Technical Report: February 2023 CHRP ELE

HR PA | **Human Resources Professionals Association**

28 March 2023

W ICKETT
MEASUREMENT SYSTEMS

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Executive Summary[1]

Note that this technical report covers only the primary new form or forms administered during an administration, and not detailed results for all forms used.

The CHRP Employment Law Exam (CHRP ELE) was administered to 226 candidates using computer-based testing via live remote proctoring February 21–March 7, 2023, inclusive. The examination comprised 110 three-option multiple choice items and had a 3½-hour time limit.

As per the CHRP ELE blueprint, the exam was scored using the 98–102 best-performing items (while adhering to the prescribed distribution across topics). The mean score for first-time candidates[2] (*n*=212) was 70.9 (70.2%), and for all candidates it was 70.2 (69.5%), out of 101 validated items for scoring. Reliability was acceptable at .81 (noting that there is range restriction with these candidates; disattenuated reliability is estimated at .83). The final set of scored items adhered to the blueprint parameters.

The pass mark was set using equating back to the January 2022, March 2022 and September 2022 administrations, yielding an integer pass mark of 53. Equating was conducted to compensate for minor changes in exam form difficulty so that any given candidate has an equivalent hurdle regardless of when they write the CHRP ELE. This pass mark resulted in a pass rate for first-time candidates of 95.8%; the pass rate for all candidates was 95.1%.

This report, the analyses performed, and the processes followed are consistent with NCCA standards[3] and ISO 17024 standards.[4]

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[1] This technical report is an abbreviated version of the full report. Information has been excluded that if known to candidates could negatively affect the validity of future candidate test score interpretations. This includes item-level statistics, some information about the construction of test forms, and some specific details concerning equating.

[2] Excludes those who had failed an HRPA employment law examination in the past, who were identified as being statistical outliers, or who had written an alternative test form.

[3] National Commission for Certifying Agencies (2021). *Standards for the accreditation of certification programs*. Washington, DC: Institute for Credentialing Excellence.

[4] International Organization for Standardization (2012). *ISO/IEC 17024:2012 Conformity assessment – General requirements for bodies operating certification of persons*. Geneva: International Organization for Standardization.

Administration

Form Setting

Using only validated test items, Wickett Measurement Systems prepared one 110-item test form. Wickett constructed the final test form according to the following parameters:

1. Including only items validated by the validation panel in the past 2 years
2. Fitting the total item count of 110
3. Excluding enemy items
4. Matching the blueprint weights
5. Maximizing spread across subtopics as per the blueprint weights
6. Reducing item exposure
7. Selecting items with perceived psychometric effectiveness, using statistics from previous administrations as available

After selecting the 110 items for each form, Wickett split the forms in half to allow for the administration of the exam in two sections. Section 1 was allocated 55 items and Section 2 was allocated 55 items. With each form, the two sections were set to balance for:

- Proportion of independent items and case sets
- Number of words
- Item difficulty
- Item discrimination (adjusted point-biserial)
- Number of experimental items
- Adherence to blueprint
- Number of anchor items

The final form was reviewed for currency and enemy items by Roxanne Chartrand and Tanya Gopaul (CHRP Examination Validation Committee members) in a remote session held December 12, 2022.

The final form composition for the February 2023 CHRP ELE is shown in Table 1 (domain weighting) and Table 2 (cognitive level weighting). The form reflected the examination blueprint (see Appendix for full CHRP ELE blueprint).

Note that at any administration, HRPA makes use of previously validated and administered test forms along with new test forms, in addition to employing other mechanisms to maintain the integrity of the exams and candidate scores.

Table 1: Domain fit at administration

Domain	Actual Items	Target Range	Target Items	Variance
A Employment Contracts and Terminations	53	46% ± 5%	46–56	—
B Employer Obligations	33	33% ± 4%	32–40	—
C Regulations and Legislation	24	21% ± 3%	20–26	—
TOTAL	110		110	—

Table 2: Cognitive level fit at administration

Cognitive Level	Actual Items	Target Range	Target Items	Variance
Knowledge	12	10% ± 3%	8–14	—
Application	61	60% ± 10%	55–77	—
Critical thinking	37	30% ± 10%	22–44	—
TOTAL	110		110	—

Testing Window

The examination was administered via computer-based testing using live remote proctoring and at Prometric test sites primarily in Ontario. The testing window was February 21–March 7, 2023, inclusive, and 226[5] candidates wrote the exam.

Candidates were able to select either a test centre (assuming one was available reasonably close to them) or live remote proctoring from a location of their choosing. At this administration, 76 candidates wrote in a test centre. Standard security methods (as per Prometric protocols[6]) were employed for both methods. Candidates were allowed one 15-minute break after submitting section 1 and before beginning section 2. This break did not count against total time for the candidate.

Candidates had access to a basic-function calculator on screen and access via PDF to 10 pieces of searchable legislation (compiled into 3 documents):

1. ESA – *Employment Standards Act, 2000*
2. *Provincial*
   - AODA – *Accessibility for Ontarians with Disabilities Act, 2005*

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[5] Candidates writing an alternate form or with administration irregularities are not included in this count. Due to technical difficulties, a small number of candidates wrote the exam on March 8.

[6] Information on procedures and security can be found at www.prometric.com/ProProctor and www.prometric.com/proproctorcandidate.

- LRA – *Labour Relations Act, 1995*
- OHRC – *Human Rights Code*
- OHSA – *Occupational Health and Safety Act*
- PEA – *Pay Equity Act*
- WSIA – *Workplace Safety and Insurance Act, 1997*

3. *Federal*
   - CHRA – *Canadian Human Rights Act*
   - CLC – *Canada Labour Code*
   - PIPEDA – *Personal Information Protection and Electronic Documents Act*

The versions of the legislation were as accessed on October 24, 2022.

Analysis

Data Cleaning and Integrity Checks

Prometric provided data in .xml format via a secure FTP site. Candidate files were provided as candidates completed the examination throughout the testing window. These files were extracted to Microsoft Excel for processing. They contained identifying information for each candidate, form information, start and stop times, answer string, key string, candidate total score, item comments if the candidate made any, and time spent per item.

The data files received were reconciled against the roster provided by Prometric to ensure that all .xml files had been received. Further, each candidate total score as computed by Prometric was reconciled with that computed by Wickett for the full set of 110 items to verify key accuracy. Comments on items were also reviewed to identify any specific item-level issues. No problems were encountered.

The average time taken by all candidates was assessed to detect potential examination timing concerns. The distribution is shown in Figure 1. The mean was 2 hours, 55 minutes (down 1 minute from September 2022). The section 1 mean time was 1 hour, 29 minutes; the section 2 mean time was 1 hour 26 minutes. Twenty-eight candidates (12%) took the full 3½ hours, suggesting that those candidates may have wanted more time, and 13 candidates (6%) left at least one item blank, suggesting that those candidates timed out of the exam before being able to complete it. These metrics will continue to be monitored, but presently they do not appear problematically high. Note that because they have access to legislation, candidates may take additional time by researching more answers. This may generally skew time metrics higher.

The correlation between scores on the 110 items and time spent writing the examination was small at a value of .06, suggesting that time constraints were not generally related to candidate performance.

Candidate scores were computed across the window to look for any evidence of widespread item exposure. As shown in Figure 2, there was little variation across the window, and the difference between the first 3 days and the last 4 days was an increase of 5.2 marks out of 110 (though there were few candidates overall so this analysis lacks power to identify a significant change). This magnitude of change is atypical for this examination and will be monitored closely on future examinations.

As a matter of interest, candidate volumes were also examined across the window; these are also shown in Figure 2. As is usually observed, candidates are more likely to test at the end than at the beginning of the testing window.

Figure 1: Examination time distribution for all candidates
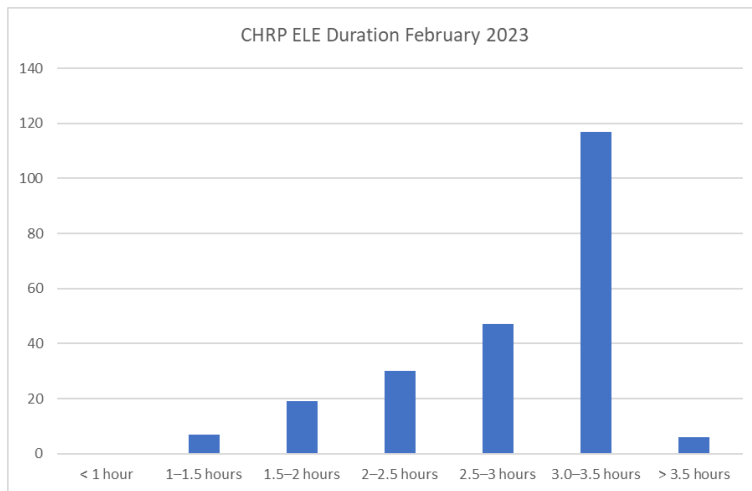
Figure 2: Candidate volume and score trends across testing window
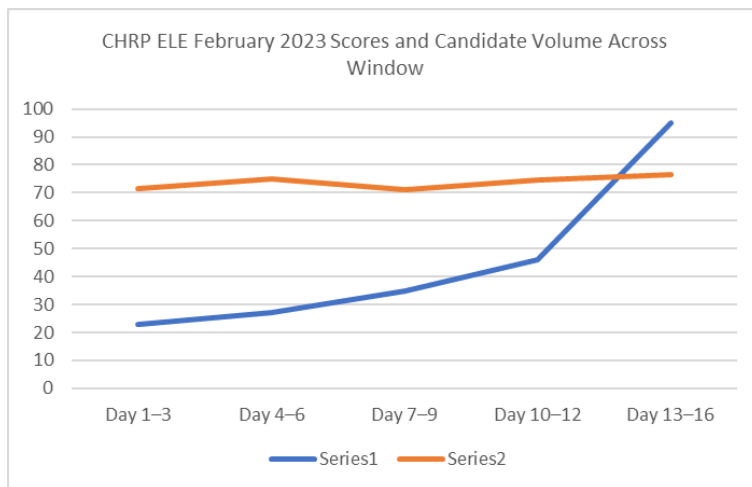
After removing candidates who were administered a previously used test form (who were scored using the same decisions employed at the time that form was originally used), scores were calculated for all remaining candidates based on the full set of 110 items. One candidate was flagged for an abnormally low or high score (z value outside $+/-$ 3.0). Also, the 110 items were arbitrarily broken into 4 blocks of 25 items for each candidate plus 1 final block of 10 items; the 5 resulting subscores for each candidate were evaluated for outliers as well. For candidates with any subscore more than 3 standard deviations (SD) from their average z-score, the .xml file was examined closely for any issues. No instances were identified and so no candidates were removed from analysis. Candidates with abnormal response patterns (such as having 5 or more blanks) were removed. As a result of these factors, 5 candidates were removed from analyses.

Only 12 candidates were re-writing the exam, and so comparisons between first time and repeat writers are not meaningful. In keeping with standard procedures, these candidates were removed from subsequent analyses. The CHRP ELE analysis proceeded with 212 candidates.

Owing to the modest number of candidates, all subsequent analyses were interpreted with caution.

Post-Examination Survey

Candidates were provided access to the post-examination survey immediately after submitting their responses to the CHRP ELE; 222 candidates responded to at least one question (response rate, 98%).

Table 3 shows the content-related questions; there was a tendency to neutrality on these questions though several show moderately high positive ratings. Table 4 shows the responses to the general administration-related questions. Note that candidates were generally positive about the administration experience, though issues with easy access to the legislation and case texts were noted.

Table 3: Content-related post-examination survey questions*

	Question	SA	A	N	D	SD	Score	Agreement
1.	The time allotted for this examination was sufficient.	77	75	24	34	12	3.77	**68%**
2.	Information available prior to exam day provided me with adequate details about the content and format of the exam.	72	105	28	13	3	4.04	**80%**
3.	I feel I was adequately prepared to write this examination.	21	110	59	29	1	3.55	**60%**
4.	The questions in the examination were clearly written.	29	103	61	24	5	3.57	**59%**
5.	The terminology used in the examination was accurate.	43	149	24	5	0	4.04	**87%**
6.	The situations presented in the examination were realistic.	56	134	26	4	1	4.09	**86%**
7.	The questions in the examination reflected the Employment Law Examination blueprint.	37	121	45	16	1	3.80	**72%**
8.	The examination was a fair assessment of my ability.	20	100	68	29	4	3.47	**54%**

*Response categories: SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree.

Table 4: General administration-related post-examination survey questions*

	Question	SA	A	N	D	SD	Score	Agreement
9.	I was able to book to write the examination at a time that was convenient for me.	103	92	11	11	3	4.28	**89%**
10.	I was well informed about the examination rules and regulations.	121	87	8	3	1	4.47	**95%**
11.	Proctors enforced the exam-day rules.	140	73	4	2	1	4.59	**97%**
12.	Proctors were professional and courteous.	127	73	12	6	2	4.44	**91%**
13.	The tutorial helped me understand how to complete the examination on the computer.	111	90	17	1	1	4.40	**91%**
14.	The legislation and case texts were easy to access during the examination.	67	90	22	34	7	3.80	**71%**
15.	Navigation through the examination was easy and intuitive.	82	113	16	5	2	4.23	**89%**

*Response categories: SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree.

Candidates were asked where they had preferred to write (Table 5) and where they actually wrote the examination (Table 6), and based on their response the questions that followed differed. Table 7 shows that candidates were generally able to write using the modality of their preference.

Table 5: Testing location preference

Response	Count	%
I preferred using my own location.	145	67%
I preferred going to a test centre.	72	33%
I had no preference.	1	0%

Table 6: Actual testing location

Response	Count	%
Test centre	71	32%
Own location	148	68%

Table 7: Testing location preference by actual testing location

Response	LRP*	TC^
I preferred using my own location.	141	4
I preferred going to a test centre.	6	66
I had no preference.	0	1

*Live remote proctoring (equivalent to 'own location').
^Test centre.

Candidates who indicated they tested in the own location (via live remote proctoring) responded to questions shown in Table 8 through Table 10. These candidates were generally positive about the experience and identified convenience as the main reason for choosing live remote proctoring. They were also very supportive of HRPA continuing to offer the examination using live remote proctoring.

Table 8: Reason for choosing own location (live remove proctoring candidates)

Response	Count	%
No test centres were open in my area.	11	7%
I preferred to avoid being around other people.	11	7%
I liked the convenience of not having to travel to a test centre.	89	60%
I felt like I would perform better in my own environment.	32	22%
Other (please specify)	5	3%

Table 9: Evaluation of testing experience (live remove proctoring candidates)

	Count	%
Very positive	52	35%
Positive	65	44%
Neutral	23	16%
Negative	5	3%
Very negative	2	1%

Table 10: Value in future candidates being able to test from their own location (live remote proctoring candidates)

Response	Count	%
Yes	144	98%
No	3	2%

Candidates who indicated they tested in a test centre responded as shown in Table 11 through Table 13. These candidates were positive about being able to write at a convenient location and were also positive about their testing experience (and more positive about their testing experience than were live remote proctoring candidates). They were also generally supportive of HRPA continuing to offer the examination using live remote proctoring.

Table 11: Able to write at a convenient location (test centre candidates)

	Count	%
Strongly agree	25	35%
Agree	30	42%
Neither agree nor disagree	6	8%
Disagree	9	13%
Strongly disagree	1	1%

Table 12: Evaluation of testing experience (test centre candidates)

	Count	%
Very positive	27	38%
Positive	28	39%
Neutral	16	23%
Negative	0	0%
Very negative	0	0%

Table 13: Value in future candidates being able to test from their own location (test centre candidates)

Response	Count	%
Yes	62	87%
No	9	13%

Open-ended questions were also posed to candidates asking for any additional comments in general and regarding test delivery method. Those comments were provided to HRPA for information and consideration. Nothing actionable with respect to scoring emerged in these comments.

Initial Analysis

The full CHRP ELE examination was 110 items, of which approximately 100 were to be scored. The remain 8–12 items were designated as experimental. However, because only one new form

was administered, all items were potentially available for scoring and the focus of subsequent item analysis and key validation was on determining the best set of approximately 100 items that still reflected the examination blueprint.

The initial analysis summary statistics are presented in Table 14. The section statistics are shown in Table 15. Note that though candidates ended up finding section 2 to be more challenging, they also spent less time in that section and so the greater difficulty did not systematically increase the time required for that section.

Table 14: Initial examination statistics

Index	CHRP ELE
Items	110
Total candidates	226
Candidates in analysis	212
Mean	75.4 (68.5%)
Standard deviation	9.8
Range	47–98 (43–89%)
Cronbach's alpha	.80
Disattenuated alpha	.84
Mean r_{pb}*	.17

Table 15: Section item statistics

Index	Section 1	Section 2
Total items	55	55
Scorable items	55	55
Candidates in analysis	212	
Mean	38.4 (69.9%)	37.0 (67.2%)
Standard deviation	5.3	5.4
Range	24–50	19–50
Mean time (minutes)*	88.7	86.4
Words	6113	6123

*Mean time by section includes all candidates who wrote, and not just those in the main analysis.

There was almost difference in performance between candidates writing in a test centre (67.5%) and candidates writing via live remote proctoring (68.0%; t(224)=0.38, *ns*). As such, there was not evidence of differential performance between the two modalities and no basis for treating the two modalities differently.

Though not reported here, several additional analyses were added with administration to investigate potential candidate misconduct. These results were reported confidentially to HRPA.

Standard classical test theory analysis was conducted to identify the following:

1. Item difficulty (percent obtaining correct result, p)
2. Item discrimination (corrected point-biserials, r_{pb}*)
3. Distractor quality (based primarily on distractor discrimination)

Wickett compiled these statistics, along with any comments made by candidates concerning flagged items, to identify items that may have been keyed incorrectly or that were performing poorly. Most emphasis was placed on the corrected point-biserials as evidence of item quality, after removing items with difficulty values at the extremes. Items were generally ranked from worst performing to best performing accordingly.

Key Validation

Key validation was conducted via web meeting on March 20, 2023, using members of the CHRP Examination Validation Committee (EVC). The group (Table 16) was first reminded of the methods used for key validation and was oriented to the main statistics used to evaluate the quality of the CHRP ELE.

Table 16: CHRP Examination Validation Committee – Key validation

Member	Credential	Years of Relevant Experience	Start on EVC	Industry
✓ Claire Chester (CHAIR)	CHRL	10–15	2017	Long term care facility
Roxanne Chartrand (VICE-CHAIR)	CHRL	20–29	2018	Insurance
Sunday Ajao	CHRL	15–20	2017	Banking/Finance
Kris Amaral	CHRL	20–25	2022	HR consultant, Career coach
Nancy Brandon	CHRL	20–25	2021	Power and Utilities
✓ Cherry Cusipag	CHRP	20–25	2022	Food
✓ Patrizia Finucan	CHRL	10–15	2021	Education
Tanya Gopaul	CHRL	10–15	2017	Banking
Annette Lawrence	CHRL	5–10	2021	Non-profit
Lisa Macdonald	CHRL	15–20	2022	Community living
Suman Seth	CHRL	15–19	2018	Public sector/education
✓ Michelle Sultan	CHRL	10–15	2021	Education
✓ Patricia Verkley	CHRL	10–15	2019	Not-for-profit
Karen Weiler	CHRL	20–29	2017	Software/ Communications

✓Participated in the session.

The group was informed that test reliability, as measured by Cronbach's alpha, was .80 based on the set of 110 potentially scored items and that this was at the generally accepted threshold of .80. The group was advised that restriction of range was considered the most likely basis for the borderline value and were provided with the disattenuated value of .84 as an estimate of the true reliability of these test scores. They were also informed that part of the goal of the key validation review was to bring this value up if possible.

The group was walked through the flagged items one at a time, with the recommendation that the worst-performing items be removed from scoring, but were given less direction on those with borderline statistics. Where available, candidates' comments about the items were also shown. Further, historic data on items was used to help in making decisions such that items with strong statistics on past administrations were more likely to be retained for scoring. The group made decisions based on content and the data through discussion; they removed 9 items that they felt were inappropriate to retain for scoring. Panel members' comments about specific items were recorded for future item revision activities.

Not all remaining items were strong-performing, and several items were retained that were very easy or very hard or that had a low corrected point-biserial. Most were moderate to strong items, however. The final alpha for the set of 101 scored items was .81 (disattenuated alpha was .83). The difficulties ranged from 34.0% to 95.8%, with a mean of 70.2%. The r_{pb}* values ranged from −.02 to .50, with a mean of .19. Note that with a small sample of candidates, negative point-biserial values are not necessarily a sign of a problematic item, and items that have performed well in the past were more likely to be retained even if showing a poor point-biserial in this candidate sample.

Table 17 shows the scored CHRP ELE's final fit to the domain weighting. Table 18 shows the same for cognitive level, and Table 19 shows the same for item type. The exam fit on all dimensions.

The group approved the final set of items for use in scoring the February 2023 CHRP ELE candidates.

Table 17: Domain fit for final scored items

Domain	Actual Items	Target Range	Target Items	Variance
A Employment Contracts and Terminations	48	46% ± 5%	41–52	—
B Employer Obligations	32	33% ± 4%	29–37	—
C Regulations and Legislation	21	21% ± 3%	18–24	—
TOTAL	**101**		**101**	

Table 18: Cognitive level fit for final scored items

Cognitive Level	Actual Items	Target Range	Target Items	Variance
Knowledge	12	10% ± 3%	7–13	—
Application	56	60% ± 10%	51–71	—
Critical thinking	33	30% ± 10%	20–40	—
TOTAL	**101**		**101**	

Table 19: Item type fit for final scored items

Item Type	Actual Items	Target Range	Target Items	Variance
Independent	27	25% ± 3%	22–28	—
Case	74	75% ± 3%	73–79	—
TOTAL	**101**		**101**	—

Establishing the Pass Mark: Equating

Equating, as per Kolen and Brennan (2014)[7] and Livingston and Kim (2009),[8] was used to establish the pass mark for the February 2023 CHRP ELE. The goal of this process was to set a pass mark that would be equivalent to that set for previous administrations; that is, to set a pass mark that would give each candidate the same probability of passing regardless of which form they took.

The passing standard for the CHRP ELE was last set after the January 2018 offering of the CHRP ELE using the Modified Angoff and Bookmark methods. Specific information on the standard-setting session is provided in the Technical Report issued for the January 2018 administration.

Three equating procedures were conducted back to different administrations (January, March and September 2022). The intention following these equating runs was to average them to arrive at a final pass mark for the February 2023 CHRP ELE.

Equating Back to the January 2022 Administration

Linear equating (Tucker) was the chosen method for setting the pass mark and it was conducted once key validation was complete. Linear equating is the primary method considered with more than 100 candidates; equipercentile equating would have been considered with more than 1,000 candidates. With candidate samples of fewer than 100, mean or circle arc equating is most prudent.

All candidates in the analysis (i.e., no repeat candidates or outliers) were used in the equating process. Delta-plot analysis was used to identify anchor items showing substantial deviations (generally, although not exclusively, greater than 3 *SD* units) from expected difficulty values, with an emphasis on establishing an anchor set with difficulty equivalent to that of the full form that adhered to the blueprint. Further, items with very high or low difficulty values and those with low corrected point-biserials were also flagged for potential removal from the anchor set. The goal was a strong midi-test (i.e., moderate range of difficulty, moderate to high discrimination, fit to blueprint) of sufficient length to estimate candidate ability.

The selected set of anchor items had a mean difficulty of 0.70 and a mean corrected point-biserial of .23.

Table 20 shows the fit of the set of anchor items to the blueprint, as percentages. The actual counts are reasonably aligned with the targets and reflect the scope and approximate weighting across the full exam.

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[7] Kolen, M.J., & Brennan, R.L. (2014). *Test equating, scaling, and linking.* New York, NY: Springer.
[8] Livingston, S.A., & Kim, S. (2009). The circle-arc method for equating in small samples. *Journal of Educational Measurement*, *46*, 330-343.

Table 20: Anchor item fit to blueprint – To January 2022

	Area	Actual	Target
A	Employment Contracts and Terminations	47%	46%
B	Employer Obligations	32%	33%
C	Regulations and Legislation	21%	21%

The mean, Tucker, Levine observed-score, and circle arc methods were computed to ascertain concordance of solutions. Given the sample sizes and similarities of test parameters, Tucker was considered the primary method.

Table 21 shows some of the parameters used to derive the equating estimates, along with other parameters describing the test forms. Of note is that on the anchor items, the sample taking the February 2023 CHRP ELE scored about the same as the sample taking the January 2022 CHRP ELE (70.1% vs. 69.7%, respectively; $t(345)=0.25$, *ns*). Because the February 2023 CHRP ELE candidates were of about the same ability (based on the anchors), they should have about the same pass rate.

The equating analysis showed this result (Table 22). The methods showed an integer pass mark of 53–54. Given the sample sizes involved, Tucker would be the primary method under consideration and the equated value of 52.96 was carried forward in the analysis.

Table 21: Equating parameter table – To January 2022

		Jan. 2022	Feb. 2023
	N	135	212
	Scored items	102	101
Mean score	Total	72.6%	70.2%
	Anchors	69.7%	70.1%

Table 22: Equating outcome table – To January 2022

	Pass Mark		Pass Rate	
Method	Precise	Integer	All	First Time
Equated Jan. 2022	**56.59**	**57**	**95.7%**	**95.6%**
Tucker	52.96	53	*95.1%*	*95.8%*
Levine observed	53.02	54	*92.9%*	*93.4%*
Mean	53.28	54	*92.9%*	*93.4%*
Circle Arc 1	53.84	54	*92.9%*	*93.4%*
Circle Arc 2	53.74	54	*92.9%*	*93.4%*

Equating Back to the March 2022 Administration

Linear equating (Tucker) was the chosen method for setting the pass mark and it was conducted once key validation was complete. Linear equating is the primary method considered with more than 100 candidates; equipercentile equating would have been considered with more than 1,000 candidates. With candidate samples of fewer than 100, mean or circle arc equating is most prudent.

All candidates in the analysis (i.e., no repeat candidates or outliers) were used in the equating process. Delta-plot analysis was used to identify anchor items showing substantial deviations (generally, although not exclusively, greater than 3 *SD* units) from expected difficulty values, with an emphasis on establishing an anchor set with difficulty equivalent to that of the full form that adhered to the blueprint. Further, items with very high or low difficulty values and those with low corrected point-biserials were also flagged for potential removal from the anchor set. The goal was a strong midi-test (i.e., moderate range of difficulty, moderate to high discrimination, fit to blueprint) of sufficient length to estimate candidate ability.

The selected set of anchor items had a mean difficulty of 0.70 and a mean corrected point-biserial of .24.

Table 23 shows the fit of the set of anchor items to the blueprint, as percentages. The actual counts are aligned with the targets and reflect the scope and weighting across the full exam.

Table 23: Anchor item fit to blueprint – To March 2022

	Area	Actual	Target
A	Employment Contracts and Terminations	46%	46%
B	Employer Obligations	29%	33%
C	Regulations and Legislation	25%	21%

The mean, Tucker, Levine observed-score, and circle arc methods were computed to ascertain concordance of solutions. Given the sample sizes and similarities of test parameters, Tucker was considered the primary method, though a difference in variance made Levine observed a contender as well.

Table 24 shows some of the parameters used to derive the equating estimates, along with other parameters describing the test forms. Of note is that on the anchor items, the sample taking the February 2023 CHRP ELE scored about the same as the sample taking the March 2022 CHRP ELE (69.9% vs. 69.6%, respectively; $t(320)=0.24$, *ns*). Because the February 2023 CHRP ELE candidates were of about the same ability (based on the anchors), they should have about the same pass rate (though the tails of the distribution will be more erratic with small samples).

The equating analysis shows this result (Table 25). All methods show a pass mark of 53–56. Given the sample sizes and comparability of anchor parameters, Tucker would be the primary method under consideration and the 52.94 value was carried forward in the analysis.

Table 24: Equating parameter table – To March 2022

		Mar. 2022	Feb. 2023
	N	110	212
	Scored items	102	101
Mean score	Total	73.2%	70.2%
	Anchors	69.6%	69.9%

Table 25: Equating outcome table – To March 2022

	Pass Mark		Pass Rate	
Method	Precise	Integer	All	First Time
Equated Mar. 2022	**57.53**	**58**	**95.8%**	**99.1%**
Tucker	52.94	53	*95.1%*	*95.8%*
Levine observed	55.02	56	*90.3%*	*91.0%*
Mean	53.56	54	*92.9%*	*93.4%*
Circle Arc 1	54.13	55	*92.0%*	*92.5%*
Circle Arc 2	53.97	54	*92.9%*	*93.4%*

Equating Back to the September 2022 Administration

Linear equating (Tucker) was the chosen method for setting the pass mark and it was conducted once key validation was complete. Linear equating is the primary method considered with more than 100 candidates; equipercentile equating would have been considered with more than 1,000 candidates. With candidate samples of fewer than 100, mean or circle arc equating is most prudent.

All candidates in the analysis (i.e., no repeat candidates or outliers) were used in the equating process. Delta-plot analysis was used to identify anchor items showing substantial deviations (generally, although not exclusively, greater than 3 *SD* units) from expected difficulty values, with an emphasis on establishing an anchor set with difficulty equivalent to that of the full form that adhered to the blueprint. Further, items with very high or low difficulty values and those with low corrected point-biserials were also flagged for potential removal from the anchor set. The goal was a strong midi-test (i.e., moderate range of difficulty, moderate to high discrimination, fit to blueprint) of sufficient length to estimate candidate ability.

The selected set of anchor items had a mean difficulty of 0.70 and a mean corrected point-biserial of .19.

Table 29 shows the fit of the set of anchor items to the blueprint, as percentages. The actual counts are aligned with the targets and reflect the scope and weighting across the full exam.

Table 26: Anchor item fit to blueprint – To September 2022

Area		Actual	Target
A	Employment Contracts and Terminations	46%	46%
B	Employer Obligations	34%	33%
C	Regulations and Legislation	20%	21%

The mean, Tucker, Levine observed-score, and circle arc methods were computed to ascertain concordance of solutions. Given the sample sizes and similarities of test parameters, Tucker was considered the primary method.

Table 27 shows some of the parameters used to derive the equating estimates, along with other parameters describing the test forms. Of note is that on the anchor items, the sample taking the February 2023 CHRP ELE scored about the same as the sample taking the September 2022 CHRP ELE (70.4% vs. 71.0%, respectively; $t(411)=0.59$, *ns*). Because the February 2023 CHRP ELE candidates were of about the same ability (based on the anchors), they should have about the same pass rate (though the tails of the distribution will be more erratic with small samples).

The equating analysis shows this result (Table 28). All methods show a pass mark of 53–54. Given the sample sizes and comparability of anchor parameters, Tucker would be the primary methods under consideration, and the 52.54 value was carried forward in the analysis.

Table 27: Equating parameter table – To September 2022

		Sep. 2022	Feb. 2023
	N	201	212
	Scored items	102	101
Mean score	Total	70.9%	70.2%
	Anchors	71.0%	70.4%

Table 28: Equating outcome table – To September 2022

| Method | Pass Mark | | Pass Rate | |
	Precise	Integer	All	First Time
Equated Sep. 2022	**54.38**	**55**	**95.7%**	**97.0%**
Tucker	52.54	53	*95.1%*	*95.8%*
Levine observed	53.36	54	*92.9%*	*93.4%*
Mean	53.46	54	*92.9%*	*93.4%*
Circle Arc 1	53.85	54	*92.9%*	*93.4%*
Circle Arc 2	53.85	54	*92.9%*	*93.4%*

Combined Results

Table 29 shows the pass mark values across the three equating runs. The value highlighted in green is the one that would be selected based on sample parameters at each equating run.

In the end, the goal is to identify the best representation of what the pass mark should be based on the available information. In this situation, the weighted average of the Tucker values is showing as a point below the Levine observed method, and a point below the mean and circle arc methods (though these latter would not generally be considered as a primary method with these examination parameters). Given sample sizes and similarities in test form metrics, Tucker is the preferred method, and as such, the Tucker weighted average of 52.78 was put forward as the recommended pass mark.

Using the established convention for this testing program, the averaged pass mark would be rounded up to a cut score of 53. The resulting pass rate for first-time candidates (95.8%) is about the same as in recent administrations, as expected given the similarity in performance on anchor items. The pass rate for all candidates was 95.1%. See Table 30 for historical pass rates.

The final pass mark value, and the process used to derive it, was presented to the CHRP EVC (Table 31) via teleconference on March 22, 2023. The committee did not bring forward any concerns with the method or outcomes. The panel formally approved the pass mark (which was presented along with the consequent pass rate data) for recommendation to HRPA. The Exams Manager accepted the recommended pass mark for HRPA during the meeting and so the pass mark was formally established.

Table 29: Equating outcome table – Combined results

	Jan. 22	Mar. 22	Sep. 22	Weighted Average
Tucker	53.0	52.9	52.5	52.8
Levine observed	53.0	55.0	53.4	53.7
Mean	53.3	53.6	53.5	53.4
Circle arc 1	53.8	54.1	53.8	53.9
Circle arc 2	53.7	54.0	53.8	53.8

Table 30: Historical pass rates

	Pass rate	
	All	**First-time**
Jan. 20	92.0%	94.3%
Aug. 20	96.0%	96.6%
Oct. 20	95.3%	96.1%
Jan. 21	95.5%	98.7%
May. 21	98.0%	98.0%
Sep. 21	96.0%	96.5%
Jan. 22	95.7%	95.6%
Mar. 22	95.8%	99.1%
Sep. 22	95.7%	97.0%
Feb. 23	95.1%	95.8%

Table 31: CHRP Examination Validation Committee – Pass mark approval

Member	Credential	Years of Relevant Experience	Start on EVC	Industry
✓ Claire Chester (CHAIR)	CHRL	10–15	2017	Long term care facility
✓ Roxanne Chartrand (VICE-CHAIR)	CHRL	20–29	2018	Insurance
Sunday Ajao	CHRL	15–20	2017	Banking/Finance
Kris Amaral	CHRL	20–25	2022	HR consultant, Career coach
Nancy Brandon	CHRL	20–25	2021	Power and Utilities
✓ Cherry Cusipag	CHRP	20–25	2022	Food
Patrizia Finucan	CHRL	10–15	2021	Education
✓ Tanya Gopaul	CHRL	10–15	2017	Banking
✓ Annette Lawrence	CHRL	5–10	2021	Non-profit
Lisa Macdonald	CHRL	15–20	2022	Community living
Suman Seth	CHRL	15–19	2018	Public sector/education
Michelle Sultan	CHRL	10–15	2021	Education
Patricia Verkley	CHRL	10–15	2019	Not-for-profit
Karen Weiler	CHRL	20–29	2017	Software/ Communications

✓Participated in the session.

Scoring

To finalize the scoring, candidates who were not included in the item and form analyses were reinserted into the dataset. Scores for each of the 3 domain areas were also computed for each candidate. An Excel file with the final candidate results was provided to HRPA.

Table 32 provides the means and standard deviations for the domains and for the total score, using all candidates who took the February 2023 CHRP ELE. Table 33 provides the correlations between each domain. Figure 3 shows the distribution of scores for all candidates, along with the pass mark.

Table 32: Total and domain scores for all candidates

|	Domain	Percentage	Mean	SD*
A	Employment Contracts and Terminations	67%	32.3	5.8
B	Employer Obligations	70%	22.5	3.6
C	Regulations and Legislation	73%	15.4	2.6
	Total score	69.5%	70.2	10.0

*SD = Standard deviation.

Table 33: Correlations between functional area scores for all candidates

Domain*	A	B	C
A		.60	.50
B			.44
C			

*See Table 32 for the full name of each functional area.

Figure 3: Score distribution for all candidates
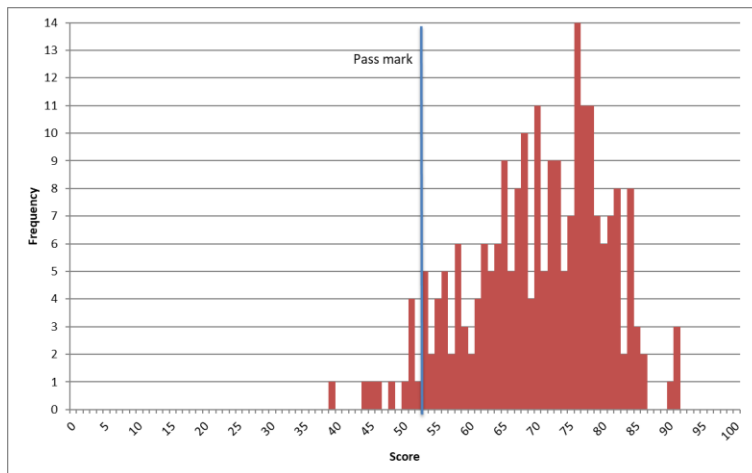
Key Examination Metrics

Table 34 shows the key examination metrics for candidates included in the main analysis; that is, only first-time candidates, with outliers removed. Past metrics are provided for reference.

Table 34: Key examination metrics – Candidates included in analysis only

Index	February 2023	September 2022	March 2022	January 2022	September 2021
Scored items	101	102	102	102	102
Candidates	212	201	110	135	172
Mean	70.9 (70.2%)	72.3 (70.9%)	74.7 (73.2%)	74.0 (72.6%)	74.4 (72.9%)
Median	72 (71.3%)	73 (71.6%)	76 (74.0%)	74 (72.5%)	75 (73.5%)
Skewness	−0.483	−0.262	−0.219	−0.311	−0.459
Kurtosis	−0.233	−0.185	−0.480	0.306	−0.217
Range	44–91 (43.6–90.1%)	44–92 (43.1–90.2%)	53–92 (52.0–90.2%)	44–95 (43.1–93.1%)	49–94 (48.0–92.2%)
Standard deviation	9.70	8.83	8.12	9.39	8.95
Cronbach's alpha	.81	.78	.75	.81	.79
Mean r_{pb}*	.19	.17	.15	.18	.17
SEM[i]	4.20	4.13	4.04	4.11	4.12
SEM at the pass mark	4.69	4.62	4.60	4.68	4.69
Decision consistency (uncorrected)[ii]	.94	.95	.95	.96	.94
Perceived fairness[iii]	54%	54%	57%	63%	58%
Pass mark	52.784	54.384	57.527	56.587	57.320
Effective pass mark	53	55	58	57	58
Pass rate	95.8%	97.0%	99.1%	95.6%	96.5%

[i]SEM = standard error of measurement.

[ii]Subkoviac method.

[iii]Based on responses to the post-examination survey for all candidates.

Related Development Activities

Since the last administration of the CHRP ELE in September 2022, the following exam development activities have been completed.

Validation

To renew the validation of items expiring from usability and to validate newly written items, a validation session was held with the EVC (see Table 35) remotely on October 5 and 13, 2022.

Table 35: CHRP Examination Validation Committee – Validation

Member	Credential	Years of Relevant Experience	Start on EVC	Industry
✓ Claire Chester (CHAIR)	CHRL	10–15	2017	Long term care facility
✓ Roxanne Chartrand (VICE-CHAIR)	CHRL	20–29	2018	Insurance
Sunday Ajao	CHRL	15–20	2017	Banking/Finance
Kris Amaral	CHRL	20–25	2022	HR consultant, Career coach
Nancy Brandon	CHRL	20–25	2021	Power and Utilities
✓ Cherry Cusipag	CHRP	20–25	2022	Food
✓ Patrizia Finucan	CHRL	10–15	2021	Education
✓ Tanya Gopaul	CHRL	10–15	2017	Banking
Annette Lawrence	CHRL	5–10	2021	Non-profit
✓ Lisa Macdonald	CHRL	15–20	2022	Community living
✓ Suman Seth	CHRL	15–19	2018	Public sector/education
✓ Michelle Sultan	CHRL	10–15	2021	Education
✓ Patricia Verkley	CHRL	10–15	2019	Not-for-profit
✓ Karen Weiler	CHRL	20–29	2017	Software/ Communications

✓Participated in at least one session day.

The EVC members received advance materials outlining:

- Purpose of the session
- Description of the CHRP credential

- CHRP ELE blueprint
- Criteria for good test items
- Validation process
- Relevant legislation

The committee members received refresh training on the validation activity. Committee members were provided with 42–43 items and case texts per day via a secure file share site, and then worked individually reviewing items through the day, submitting their appraisal and any suggested revisions to Wickett. They were directed to make sure the items reflected current practice and were suitable to make decisions about who should receive the CHRP credential.

At the end of the day, the committee convened online and were shown items flagged for revision. Where committee members proposed changes, these were discussed by the group before implementation.

For each item, the committee was asked to either:

- Validate the item for use in the next two years to make decisions about who would be certified as CHRP
- Move the item to the CHRL ELE bank
- Revise the item to make it suitable for use
- Declare the item unsound and send it back for revision or removal from the bank

The committee validated 85 items and case texts as suitable for the CHRP ELE, rejected 0 items, and shifted 0 items for eligibility in the CHRL ELE bank. Seventeen items/case texts were revised prior to validation as part of this exercise. The committee also verified the topic and cognitive level for all items, and added rationales and references where incomplete or not current.

Appendix

Blueprint

CHRP Employment Law Examination Blueprint
Human Resources Professionals Association

Version 2.1
Approved by CHRP Exam Validation Committee April 10, 2018
Approved by HRPA Registrar April 11, 2018
Effective September 2018 administration

Credential

Passing the CHRP Employment Law Examination is a requirement for certification of CHRP candidates.

Purpose

The CHRP ELE assesses whether a candidate has the ability to make effective decisions when presented with HR situations where comprehension of laws and regulations is centrally relevant, at the CHRP level, in Ontario.

Structure

The structural variables provide high level guidance as to what the examination will look like. These appear in Table 36.

Table 36: CHRP Employment Law Examination Blueprint Structural Variables

Item types	75% Case-based 3-option multiple choice (15-20 single scenarios tied to 4-6 test items each)
	25% Independent 3-option multiple choice
Length	110 total items
	8–12 experimental items
Duration	Up to 3½ hours
Delivery mode	Computer based testing in proctored test centres
Frequency	3 windows per year

Content Weighting

The topic weights were set through a survey of employment lawyers on the most typical situations where employment-related issues are escalated to legal proceedings.

Categories are:
- A. Employment Contracts
- B. Employer Obligations
- C. Regulations and Legislation

Within each Category, the Topics are:
- A. Employment Contracts
  - A1   Termination
  - A2   Contracts
  - A3   Employee Benefits and Perquisites
- B. Employer Obligations
  - B1   Duty to Accommodate
  - B2   Misconduct in the Workplace
  - B3   Common Law
  - B4   Sale of Business
- C. Regulations and Legislation
  - C1   Employment Standards Act
  - C2   Occupational Health and Safety Act
  - C3   Jurisdiction
  - C4   Pay Equity Act
  - C5   Canada Labour Code

The full blueprinted list of Categories, Topics and Subtopics, along with their weighting, appears in Table 37.

Table 37: CHRP Employment Law Examination Blueprint Content Weights

Category Weight	Topic Weight	Topic	Subtopic Weight
46%		**A. Employment Contracts and Terminations**	
	28%	**A1. Termination**	
		A1.1 Termination with or without cause	8%
		A1.2 Termination pay, termination notice, and pay in lieu of notice	6%
		A1.3 Continuation of benefits to employee after termination	5%
		A1.4 Severance pay entitlements	5%
		A1.5 What type of income is considered part of terminated employee's salary	2%
		A1.6 Whether or not it is legal to lay off an employee	1%
		A1.7 When and how to lay off an employee	1%
	11%	**A2. Contracts**	
		A2.1 Contracts and employment agreements	9%
		A2.2 Collective bargaining contracts	2%
	7%	**A3. Employee Benefits and Perquisites**	
		A3.1 Vacation time, vacation pay and bonuses	5%
		A3.2 Overtime exemptions	2%
33%		**B. Employer Obligations**	
	16%	**B1. Duty to Accommodate**	
		B1.1 Mental health or physical disabilities	9%
		B1.2 Discriminatory grounds (such as family status, age, marital status, etc.)	5%
		B1.3 The duty to accommodate until undue hardship (the threshold)	2%
	9%	**B2. Misconduct in the Workplace**	
		B2.1 Dealing with harassment and violence in the workplace	5%
		B2.2 HR professional approach to dealing with discipline	2%
		B2.3 Workplace investigations	2%
	6%	**B3. Common Law**	
		B3.1 Including consideration of Common Law principles	5%
		B3.2 Employers' obligations under Common Law	1%
	2%	**B4. Sale of Business**	
		B4.1 The effects of the sale of the business	2%
21%		**C. Regulations and Legislation**	
	10%	**C1. Employment Standards Act**	
		C1.1 How to properly interpret the *Employment Standards Act, 2000*	5%
		C1.2 Probation period under *Employment Standards Act, 2000*	2%
		C1.3 Different leaves permitted under the *Employment Standards Act, 2000*	2%
		C1.4 Employers' obligations under *Employment Standards Act, 2000*	1%

4%	**C2. Occupational Health and Safety Act**	
	C2.1 Making policies that are compliant with the *Occupational Health and Safety Act, 1990*	2%
	C2.2 Ministry of Labour's rights under the *Occupational Health and Safety Act, 1990*	2%
4%	**C3. Jurisdiction**	
	C3.1 The difference between federal and provincial legislations	2%
	C3.2 Determining governing legislation when the organization is interprovincial	2%
2%	**C4. Pay Equity Act**	
	C4.1 Application of *Pay Equity Act, 1990*	2%
1%	**C5. Canada Labour Code**	
	C5.1 Employers' obligations under *Canada Labour Code, 1985*	1%

Note: Reasonable ranges around the Topic weights are employed.

Cognitive Level

The cognitive level weights are based on Bloom's taxonomy. The purpose of this weighting is generally to ensure that an examination does not unintentionally over-focus on specific types of items, and to provide candidates with a range of items (in approximate proportion) that reflects the cognitive operations they must apply on the job. The weights appear in Table 38.

Table 38: CHRP Employment Law Examination Blueprint Cognitive Level Weights

Level	Weight	Range
Knowledge	10%	+/- 3%
Application	60%	+/- 10%
Critical Thinking	30%	+/- 10%

Miscellaneous Guidance

Guidance is not considered binding on the examination, but is used in item development and form development to help create balanced forms.
1. Where scenarios or test items include a workplace, the workplace allocation will be as follows:
    a. For profit enterprise, 60% (+/- 10%)
    b. Government, 20% (+/- 5%)
    c. Not-for-profit, 20% (+/- 5%)
2. 20% (+/- 10%) of workplaces mentioned in scenarios and test items will be unionized.
3. 10% (+/- 5%) of employers mentioned in scenarios and test items will have physical locations in more than one Canadian province.
4. 10% (+/- 5%) of employers mentioned in scenarios and test items will have physical locations both inside and outside of Canada.