

**Association of State and Provincial Psychology Boards
Examination for Professional Practice in Psychology (EPPP)**
2015–2016 Annual Technical Report
Exam Dates: August 15, 2015–August 7, 2016

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Pearson VUE
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Scope of Work

The Examination for Professional Practice in Psychology (EPPP) is offered by the Association of State and Provincial Psychology Boards (ASPPB). The EPPP is designed to assist state and provincial boards of psychology in determining licensure and certification of candidates. This report includes the development, administration, and scoring of the EPPP for the August 15, 2015–August 7, 2016 administrations.

Executive Summary

A total of 6,117 candidates took the EPPP examination between August 15, 2015 and August 7, 2016. The overall pass rate for first-time candidates was 74.0%, whereas the pass rate for repeat test takers was 39.4%. Moreover, a higher reported academic degree generally related to a higher pass rate.

Timing analysis provides little indication that the exams were *speeded*. That is, candidates did not appear rushed to complete the exam items in the allotted time. Out of the 6,117 total candidates, 73 (1.2%) were not administered all test questions within the allotted time.

The coefficient alpha estimate of reliability for the EPPP forms was acceptable at 0.936 for Form 7168030, 0.921 for Form 7168040, 0.918 for Form 7168050, 0.920 for Form 7168060, and 0.925 for Form 7168070.

Background

Pearson VUE began administering the EPPP exams for ASPPB in February 2015 via computer-based testing. Four EPPP operational test forms (7168030, 7168040, 7168050, and 7168060) were administered continuously between August 2015 and January 2016, and four EPPP operational test forms (7168040, 7168050, 7068060, and 7168070) were administered continuously between February 2016 and August 2016. Each form contains 175 operational items plus one of one to four form-specific blocks of 50 pretest items¹. The pretest blocks associated with any given form differ from the pretest blocks associated with any other form. Moreover, pretest blocks in August 2015–January 2016 across all forms differ from the pretest blocks in February 2016–August 2016. Test specifications can be found in Appendix A.

Because all data in this report are based solely on operational items, each set of test forms sharing the same operational items is treated as one combined form in the report tables.

ASPPB also provides multiple translated exam forms—two each in Spanish and French—that are offered for candidates seeking licensure in Puerto Rico (for the Spanish forms) or Canada (for the French forms). Candidates who take the translated forms are excluded from

¹ Form 7168030 had all four pretest blocks administered between August 2015 and January 2016. Form 7168040 had two unique pretest blocks administered between August 2015 and January 2016, and two different pretest blocks administered between February 2016 and August 2016. Form 7168050 had two pretest blocks administered between August 2015 and January 2016, and one different pretest block administered between February 2016 and August 2016. Form 7168060 had one pretest block administered between August 2015 and January 2016, and one different pretest block administered between February 2016 and August 2016. Form 7168070 had one pretest block administered between February 2016 and August 2016.

any subsequent analyses. Pearson VUE will continue to monitor the volume and pass rates of the translated forms for any abnormalities.

Candidate Performance

Candidate Volume and Pass Rates

A total of 6,117 candidates took the EPPP examination from August 15, 2015 to August 7, 2016. Of those candidates, 4,755 (77.7%) were first-time test takers.

Tables 1 and 2 show the pass rates for first-time and repeat candidates broken down by highest degree obtained. Note that Form 7168030 was only offered until January 31, 2016, and Form 7168070 was only offered starting on February 1, 2016.

Table 1. Candidate Volume and Pass Rates: First-Time Candidates

Status	Exam form										Total	
	7168030		7168040		7168050		7168060		7168070			
	N	Pass rate	N	Pass rate	N	Pass rate	N	Pass rate	N	Pass rate	N	Pass rate
Doctoral	480	67.7	1,069	74.9	1,081	74.7	1,143	78.0	620	74.5	4,393	74.8
PhD	247	73.7	528	81.8	546	82.6	572	83.2	302	84.1	2,195	81.8
PsyD	230	62.2	538	68.6	532	66.5	567	73.0	316	65.2	2,183	68.1
EdD	3	0.0	3	0.0	3	66.7	4	50.0	2	100.0	15	40.0
Masters	42	71.4	86	62.8	80	63.7	74	66.2	54	57.4	336	64.0
Unknown	2	50.0	12	66.7	7	57.1	1	100.0	4	75.0	26	65.4
Total	524	67.9	1,167	74.0	1,168	73.8	1,218	77.3	678	73.2	4,755	74.0

Table 2. Candidate Volume and Pass Rates: Repeat Candidates

Status	Exam Form										Total	
	7168030		7168040		7168050		7168060		7168070			
	N	Pass rate	N	Pass rate	N	Pass rate	N	Pass rate	N	Pass rate	N	Pass rate
Doctoral	89	38.2	286	48.6	318	35.5	317	46.1	216	25.9	1,226	39.8
PhD	26	46.2	90	51.1	111	38.7	106	45.3	79	35.4	412	43.0
PsyD	61	36.1	193	47.2	202	34.7	208	47.1	135	20.7	799	38.7
EdD	2	0.0	3	66.7	5	0.0	3	0.0	2	0.0	15	13.3
Masters	6	33.3	28	42.9	27	18.5	41	43.9	25	36.0	127	36.2
Unknown	0	—	1	0.0	3	66.7	3	33.3	2	0.0	9	33.3
Total	95	37.9	315	47.9	348	34.5	361	45.7	243	26.7	1,362	39.4

Candidate volume, broken down by jurisdiction, can be found in Appendix B. Candidates who took the translated exam forms are also included in Appendix B.

Speededness Analysis

There is little indication that any form was speeded. That is, candidates did not appear rushed to complete the exam. Out of 6,117 total candidates, 73 (1.2%) were not administered all test questions within the allotted time.

Examination Results

All statistics presented in this section are based solely on first-time candidates.

Measurement Model

Item response theory (IRT) is a general theoretical framework associated with several mathematical models that assumes test responses are based on the interaction between the attributes of candidates as well as test items. The advantage of using IRT models in scaling is that all of the items measuring performance in one latent construct can be placed on the same scale of difficulty. Placing items on the same scale across years facilitates the creation of equivalent forms each year.

A Rasch IRT model was used for item calibration using Winsteps® (Version 3.92.1; Linacre, 2016). Under the Rasch model, the probability of a candidate answering an item correctly is a function only of the item's difficulty and the candidate's ability. Mathematically, the probability of candidate i correctly answering item j can be defined as

$$P_{ij} = \frac{\exp(\theta_i - b_j)}{1 + \exp(\theta_i - b_j)} \quad (1)$$

where

θ_i represents the ability of person i , and

b_j indicates the difficulty of item j .

One can regard θ and b as depicting the general case, where individual candidate abilities and item difficulties are a subset. In the case of Equation 1, both θ and b are expressed on the same metric ranging over the real number line, with greater values representing either greater ability or greater item difficulty. Note that as ability increases for any given item (i.e., θ_i increases for any fixed b_j), $\exp(\theta_i - b_j)$ increases, which implies that P_{ij} increases. Therefore, increased ability corresponds to a concomitant increase in the model-predicted probability of answering any item correctly.

Equating and Scaling

Equating was accomplished using the operational items' predetermined measures from the calibrated item bank (common item equating).

The EPPP is scaled so that all candidates receive a score in the range of 200 to 800, with a scaled cut score of 500. The current scaling tables were provided by the previous vendor. In the future, scaling will be achieved by applying a linear transformation to the logit abilities obtained during equating. The linear transformation will take the generalized form of scaled score = $A \cdot \theta + B$ (truncated to the next lowest integer).

Jurisdictions can report scaled scores in a different metric than those recommended by ASPPB. For instance, New York provides scaled scores converted to a range of 51 to 99, with a scaled cut score of 75. All statistics and graphs presented in this section use the standard scaled score rather than any converted scaled score.

Test Scores

Table 3 contains scaled-score distributions for each operational form, broken down by highest degree obtained.

Table 3. Scaled-Score Summary Statistics by Degree

Exam form	Status	<i>N</i>	<i>Min</i>	<i>Mdn</i>	<i>M</i>	<i>Max</i>
7168030	Doctoral	480	200.0	555.0	539.3	763.0
	PhD	247	260.0	579.0	559.0	749.0
	PsyD	230	200.0	541.0	520.9	763.0
	EdD	3	246.0	319.0	322.3	402.0
	Masters	42	246.0	554.5	533.3	688.0
	Unknown	2	363.0	435.0	435.0	507.0
	All	524	200.0	555.0	538.4	763.0
7168040	Doctoral	1,069	200.0	567.0	551.0	770.0
	PhD	528	200.0	587.0	571.2	737.0
	PsyD	538	200.0	543.0	532.0	770.0
	EdD	3	320.0	441.0	415.3	485.0
	Masters	86	306.0	529.0	517.4	717.0
	Unknown	12	437.0	521.5	527.8	649.0
	All	1,167	200.0	562.0	548.3	770.0
7168050	Doctoral	1,081	222.0	563.0	551.9	759.0
	PhD	546	222.0	590.0	572.5	759.0
	PsyD	532	272.0	540.0	530.8	704.0
	EdD	3	422.0	568.0	531.3	604.0
	Masters	80	290.0	533.5	518.1	677.0
	Unknown	7	249.0	577.0	504.0	622.0
	All	1,168	222.0	559.0	549.3	759.0
7168060	Doctoral	1,143	200.0	572.0	559.4	751.0
	PhD	572	200.0	596.0	578.1	751.0
	PsyD	567	214.0	553.0	540.9	732.0
	EdD	4	451.0	499.5	491.0	514.0
	Masters	74	243.0	535.5	519.6	708.0
	Unknown	1	548.0	548.0	548.0	548.0
	All	1,218	200.0	572.0	556.9	751.0
7168070	Doctoral	620	200.0	573.0	556.0	755.0
	PhD	302	200.0	608.0	585.7	755.0
	PsyD	316	224.0	549.0	527.9	711.0
	EdD	2	509.0	519.0	519.0	529.0
	Masters	54	200.0	529.0	516.3	681.0
	Unknown	4	440.0	580.5	560.8	642.0
	All	678	200.0	573.0	552.9	755.0

Reliability

Reliability, as it applies to testing, is the consistency or reproducibility of the observed exam scores. Test reliability is directly related to score stability and standard error and, as such, is an essential element of fairness and validity. A common estimate of test-score reliability is Cronbach's alpha (α), which is an indicator of the exam's internal consistency (Cronbach, 1951). The reliability of the test is then estimated by considering how well the items that reflect the same construct yield similar results (or how consistent the results are for different items that reflect the same construct measured by the test). High reliability indicates that scores are consistent and not unduly influenced by random error. A general rule of thumb for high-stakes tests is that α should be at least 0.80, but preferably 0.90 or higher (Nunnally & Bernstein, 1994). The reliability for Forms 7168030–7168070 between August 15, 2015 and August 7, 2016 were found to be acceptably reliable at 0.936, 0.921, 0.918, 0.920, and 0.925, respectively.

Testing Period Summary Statistics

In Table 4, summary statistics for number of candidates tested and pass rate are presented across all exams for each testing period that Pearson VUE has been responsible for exam development or measurement services.

Table 4. Candidate Volume and Pass Rates across Testing Periods

Exam form	Testing period	Status					
		First-time		Repeat		Total	
		<i>N</i>	Pass rate	<i>N</i>	Pass rate	<i>N</i>	Pass rate
7168000	Feb 2015–Aug 2015	726	72.7	71	52.1	797	70.9
7168010	Feb 2015–Aug 2015	706	69.4	81	59.3	787	68.4
7168020	Feb 2015–Aug 2015	729	72.0	61	52.5	790	70.5
7068030	Feb 2015–Aug 2015	720	66.9	64	43.8	784	65.1
	Aug 2015–Feb 2016	524	67.9	95	37.9	619	63.3
7168040	Aug 2015–Jan 2016	471	71.5	121	45.5	592	66.2
	Feb 2016–Aug 2016	696	75.7	194	49.4	890	69.9
7168050	Aug 2015–Jan 2016	494	71.9	139	31.7	633	63.0
	Feb 2016–Aug 2016	674	75.2	209	36.4	883	66.1
7168060	Aug 2015–Jan 2016	528	75.8	162	42.0	690	67.8
	Feb 2016–Aug 2016	690	78.4	199	48.7	889	71.9
7168070	Feb 2016–Aug 2016	678	73.2	243	26.7	921	60.9

References

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*, 297–334.

Linacre, J. M. (2016). Winsteps® (Version 3.92.1) [Computer software]. Beaverton, OR: Winsteps.com.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.

Appendix A. Target Test Specifications

Domain area		Emphasis	No. of items	
			Operational	Pretest
1	Biological Bases of Behavior	12%	21	6
2	Cognitive-Affective Bases of Behavior	13%	23	6-7
3	Social & Cultural Bases of Behavior	12%	21	6
4	Growth & Lifespan Development	12%	21	6
5	Assessment & Diagnosis	14%	24-25	7
6	Treatment/Intervention	14%	24-25	7
7	Research Methods	8%	14	4
8	Ethical/Legal/Professional Issues	15%	26	7-8
TOTAL		100%	175	50

Appendix B. Summary Statistics Across State and Provincial Jurisdictions

Jurisdiction	Abbreviation	2015 ^a		2015-2016 ^b		Total	
		N	Pass rate	N	Pass rate	N	Pass rate
Alberta	AB	159	54.7	314	59.9	473	58.1
Alaska	AK	12	66.7	12	58.3	24	62.5
Alabama	AL	28	64.3	40	77.5	68	72.1
Arkansas	AR	10	90.0	17	70.6	27	77.8
Arizona	AZ	33	63.6	93	71.0	126	69.0
British Columbia	BC	22	90.9	31	100.0	53	96.2
California	CA	696	63.2	1,332	54.3	2,028	57.3
Colorado	CO	74	74.3	160	75.6	234	75.2
Connecticut	CT	31	61.3	62	59.7	93	60.2
District of Columbia	DC	11	54.5	31	71.0	42	66.7
Delaware	DE	4	—	19	63.2	23	65.2
Florida	FL	117	56.4	275	56.4	392	56.4
Georgia	GA	56	80.4	75	74.7	131	77.1
Guam	GU	1	—	3	—	4	—
Hawaii	HI	31	41.9	38	44.7	69	43.5
Iowa	IA	22	81.8	32	59.4	54	68.5
Idaho	ID	5	—	11	54.5	16	56.2
Illinois	IL	73	47.9	147	54.4	220	52.3
Indiana	IN	46	69.6	95	64.2	141	66.0
Kansas	KS	51	56.9	113	69.9	164	65.9
Kentucky	KY	16	62.5	42	52.4	58	55.2
Louisiana	LA	11	90.9	22	77.3	33	81.8
Massachusetts	MA	83	79.5	190	80.5	273	80.2
Manitoba	MB	6	—	11	72.7	17	70.6
Maryland	MD	79	75.9	129	79.8	208	78.4
Maine	ME	3	—	12	83.3	15	86.7
Michigan	MI	76	73.7	122	66.4	198	69.2
Minnesota	MN	77	77.9	137	81.0	214	79.9
Missouri	MO	31	71.0	67	73.1	98	72.4
Mississippi	MS	5	—	12	75.0	17	70.6
Montana	MT	1	—	2	—	3	—
New Brunswick	NB	6	83.3	19	57.9	25	64.0
North Carolina	NC	62	72.6	92	77.2	154	75.3
North Dakota	ND	7	—	14	57.1	21	57.1
Nebraska	NE	14	71.4	26	53.8	40	60.0
New Hampshire	NH	6	—	6	—	12	83.3
New Jersey	NJ	33	63.6	92	60.9	125	61.6
Newfoundland	NL	11	72.7	10	50.0	21	61.9
New Mexico	NM	10	80.0	15	86.7	25	84.0
Nova Scotia	NS	14	85.7	29	72.4	43	76.7
Nevada	NV	3	—	22	59.1	25	60.0
New York	NY	314	71.3	544	72.1	858	71.8
Ohio	OH	59	72.9	118	75.4	177	74.6
Oklahoma	OK	13	84.6	13	92.3	26	88.5

Ontario	ON	90	78.9	179	75.4	269	76.6
Oregon	OR	39	87.2	70	77.1	109	80.7
Pennsylvania	PA	101	76.2	236	75.4	337	75.7
Prince Edward ISL	PE	1	—	0	—	1	—
Quebec	PQ	0	—	0	—	0	—
Puerto Rico	PR	22	4.5	47	29.8	69	21.7
Rhode Island	RI	23	95.7	47	83.0	70	87.1
South Carolina	SC	10	90.0	25	88.0	35	88.6
South Dakota	SD	2	—	8	—	10	80.0
Saskatchewan	SK	14	78.6	30	70.0	44	72.7
Tennessee	TN	26	88.5	53	81.1	79	83.5
Texas	TX	121	64.5	275	58.5	396	60.4
Utah	UT	18	94.4	42	85.7	60	88.3
Virginia	VA	90	72.2	157	74.5	247	73.7
US Virgin ISL	VI	1	—	0	—	1	—
Vermont	VT	12	58.3	17	70.6	29	65.5
Washington	WA	82	84.1	115	83.5	197	83.8
Wisconsin	WI	50	84.0	103	74.8	153	77.8
West Virginia	WV	27	40.7	42	52.4	69	47.8
Wyoming	WY	14	71.4	35	68.6	49	69.4
Total		3,165	68.6	6,127	66.2	9,292	67.0

Note. All candidates, including those who took translated forms, are included.

^aIncludes exams from Feb. 1, 2015–Aug. 14, 2015. ^bIncludes exams from Aug. 15, 2015–Aug. 7, 2016.