship opportunities as they come up; rarely are they expected to find internships entirely on their own. Also fairly rare is reliance on intern request forms (11.5%) and/or internship applications (12.6%). Students compete for top internships in about half of participating programs. An obvious factor affecting this rate would be the availability of especially desirable internships. Follow-up analysis shows in addition that student competition is more likely where internships must be preapproved by the program (56% vs. 31%; p < .05, one-tailed). How involved such programs are in adjudicating the competition is unclear. The large majority of programs vet internships prior to students taking them on (81.5%), seeking in particular to ensure they entail I-O and/or HR content (83%). About half the responding programs (54%) require onsite supervisors to have relevant expertise. Interestingly, vetting is more prevalent in master's (91%) versus doctoral programs (65%), and a similar difference is evident with respect to requiring onsite supervisor expertise: 71% versus 40% for the two degree levels, respectively. Partially offsetting this latter difference, doctoral programs are more likely to require that onsite supervisors hold a relevant doctorate (37% vs. 11%). It may be that concerns over student readiness are alleviated at the doctoral level by longer preparatory intervals (see Table 1), and concerns over content may be alleviated to some extent by more prevalent requirements that onsite supervisors hold an advanced degree.

#### Table 4

#### Internship Policies and Procedures

							Psyc	hology		-	
		All p	rograms <sup>a</sup>			Masters	b		Doctora	b	
Item/variable	Ν	Freq	%	sig.c	N	Freq	%	Ν	Freq	%	sig.d
How are internships arranged?											
Students informed as opportunities come up	87	81	93.1		45	40	88.9	32	31	96.9	
Available opportunites are catalogued	87	21	24.1	*	45	13	28.9	32	5	15.6	
Internship sites on-going from year-to-year Internship duties set out in letter of	87	46	52.9	*	45	24	53.3	32	18	56.3	
agreement/contract	87	35	40.2		45	21	46.7	32	10	31.3	
Students complete internship application	87	11	12.6		45	7	15.6	32	2	6.3	
Prospective sites complete intern request form	87	10	11.5	*	45	4	8.9	32	3	9.4	
Students compete for top sites Students matched to sites based on	87	43	49.4		45	26	57.8	32	15	46.9	
needs/skills	87	30	34.5	*	45	18	40.0	32	9	28.1	
Credentials required of on-site supervisor											
None	86	32	37.2		45	12	26.7	30	11	36.7	
Demonstrated expertise in HR/IO	86	46	53.5		45	32	71.1	30	12	40.0	**
Masters degree in management/IO	86	15	17.4		45	8	17.8	30	7	23.3	
Doctoral degree in management/IO	86	17	19.8		45	5	11.1	30	11	36.7	**
Restrictions imposed in undertaking internships Must be pre-approved by faculty/program	01	66	01 E		46	40	01.2	26	17	CE A	**
director	01	00	01.5		40	42	91.5	20	17	00.4	
Must entail primarily IO or HR activites	81	67	82.7	**	40	42	91.3	26	20	76.9	
Preliminary coursework required Project data must be made available for	81	50	61.7	**	43	30	69.8	26	14	53.8	
	81	0	.0		40	0	.0	20	0	.0	
Formal contract signed by all parties Stability in arranging internships over the last 5 years	81	24	29.6		46	14	30.4	26	1	26.9	
Used to be easier, now more difficult	88	15	17.0		46	8	17.4	32	5	15.6	
Used to be more difficult, now easier	88	12	13.6		46	7	15.2	32	3	9.4	
No change	88	28	31.8		46	10	21.7	32	14	43.8	*
Somewhat unpredictable from year-to-year	88	33	37.5		46	21	45.7	32	10	31.3	
Highly unpredictable from year-to-year	88	0	.0		46	0	.0	32	0	.0	

excluding non-US.

<sup>b</sup>Excluding non-US and on-line only.

°Chi square significance test comparing frequencies of programs in which internships are required versus optional; \*p < .05, \*\*p < .01, one-tailed.

<sup>a</sup>Chi square significance test comparing Masters and Doctoral program frequencies within psychology departments; \*p < .05, \*\* p < .01, two-tailed.

N responding for business/management Masters and Doctoral programs = 2 and 0, respectively, precluding normative interpretations

No program requires host organizations to make research data available (although some organizations do allow this; Munson et al., 2004). Formal internship contracts signed by both parties are required in around 30% of programs. Contract details (e.g., regarding liability) are worthy targets of further inquiry.

Also reported in Table 4, as an extension of results in Table 3 regarding the difficulty of arranging internships, is a frequency breakout on stability of internship arrangement over time. Results are largely equivocal, with roughly a third of participating programs indicating no change in difficulty, a third reporting either increasing (17%) or decreasing (14%) difficulty, and a third reporting some unpredictability. No program reported high unpredictability from year

to year in securing internships. For no obvious reason, high stability (i.e., no change) is twice as common in doctoral as in master's programs (44% vs. 22%, respectively). The possibility that doctoral-level internships may be more institutionalized at host organizations is countered by the lack of difference between degree levels on whether internships are ongoing from year to year (53% vs. 56%). These results, however, do not speak to the proportion of internships that are secured within programs; it may be that, where programs enjoy secured internships, such internships are more common at the doctoral level. Also factoring in may be the lower number of doctoral-level internships needed per program (see Table 3): Stability is more likely with fewer placements.

#### **Intern Performance**

Norms for intern performance evaluations are offered in Table 5. Formal evaluations are undertaken at 63% of responding programs offering internships, and the rate is higher where internships are required (82%) versus optional (46%). APA requires intern evaluation and feedback for accreditation of clinical psychology programs (APA, 2009; see p. 13). How the rate for I-O programs compares to that in other disciplines (e.g., engineering) is anyone's guess; the proportion might be expected to be higher in I-O, given the relevance of performance appraisal to the I-O bailiwick.

#### Table 5

Internship Performance Evaluations

					Psychology <sup>b</sup>							Business/management <sup>b</sup>					
	All	Program	ns <sup>a</sup>			Master's	5		Doctora	I			Master's	;		Doctora	í
Item/Variable	N	Freq	%	sig. <sup>c</sup>	Ν	Freq	%	Ν	Freq	%	sig. <sup>d</sup>	Ν	Freq	%	Ν	Freq	%
Interns' performance is formally evaluated	92	58	63.0	**	49	38	77.6	31	12	38.7	**	3	1	33.3	0	-	-
Who evaluates?																	
On-site supervisor	55	51	92.7		37	33	89.2	12	12	100.0		2	_	-	0	-	-
Higher-level supervisor	55	3	5.5		37	3	8.1	12	0	.0		2	-	-	0	-	-
Other co-worker	55	3	5.5		37	1	2.7	12	1	8.3		2	-	-	0	-	-
Customer/client	55	0	.0		37	0	.0	12	0	.0		2	_	-	0	-	-
Self	55	20	36.4	*	37	14	37.8	12	6	50.0		2	_	-	0	-	-
Faculty member	55	11	20.0		37	8	21.6	12	1	8.3		2	_	-	0	-	-
How often per internship?																	
Once	54	37	68.5		36	26	72.2	12	7	58.3		2	_	_	0	-	-
Twice	54	14	25.9		36	9	25.0	12	4	33.3		2	_	_	0	-	-
More than twice	54	3	5.6		36	1	2.8	12	1	8.3		2	_	_	0	-	-
How many performance dimensions?				*													
1 (overall)	50	4	8.0		33	2	6.1	11	2	18.2		2	_	_	0	_	-
2 to 5	50	11	22.0		33	9	27.3	11	1	9.1		2	_	_	0	-	-
6 to 10	50	11	22.0		33	7	21.2	11	2	18.2		2	_	_	0	_	-
11 to 20	50	13	26.0		33	7	21.2	11	4	36.4		2	_	_	0	-	-
> 20	50	1	2.0		33	1	3.0	11	0	.0		2	_	_	0	_	-
Varies from internship to internship	50	10	20.0		33	7	21.2	11	2	18.2		2	_	_	0	-	-
How long to evaluate (per intern)?				#													
< 1 minute	49	1	2.0		34	1	2.9	10	0	.0		2	_	_	0	_	_
2 to 5 minutes	49	9	18.4		34	6	17.6	10	3	30.0		2	_	_	0	_	-
6 to 10 minutes	49	13	26.5		34	9	26.5	10	1	10.0		2	_	_	0	_	_
11 to 20 minutes	49	14	28.6		34	10	29.4	10	3	30.0		2	_	_	0	_	_
> 20 minutes	49	12	24.5		34	8	23.5	10	3	30.0		2	_	_	0	_	_
How are performance data used?																	
Grading (e.g., pass/fail)	53	38	71.7		37	26	70.3	11	7	63.6		2	_	_	0	_	_
Offering feedback to the intern	53	50	94.3		37	35	94.6	11	10	90.9		2	_	_	0	_	_
Validation research	53	7	13.2	*	37	5	13.5	11	2	18.2		2	-	-	0	-	-

<sup>a</sup>Excluding non-US.

<sup>b</sup>Excluding non-US and on-line only.

<sup>c</sup>Chi square significance test comparing frequencies of programs in which internships are required versus optional; #p < .10, \*p < .05, \*\*p < .01, two-tailed.

<sup>d</sup>Chi square significance test comparing Masters and Doctoral program frequencies within psychology departments; \*p < .05, \*\* p < .01, two-tailed.

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#### Table 6

Internship Performance Failures and Problems

Sample/variable	Ν	Mean	SD	Skew		Median	Min	Max	sig.c
All Programs <sup>a</sup>									
Percentage of failed internships each year Percentage of interns with problems in given area	80	.44	1.50	4.52	**	.0	0	10	
Technical competence	70	1.67	4.69	3.71	**	.0	0	25	
Interpersonal interactions	72	2.81	3.66	1.01	**	.5	0	10	
Professionalism	71	1.85	3.10	1.66	**	.0	0	10	
Psychology maste'rs programs <sup>b</sup> Percentage of failed internships each year Percentage of interns with problems in given area	43	.63	1.88	3.76	**	.0	0	10	
l echnical competence	38	.87	2.17	2.86	**	.0	0	10	
Interpersonal interactions	39	2.31	3.13	1.20	**	.0	0	10	
Professionalism	39	1.79	3.06	1.68	**	.0	0	10	
Psychology doctoral programs <sup>b</sup> Percentage of failed internships each year Percentage of interns with problems in given area	27	.26	.98	4.66	**	.0	0	5	
Technical competence	24	2.50	6.43	2.95	**	.0	0	25	
Interpersonal interactions	24	3.46	4.26	.72		.5	0	10	
Professionalism	24	1.75	3.07	1.88	**	.0	0	10	

\*p < .05, \*\*p < .01, two-tailed

<sup>a</sup>Excluding non-US.

<sup>b</sup>Excluding non-US and on-line only.

cComparing master's and doctoral program means within psychology departments using the t-test (no sig. differences obtained)

Interestingly, the proportion is double in (psychology) master's programs (78%) over doctoral programs (39%). Perhaps intern performance at the doctoral level is of lesser concern owing to the noted lengthier preparation and higher selection standards. No other differences between degree types are evident on the performance appraisal variables.

Not surprisingly, onsite supervisors are the primary evaluators (93%). Roughly one in three programs seeks selfratings and one in five seeks evaluations from faculty members. Self-ratings are more common in programs requiring internship (47% vs. 19% where optional). The norm for number of evaluations per internship is one (68.5%), although 26% of programs collect two rounds. Few programs (8%) rely solely on a single overall rating and only one (2%) reported using more than 20 dimensions. The number of dimensions within this range varies considerably. One in five programs uses a different number across internships, perhaps reflecting reliance on organizationspecific appraisals. Programs requiring internships are more likely to use 11 to 20 dimensions (36% vs. 6% where optional) and less likely to use varied numbers of dimensions (9% vs. 41%). Corresponding to the variability in the number of dimensions used, the time needed to complete evaluations also varies considerably: The modal norm is 11 to 20 minutes, but shorter and longer intervals are also common. Programs requiring internships are more likely to use evaluations taking >20 minutes (33% vs. 6% where optional) and less likely to use evaluations taking 6 to 10 minutes (15% vs. 50%). The large majority (94%) of programs use evaluations for student feedback and, to a lesser extent (72%), for grading. Use of performance data for validation research is relatively rare (13%), although the rate is understandably higher where internships are required (21% vs. 0% where optional).

Further performance-related norms are offered in Table 6. A very small percentage of students (.4%) are reported to fail their internships, on average, although the failure rate reaches as high as 10%. Correspondingly, problems in specific skill domains are also relatively rare, means ranging from 1.7% (technical competence) to 2.8% (interpersonal interactions). Rates are not significantly different across degree types, although technical problems are slightly more common where internships are required (mean = 2.7%) versus optional (mean = .4%; t = 2.27, p

< .05, two-tailed). Taken at face value, the low rates of internship failure and problems suggest that the large majority of interns are adequately prepared to meet their internship demands and that prospective internship opportunities are adequately vetted. It is also possible that programs may underreport failures and problems for fear of the loss of confidentiality on potentially evaluative program features.

#### **Internship Locations**

Table 7 shows mean percentages of internship sites by degree type, employment sector, and geographical location. Results from the corresponding 2 x 4 x 4 repeated-measures ANOVA (with degree type as a between-subjects factor) are reported in Table 8. Significant main effects are evident for both sector and geographical location.<sup>3</sup> Private sector businesses are the most common internship sites (53%), followed by consulting firms (16%) and government offices (10%). Working in I-O program units (e.g., in-house consulting-type operations) is rare (2%), no doubt as a function of whether the host program maintains such a unit. Geographically, local sites are most common (for obvious reasons; 52%), national sites are second-most common (24%), followed by regional (16%), and international placements (8%). Why national sites outnumber regional, despite their increased distance, is unclear. It may be that regional opportunities are rarer. In addition, regional sites may be far enough away to render them practically equivalent to national sites (e.g., having to commute to a regional site 2 hours each way makes a move to a more distant national site less undesirable). Combining the two main effects makes local private-sector businesses the modal internship location for both master's and doctoral students (36% and 22%, respectively). Patterns for the two degree types are largely parallel. A significant degree-by-sector interaction, however, shows that master's students tend to work more in private-sector firms (58% vs. 39%) and doctoral students in consulting firms (35% vs. 21%), possibly reflecting higher demands for research skills in consulting work

#### Table 7

Mean Percentages of Internship Sites by Degree Type, Employment Sector, and Geographical Location

	Geographical Location						
Employment sector/program type	Local	Regional	National	International	Sector sums		
Private sector business							
Alla	32.5	8.2	7.5	4.5	52.8		
Psychology master's programs	35.9	10.2	7.4	4.8	58.3		
Psychology doctoral programs	21.8	6.8	6.2	4.4	39.2		
Government							
Alla	7.7	2.6	7.2	.1	17.6		
Psychology master's programs	8.0	2.9	6.2	.0	17.1		
Psychology doctoral programs	6.4	1.8	9.3	.4	17.9		
Consulting firm							
Alla	9.5	4.3	8.2	3.0	25.0		
Psychology master's programs	7.9	2.8	7.8	2.6	21.1		
Psychology doctoral programs	12.4	8.2	10.2	4.2	35.0		
I-O program unit							
Alla	2.4	.7	1.4	.1	4.6		
Psychology master's programs	2.7	.7	.0	.1	3.5		
Psychology doctoral programs	2.8	.8	4.2	.1	7.9		
Site location sums							
	50.4	45.0	04.4	7 7	100.0		
Alle Devekele <i>sv mesterle prese</i> rene	52.1	15.0	24.4	1.1	100.0		
Psychology master's programs	54.0 42.4	10.7	21.3	7.4	100.0		
Psychology doctoral programs	43.4	17.6	29.9	9.1	100.0		

aIncludes Business/Management programs; (NAII = 74a, NPsych MA = 41, NPsych PhD = 25)

<sup>3</sup> The main effect for degree type is moot because percentages per degree were set in the survey to sum to 100 across the 16 cells, assuring equivalent means for both degree types.

#### Partial Effect df F $\eta^2$ Sector 3 32.69\*\* .34 Geography 3 20.35\*\* .24 Sector x Geography 9 9.06\*\* .12 Degree x Sector 3 4.76\*\* .07 Degree x Geography 3 1.12 .02 Degree x Sector x Geography 9 1.08 .02

# Table 8ANOVA Results for Internship Locations

\*\*p < .01

#### "Top-10" Programs

As described in the previous articles in this series, the three "top-10" sets of I-O programs are incomplete as not all programs in each list responded to the survey. Gibby et al.'s list overlaps with Kraiger and Abalos' (K&A's) list for doctoral programs, so norms for these two sets are not independent. Several programs from the K&A master's list are in departments other than psychology and were dropped to allow cleaner comparisons to norms for psychology-based programs, the most prevalent in that list. For each of the three top-10 lists, comparisons with peer programs on the various internship features yielded few significant differences, summarized below.<sup>4</sup>

Of the seven Gibby et al. top-10 programs responding to this part of the survey, all make internships available to students, but none requires an internship. The latter compares to 42% of peer programs. When internships are engaged at the Gibby et al. programs, they occur only at or beyond the third year of study; this is also the mode for peer programs (79%), but substantially more of the latter (54%) allow students to start internships sooner, including 12.5% at the end of the first year. The Gibby et al. programs have fewer students engaged in year-long internships (11% vs. 39% for peer programs), and report fewer problems in technical competence (mean = 0% vs. 3.2%; p < .10, two-tailed) and professionalism (mean = 0% vs. 2.2%; p < .05, two-tailed). The Gibby et al. programs are significantly distinguished on no other internship variables, including number of placements per year, difficulty in arranging internships, pay, and policies and procedures.

The K&A top-10 doctoral programs are significantly distinguished on just three variables. Specifically, fewer students in those programs engage in internships 9 to 15 weeks in duration (mean = 0% vs. 14% for peer programs), average pay is higher (mean = \$28.33 vs. \$20.14 for peer programs), and problems in technical competence are less common (mean = 1.3% vs. 1.9%). Notably, the rate of statistically significant effects approaches chance expectations (3 of 52 tests = .058). In addition, perhaps with the exception of average pay, the noted differences are relatively trivial in practical terms.

A few more significant differences emerge with the K&A master's list. Of the seven programs on this list reporting data, two (29%) require prospective host sites to complete an intern request form, compared to 2 of 38 (5%) of peer programs; only one K&A master's program (14%) requires students to have completed preliminary coursework prior to internship, compared to 74% of peer programs; just three K&A master's programs (43%) use performance data for grading, compared to 77% of peer programs; and semester-long internships are less common in K&A master's programs than in peer programs (mean = 7.5% vs. 40%). The rate of significant effects slightly exceeds chance (4/65 = .062). Looking at all the effects involving the three top-10 lists, few clear patterns emerge with respect to internships. That the Gibby et al. top-10 programs do not require internship is consistent with an emphasis on research in those programs; landing an academic job on graduation is better served by publication counts than by fieldwork experiences. When students in those programs do go on internship, however, it is only after 2 full years of coursework, which may contribute to the reported absence of problems in technical and professional competence (beyond effects due to higher selection standards). With respect to the two K&A lists, the only discernable pattern is that the top-10 master's programs appear more flexible and less formal in managing internships. Specifically,

<sup>&</sup>lt;sup>4</sup> For both the Gibby et al. and K&A doctoral lists, too few programs responded to the performance evaluation section to permit statistical comparisons on the associated 13 variables.

those programs reported less reliance on intern request forms, performance evaluation for grading, having students complete preparatory coursework, and semester-long internships. Because the K&A lists are based on student ratings, results tentatively suggest that master's students may especially appreciate program flexibility and informality, at least when it comes to internships.

#### Table 9

Results of Principal Components Analysis of Policy and Procedure Variables (N – 75)								
		Compon	ent					
Component label/input variable	I	II	III	IV	h²			
Paperwork								
Formal contract	.74	.09	17	.14				
Intern request form	.73	.01	.07	22				
Internship application	.67	.02	.24	07				
Letter of agreement	.63	.06	.05	.09				
Concern for intern performance								
On-site expertise in HR/I-O	14	.68	.15	.18				
Students compete for top sites	.05	.65	.09	.01				
Preliminary coursework required	.25	.53	.14	13				
Performance evaluated	.46	.50	01	15				
Cultivated continuity								
Internship pre-approval	.08	.51	67	09				
Internship sites on-going	06	.39	.66	.11				
Primarily I-O or HR activities	.29	.17	.54	.15				
Opportunites catalogued	.07	.17	.53	28				
On-site degree credentials								
Masters in management/I-O	10	.14	.03	.82				
Doctorate in management/I-O	.07	12	.02	.79				
Figenvalues	2.78	1.79	1.46	1.38				

### Results of Principal Components Analysis of Policy and Procedure Variables (N = 75)

#### Internship Formality Composites

% variance explained

Some of the variables in this section of the survey permit reduction to a more manageable set (within limits imposed by modest *N*s). We targeted reduction in policies and procedures (see Table 4), in particular, as those variables are among the most conceptually aligned. An overall formality index was created by summing endorsements (i.e., 1s vs. 0s) to 13 of the policy and procedural items,<sup>5</sup> yielding alpha = .60, mean = 5.26, *s* = 2.78, and range = 0 to 11. The 13 items were also subjected to principal components analysis (PCA; listwise *N* = 75, subject-to-variable ratio = 5.8:1), yielding four orthogonal factors that account for 53% of the variance. Loadings, communalities (*h*<sup>2</sup>), and eigenvalues are presented in Table 9. Component I is pretty clearly a bureaucracy dimension, which we label "Paperwork." Component II suggests concern for intern performance and is labeled accordingly. Component III is a little more nuanced, but the two strongest loadings suggest availability of renewable, solid I-O/HR internships, which lessens the need for yearly vetting. We label this component "Cultivated Continuity." The last factor captures the specific requirements that onsite supervisors hold a relevant academic degree, warranting the label, "Onsite Degree Credentials."

19.82

12.75

10.43

9.87

Correlating the overall formality index and four components with assorted remaining internship variables yielded results reported in Table 10. Consistent with earlier discussion, programs that require internships tend to treat them more formally (r = .24; p < .05, two-tailed). The component correlations clarify that this holds especially with respect

.60 .59 .50 .41

.53 .44 .38 .48

.72 .60 .42 .39

.**70** .64 7.41

52.86

<sup>&</sup>lt;sup>5</sup> Other items (e.g., "students are informed of internship opportunities") were dropped so as to increase alpha. Surviving items are listed in Table 9, per PCA results (see below).

to concern for intern performance (r = .32; p < .01, two-tailed). A similar pattern emerges for degree type: Internships tend to be more formalized in master's programs than in doctoral programs (r = -.24; p < .05, two-tailed) but especially regarding intern performance (r = -.31; p < .01, two-tailed). Doctoral programs, as might be expected, emphasize on-site degree requirements more so than do master's programs (r = .23; p < .05, one-tailed). Interestingly, average pay correlates with both Cultivated Continuity and Onsite Degree Credentials (r = .33 and .34, respectively; p < .05, two-tailed). The causal connections are uncertain, but higher paying internships may be especially desirable to maintain from year to year, not only because of pay per se, but (possibly) more so because of associated greater rigor in work demands, offering especially advantageous learning opportunities. Consistent with the continuity aspect of Component III, programs scoring higher on this factor reported less difficulty in arranging internships (r = -.27; p < .05, two-tailed).

#### Table 10

Correlations Between Policies and Procedures Components and Selected Other Variables

				Policies & procedures component					
		Overall		Paper-	Concern	Cult.	On-site		
Internship required	93	24 *	75	05	32 **	12	- 17		
MA (1) vs. PhD (2)	93	25 *	75	09	31 **	.13	.23 #		
Average pav	58	.11	51	07	.17	.33 *	.34 *		
Difficulty to arrange	91	14	75	18	.03	27 *	.07		
N internships per year	81	.26 *	70	.24 *	.02	.00	03		
Internship duration									
< 5 weeks	81	13	68	.15	20	22 #	.08		
6 to 8 weeks	81	29 **	68	18	14	.16	20		
9 to 15 weeks	81	.06	68	27 *	.17	06	18		
1 semester	81	.26 *	68	.22 #	.23 #	.07	15		
2 semester or 3 quarters	81	.00	68	.20 #	17	04	.21 #		
Full year	81	12	68	13	13	.06	.20		
Student (vs. faculty) effort	87	.07	75	.22 #	.08	.22 #	10		
% failure	80	.16	73	.06	.13	.03	06		
% technical problems	70	.16	63	.16	05	.08	.07		
% interpersonal problems	72	.12	65	.01	14	.16	07		
% professionalism problems	71	.11	64	.21 #	07	10	20		
K&A Doctoral	33	.03	23	.01	.32	05	20		
K&A Masters	49	10	43	.06	14	17	.03		

#p < .10. \*p < .05, \*\*p < .01, two-tailed

<sup>a</sup>Ns are reduced from values at left due to listewise deletion in deriving principal components.

Moving down the table, programs with more formal approaches to internship (overall) tend to have more students on semester-long placements (r = .26; p < .05, two-tailed) and fewer on shorter placements, reflecting stronger adherence to traditional academic timelines. The paperwork and performance-focused aspects of internship formality (r = .22 and .23, respectively; p < .10, two-tailed) appear to be the primary drivers of the main relationship. Programs with more paperwork appear to expect students to complete that paperwork (r = .22, p < .10. two-tailed). Greater student involvement is also associated with Cultivated Continuity (r = .22; p < .10, two-tailed), suggesting that established internships still require active student pursuit.

Notable correlations involving the three top-10 lists are few. Perhaps not surprisingly, the Gibby et al. programs, identified by high research productivity, seek more strongly than peer programs to ensure that onsite supervisors have relevant academic degrees (r = .36; p < .05, one-tailed).

#### Internship Availability and Requirement in Relation to Program Attractiveness

In an effort to gauge how much applicants may be influenced by whether internships are available and whether, if available, they are required, we correlated these two dichotomous variables (as predictors) with both July 2013 Volume 51 Issue 1 average number of applicants per year and average percentage of accepted applicants choosing to attend (as outcomes). We also correlated the two applicant variables with the overall formality index and the four formality components. <sup>6</sup>

#### Table 11

Correlations Between Selected Internship Variables and Number of Applicants per Year and Percentage of Accepted Applicants

	Int'ship		Int'sh	nip	Overall		Pape	r-	Concern	Cultivated		On-site
Program/criterion	availa	available		ed	Forma	lity	work	K	for Perf.	Continuity		Cred.
All psychology programs (Ns = 63-90)												
N of applicants / yr	.03		32	**	.11		01		.09	.18		.15
% of accepted enrolled	22	*	.18	#	.09		.20		.06	.05		.25 *
Psychology master's programs (Ns = 40-5	51)											
N of applicants / yr	.19		27	#	.31	*	.11		.18	.12		.16
% of accepted enrolled	26	#	.08		.06		.12		11	.11		.25
Psychology doctoral programs (Ns = 23-3	9)											
N of applicants / yr	.04 04		39	*	18		42	*	13	.39	#	.16
% of accepted enrolled	23		.30	#	.10		.32		.19	01		.31

Results, shown in Table 11, suggest that whether or not internships are available is not significantly related to number of applications per year for all psychology programs combined and per degree type. It is, however, negatively related to the percentage of accepted applicants choosing to attend. Requiring an internship, on the other hand, is negatively related to number of applicants but, at least in doctoral programs, positively related to percentage of acceptees choosing to attend. These findings suggest that requiring an internship may be perceived negatively by prospective applicants regardless of fit but that it increases the program's attractiveness to applicants the program judges to be a good fit. A possible upshot here is that requiring internships may serve to filter out low-fit applicants, reducing the burden of application review.

Correlations involving the formality variables suggest that master's applicants may be attracted by overall formality whereas doctoral applicants may be attracted by ongoing internship opportunities (as per Cultivated Continuity) and avoidant of bureaucratic practices (as per Paperwork). Requiring that onsite internship supervisors have an advanced degree may be attractive to good-fit psychology program applicants generally.

#### **General Discussion**

The applied side of I-O psychology is no better realized during graduate training than in internships. The most dominant theme to emerge from the internship portion of the survey is that internships are highly variable across I-O programs. This appears in almost every respect, including whether or not internships are available (20% of programs said no), whether they are required (<50% of programs making internships available make them a requirement), when internships are engaged, how long they are, whether formal contracts are used, whether students need to complete preliminary coursework, whether on-site supervisors must have certain credentials, whether intern performance is formally evaluated, whether self-ratings are used, the number of performance dimensions assessed, how appraisals are used, intern pay, the difficulty of arranging internships, and even the stability of internship arrangements from year to year.

Some of the variance is accounted for by degree type: Master's students tend to engage internships in their second year and doctoral students, in their third year or beyond; master's programs seek more often to preapprove internships; doctoral programs more often require onsite supervisors to hold a PhD in a relevant area and to have internships that tend to be longer, better paid, and situated more often in consulting firms and less often in private-

<sup>&</sup>lt;sup>6</sup> Not available = 0, available = 1; not required = 0, required = 1. Also, controlling for program size, as per *N* of graduates/year, had negligible impact. Results are available on request.

sector businesses. Offering a parsimonious reduction in the number of comparative dimensions, the four internship formality factors (e.g., Paperwork, Concern for Intern Performance, etc.), derived from exploratory analysis, clarify the nature of program differences but those differences remain substantial: I-O psychology programs are highly variable in internship management practices, even within degree types (in psychology departments) and when that variability is meaningfully packaged.

Such variability across programs raises questions as to whether I-O psychology as a field might benefit from increased standardization of internship management practices and requirements. The proportion of programs requiring internships overall is a fairly modest 38%. It is interesting that students tend to engage internships even when they are not required to: Students appear to value fieldwork experience for its own sake. It is also interesting that requiring an internship may enhance a program's attractiveness to especially desirable applicants. Relations involving the top-10 lists offer limited support for program quality being linked to internship features. Master's programs report a higher rate of internship requirement, reflecting their more practitioner-focused identity. Detailed review of whether doctoral-level training might be enhanced by requiring internships is beyond the scope of this descriptive effort. There is certainly something to be said for program autonomy in how internships are managed; one-size-fits-all is very unlikely to be broadly accepted with respect to any aspect of graduate training, perhaps especially so with respect to internships in light of the noted variability. Current results offer grounds for reasoned discussion of this and related matters.

Looking ahead, we turn our attention next to comprehensive exams in I-O graduate programs, their content, administration, and grading, and, as usual, to how such features vary between degree and department types. Until then, we hope results presented here help programs see how their approach to internships compares to that of peer programs and consider how they might modify their internship practices to better meet their students' needs. We further hope our findings stimulate productive discussion of internship management practices relevant to graduate training in I-O more broadly.

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