



ACTION Personal Trainer
2024 Job Task Analysis (JTA)
Final Report
Amended for Publication

Prepared by:
Deborah L. Schnipke
Senior Psychometric Consultant
ACS Ventures, LLC
dschnipke@acsventures.com

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Scope of Work

This report documents the procedures and results of the job task analysis (JTA) performed by Deborah L. Schnipke, PhD¹ from ACS Ventures, LLC for the ACTION Personal Trainer certification exam, which was conducted from June 2022 to April 2024.

The JTA was conducted in four stages, although only the first three stages were initially planned²:

1. **Content outline focus group** that reviewed and updated the major domains and sub-domains of practice of a personal trainer and the tasks within the sub-domains.
2. **Validation survey** that was sent to a larger number of personal trainers to provide feedback on the content outline and which was used to calculate preliminary test percentages for each domain.
3. **Test blueprint focus group** that reviewed the results of the validation survey and made the final decision about the test percentages, tying the percentages to the results of the JTA.
4. **Validation focus group** that reviewed all of the proposed changes to the content outline and test percentages and made the final decisions about the 2024 test blueprint.

Executive Summary

The final test percentages based on the 2024 job analysis are shown in Table 1, along with the previous test percentages from the 2018 job analysis.

Table 1. Comparison of the previous (2018) and new (2024) test percentages.

Domain	2018 Percentages	2024 Percentages
Basic Knowledge	26%	26%
Health, Lifestyle, Goal Screening and Assessment	11%	11%
Fitness Assessment	12%	12%
Program Design and Implementation	22%	22%
Nutrition Awareness	12%	12%
Progress Tracking	8%	8%
Business, Legal, and Safety	9%	9%
Total	100%	100%

¹ Dr. Schnipke's biographical information is included in Appendix A.

² Despite extensive efforts to gather the desired number of responses for the validation survey, only 36 SMEs participated. The Test Blueprint Focus Group reviewed these results and made recommendations as planned, but it was concluded that additional validation was necessary. Consequently, a new Validation Focus Group was convened to verify the changes to the content outline and establish the test item percentages.

Summary of Changes to the Content Outline

Compared to the 2018 content outline, the final 2024 content outline contained the following changes:

1. “Know basic strategies for first aid (RICE)” was moved to the “Safety and Warning Signs” sub-domain within the “Program Design and Implementation” domain and “(RICE)” was removed from the text of the task because it is outdated.
2. “Understand trainer knowledge for special populations (e.g., elderly, pregnant women, health conditions)” was removed because it was redundant with “Understand requirements of special populations (e.g., elderly, pregnant women, health conditions)”
3. “Understand psychology of personal training” was removed because it was too broad to be useful.
4. “and max” was added to “Identify target and max heart rate/training threshold (RPE scale).”
5. “Understand the role of supplementation” and “Understand limitations regarding suggesting supplementation” were combined into one task: “Understand the role and limitations of suggesting supplementation.”
6. The domain “Business and Legal” was renamed to “Business, Legal, and Safety,” and within this domain:
 - a. “Understand how to avoid sexual harassment” was added to the sub-domain “Contracts, liability, budget.”
 - b. A new sub-domain, “Safety,” containing three new tasks, was added.

Action 2024 Content Outline (final)

1. Basic knowledge
 - A. Anatomy
 - 1.A.1 Understand skeletal system
 - 1.A.2 Understand joint types (e.g., pivot, hinge, etc.)
 - 1.A.3 Understand planes of movement
 - 1.A.4 Understand nervous system
 - 1.A.5 Understand digestive system
 - 1.A.6 Understand energy physiology (aerobic/anaerobic, metabolism)
 - 1.A.7 Understand muscular system
 - 1.A.8 Understand contraction types (eccentric, concentric, etc.)
 - 1.A.9 Understand cardiovascular/cardiopulmonary systems
 - 1.A.10 Identify kinesiology terms for body position, planes, body parts (lateral, medial, anterior, etc.)
 - B. Correct exercise form
 - 1.B.1 Understand correct form of exercises
 - 1.B.2 Identify 'neutral' spine position
 - 1.B.3 Understand correct breathing technique
 - 1.B.4 Understand differences in speed of motion
 - 1.B.5 Understand optimal posture for exercises
 - 1.B.6 Identify modification techniques (suggesting modifications to the squat for range of motion issues, etc.)
 - C. Exercise analysis and biomechanics
 - 1.C.1 Assess line of pull
 - 1.C.2 Identify major muscle movements
 - 1.C.3 Determine muscles used in exercises

- 1.C.4 Identify agonist, antagonist, synergist(s) and stabilizers
- 1.C.5 Differentiate between mover and stabilizer muscles
- 1.C.6 Understand differences between strength, endurance, and hypertrophy training
- 1.C.7 Understand difference between compound and isolation exercises
- 1.C.8 Understand role of recovery
- 1.C.9 Understand center of gravity, base of support, line of gravity
- 1.C.10 Understand lever system
- 1.C.11 Understand difference between 'abdominal' exercise and 'core' exercise
- 1.C.12 Understand difference between 'balance' and 'stability' training
- D. PT scope of practice and role
 - 1.D.1 Understand PT scope of practice
 - 1.D.2 Understand role of PT
 - 1.D.3 Determine roles of other health professionals
 - 1.D.4 Know spotting techniques/guidelines
 - 1.D.5 Understand proper ethics and professional responsibility
- 2. Health, lifestyle, goal screening and assessment
 - A. Client goals
 - 2.A.1 Discuss client's success criteria (fitness, health, and wellness goals)
 - 2.A.2 Educate client on behavior in and out of gym to support their goals
 - 2.A.3 Determine SMART goals (specific, measurable, attainable, realistic, timely)
 - B. Lifestyle
 - 2.B.1 Identify healthy and unhealthy lifestyle habits (at home, work, school, etc.)
 - 2.B.2 Identify client schedule and availability for exercise
 - 2.B.3 Identify client's stage of behavior
 - 2.B.4 Educate client regarding stress management
 - 2.B.5 Educate client regarding sleep and recovery
 - 2.B.6 Educate client on assessing/creating a support system (e.g., family habits)
 - C. Medical history/clearance (risk factors)
 - 2.C.1 Complete physical activity readiness form
 - 2.C.2 Assess risk factors
 - 2.C.3 Complete and assess medical history
 - 2.C.4 Identify if client needs medical clearance
 - 2.C.5 Identify injuries and musculoskeletal imbalances that would affect training
 - 2.C.6 Determine parameters for when a client should be referred
 - D. Special Populations
 - 2.D.1 Understand requirements of special populations (e.g., elderly, pregnant women, health conditions)
- 3. Fitness assessment
 - A. Body composition
 - 3.A.1 Identify best method of determining body composition for client
 - 3.A.2 Assess body composition/calculate BMI
 - B. Cardio assessment

- 3.B.1 Assess resting heart rate
 - 3.B.2 Determine blood pressure
 - 3.B.3 Estimate VO2 max
 - 3.B.4 Know all protocols in order to administer cardio fitness assessments
 - 3.B.5 Identify target and max heart rate/training threshold (RPE scale)
- C. Flexibility assessment
 - 3.C.1 Assess key joint range of motion
 - 3.C.2 Know all protocols in order to administer flexibility tests
- D. Functional assessment
 - 3.D.1 Assess functional movements
 - 3.D.2 Assess mobility and posture
 - 3.D.3 Assess stability and balance
 - 3.D.4 Assess static postural assessment
- E. Strength/endurance assessment
 - 3.E.1 Assess muscle 1 Rep Max (RM) strength (using formula) or muscular endurance
 - 3.E.2 Know all components in order to administer muscular fitness assessments
- F. Risk factors and safe limits
 - 3.F.1 Know termination protocols for assessments (client and environmental factors)
 - 3.F.2 Identify weak areas and areas needing improvement
- 4. Program design and implementation
 - A. Program design
 - 4.A.1 Utilize info from assessment
 - 4.A.2 Re-evaluate weak areas and areas needing improvement
 - 4.A.3 Understand intensity, progression, and consistency
 - 4.A.4 Determine program type - endurance, hypertrophy, strength, power
 - 4.A.5 Determine program format - whole body, split, circuit, etc.
 - 4.A.6 Apply F.I.T.T. Principle
 - 4.A.7 Know the correct order of exercises (larger muscles 1st, etc.)
 - 4.A.8 Determine areas of muscle strength imbalance
 - B. Exercise selection and performance
 - 4.B.1 Create routine (warmup, workout, cool down)
 - 4.B.2 Select appropriate stretching (ballistic, static, etc.)
 - 4.B.3 Demonstrate and teach correct exercise technique
 - 4.B.4 Have client perform exercise
 - 4.B.5 Use appropriate cues (verbal, visual, imagery, tactile, etc.)
 - 4.B.6 Correct poor form in client exercise
 - 4.B.7 Discuss progression pattern and expectations
 - C. Safety and warning signs
 - 4.C.1 Discuss pain vs. soreness and expectation for soreness
 - 4.C.2 Understand symptoms of overtraining
 - 4.C.3 Identify symptoms and warning signs of dehydration, low blood sugar, cardiac arrest, heat stroke/exhaustion, etc.
 - 4.C.4 Know basic strategies for first aid

5. Nutrition awareness

A. Nutrition awareness

- 5.A.1 Understand latest nutritional guidelines
- 5.A.2 Understand importance of nutrition for results
- 5.A.3 Understand food groups and servings/amounts
- 5.A.4 Understand role of protein, fats, and carbohydrates
- 5.A.5 Understand basics of micronutrient and essential amino acid roles
- 5.A.6 Perform basic nutrient analysis (calculate daily protein, fat and carbs needs of client)
- 5.A.7 Understand importance of water/fluids; know standard fluid replacement formulas
- 5.A.8 Understand the role and limitations of suggesting supplementation

6. Progress tracking

A. Benchmark assessment

- 6.A.1 Determine consistent methods for assessing and re-assessing progress
- 6.A.2 Determine expected progress based on assessments
- 6.A.3 Establish timeline for progress

B. Continuous communication and follow up

- 6.B.1 Follow up phone call / email
- 6.B.2 Follow up on goals achieved
- 6.B.3 Conduct 24 hour follow up

C. Re-design and suggesting new goals

- 6.C.1 Provide positive feedback
- 6.C.2 Determine guidelines for future program direction
- 6.C.3 Review short term and long-term goals
- 6.C.4 Adjust plan based on long-term scheduling or new goals (e.g., half marathon)

7. Business, legal, and safety

A. Building client base

- 7.A.1 Determine how to market yourself (testimonials, online reviews, etc.)
- 7.A.2 Understand educating clients vs. selling to clients
- 7.A.3 Build rapport with clients (e.g., celebrate every milestone in the client's fitness journey)
- 7.A.4 Be a role model

B. Business structure

- 7.B.1 Determine pros and cons of business entities (corporation, LLC, etc.)
- 7.B.2 Determine pros and cons of being an employee vs contractor

C. Contracts, liability, budget

- 7.C.1 Develop contract with client
- 7.C.2 Develop budget with client
- 7.C.3 Explain and sign liability waiver/informed consent
- 7.C.4 Determine liability insurance needs
- 7.C.5 Determine business insurance needs
- 7.C.6 Understand how to avoid sexual harassment

D. Ethics and privacy

- 7.D.1 Identify systems to keep client data private
- 7.D.2 Determine how HIPAA and privacy laws apply to business model

	7.D.3	Understand all areas of risk management (standard of care, negligence, scope of practice, condition of equipment, etc.)
E. Safety		
	7.E.1	Understand how to prevent slips and falls
	7.E.2	Understand proper equipment usage
	7.E.3	Understand how to response to common emergencies

Responsibilities

ACTION staff was responsible for:

- Recruiting for, running, and documenting the content outline focus group meeting(s)
- Assisting with preparing the validation survey
- Distributing the validation survey to personal trainers; sending reminders
- Recruiting SMEs to participate in the test blueprint focus group and validation focus group

The psychometrician was responsible for:

- Preparing the validation survey for publication
- Analyzing the results of the validation survey
- Preparing materials for test blueprint meeting
- Arranging the logistics for the test blueprint meeting
- Running the test blueprint focus group and validation focus group meetings and ensuring that the SMEs understand their responsibilities/tasks and that all SMEs fully participate in the meeting
- Documenting the results of the validation survey, and test blueprint focus group and validation focus group meetings

The subject matter experts (SMEs) were responsible for:

- For the content outline focus group meeting(s)
 - Review previous content outline
 - Update the content outline as a group to reflect changes in the personal training field (e.g., add new tasks and remove and/or edit existing tasks)
- For the test blueprint focus group
 - Discuss any concerns regarding the demographic results from the validation survey
 - Discuss the task statements to determine if anything should be dropped, added, or edited based on the validation survey data or comments
 - Discuss and finalize recommended test percentages
- For the validation focus group
 - Review all proposed changes to the content outline and test percentages
 - Review the revised content outline as a whole and make final determinations about proposed changes and additional changes to the content
 - Finalize the test percentages

Content Outline Focus Group

The Content Outline Focus Group was tasked with updating the 2018 content outline in preparation of the validation survey.

JTA Focus Group Members

The Content Outline Focus Group meeting took place via web meetings in June 2022 with 12 subject matter experts (SMEs) who are listed in Table 2. Of the 12 members:

- One was from Canada, one was from India, and the remaining 10 were from the United States
- Years of experience as a personal trainer (PT) ranged from 2 to 17 years with a mean of 9.25 years
- Number of personal trainer certifications ranged from 1 to 9 with a mean of 3.4 certifications
- 9 have worked in “all 3” – in a gym, in their own business, and for other non-gym organizations, and 3 have worked only in their own business
- 6 were female (50%) and 6 were male (50%)
- Age ranged from 24 to 49 with a mean of 37.5 years

Table 2. 2022 Content Outline Focus Group Members
Removed in amended version for confidentiality

Method

In preparation of the meeting, the SMEs were sent a welcome email which included the 2018 (i.e., most recent) content outline so that they could review it in advance. The focus group meeting began with welcoming and thanking the SMEs for participating in the focus group and explaining the purpose of the meeting. Next the SMEs reviewed the prior content outline briefly to get a sense of the whole outline. Then they began at the beginning of the outline and carefully considered each domain, sub-domain, and task.

Results

The SMEs made very few changes.

- They added a section on “Safety and Liability” to the “Business and Legal” domain.
- They debated about whether to drop “Understand psychology of personal training” and decided to send the task to the validation survey to make that determination.

After making the changes, they reviewed the updated content outline top to bottom until everyone was satisfied with the updated content outline. The edited versions of the content outline with all the changes marked is shown in Appendix B (*Appendix B removed in amended version for confidentiality*).

Finalizing Demographics and Rating Scales for Survey

After finalizing the content outline, the focus group reviewed the potential demographic questions and rating scales for the validation survey. The panel reached consensus on the demographic questions as shown in Appendix C (*Removed in amended version for confidentiality*), and the rating scales that would be used to collect validity evidence for the task statements.

Development of the Validation Survey

The next step in the JTA process was to create and administer a survey to validate the content outline, to ultimately develop the test blueprint for the certification exam.

ACS incorporated the domains, sub-domains, and task statements that were finalized by the content outline focus group into a survey in SoGoSurvey using the demographics and rating scales decided by the focus group.

ACTION staff were responsible for conducting the survey (sending invitations, reminders, etc.) The survey was open from August 11, 2022 to January 28, 2023.

Survey Sampling Plan & Rationale

The target population for the ACTION personal trainer certification exam is professional trainers. As noted in the “NCCA Standards for the Accreditation of Certification Programs” (ICE, 2016 standards version) in the commentary for Standard 14 (Job Analysis) “Validation of the delineated domains, tasks, and associated knowledge and/or skills is typically accomplished by surveying current certificants and/or a representative sample of the population that is the intended target audience for the certification.”

Thus, an invitation to take the validation survey was sent to all 54,837 people in ACTION’s database who have been certified by Action or who have expressed interest in personal training over the years, however the number of active members of the database is likely closer to 4000 people or less, especially considering that ACTION certifies less than 1,000 people per year. Additionally, Facebook and Twitter were also used to spread the word, and an unknown number of people saw those campaigns. A \$200 stipend was offered as an incentive for completing the survey.

Validation Survey Results

Return Rate

The return rate can only be roughly calculated. It is not known how many people opened the email or paid any attention to the Facebook and Twitter promotions. Although the field of personal training is large, and many emails were sent (54,837), ACTION does not have a large *active* audience. Thirty six (36) people responded to the survey, even after targeting recent recertificants directly. Although more survey respondents were desired, we decided to finally close the survey after five and a half months (and numerous email and social media pushes) and move forward with the data available. Also supporting moving forward was the minor amount of change to the content outline compared to the previous version. Had larger changes been made to the content outline, we would have felt less comfortable with moving forward with a small amount of data.

The 95% margin of error for the survey results is 16% (based on a sample of 36 from a population of 54,837), as calculated in Survey Monkey’s margin of error calculator.³

³ <https://www.surveymonkey.com/mp/margin-of-error-calculator/>

Demographic Information

To ensure that a representative sample of personal trainers responded to the survey, multiple demographic questions were asked: sex, race/ethnicity, age, years of experience, number of PT certifications, work setting, country, and state.

As shown in Tables 3 – 10,

1. sex was nearly equally split for the respondents
2. the majority (69%) of respondents were White/Caucasian
3. the majority of respondents were between 35 to 54.
4. there was a large range of years of experience (0 to 25 years)
5. most respondents have 1-2 certifications
6. all work setting were represented by the respondents.
7. most respondents (78%) were from the US, but 4 other countries were represented as well
8. respondents from the United States were from 15 different states

Table 3. What is your sex?

Sex	Frequency	Percent
Female	19	53%
Male	17	47%
Total	36	100%

Table 4. What race/ethnicity best describes you?

Race/Ethnicity	Frequency	Percent
Asian/Pacific Islander	1	3%
Black or African American	4	11%
Hispanic	2	6%
Multiple ethnicity/Other (please specify):Afro Caribbean, Venezuelan Indian, Arowac Indian, European white (French, British)	1	3%
Multiple ethnicity/Other (please specify):Jewish	1	3%
Multiple ethnicity/Other (please specify):Middle Eastern	1	3%
Multiple ethnicity/Other (please specify):Mixed race	1	3%
White/Caucasian	25	69%
Total	36	100%

Table 5. What is your age?

Age	Frequency	Percent
18 - 24	2	6%
25 - 34	5	14%
35 - 44	12	33%
45 - 54	14	39%
55 - 64	2	6%
65 - 74	1	3%
Total	36	100%

Table 6. How many years have you worked as a personal trainer?

Years as PT	Frequency	Percent
0	3	9%
1	1	3%
2	2	6%
3	2	6%
3	5	14%
4	2	6%
5	2	6%
6	1	3%
7	2	6%
10	2	6%
12	4	11%
14	2	6%
15	4	11%
20	1	3%
22	1	3%
25	1	3%
Total	35	100%

Table 7. How many personal training certifications have you earned?

	Frequency	Percent
0	1	3%
1	13	37%
2	9	26%
3	3	9%
4	2	6%
5	2	6%
6	1	3%
7	2	6%
9	1	3%
16	1	3%
Total	35	100%

Table 8. In what settings have you worked as a personal trainer?

	Frequency	Percent
Other non-gym org only	2	6%
In own business only	5	14%
In own business and other non-gym org	1	3%
In a gym only	8	22%
In a gym and other non-gym org	3	8%
In a gym and in own business	4	11%
All 3; in a gym, in own business, in other non-gym org	13	36%

Total	36	100%
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Table 9. In what country do you live?

Country	Frequency	Percent
Bahrain	1	3%
Canada	5	14%
Curacao (Netherlands)	1	3%
United Kingdom	1	3%
United States	28	78%
Total	36	100%

Table 10. If you live in the Unites States, in what state or territory do you live?

State	Frequency	Percent
California	1	4%
Connecticut	1	4%
Florida	3	11%
Illinois	1	4%
Kentucky	2	7%
Louisiana	1	4%
Maine	1	4%
Maryland	1	4%
Montana	1	4%
New York	3	11%
North Carolina	2	7%
Pennsylvania	1	4%
South Carolina	1	4%
Texas	6	22%
Virginia	2	7%
Total	27	100%

Task Ratings

After answering the demographic questions, the survey respondents were asked to rate the importance and frequency of the tasks. Ratings were assigned numeric values as follows:

Importance

0. Not Applicable / Not Much
1. Low
2. Medium
3. High
4. Imperative

Frequency

0. Almost Never
1. Sometimes
2. Usually
3. Most of the time
4. Always

Mean importance and frequency ratings were calculated using the numeric values (Not much = 0 to Imperative = 4; Never = 0 to Always = 4). Tasks were flagged if the mean importance rating was less than 2.0 (medium) or if the mean frequency rating was less than 1.5 (between sometimes and usually). Only one task was flagged – Estimate VO2 max. It was discussed at the test blueprint meeting described later in this report, and the SMEs indicated that it should stay in the content outline.

The embedded file shows the number of respondents who selected each response option for each task, along with the mean importance and frequency ratings:

Embedded file removed in amended version for confidentiality

The embedded file also contains the comments made by respondents in the validation survey. The comments were discussed at the test blueprint meeting.

Preliminary Test Percentages

Preliminary test percentages (i.e., the percentage of items on the certification exam that should come from each domain) were calculated two primary method – the first based on task-level ratings and the second by directly asking respondents what percentage they think should come from each domain.

Task-Based Method

The first method for calculating preliminary test percentages was based on the importance and frequency task ratings. The mean task ratings for Importance and Frequency in the embedded file above were used to calculate task-based test percentages based on the importance and frequency ratings as follows:

1. **Importance-Only Ratings:** The mean importance rating for each task was divided by the sum of the mean importance ratings to calculate the percentage for the task. Then the task-level ratings were summed within each sub-domain to calculate the total for the sub-domain, as shown in Table 11 (e.g., sub-domains of Anatomy, Correct Exercise Form, etc. under the domain of Basic

Knowledge). Percentages for each sub-domain were summed within each domain to calculate the percentage for the domain, as shown in Table 11.

2. **Frequency-Only Ratings:** The mean frequency rating for each task was divided by the sum of the mean frequency ratings to calculate the percentage for the task and were summed up within sub-domains and domains, as shown in Table 11.
3. **Importance * Frequency Ratings:** The mean importance and mean frequency ratings were multiplied together for each task, then divided by the sum of the mean importance*frequency ratings. This method combines the 2 rating scales, emphasizing the more extreme values.

Table 11. Preliminary Test Percentages based on Importance and Frequency for Domains and Sub-Domains

	Number of Tasks	% Based on Importance	% Based on Frequency	% Based on Importance* Frequency
Basic Knowledge	34	26%	26%	25%
Anatomy	10	7%	7%	6%
Correct Exercise Form	6	5%	6%	6%
Exercise Analysis and Biomechanics	13	10%	9%	9%
PT Scope of Practice and Role	5	4%	4%	5%
Health, Lifestyle, Goal Screen and Assessment	17	14%	14%	15%
Client Goals	4	3%	3%	4%
Lifestyle	6	5%	5%	4%
Medical History/Clearance (Risk Factors)	6	5%	6%	6%
Special Populations	1	1%	1%	1%
Fitness Assessment	17	12%	12%	11%
Body Composition	2	1%	1%	1%
Cardio Assessment	5	3%	3%	3%
Flexibility Assessment	2	1%	1%	1%
Functional Assessment	4	3%	3%	3%
Strength/Endurance Assessment	2	1%	1%	1%
Risk Factors and Safe Limits	2	2%	2%	2%
Program Design and Implementation	19	17%	17%	18%
Program Design	8	7%	7%	7%
Exercise Selection and Performance	7	7%	7%	8%
Safety and Warning Signs	4	3%	3%	3%
Nutrition Awareness	8	6%	6%	6%
Nutrition Awareness	8	6%	6%	6%
Progress Tracking	10	8%	8%	8%
Benchmark Assessment	3	2%	3%	2%
Continuous Communication and Follow Up	3	2%	2%	2%
Re-design and Suggesting New Goals	4	3%	3%	4%
Business and Legal	19	16%	16%	17%
Building Client Base	4	3%	4%	4%

Business Structure	2	1%	1%	1%
Contracts, Liability, Budget	5	4%	4%	4%
Ethics and Privacy	4	4%	4%	4%
Safety and Liability	4	4%	3%	4%

Direct Method

The second method for calculating preliminary test percentages was to directly ask survey respondents: “Assuming the questions are based on the tasks you just rated, what percentage of the exam do you think should come from each of the 7 content domains? (Please enter a number in each box; the total must equal 100.)” They had just rated the tasks, so they knew what each domain included. Respondents were asked to provide percentages only for the domains (and not the sub-domains) was because (1) the test specifications for test percentages are at the domain level and (2) providing test percentages at the sub-domain level would be an unreasonable cognitive burden on the respondents.

Table 12 repeats the domain-level preliminary test percentages for the task-based methods, and adds the percentages based on directly asking (final column).

Table 12. Domain-Level Preliminary Test Percentages

Domain	Number of Tasks	% Based on Importance	% Based on Frequency	% Based on Importance* Frequency	% Based on Asking Directly
Basic Knowledge	34	26%	26%	25%	26%
Health, Lifestyle, Goal Screening and Assessment	17	14%	14%	15%	14%
Fitness Assessment	17	12%	12%	11%	13%
Program Design and Implementation	19	17%	17%	18%	20%
Nutrition Awareness	8	6%	6%	6%	12%
Progress Tracking	10	8%	8%	8%	8%
Business and Legal	19	16%	16%	17%	8%
Total	124	100%	100%	100%	100%

Test Blueprint Focus Group

Test Blueprint Focus Group Members

ACTION certification recruited 5 SMEs to serve on the test blueprint committee, as shown in Table 13. The 90-minute virtual meeting was held on February 2, 2023, via Microsoft Teams.

Table 13. Test Blueprint Focus Group Members
Removed in amended version for confidentiality

Method

The slides that were used to guide the meeting are shown in Appendix D. *(Removed in amended version)*

for confidentiality.)

The test blueprint meeting consisted of several steps, as follows:

1. Review background information to set the stage for the practice analysis process.
 - a. Review the test development process to orient the SMEs to the overall process and how the practice analysis fits in.
 - b. Review the ACTION Personal Trainer certification program specifications to remind the SMEs of the target audience for the exam, the level of practice expected, and so forth.
2. Review task ratings and comments from the validation survey
3. Determine if any changes (additions or deletions) are needed in content outline based on the survey results
4. Review task-based percentages
5. Review direct domain percentages (where survey respondents were asked directly what percentage of the exam they thought should come from each domain)
6. Decide on final test percentages

Results

- The test blueprint committee members determined that scope of the certification exam and eligibility requirements for taking the exam are still reasonable.
- The content outline focus group had debated whether to remove “Understand Psychology of Personal Training” and decided to send the task to the validation survey to make that determination. The test blueprint focus group reviewed the importance and frequency ratings for this task (shown in Table 14) and determined to retain the task because the majority of survey respondents said the task has high or imperative importance and is used most of the time or always.
- There were two tasks regarding special populations, and they were determined to be redundant, so the first task was removed and the second task was retained:
 - Understand trainer knowledge for special populations (e.g., elderly, pregnant women, health conditions) – *removed*
 - Understand requirements of special populations (e.g., elderly, pregnant women, health conditions) – *retained*
- The task “Know basic strategies for first aid (RICE)” was moved to the “Safety and Warning Signs” sub-domain within “Program Design and Implementation” and “(RICE)” was removed from the text of the task based on comments from survey respondents indicating that RICE is outdated medically.
- The task “Estimate VO2 max” was flagged for having a “low” mean importance rating of 2.0. The test blueprint committee members reviewed the importance and frequency ratings for this task (shown in Table 15) and determined to retain the task because how important/frequent this task is depends on the type of personal training client – not all clients would need this, but trainers should know this in case they work with such clients.
- The new sub-domain “Safety & Liability” was fleshed out. The content outline focus group identified topics but did not write them as task statements.
 - Topics for “Safety & Liability” identified by the content outline focus group:
 - Slip and fall
 - Proper equipment usage
 - Sexual Harassment

- Emergency Response
- Rewritten as tasks:
 - Understand how to prevent slips and falls
 - Understand proper equipment usage
 - Understand how to avoid sexual harassment
 - Understand how to response to common emergencies

Table 14. Importance and Frequency Ratings for “Understand Psychology of Personal Training” (KEEP)

NA / Not much	Low	Medium	High	Imperative	Almost Never	Some-times	Usually	Most of the time	Always
0	2	7	18	8	4	3	3	14	11

Table 15. Importance and Frequency Ratings for “Estimate VO2 max” (KEEP)

NA / Not much	Low	Medium	High	Imperative	Almost Never	Some-times	Usually	Most of the time	Always
2	9	11	9	2	11	7	6	4	5

The test blueprint committee reviewed the potential test percentages based on the results of the validation survey, as well as the 2018 percentages, as shown in Table 16, and provided their recommended test percentages as shown in the last column of Table 16.

Table 16. Preliminary and Recommended 2024 Test Percentages

Domain	% Based on Importance	% Based on Frequency	% Based on Importance* Frequency	% Based on Asking Directly	2018%	2024 % (draft)
Basic Knowledge	26%	26%	25%	26%	26%	26%
Health, Lifestyle, Goal Screening and Assessment	14%	14%	15%	14%	11%	12%
Fitness Assessment	12%	12%	11%	13%	12%	12%
Program Design and Implementation	17%	17%	18%	20%	22%	22%
Nutrition Awareness	6%	6%	6%	12%	12%	10%
Progress Tracking	8%	8%	8%	8%	8%	8%
Business and Legal	16%	16%	17%	8%	9%	10%

The rationale for the final percentage for each domain:

1. Basic Knowledge: for beginner level, this is the most important
2. Health, Lifestyle, Goal Screening, and Assessment: important
3. Fitness Assessment: moderately important
4. Program Design and Implementation: very important
5. Nutrition Awareness: important, but varies by state what can be said; trainers are frequently asked about nutrition; reducing % compared to 2018 because percentages based on importance

& frequency are notably lower

6. Progress Tracking: less important; varies by type of training (e.g., individual vs. group training)
7. Business and Legal: less important; varies by type of trainer (e.g., not so relevant for employees of a gym); contains four new tasks related to Safety & Liability, justifying increasing the percentage compared to last time

Validation Focus Group

Given the insufficient response to the initial validation survey, which saw participation from only 36 SMEs despite significant outreach efforts, the need for further validation became evident. Consequently, a new Validation Focus Group was recruited by ACTION staff to ensure that the test outline and percentages were thoroughly vetted and accurate.

The goal of the Validation Focus Group was to determine the validity of the content domain including changes to it based on the first three steps of the JTA, and to update it as needed to ensure that the content outline is reflective of contemporary practice.

Validation Focus Group Members

The Validation Focus Group consisted of 11 members (shown in Table 17), and they met in an online meeting on April 23, 2024, via Microsoft Teams.

Table 17. Validation Focus Group Members
Removed in amended version for confidentiality

Method

The slides that were used to guide the meeting are shown in Appendix E. *(Removed in amended version for confidentiality)*

The SMEs engaged in three major activities during the meeting:

- Review the Scope & Eligibility Criteria for Action Certified PT Exam and confirm whether they are appropriate.
- Finalize the content outline by reviewing and updating the [Draft Detailed Content Outline \(After Test Blueprint Meeting\)](#) as shown in Appendix B as a starting place for their discussion about validating/updating the content outline (resulting in the [Final Detailed Content Outline \(After Validation Focus Group\)](#) also shown in Appendix B). *(Appendix B removed in amended version for confidentiality)*
- Determine final test percentages for the certification exam

Results

Content Outline

Compared to the 2018 content outline, the final 2024 content outline contained the following changes:

1. **Confirmed:** “Know basic strategies for first aid (RICE)” was moved to the “Safety and Warning Signs” sub-domain within the “Program Design and Implementation” domain and “(RICE)” was removed from the text of the task because it is outdated.

2. **Confirmed:** “Understand trainer knowledge for special populations (e.g., elderly, pregnant women, health conditions)” was removed because it was redundant with “Understand requirements of special populations (e.g., elderly, pregnant women, health conditions)”
3. **Confirmed:** Retain “Estimate VO2 max”
4. **Overruled test blueprint focus group:** “Understand psychology of personal training” was removed because it was too broad to be useful.
5. **Additional change:** “Understand 1 Rep Max (RM) calculation formula” was removed because it is redundant with “Assess muscle 1 Rep Max (RM) strength (using formula) or muscular endurance.”
6. **Additional change:** “and max” was added to “Identify target and max heart rate/training threshold (RPE scale).”
7. **Additional change:** “Understand the role of supplementation” and “Understand limitations regarding suggesting supplementation” were combined into one task: “Understand the role and limitations of suggesting supplementation.”
8. **Confirmed:** The new sub-domain “Safety & Liability” and its four tasks, with the following changes:
 - a. The sub-domain “Business and Legal” was renamed to “Business, Legal, and Safety.”
 - b. The new task “Understand how to avoid sexual harassment” was moved from the new sub-domain “Safety” to the sub-domain “Contracts, liability, budget.”

In addition:

- **Confirmed:** The scope of the certification exam and eligibility requirements for taking the exam are still reasonable.

Test Percentages

The SMEs reviewed the current test percentages, considered the effects of the changes to the content outline, and determined the current test percentages are still appropriate as shown in Table 1 in the Executive Summary.

Appendix A. Bio for Deborah L. Schnipke, Ph.D.

Deborah L. Schnipke, PhD

ACS

www.virtualpsychometrics.com

dschnipke@virtualpsychometrics.com

www.linkedin.com/in/deborahschnipke

Dr. Schnipke has over 25 years of experience working in measurement, providing psychometric expertise for all aspects of the test development process in a variety of fields, especially within certification and licensure testing. Her work includes conducting job task analyses studies (focus groups and surveys), developing test specifications, training item writers and reviewers, performing classical and IRT item and test analyses, assembling balanced test forms, conducting standard setting meetings, scaling and equating test forms, investigating test security breaches, providing guidance and psychometric services for third-party accreditation, auditing testing programs for adherence to psychometric standards, and performing differential item functioning analyses, timing analyses, etc. She has conducted and published research on a variety of topics, including job task analyses, item selection algorithms, adaptive testing, response time analyses, differential item function, test security, test design, etc. She is invested in ensuring that exams are reliable, valid, and fair, and in compliance with industry standards, such as the AERA/APA/NCME standards and NCCA accreditation standards. She has experience as a speaker, reviewer, discussant, and author for major psychometric journals and conferences. Dr. Schnipke earned her B.S. in psychology and statistics at Bowling Green State University and her M.A. and Ph.D. in Quantitative Psychology from Johns Hopkins University.