

SUTTON, BRIAN G. Ed.D. Career Readiness of Individuals Obtaining an Accredited Personal Training Certification and Suggestions for Professional Education. (2024)  
Directed by Dr. Paul Davis. 96 pp.

Sedentary living is a primary contributor to the rise of chronic disease, whereas physical activity is proven to lower the incidence of chronic conditions. Given the current state of health in the United States, the need for well-educated personal trainers is at an all-time high. However, research has failed to examine the teaching practices of accredited personal training certification organizations. Most notably, no scientific study has investigated the pedagogical practices of the National Academy of Sports Medicine's Certified Personal Trainer program (NASM-CPT). An analysis of NASM's pedagogical practices was warranted to determine if NASM's program adequately prepares aspiring personal trainers for their profession.

The evaluation used a mixed-methods design and was conducted in two parts: administering a survey and hosting subsequent interviews with personal trainers who recently earned NASM's CPT credential. Results of the study indicated that most respondents' initial reaction to the NASM-CPT program was favorable, and they believed they had acquired the intended knowledge from the program. However, the delivery of content needs significant revision. The NASM-CPT is an online, self-paced, and self-taught eLearning program and entails mostly passive learning (reading and watching content). A consensus was determined when evaluating the data: aspiring personal trainers seek a sense of community and opportunities to communicate with peers, interactive simulations to practice creating customized exercise programs, and instruction from qualified instructors. Based on the available data, the PI recommends investing in additional eLearning technologies to better prepare aspiring personal trainers for their profession.

CAREER READINESS OF INDIVIDUALS OBTAINING AN ACCREDITED PERSONAL  
TRAINING CERTIFICATION AND SUGGESTIONS FOR PROFESSIONAL EDUCATION

by

Brian G. Sutton

A Dissertation  
Submitted to  
the Faculty of The Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

Greensboro

2024

Approved by

---

Dr. Paul Davis  
Committee Chair

## DEDICATION

I dedicate my dissertation to my loving wife, Audrey Basham. You're the reason why I was able to pursue my dream of earning a doctorate in kinesiology. Thank you from the bottom of my heart for your love and support.

APPROVAL PAGE

This dissertation, written by Brian G. Sutton, has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

Committee Chair

\_\_\_\_\_  
Dr. Paul Davis

Committee Members

\_\_\_\_\_  
Dr. Robert Owens

\_\_\_\_\_  
Dr. William Karper

May 31, 2024

\_\_\_\_\_  
Date of Acceptance by Committee

April 22, 2024

\_\_\_\_\_  
Date of Final Oral Examination

## ACKNOWLEDGMENTS

I thank my committee members, Dr. Paul Davis, Dr. Robert Owens, and Dr. Bill Karper, for guiding me through the dissertation process. Your continued support is appreciated. I would also like to acknowledge the help from Dr. Pam Brown and my 2020 UNCG peers; thank you for your support. Lastly, I would like to thank Dr. Scott Cheatham for your advice and mentorship. I appreciate the many phone calls we shared and your guidance as I navigated my way through this challenging endeavor.

## TABLE OF CONTENTS

LIST OF TABLES.....	viii
LIST OF FIGURES .....	ix
CHAPTER I: PROJECT OVERVIEW.....	1
Background Information and Literature Review .....	2
NASM-CPT Accredited Exam.....	2
NASM-CPT End-of-Course Survey.....	5
A Literature Review of Fitness Professional’s Competencies .....	6
Results from the Evidence.....	8
How Do Certified Fitness Professionals Acquire Knowledge?.....	8
Results from the Evidence.....	10
Desirable Qualities and Competencies of CPTs .....	10
Results from the Evidence.....	12
Kirkpatrick Model .....	12
Results from the Evidence.....	13
Gaps in the Literature and Future Directions .....	13
Purpose Statement & Aims.....	14
Methodology.....	14
Pilot Survey and Official Survey .....	15
Pilot Survey Deployment .....	15
Official Survey Deployment .....	16
Survey Data Analysis Methods.....	19
Interviews .....	21
Expected Findings .....	23
Limitations .....	23
Results.....	24
Survey: Demographic Data.....	24
Survey: Kirkpatrick Level 1 (Reaction) Results.....	25

Survey: Kirkpatrick Level 2 (Learning) Results .....	28
Survey: Kirkpatrick Level 3 (Behavior) Results .....	32
Survey: Open-ended Question Results .....	35
Interviews: Selection Criteria and Demographics .....	36
Interviews: Procedures.....	36
Interviews: Results from Questions 1-6 .....	37
Interviews: Synopsis of Findings.....	38
Discussion .....	39
CHAPTER II: DISSEMINATION .....	45
CHAPTER III: ACTION PLAN.....	52
Long-term Action Plan .....	53
REFERENCES .....	55
APPENDIX A: NASM-CPT LEARNING MANAGEMENT SYSTEM (LMS).....	59
APPENDIX B: JOB TASK ANALYSIS.....	60
APPENDIX C: NASM-CPT EXAM PASS RATES (10/24/2022) .....	65
APPENDIX D: CPT 7 END-OF-COURSE SURVEY RESULTS .....	66
APPENDIX E: KIRKPATRICK MODEL.....	68
APPENDIX F: PILOT INVITATION EMAIL.....	69
APPENDIX G: SURVEY.....	71
APPENDIX H: INVITATION EMAIL.....	80
APPENDIX I: INTERVIEW INVITATION EMAIL .....	81
APPENDIX J: SURVEY PARTICIPANT DEMOGRAPHICS (AGE, GENDER, EDUCATION, WORK HISTORY).....	82
APPENDIX K: KIRKPATRICK LEVEL 1 (REACTION) RESULTS .....	84
APPENDIX L: KIRKPATRICK MODEL LEVEL 2 (LEARNING) RESULTS .....	86
APPENDIX M: KIRKPATRICK MODEL LEVEL 3 (BEHAVIOR) RESULTS.....	90

APPENDIX N: DISSEMINATION POWERPONT SLIDES ..... 92

APPENDIX O: POSITIONALITY STATEMENT ..... 95



LIST OF TABLES

Table 1. Five-Point Likert Scales .....23

Table 2. Summary of Demographic Data .....27

Table 3. Appendix D. CPT 7 End-of-Course Survey Results.....70

Table 4. Appendix J Survey Participant Demographics.....86

Table 5. Appendix K Kirkpatrick Level 1 (Reaction) Results.....88

Table 6. Appendix L Kirkpatrick Model Level 2 (Learning) Results.....90

Table 7. Appendix M Kirkpatrick Model Level 3 (Behavior) Results .....94

## LIST OF FIGURES

Figure 1. Table of Contents .....	4
Figure 2. Question 8 Survey Results.....	26
Figure 3. Question 9 Survey Results.....	26
Figure 4. Question 10 Survey Results.....	27
Figure 5. Question 11 Survey Results.....	27
Figure 6. Question 12 Survey Results.....	28
Figure 7. Question 13 Survey Results.....	29
Figure 8. Question 14 Survey Results.....	30
Figure 9. Question 16 Survey Results.....	31
Figure 10. Question 17 Survey Results.....	32
Figure 11. Question 19 Survey Results.....	33
Figure 12. Question 20 Survey Results.....	34
Figure 13. Themes from Survey's Open-ended Question .....	35

## CHAPTER I: PROJECT OVERVIEW

Consistent participation in physical activity is vital for preventing and managing chronic disease (Lavie et al., 2019; Warburton & Bredin, 2017). Moreover, poor aerobic fitness is one of the strongest predictors of morbidity and mortality among adults (Kodama et al., 2009).

Conversely, adults who sustain appropriate aerobic fitness for their lifespan decrease all-cause mortality by 30-35% (Reimers, Knapp & Reimers, 2012).

Fitness professionals, such as National Academy of Sports Medicine Certified Personal Trainers (NASM-CPTs), are at the forefront of preventative medicine because they help clients adopt physical activity, exercise protocols, and healthy nutrition habits necessary for improved health, fitness, and well-being. Competent fitness professionals adhere to evidence-based practices to deliver safe and effective exercise training and coaching principles. Moreover, the fitness industry is filled with misinformation, often exaggerated on social and popular media platforms (Rounsefell et al., 2020). Consequently, fitness professionals must rely on facts grounded in research and scientific rigor to combat fads and fallacies that proliferate clients' lives.

Yet, sedentary lifestyles continue to fuel elevated rates of obesity and related chronic health conditions (Bull et al., 2020). Alongside other practitioners in the greater allied health industry, fitness professionals represent a powerful force for change by helping clients improve their fitness, health, and wellness. This phenomenon occurs despite some physicians being reluctant to recommend personal training in some circumstances (Pojednic et al., 2018), which is a concern for personal training to be considered a viable occupation recognized by the greater healthcare community.

Consequently, it is imperative to elevate the profession of personal training and encourage the medical fields and fitness professionals to work together to benefit their patients and clients. By working together, healthcare professionals can refer their patients to qualified fitness professionals who need assistance with an exercise regimen.

A possible reason for the reluctance of the allied health community to embrace personal training is the lack of understanding of CPTs' competencies and education (Pojednic et al., 2018). It is important to ascertain if CPTs receive a quality education from fitness certifying agencies, particularly from the National Academy of Sports Medicine (NASM), one of the world's largest fitness certification organizations.

### **Background Information and Literature Review**

First, it is important to understand the NASM-CPT program before examining research investigating CPT's competencies and how they acquire knowledge. The NASM-CPT is a self-paced and self-taught eLearning program. The materials offered to retail NASM-CPT students include a physical textbook and online study materials. The online study materials, which resemble an interactive e-book, consist of multimodal study aids, including instructional videos, audio lectures, animated voice-over presentations, 3D anatomy models, and assessments (quizzes, section reviews, and a practice exam) to measure knowledge acquisition. The online study materials are housed in NASM's Learning Management System (LMS). See Appendix A for an example of the LMS online environment.

#### **NASM-CPT Accredited Exam**

The National Commission for Certifying Agencies (NCCA) accredits the NASM-CPT exam. Third-party accreditation has become the standard in fitness education, and the International Health, Racquet & Sportsclub Association recommends that all personal trainers

obtain a third-party accredited personal training certification (Personal Trainer Accreditation, n.d.).

Part of the accreditation process is to develop an exam blueprint that defines all content domains of the certification exam. Industry professionals validated these content domains through a Job Task Analysis (Appendix B). The following content domains were determined as essential knowledge and skills that every CPT must possess (Certified Personal Trainer, n.d.).

- Domain 1: Basic and Applied Sciences and Nutritional Concepts (15% of exam)
- Domain 2: Client Relations and Behavioral Coaching (15% of exam)
- Domain 3: Assessment (16% of exam)
- Domain 4: Program Design (20% of exam)
- Domain 5: Exercise Technique and Training Instruction (24% of exam)
- Domain 6: Professional Development and Responsibility (10% of exam)

The NASM-CPT exam consists of 120 multiple-choice questions, and candidates are given a two-hour time limit. A scaled score of 70 or better is required to pass. Furthermore, the exam is proctored to eliminate the possibility of cheating. Exam candidates can take the exam in person at a local proctoring location or online through a live remote proctor service.

In addition, the Job Task Analysis was the foundation for determining the NASM-CPT curriculum. The content in the NASM-CPT program maps directly to the outcomes specified in the Job Task Analysis, which is reflected in the program's table of contents (Figure 1).

**Figure 1. Table of Contents (Sutton, 2022)**

<p><b>Section 1. Professional Development and Responsibility</b> Chapter 1. Modern State of Health and Fitness Chapter 2. The Personal Training Profession</p> <p><b>Section 2. Client Relations and Behavioral Coaching</b> Chapter 3. Psychology of Exercise Chapter 4. Behavioral Coaching</p> <p><b>Section 3. Basic and Applied Sciences and Nutritional Concepts</b> Chapter 5. The Nervous, Skeletal, and Muscular Systems Chapter 6. The Cardiorespiratory, Endocrine, and Digestive Systems Chapter 7. Human Movement Science Chapter 8. Exercise Metabolism and Bioenergetics Chapter 9. Nutrition Chapter 10. Supplementation</p> <p><b>Section 4. Assessment</b> Chapter 11. Health, Wellness, and Fitness Assessments Chapter 12. Posture, Movement, and Performance Assessments</p> <p><b>Section 5. Exercise Technique and Training Instruction</b> Chapter 13. Integrated Training and the OPT Model Chapter 14. Flexibility Training Concepts Chapter 15. Cardiorespiratory Training Chapter 16. Core Training Concepts Chapter 17. Balance Training Concepts Chapter 18. Plyometric (Reactive) Training Concepts Chapter 19. Speed, Agility, and Quickness Training Concepts Chapter 20. Resistance Training Concepts</p> <p><b>Section 6. Program Design</b> Chapter 21. The Optimum Performance Training Model Chapter 22. Introduction to Exercise Modalities Chapter 23. Chronic Health Conditions and Special Populations</p>
--

Historically, about 65-70% of NASM learners pass the NASM-CPT certification exam. Moreover, every time NASM releases a new version of the NASM-CPT product/curriculum (typically every five years), the examination is also updated to reflect the new content of the program. Tracking the NASM-CPT examination pass rates can provide valuable preliminary information when evaluating the pedagogy of the program to determine if the curriculum adequately prepares learners for the credentialing exam. See Appendix C for a more detailed illustration of the pass rates as of 10/24/2022. It is important to note that the NASM-CPT 7<sup>th</sup> edition was released in January 2021. Therefore, Appendix C only includes exam results of the 7<sup>th</sup> edition and purposely excludes previous examination results.

### *NASM-CPT End-of-Course Survey*

The NASM-CPT includes an end-of-course survey that involves several questions and gathers quantitative and qualitative data about users' experiences while going through the program. The survey consists of many parts, including customer demographics, overall rating of the program, ratings of the course content, ratings of the course assets, and open-ended questions. Appendix D provides more information about the response rates to the NASM-CPT end-of-course survey.

The following information highlights key results from the NASM-CPT end-of-course survey.

- 40% and 42% of survey respondents were very satisfied or satisfied with the organization and course flow of the program, respectively. 13% of respondents were neutral, 3% were dissatisfied, and 3% were very dissatisfied with the organization and course flow of the program.
- 38% and 45% of survey respondents were very satisfied or satisfied with how the content was delivered, respectively. 13% of respondents were neutral, 3% were dissatisfied, and 2% were very dissatisfied.

The NASM-CPT end-of-course survey provides valuable insight into user perceptions of the curriculum, and most respondents provided favorable feedback. Yet, the results of this survey are incomplete because they do not assess how well the program prepares an individual for a career in personal training.

Therefore, examining existing literature helps illustrate CPTs existing knowledge of the six previously described content domains. Unfortunately, only a handful of scientific studies have investigated the competencies of personal trainers as a whole, and no literature to date has

examined fitness certifying agencies' pedagogical practices. Yet, this information is helpful to ascertain if personal trainers with a fitness certification exhibit the necessary knowledge to work with a wide array of clients safely and effectively.

### **A Literature Review of Fitness Professional's Competencies**

Zenko and Ekkekakis (2015) assessed 1,808 certified fitness professionals' knowledge of exercise prescription guidelines taught by the American College of Sports Medicine (ACSM), another nationally recognized fitness certifying agency similar to NASM. On average, fitness professionals certified by ASCM answered 43% of the questions correctly, with college graduates scoring slightly higher. According to this study, personal trainers do not adequately display the knowledge necessary to design exercise programs based on ACSM's recommendations. Furthermore, this study provides some evidence that exercise degree programs are generally more effective in teaching content than personal training certification programs.

Jankauskiene and Pajaujiene (2018) developed an exam to assess the competencies of Lithuanian fitness professionals according to EuropeActive's educational standards (which are similar to the Job Task Analysis used by NASM). The exam covered the participants' core knowledge (e.g., anatomy, physiology, health, and safety) and specific knowledge (e.g., resistance training and cardio training protocols). None of the study's participants passed the test according to level 3 EuropeActive standards [level 3 is equivalent to standards required to work with apparently healthy adults in a nonclinical setting]. These results suggest that personal trainers lack the knowledge necessary for their profession and that a critical analysis of the personal training certification process is needed.



Bianchi et al. (2020) explored fitness professionals' role in preventing musculoskeletal injuries of gym attendees. Fitness professionals with a college degree trained 105 athletes, while personal trainers with only a fitness certification coached the other 100 subjects. The study indicated that amateur athletes coached by a fitness professional with a formal degree had lower injury rates (14.3%) than those coached by personal trainers without a formal degree (28%). This research highlights the potential inadequacies of fitness certifications compared to degree programs. More research is needed to determine how certifying fitness agencies can improve the learning outcomes of aspiring fitness professionals, which may subsequently reduce clients' injury risk.

Waryasz et al. (2016) examined personal trainer education, practice trends, and injuries sustained by clients. An important finding from this study was that personal trainers with a college degree showed superior knowledge, particularly regarding strength and conditioning practices, and provided further evidence that fitness certifications can do more to improve learners' knowledge and skill sets.

Malek et al. (2002) used the Fitness Instructors Knowledge Assessment (FIKA©) to examine the knowledge of fitness professionals. The questionnaire examined five key components, including (1) health screening, (2) fitness assessment protocols, (3) exercise prescription, (4) nutrition, and (5) general training knowledge regarding chronic conditions. Based on the survey results, CPTs with a bachelor's degree in an exercise science-related field and certification from ACSM or the NSCA (as opposed to other certifications, including NASM) possessed greater knowledge of the five key components. Moreover, the CPTs' years of experience did not strongly predict exercise science knowledge. The findings suggest that CPTs should not rely solely on work experience to gain knowledge. It is important to note that this

study is over twenty years old and may not sufficiently reflect the competencies of today's personal trainers. However, it does suggest the value of earning a college degree over a fitness certification.

### ***Results from the Evidence***

Based on the literature presented above, personal trainers often lack the knowledge to provide their clients with optimal evidence-based exercise programming and coaching. Moreover, this research suggests that earning a college degree is more effective in preparing aspiring personal trainers for their profession than fitness certifications. The findings suggest a formal evaluation of the NASM-CPT program is warranted to ascertain if NASM-CPT graduates, regardless of whether or not they possess a kinesiology-related degree, exhibit the necessary competencies for their occupation.

### **How Do Certified Fitness Professionals Acquire Knowledge?**

Similar to examining personal trainers' competencies, it is also important to ascertain how they acquire new knowledge. This information can shed some light on the differences between personal trainers with a fitness certification versus those with a college degree.

De Lyon and Cushion (2013) investigated personal trainers' knowledge and skills using qualitative research methods. The study's overarching question was, "*How do fitness trainers acquire and develop knowledge and perceive this in relation to their professional practice?*" The study's results suggest that personal trainers learn in various ways, and many learn content from informal settings through organic developments experienced at work. The researchers concluded that accredited fitness certifications do not adequately prepare personal trainers for their profession, and multidimensional models should be considered, such as integrating live instruction, internships, and mentorships. It is important to note that a limitation of this study is

the small sample size (n=11). Yet, this study provides some evidence that fitness certifying agencies can do more to prepare their learners for the personal training profession.

Stacey et al. (2010) investigated methods for translating evidence-based knowledge for use by fitness professionals. The authors identified that a significant portion of personal trainers obtain information from textbooks, mass media, networking with colleagues, scientific journals, and seminars. However, personal trainers holding higher education levels (i.e., college degree) reported using evidence-based sources (i.e., scientific journals) to a greater extent when compared to personal trainers with lower education levels who predominately relied on mass media. Based on this research, CPTs with a college degree are better equipped to use scholarly resources to acquire new knowledge. This study illustrates that the typical fitness certification might not adequately teach aspiring personal trainers the importance of adopting academic resources to acquire new knowledge.

Bennie et al. (2017) also investigated the sources fitness professionals use to acquire knowledge about training methods. The results indicated that less than half of the respondents use high-quality sources (i.e., textbooks, scientific journals, workshops) to obtain information. A subset of personal trainers was identified as high risk for not using high-quality information sources. These professionals tended to be younger, work in large fitness facilities, or conduct at-home training services. These results indicate an opportunity to teach personal trainers how to access and interpret information from high-quality sources. Similar to the findings of Stacey et al. (2010), this study demonstrates that fitness certifications may not adequately teach the importance of adopting academic resources to acquire new knowledge.

### ***Results from the Evidence***

Using the information presented, many personal trainers without an academic degree tend to rely on non-scholarly resources to acquire knowledge. This evidence suggests that some fitness certifications do not adequately prepare individuals for the personal training profession and how to use credible sources of information. Further investigation will elucidate if NASM-CPT graduates obtain the necessary skills to source credible information.

### **Desirable Qualities and Competencies of CPTs**

The next step is to examine evidence from the literature about personal trainers' desirable qualities and competencies. This information can be used to justify the augmentation of the NASM-CPT curriculum.

Ku and Hsieh (2020) aimed to assess the most desirable qualities and competencies of personal trainers. The researchers first interviewed five fitness experts to identify the five dimensions of professional competencies. Next, they distributed an online survey and paper questionnaires and received data from 324 eligible full-time fitness professionals. According to the survey responses, the most critical competencies for working as a personal trainer were (1) professional skills (i.e., proper instruction of exercise), (2) career development, and (3) public relations. Nutrition and coping with stress were also ranked highly. Collectively, lifelong learning and developing multiple competencies in professional skills, career development, and public relations were cited as critical factors for a successful fitness career. Consequently, NASM may be able to use this information to augment its curriculum and address current gaps.

According to Melton et al. (2010), fitness managers play an essential role in the day-to-day operation of exercise facilities. Fitness managers are responsible for hiring, training, and supervising personal trainers. However, there is limited research addressing fitness managers'

attitudes surrounding the aptitudes of personal trainers. Fitness managers were recruited to provide thoughts about the desirable qualities of personal trainers and personal training certifications. Two global themes emerged from the participants' responses: selection rationale and negative characteristics. Selection rationale refers to qualities influencing a fitness manager's decision to hire a fitness professional (e.g., physique, education, social skills). Negative characteristics refer to unethical behaviors (e.g., sexual misconduct) and the costs of those behaviors (e.g., loss of clients, revenue, and the possibility of litigation). The researchers suggested that educational programs devote more time teaching affective qualities such as interpersonal communication. Therefore, fitness certifying agencies, including NASM, may need to spend more time teaching concepts related to professional practice to help elevate the profession of personal training. A detailed evaluation of NASM's pedagogy can help determine if it adequately teaches interpersonal communication concepts.

Puente and Anshel (2010) aimed to determine if personal trainers' interactions and coaching methods impacted fitness clients' perceived competence, autonomy, and motivation to exercise. The results showed that a personal trainer's interaction style significantly affected their client's perceived competence, autonomy, and enjoyment of exercise. Moreover, greater competence and self-determined regulation enhanced enjoyment and exercise frequency. In other words, a positive, encouraging environment that promotes competence and autonomy intrinsically motivates clients to exercise. Teaching this information to aspiring personal trainers is necessary because successful exercise instruction requires motivational techniques to increase exercise adherence. Further research should investigate whether NASM adequately teaches these concepts within its curriculum.

### ***Results from the Evidence***

Based on the evidence presented, fitness certifying agencies should emphasize essential skill sets such as interpersonal communication, career development, public relations, and coaching methods to foster adherence to exercise programs. This information suggests that a formal evaluation of the NASM-CPT program is needed to determine if it adequately teaches these topics to learners. Unfortunately, no literature to date has examined fitness certifying agencies' pedagogical practices.

### **Kirkpatrick Model**

Results from the evidence previously described indicate that a formal evaluation of personal training certification programs is warranted. However, such an evaluation should use an evidence-based approach like the Kirkpatrick model.

The Kirkpatrick model is a well-recognized framework for evaluating the results of instructional training programs. It creates a process-oriented method for measuring outcomes and identifying areas of substantial impact and has been successfully used in several academic studies that evaluate training and public education programs (Alsalamah & Callinan, 2021; Farjad, 2012; Rafiq, 2015; Smidt et al., 2009). Furthermore, it has been used to evaluate learning methods for healthcare professionals, such as physical therapists and nurses (Dorri, Akbari & Sedeh, 2016; Heydari et al., 2019; Keogh et al., 2018; Struessel, Sleddens & Jones, 2022). The Kirkpatrick model assesses training and educational programs based on four criteria: reaction, learning, behavior, and results.

The first level, *Reaction*, measures if learners found the instruction engaging, advantageous, and relevant to their occupation. This level is commonly assessed by asking learners to rate their experience after completing the training, often through surveys. The second

level is *Learning*, which ascertains if learners acquired the intended knowledge and skills from the training program. Evaluating knowledge and skills can be completed in several fashions, such as survey instruments, pre-learning and post-learning assessments, or interviews. The third level, *Behavior*, measures whether learners apply what they were taught in the training program. Assessing behavioral changes makes it possible to know if the skills were successfully taught and logistically feasible in the workplace. The fourth and final level, *Results*, measures direct outcomes against an organization's Key Performance Indicators (KPIs). Common KPIs include higher return on investments, increased client retention rates, and customer satisfaction. A visual representation of the Kirkpatrick model is available in Appendix E.

The Kirkpatrick model has been modified and adapted since its inception and is now known as the New World Kirkpatrick model. The new model provides greater clarity regarding the purpose and intent of the four levels. Moreover, the new model added elements to recognize the complexities of educational programs rather than using a reductionist approach (i.e., only focusing on outcomes) and is a viable framework for evaluating training programs (Gandomkar, 2018). Analyzing data at each level allows evaluators to examine the relationships among them and to understand the training program's overall impact.

### ***Results from the Evidence***

The New World Kirkpatrick model has been validated in research and is a viable framework for evaluating training programs and a suitable framework for analyzing the NASM-CPT program using its multi-leveled approach.

### **Gaps in the Literature and Future Directions**

While limited, literature examining the existing competencies of personal trainers demonstrates their lack of understanding of essential knowledge areas such as exercise testing,

exercise prescription, coaching principles, and interpersonal communication. Furthermore, many personal trainers rely on non-scholarly sources to acquire knowledge, and years of experience have little impact on competence. Based on the research, fitness certifying agencies, such as NASM, can potentially do more to prepare fitness professionals for their profession. However, no formal study has ever evaluated the NASM-CPT program. A solution to this problem is using the New World Kirkpatrick model to evaluate learner perceptions of the NASM-CPT training program.

### **Purpose Statement & Aims**

This dissertation is designed to assess learner perceptions of the NASM-CPT program and its ability to prepare individuals for the personal training profession.

Therefore, this study aims to:

1. Collect and analyze NASM personal trainers' opinions of the efficacy of the NASM-CPT educational program when preparing for a professional career in personal training.
2. Generate recommendations to guide the future development of the NASM-CPT program.

The data collected only reflects the perceptions of NASM-certified personal trainers, which is a limitation of this study. Although potentially useful, perceptions of the NASM-CPT from hiring managers and other influential fitness people are beyond the feasibility of the current study. However, collecting the opinions of recently certified NASM-CPTs is an important first step toward identifying potential gaps in the pedagogy and making significant improvements in the curricula to better prepare aspiring personal trainers for their profession.

### **Methodology**

The purpose of evaluating the NASM-CPT program was to identify if the curriculum sufficiently met learners' needs and prepared them for an occupation in personal training and if



changes to the NASM-CPT product offering were warranted, which can significantly impact learning outcomes, such as knowledge acquisition, retention, and professional practice.

Moreover, the evaluation was designed to determine if future investments are needed to enhance the program (i.e., new instructional materials, revised content, and increased support staff).

The evaluation used a mixed-methods design and was conducted in two parts: administering a survey and hosting subsequent virtual interviews. Information about this process is described below.

### **Pilot Survey and Official Survey**

Survey research requires collecting data from a sample of people through their responses to questions (Ponto, 2015). Surveys describe the attitudes or behavioral trends of the population being investigated. They are typically reliable because they are standardized with the same questions and phrased in precisely the same way for all respondents. Surveys are versatile, can be used in many research design methods, and are relatively easy to administer. Furthermore, surveys offer a reliable snapshot of time. In other words, surveys give an idea about the respondent's attitudes when the survey was administered (Ponto, 2015).

### ***Pilot Survey Deployment***

Following Institutional Review Board approval, the initial portion of this dissertation employed a cross-sectional survey design to allow for a retrospective analysis of the NASM-CPT program toward career readiness. However, before the official survey was released, the survey questions were validated via a small pilot study. Consequently, a pilot survey was sent to a small group of seven subject matter experts in the field of personal training. These individuals, who were a mix of university professors and seasoned NASM Master Instructors, provided feedback regarding the survey questions and offered suggestions for improvement. The principal

investigator (PI) personally emailed each subject matter expert to explain the process (Appendix F) and asked for a one-week turnaround for their feedback. It is important to note that the seven subject matter experts were personal contacts of the PI and included five university professors who teach exercise science, one instructional designer who develops NASM exercise science curriculum, and one NASM Master Instructor who is a part-time employee of NASM and is also a university professor. The PI then reviewed everyone's critiques, made the necessary edits to the survey, and submitted changes to the pilot group for approval. The preliminary work followed the process outlined below:

1. PI contacted each subject matter expert via email (using the PI's professional connections).
2. PI instructed each expert to submit their critiques of the survey (using track changes) via email.
3. PI reviewed critiques.
4. PI authored a revised survey.
5. PI emailed the revised survey to the group of experts for approval.
6. Additional edits were required, and the PI repeated steps 3-5 until a 75% threshold consensus was determined (i.e., 7 out of 9). The survey needed three rounds of revision until the 75% threshold consensus was reached.

Once the survey was approved and validated via the pilot study, the official survey was distributed to NASM-certified professionals.

### ***Official Survey Deployment***

The official survey collected NASM-CPTs' perceptions of the program and its effectiveness in preparing individuals for the personal training profession (Appendix G). In other

words, did survey respondents perceive the NASM-CPT program adequately prepared them for a career in personal training, or did they express self-doubt about intellect, skills, or accomplishments after completing the program, a phenomenon sometimes referred to as imposter syndrome (Feenstra et al., 2020)?

The survey was developed through Alchemer (formerly known as Survey Gizmo), the same web-based company NASM currently uses to distribute its surveys to customers. The survey instrument included demographic questions, Likert scales assessing participants' opinions of NASM's CPT education program, and one open-ended question requesting suggestions for changes to the program. The demographic questions gathered information such as age, gender, education, and occupation.

The first three levels of the New World Kirkpatrick model (Reaction, Learning, and Behavior) were used to formulate the assessment and were divided into three clusters. Level 4 of the New World Kirkpatrick model, Results, was intentionally omitted because measuring direct outcomes (e.g., return on investment) against NASM's key performance indicators (KPIs) is beyond the scope of this study since results are often assessed by the employer rather than the employee. Moreover, newly certified NASM-CPTs may not have generated notable results toward NASM's KPIs once the survey was disseminated.

The PI disseminated the survey via NASM's email channel to a select group of NASM-CPT graduates and analyzed the data using descriptive statistics. The NASM operations department provided the PI with the list of participants based on specific criteria.

### **Disseminating the Survey**

In collaboration with the PI, the NASM operations department gathered the list of eligible participants from NASM's database using specified criteria (discussed in the next section). Once

the list was formulated, the NASM operations department emailed the eligible participants a link to the survey (Appendix H). The survey was available and open for 31 days, from October 1, 2023, to October 31, 2023. After 31 days, the survey was closed, and no other individuals could complete it. A reminder email was sent 10 and 20 days after the initial invitation.

A random drawing incentive was provided to help encourage eligible participants to complete the survey. Consequently, everyone who entered the random drawing was eligible to win a free NASM online continuing education course of their choosing. Information about the incentive was provided to eligible participants when they received the email invitation from NASM.

### **Target Participants**

The target population for the survey was NASM Certified Personal Trainers who passed the 7<sup>th</sup> edition NASM-CPT (*How to become a certified personal trainer*. n.d.) between January 2021 and May 2023.

Inclusion criteria included:

- NASM Certified Personal Trainers who successfully passed the NASM-CPT 7<sup>th</sup> edition.
- NASM Certified Personal Trainers with a valid email address in NASM's database.

Exclusion criteria include:

- NASM customers who were not enrolled in the NASM-CPT 7<sup>th</sup> edition.
- NASM Certified Personal Trainers who passed prior editions of the CPT program.
- NASM customers who were enrolled but had not passed the NASM-CPT 7<sup>th</sup> edition exam.
- NASM Certified Personal Trainers who did not have a valid email address available in NASM's database.

## **Expected Sample Size**

Approximately 34,000 people from the United States have passed the NASM-CPT 7<sup>th</sup> edition examination since its inception in January 2021. Moreover, roughly one and a half percent of customers have historically responded to and completed NASM surveys. Using this figure as a baseline metric, the PI expected the following:

- Total sample size: ~34,000 people
- Expected response rate: 1.5%
- Anticipated number of respondents: ~510 people

The PI used an online sample size calculator from Qualtrics to ascertain an appropriate sample size (Qualtrics, 2023). Using a confidence level of 95%, a 5% margin of error, and a population of 34,000, the PI determined a suitable sample size of 380. Therefore, 380 was chosen as the recommended minimum sample size, and subsequently, collecting approximately 510 responses to the survey meets these parameters.

However, after implementing inclusion and exclusion criteria, the total population contacted was lower than expected. The email invitation was sent to 20,745 people (instead of 34,000), but the total participation in the survey well surpassed the expected 510 responses. In all, 974 people completed the survey.

## ***Survey Data Analysis Methods***

Descriptive statistics were used to analyze and interpret all data from the survey results using Excel, Alchemer, and Atlas.ti software. More specifically, descriptive statistics calculate, describe, and summarize the data meaningfully and logically (Vetter, 2017). Once the responses were received, the participants' demographic information (i.e., age, sex, years of practice,

highest degree held, and current occupation) was tabulated. Narrative descriptions and frequency tables were constructed to illustrate demographic information.

Similarly, descriptive statistics were used to analyze Likert items. Likert items measure the respondents' attitudes to a particular question or statement and, in many cases (but not all), measure the respondents' levels of agreement or disagreement with the target statement. The survey used five-point scales as follows (Table 1):

**Table 1. Five-Point Likert Scales**

1 = Strongly disagree	1 = Extremely inappropriate	1 = Extremely Ineffective	1 = Strongly disagree	1 = Never
2 = Disagree	2 = Inappropriate	2 = Ineffective	2 = Disagree	2 = Rarely
3 = Neutral	3 = Neutral	3 = Neutral	3 = Neutral	3 = Sometimes
4 = Agree	4 = Appropriate	4 = Effective	4 = Agree	4 = Often
5 = Strongly agree	5 = Extremely appropriate	5 = Extremely effective	5 = Strongly agree	5 = Very often

It is important to recognize that Likert items are ordinal versus nominal data types. Therefore, the PI relied primarily on medians and modes to measure central tendencies (versus means), and variability was identified using frequencies (versus standard deviations). The data is presented using narrative descriptions and bar graphs.

Likert questions are typically designed to be analyzed as a group called a Likert scale (Jebb, Ng, & Tay, 2021). In other words, a Likert scale is a multi-item grouping that addresses the same topic. The group of Likert items is then analyzed together. The PI attempted to analyze the survey data using Likert scales where appropriate.

However, some Likert items in the survey were unrelated and analyzed individually. In these instances, the PI described the observations using frequencies. Describing data, particularly when coupled with graphs, is an effective strategy for displaying data (Sullivan & Artino, 2013).

Lastly, themes from the open-ended question were identified and notated (Foley & Timonen, 2015). Open-ended questions are useful when asking about complex topics that cannot be easily captured and serve as follow-ups to closed-ended questions. Themes enabled the PI to grasp and understand the experiences of NASM-CPT participants and were applied to systematically analyze qualitative data from open-ended survey questions. Specifically, the PI performed a thematic analysis using an inductive coding system to organize data and draw reasonable and meaningful conclusions (Suter 2012). The first step in the coding process was to investigate the raw responses from the open-ended question and formulate initial codes with operational definitions of each code. The initial codes were grouped into categories as the coding progressed, forming themes. Using this process, patterns in the data became apparent, telling a story of survey respondents' perceptions that highlighted their opinions of the NASM-CPT program. The data is presented using a variety of charts and graphs.

## **Interviews**

After gathering quantitative data from surveys, the last step was interviewing NASM-CPT professionals. The people selected for the interviews come from those participants who identified in the survey that they were willing to be interviewed. The PI personally emailed each individual (Appendix I). As an incentive, all participants received \$200.

To choose interviewees, the PI performed purposeful sampling, in which he aimed to interview study participants who best represented the population and used the following metrics: approximately two-thirds female and one-third male, a modest mix of education (some college,

associate degree, or bachelor degree), and one to two years of personal training experience.

These metrics were chosen because they best represent the demographic data collected from the survey.

Furthermore, the PI did not predetermine a specific number of individuals to interview but rather aimed for data saturation. Saturation occurs when the data gathered from new participants does not substantially add to the existing codes or themes developed by the PI (Creswell, 2015). In other words, saturation occurs when incoming data produces little or no new information to address the research question (Guest, Namey & Chen, 2020). Consequently, after five people were interviewed, the PI determined that saturation was met because each participant repeated the same themes and had the same perceptions of the NASM-CPT program. The PI speculates that saturation occurred after interviewing only five people because the participants were largely from a homogenous group (similar occupations and experience levels). Moreover, the PI recognizes that identifying saturation is determined by the judgment and experience of the researcher and a potential limitation of the study.

The interviews were conducted virtually using Microsoft Teams software, and the PI hosted the virtual meetings. The PI drew upon best practice guidelines to conduct the interviews (Doody & Noonan, 2013; Foley & Timonen, 2015), using the survey results to develop open-ended questions. Themes were identified after analyzing the survey results, and questions for interviewees were formulated based on these themes. Lastly, the PI triangulated information from the survey and interviews to answer the research question. Triangulating data increases the credibility and validity of research and potentially reduces bias (Noble & Heale, 2019). Using this approach, a better understanding of learners' struggles will guide future curriculum development and revisions.



The process for evaluating the qualitative data from the interviews included the following steps:

- Record and transcribe the interviews using Microsoft Teams software.
- Watch and rewatch the session and take meticulous notes.
- Review notes to explore the data collected.
- Upload the meeting's transcripts to Atlas.ti software.
- Using Atlas.ti software, create themes based on the data collected by forming inductive codes.
- Review and analyze the themes and codes and determine what content best tells the story of the data and answers the research question and aims.
- Summarize the data and findings.

### **Expected Findings**

Due to the large sample size, the PI expected to find a mix of perceptions related to the NASM-CPT program. However, the PI anticipated that a large percentage of respondents would favor if NASM offered future in-person teaching (i.e., live workshops) in addition to eLearning. This expected finding can be traced to anecdotal customer feedback reviewed online by the PI from NASM customers (i.e., comments in NASM YouTube videos and Reddit forums).

### **Limitations**

The data collected only reflected the perceptions of NASM-certified personal trainers, which was a limitation of this study. Perceptions of the NASM-CPT from clients, employers, and fitness experts were beyond the scope of this study. However, collecting such data was an important first step toward identifying potential gaps in the pedagogy and making significant improvements in the curricula.

Lastly, the study did not examine how well the program prepares learners to pass the NASM-CPT certification examination, which would require a follow-up study.

## Results

Survey responses are presented first, followed by a summary of the thematic analysis results from the interviews. A final summary of the mixed analysis is presented in the discussion.

### Survey: Demographic Data

A total of 1,073 opened the online Alchemer survey. Eighteen respondents were disqualified because they did not complete the NASM-CPT 7<sup>th</sup> edition, 81 surveys were partially completed, and 974 responses were complete. Thus, the completion rate of the survey was 91%.

Nearly two-thirds of survey respondents were female (64%), one-third were male (35%), and the average age of respondents was mid-thirties. A large percentage of respondents (73%) earned at least an associate degree. However, 81% of respondents with a college degree did not have a degree in a related field (i.e., kinesiology, exercise science, etc.). 70% of respondents have worked as a personal trainer, and the remaining 30% have not. Of those who have worked as a personal trainer, most (73%) have worked as a personal trainer for two years or less (Table 2). Additional tables summarizing the participants’ age, gender, education, and work experience are found in Appendix J.

<b>Table 2. Summary of Demographic Data</b>			
Average Age	<ul style="list-style-type: none"> <li>• Median age: 36 (see Appendix J for complete synopsis)</li> </ul>	Degree in a Related Field	<ul style="list-style-type: none"> <li>• 81% no</li> <li>• 19% yes</li> </ul>

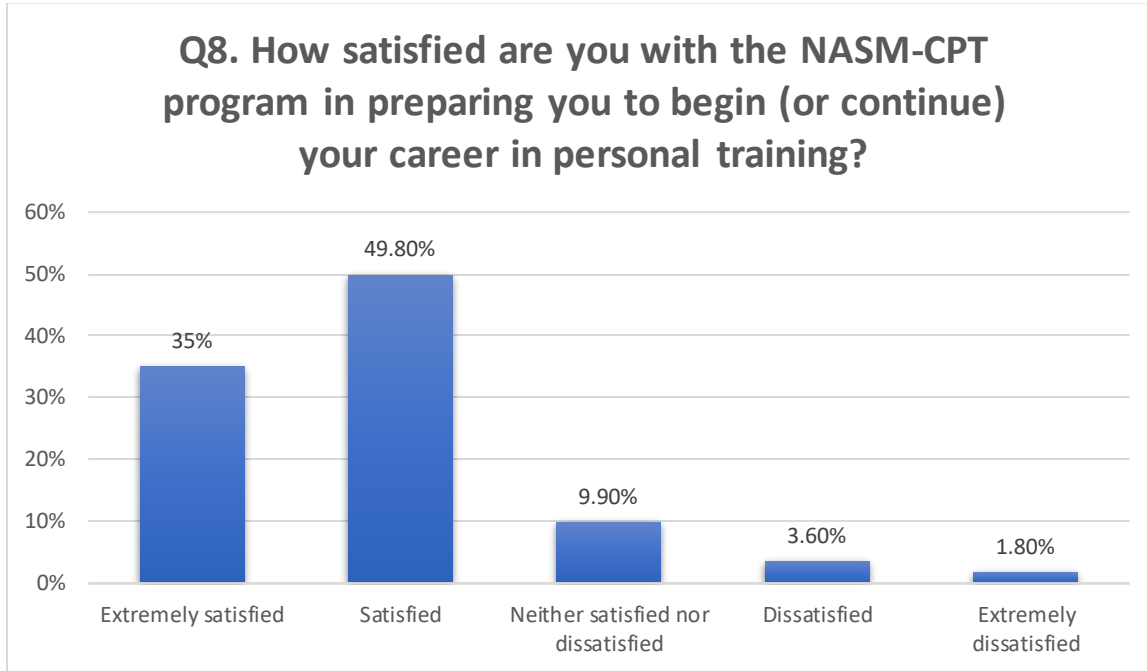
Gender	<ul style="list-style-type: none"> <li>• 64% female</li> <li>• 35% male</li> <li>• 1% non-binary/third gender</li> <li>• 1% prefer not to answer</li> </ul>	Work Experience as a Personal Trainer	<ul style="list-style-type: none"> <li>• 70% yes</li> <li>• 30% no</li> </ul>
Education Level	<ul style="list-style-type: none"> <li>• 8% high school or GED</li> <li>• 20% some college</li> <li>• 11% associate's degree</li> <li>• 41% bachelor's degree</li> <li>• 17% master's degree</li> <li>• 2% doctorate degree</li> <li>• 1% prefer not to answer</li> </ul>	Years of Experience as a Personal Trainer	<ul style="list-style-type: none"> <li>• 0-2 years (73%)</li> <li>• 3-10 years (15%)</li> <li>• &gt;10 years (12%)</li> </ul>

**Survey: Kirkpatrick Level 1 (Reaction) Results**

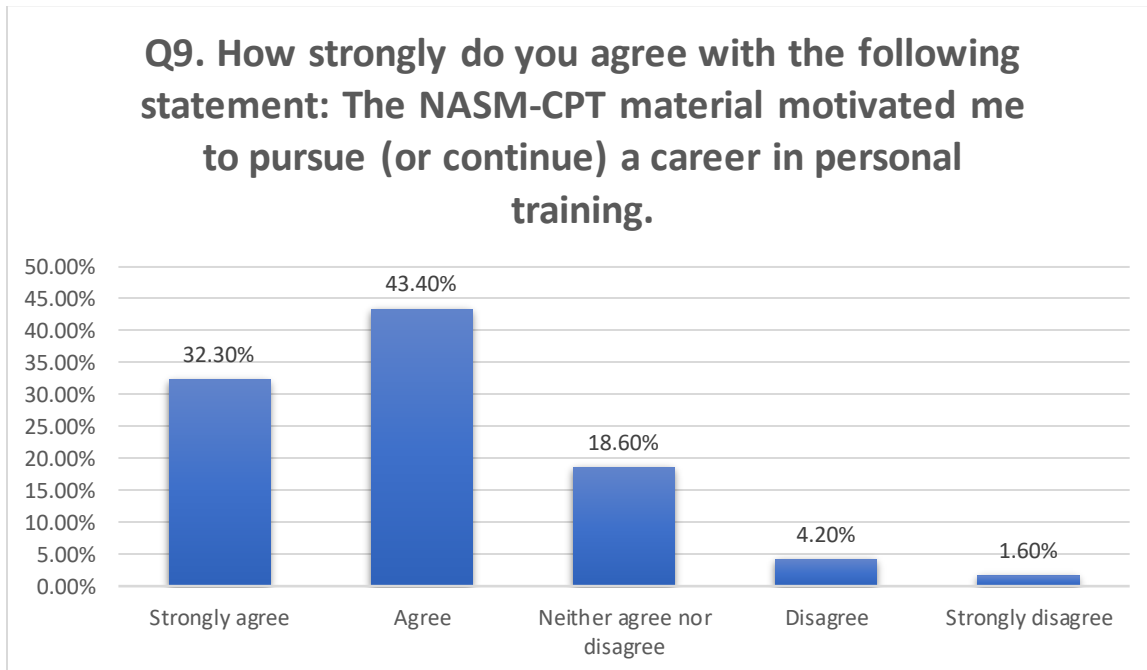
The first level of the New World Kirkpatrick Model, *Reaction*, measures whether learners found the instruction engaging, advantageous, and relevant to their occupation. Questions 8-12 were formulated in the survey to gather this data.

Most respondents (85%) felt satisfied or extremely satisfied with the NASM-CPT program, and 76% felt the NASM-CPT material motivated them to pursue or continue a career in personal training. Furthermore, 90% of survey respondents agreed or strongly agreed that the content was written clearly, and 87% felt the online format was effective or extremely effective in preparing them for a personal training career. These data indicate that the NASM-CPT professional's initial reaction to the program was favorable (Appendix K). The survey results of level 1 items are listed below (Figures 2-6).

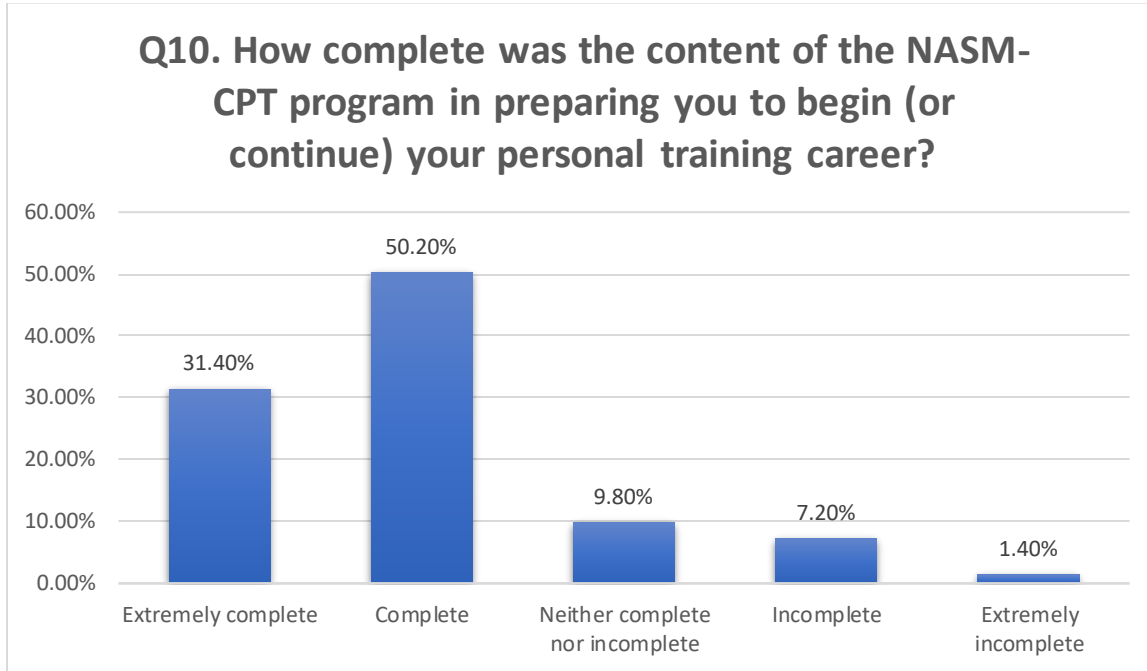
**Figure 2. Question 8 Survey Results**



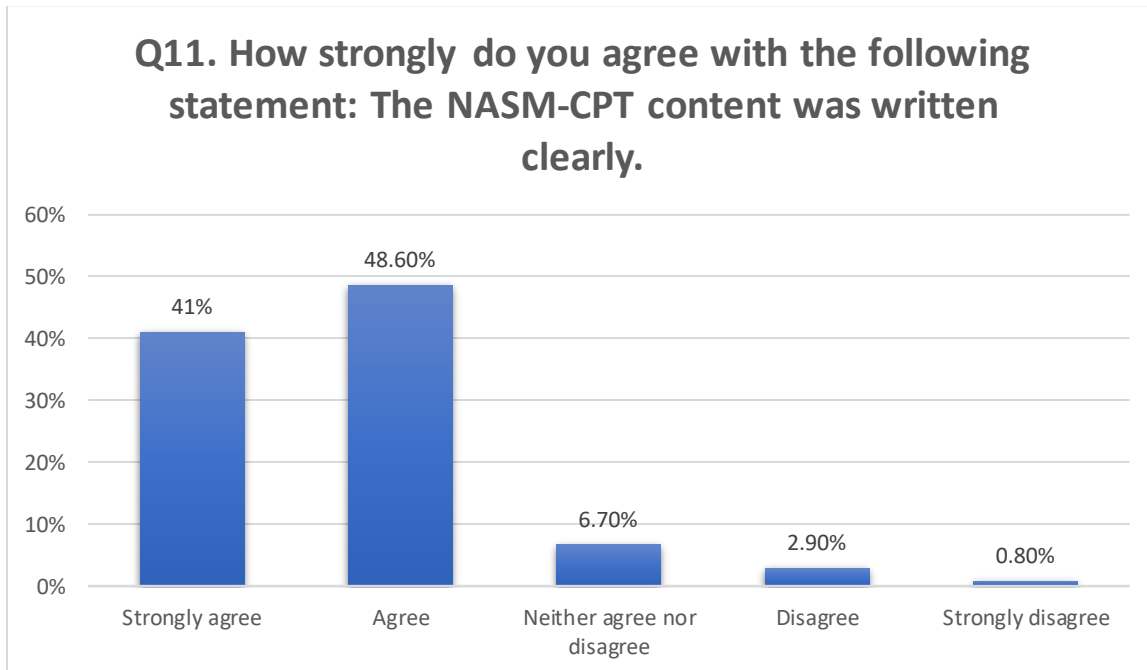
**Figure 3. Question 9 Survey Results**



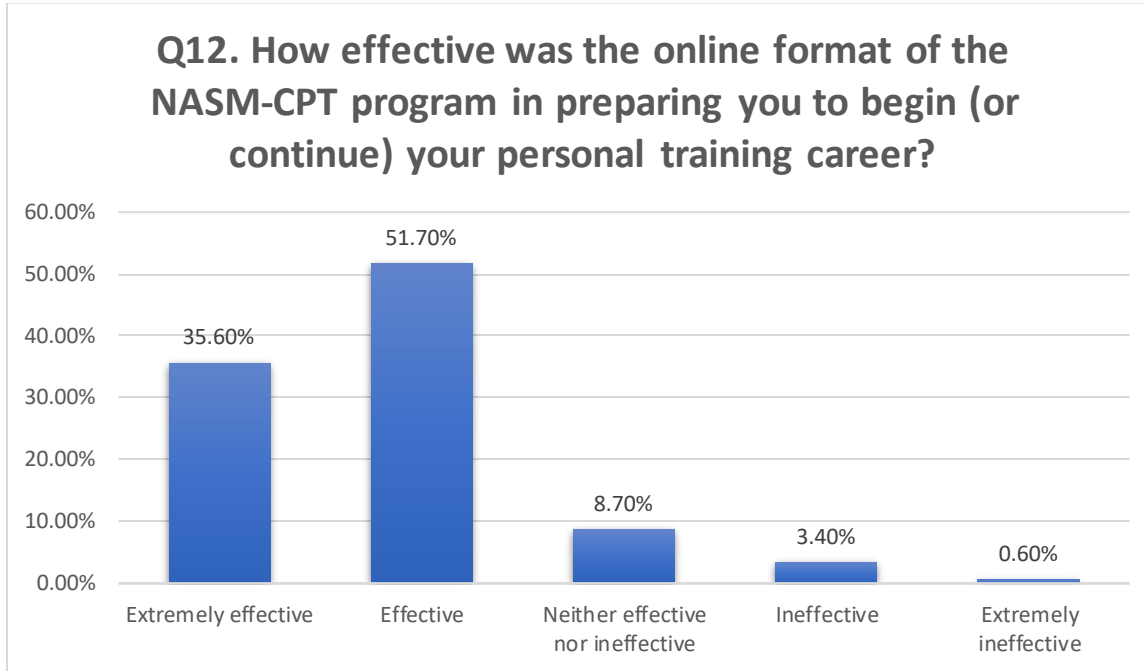
**Figure 4. Question 10 Survey Results**



**Figure 5. Question 11 Survey Results**



**Figure 6. Question 12 Survey Results**



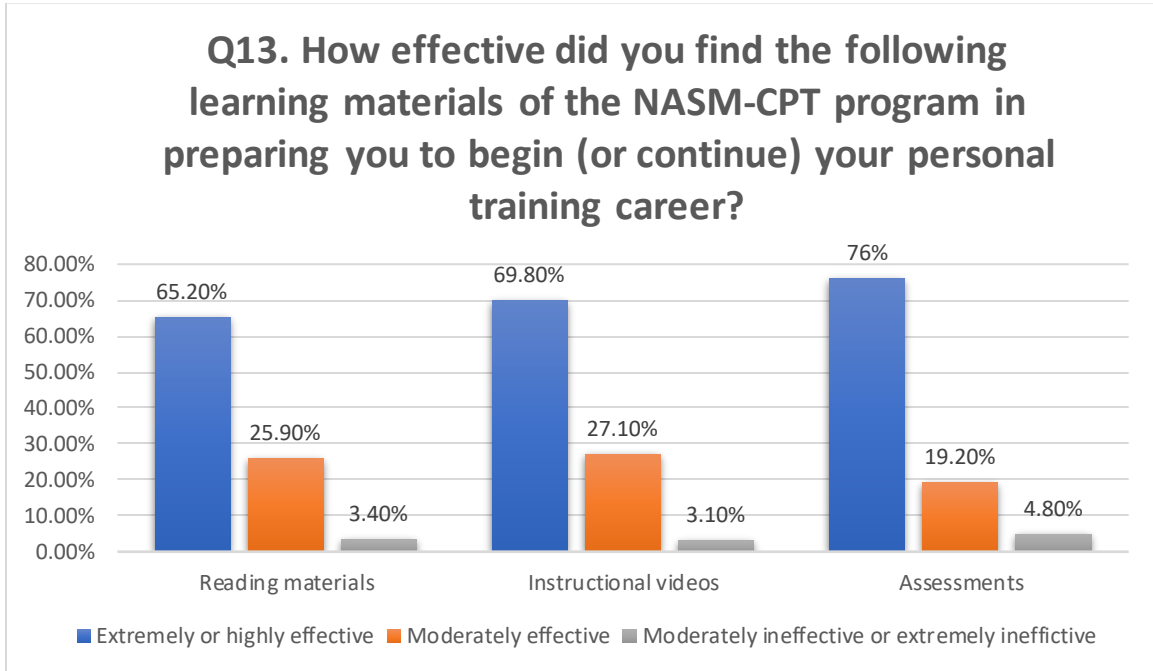
**Survey: Kirkpatrick Level 2 (Learning) Results**

The second level of the New World Kirkpatrick Model is *Learning*, which ascertains if learners acquired the intended knowledge and skills from the training program.

Similar findings to Kirkpatrick Level 1 were obtained when analyzing user perceptions of the individual study materials (i.e., reading materials, instructional videos, and assessments).

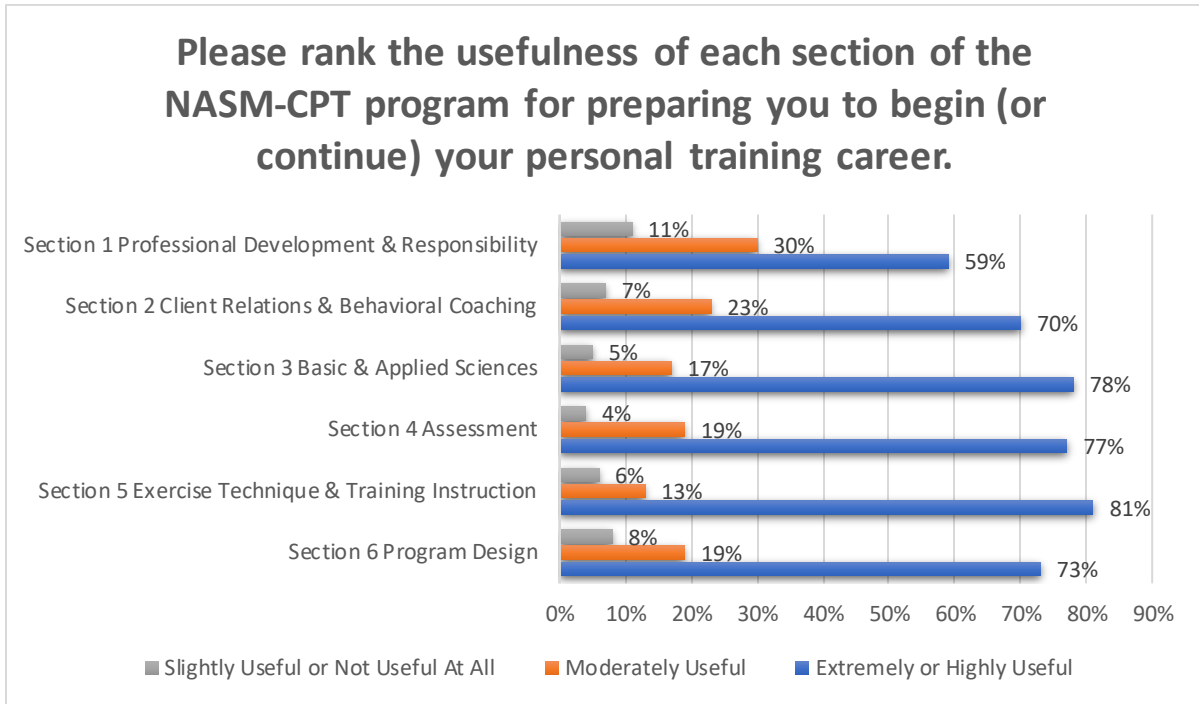
Approximately 71% felt the reading materials were highly or extremely effective, 70% found the instructional videos highly or extremely effective, and 76% of survey participants believed the assessments (i.e., knowledge checks, chapter quizzes, practice exam) were highly effective or extremely effective for acquiring the necessary knowledge to work as a personal trainer. All of these instructional assets were grouped into a Likert scale. Additional information is provided in Figure 7 and Appendix L.

**Figure 7. Question 13 Survey Results**



As mentioned previously, the NASM-CPT program is subdivided into six sections (see page 3). Survey participants were asked to rank the usefulness of each section when preparing for a career in personal training. Of the six sections, Section 1. Professional Development and Responsibility, performed the worst, as only 59% found that section highly or extremely useful, whereas Section 5. Exercise Technique and Training Instruction, performed the best, with 81% of respondents believing it was highly or extremely useful. These course sections were grouped and assessed using a Likert scale (Figure 8).

**Figure 8. Question 14 Survey Results**

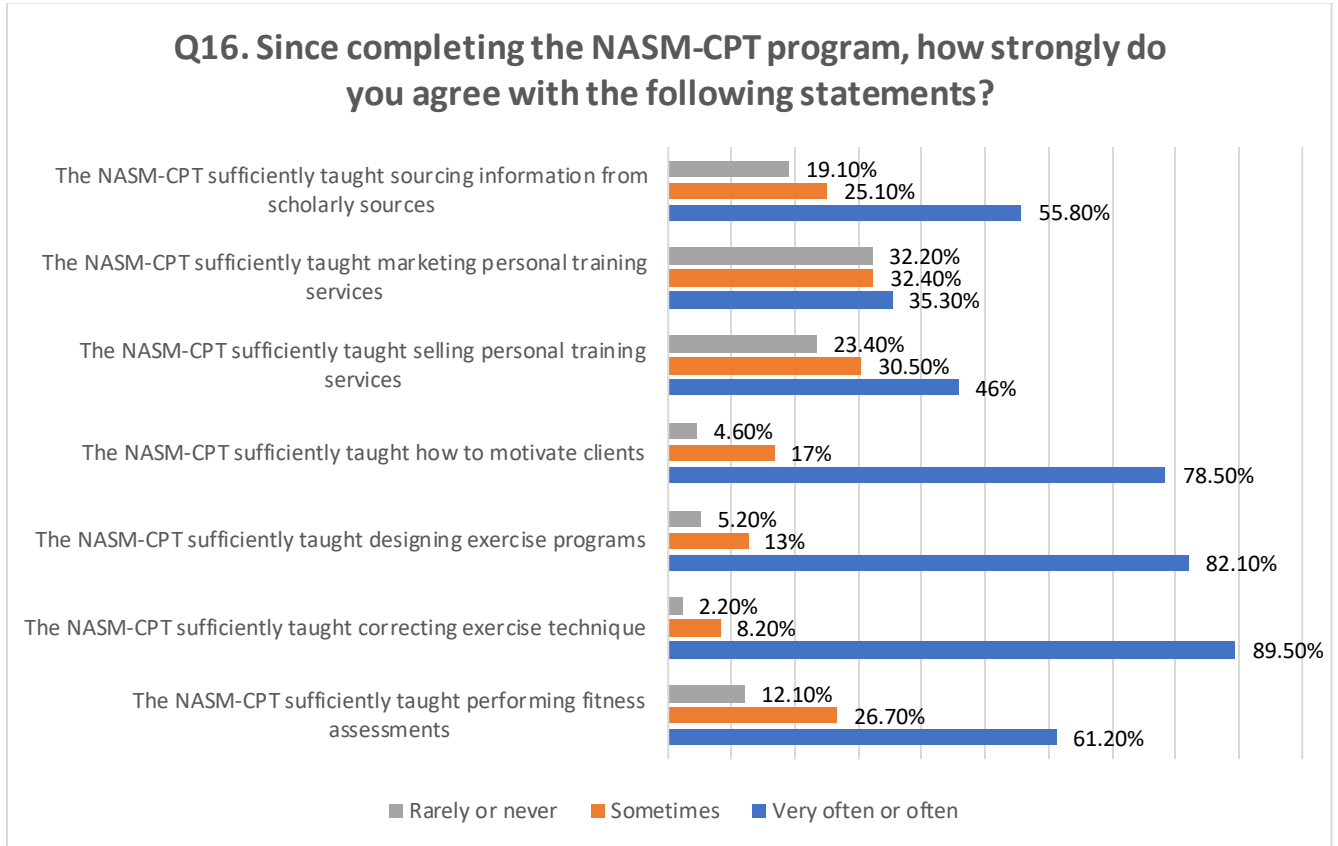


However, according to question fifteen, 86% of respondents generally indicated that the NASM-CPT program as a whole was effective or extremely effective in teaching the knowledge necessary to begin (or continue) a personal training career (Appendix L).

Furthermore, most respondents cited that they gained the necessary skills to perform the job functions of a personal trainer. Seven skills were assessed based on findings from the literature review and NASM’s job task analysis: (1) performing fitness assessments, (2) exercise technique coaching and cueing, (3) designing exercise programs, (4) selling personal training services, (5) marketing personal training services, (6) motivating clients using behavior change techniques, and (7) sourcing credible/scholarly sources of information. Five of the seven skills were measured favorably, whereas two of the skills (marketing and selling personal training services) did not (Figure 9).

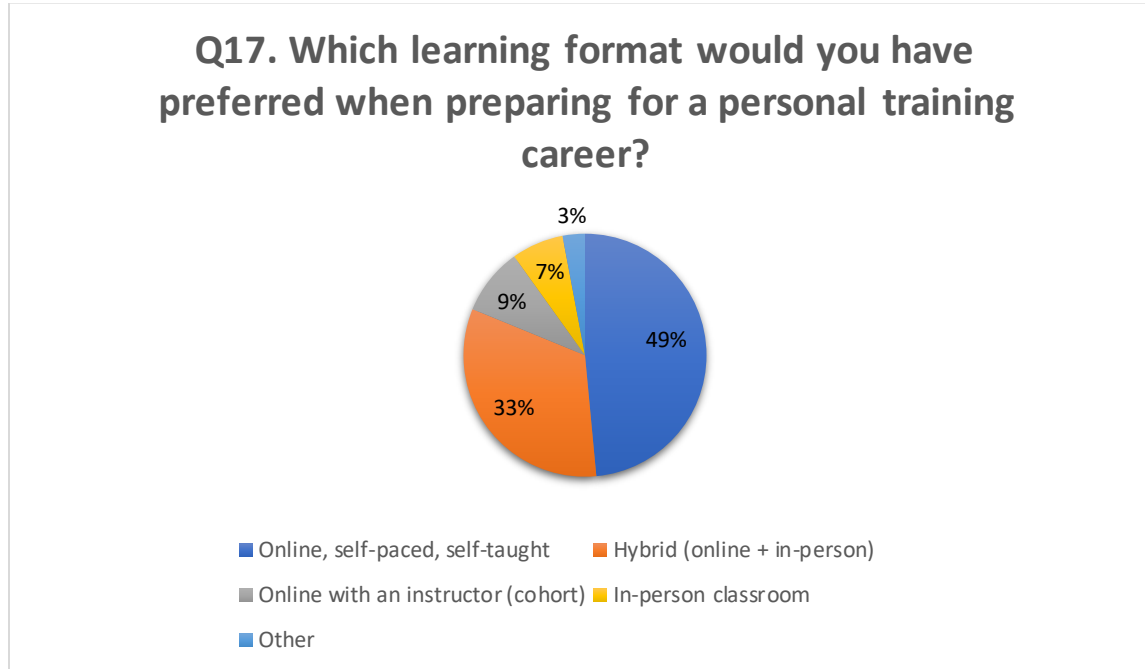


**Figure 9. Question 16 Survey Results**



Lastly, 49% of respondents cited that their preferred method for acquiring knowledge is an online, self-paced, and self-taught delivery method, whereas 33% felt a hybrid approach that combines in-person and online learning is best, 9% preferred synchronous online learning with an instructor (cohorts), 7% an in-person classroom environment, and 2% selected other (Figure 10).

**Figure 10. Question 17 Survey Results**



These collective data indicate that most survey respondents believed they acquired the intended knowledge and skills from the training program. However, looking deeper into the data, it is clear that Section 1 Professional Development and Responsibility, was considered the least useful among NASM-CPT graduates. Further investigation is warranted to ascertain how this section of the program can improve teaching sales and marketing practices to aspiring personal trainers.

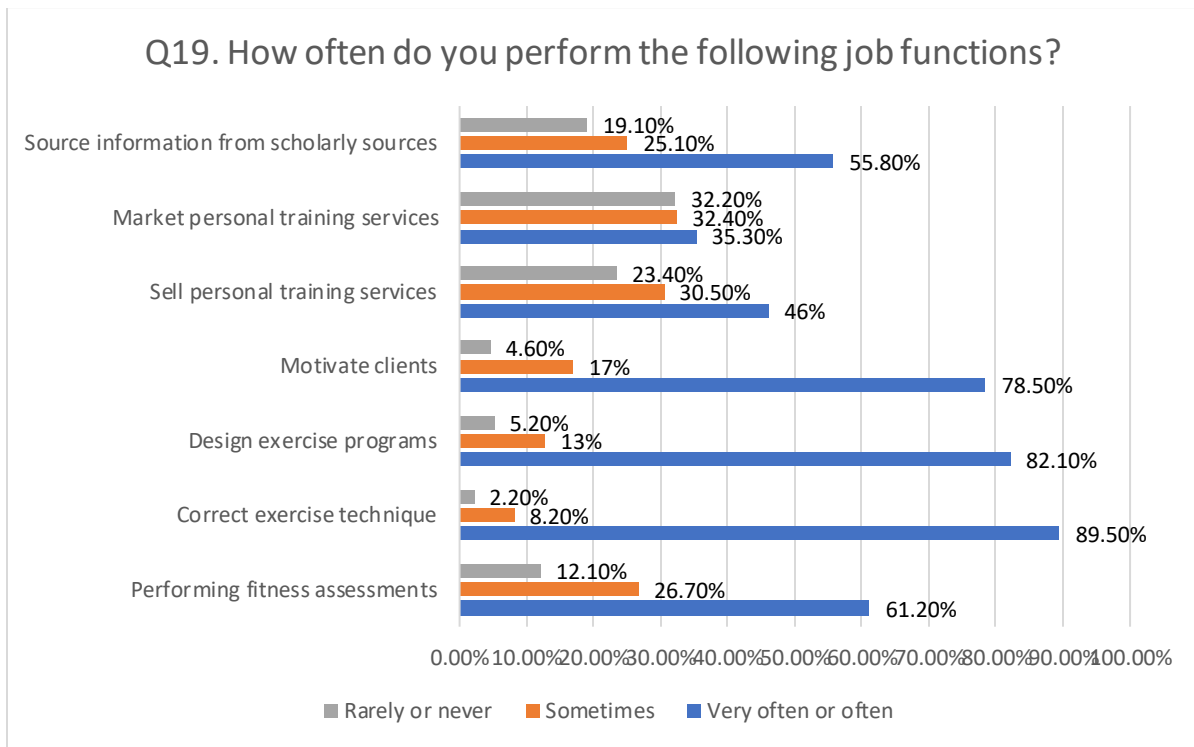
### **Survey: Kirkpatrick Level 3 (Behavior) Results**

The third level, *Behavior*, assessed whether learners apply what they were taught in the NASM-CPT program. Assessing behavior makes it possible to know if the skills were successfully taught and feasible in the workplace. The following seven behaviors were assessed based on findings from the literature review and NASM’s job task analysis: (1) performing fitness assessments, (2) correcting the client’s exercise techniques during a training session, (3) creating customized exercise programs, (4) motivating clients using behavioral change

techniques, (5) selling personal training services, (6) marketing personal training services, and (7) sourcing information from scientific/scholarly sources to acquire new knowledge.

Of these seven skills, correcting clients’ exercise techniques, creating customized programs, and motivating clients using behavior change strategies (i.e., goal-setting and motivational interviewing) were performed most often. The job functions performed least often were selling, marketing, and sourcing scholarly sources (Figure 11).

**Figure 11. Question 19 Survey Results**



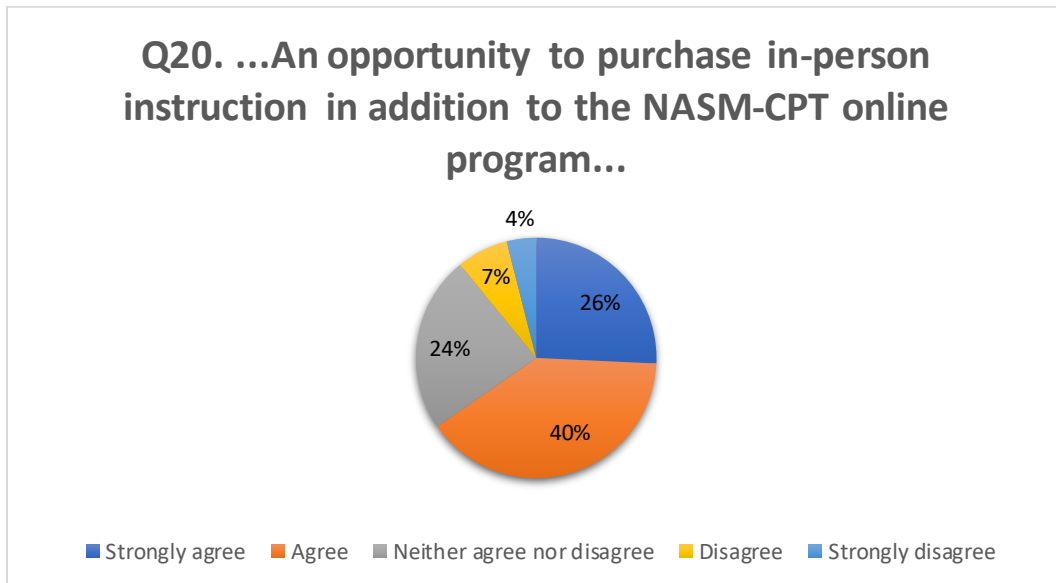
The information presented above indicates that most personal trainers routinely perform fitness assessments, monitor their client’s exercise techniques, create customized programs, and motivate their clients using behavioral change strategies. However, additional duties such as selling, marketing, and sourcing information from scholarly sources are performed less often. Perhaps the reason these tasks are performed less often is due to the job environment of personal

trainers; however, more information is required to answer this question. Appendix M provides more details regarding the statistics of these figures.

Lastly, question 20 asked, *“How strongly do you agree with the following statement: Offering an opportunity to purchase in-person instruction (e.g., attending a live workshop) in addition to the NASM-CPT online program would have been an important component in preparing me to begin (or continue) my personal training career.”*

66% of respondents agreed or strongly agreed that they would be willing to pay extra for live instruction, such as an in-person workshop, see Figure 12 below and Appendix M. However, this information is interesting because it seems to contradict information gathered from question 17. Yet, when examining question 17 more closely, 50% of respondents favored some type of personal instruction from a mentor (either online or in-person). This topic will be addressed further in the next section.

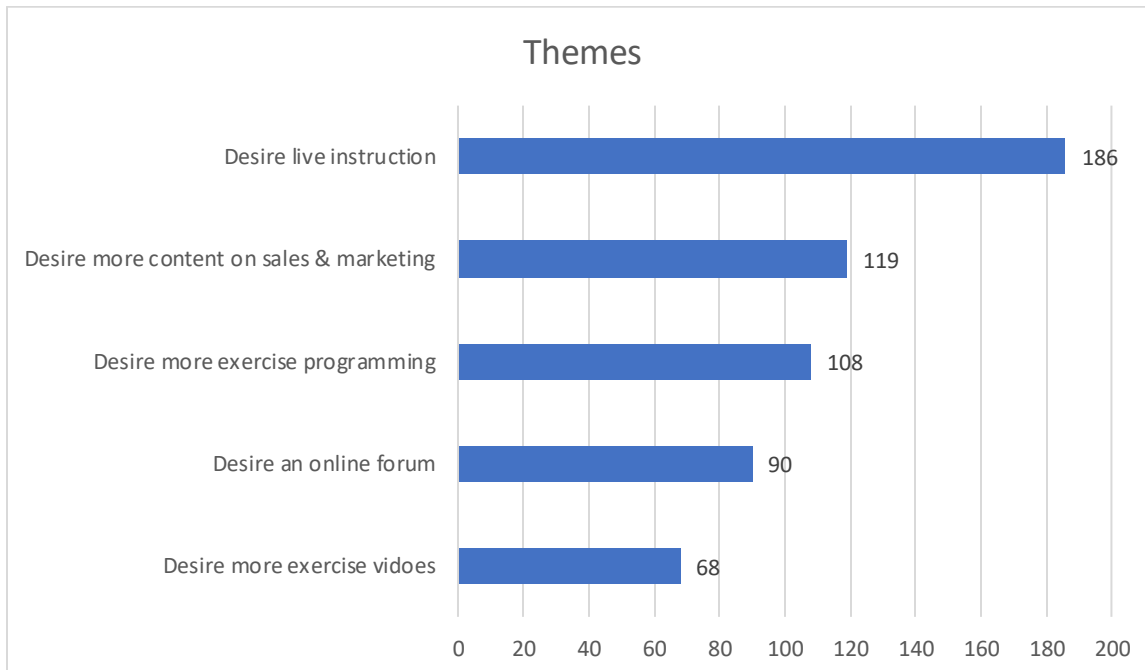
**Figure 12. Question 20 Survey Results**



## Survey: Open-ended Question Results

The survey included one open-ended question; “*In your opinion, what NASM-CPT content, services, or experiences should be changed to better prepare someone for a personal training career?*” A total of 825 responses were recorded, coded, and grouped into five themes using Atlas.ti software. The overwhelming majority of respondents desired live, in-person instruction from a qualified mentor/instructor. The next largest theme identified was a desire for the NASM-CPT to provide more instruction regarding running a personal training business, such as sales and marketing practices. The third largest theme identified was the desire for more content and examples for designing exercise programs for various populations (i.e., bodybuilders, athletes, clients with orthopedic limitations, etc.). Rounding out the top five was a desire for an online forum to interact with peers and instructors and more exercise instructional videos (Figure 13).

**Figure 13. Themes from Survey’s Open-ended Question**



## **Interviews: Selection Criteria and Demographics**

After analyzing survey data, the last step was interviewing five NASM-CPT professionals. As mentioned, the people selected for the interviews came from participants who identified in the survey as willing to be interviewed. Each interview was scheduled for 60 minutes but, on average, lasted about 40 minutes.

- Interview #1: 22-year-old female with an associate degree; two years of personal training experience at a private boutique studio
- Interview #2: 39-year-old female with some college experience; one year of personal training experience at the YMCA
- Interview #3: 32-year-old female with a bachelor's degree; currently seeking employment.
- Interview #4: 30-year-old male with a bachelor's degree; one year of independent personal training experience (training clients virtually)
- Interview #5: 26-year-old male with a bachelor's degree; one year of personal independent training experience (virtually and in-person)

None of the interviewees earned a degree in a related field (e.g., kinesiology, exercise science). These participants are approximately a representative sample of those who completed the NASM-CPT program (two-thirds women, one-third men, with a college degree in an unrelated field).

## **Interviews: Procedures**

All interviewees were asked the same six questions in the following order:

1. What was your first reaction to the NASM-CPT program?
2. What do you think are the strengths of the NASM-CPT program?

3. What do you think are the weaknesses of the NASM-CPT program?
4. If you could change one thing about the NASM-CPT program, what would it be?
5. Did you feel prepared to start working as a personal trainer after getting certified? Why or why not?
6. Is there anything else you would like to say about the NASM-CPT program?

### **Interviews: Results from Questions 1-6**

Results from question 1 were unanimous. Everyone's initial reaction to the NASM-CPT program was positive because they liked the quality of the content and the interface of the NASM-CPT online program. For example, one person stated:

*"Oh, I actually I was pleasantly surprised."*

However, there was some apprehension about the depth and breadth of the content. Some interviewees perceived the course as somewhat overwhelming, even though they liked the content and online interface. For example, one interviewee stated:

*"Well, this was a lot more than I expected, but not in a bad way."*

Results regarding question 2 were also very similar and congruent. The interviewees felt that the program's strengths were the online navigation, multimedia assets (instructional videos), assessments (knowledge checks, quizzes, practice exam), and applicable, well-written content. Furthermore, one interviewee liked that she could call NASM directly to have her questions about the program answered.

Question 3 asked the interviewees to provide their opinions regarding the program's weaknesses. One interviewee could not think of a weakness, and another only expressed that she couldn't remember her password for logging into the course and had to call NASM's customer service. However, the other interviewees stated that they would have preferred some type of

simulation (that provides feedback) or the ability to interact with peers or a mentor when they had questions. One interviewee stated:

*“So I was fortunate enough to find a Facebook group, but it's through a different program. That Facebook group was huge in me passing. I don't even have enough words for how having all these trainers together and communicating about hey, I'm stuck on this chapter. I don't understand this or I need help with that. Having that Facebook group, Umm, and we helped each other study, we send each other our study guides.”*

Question 4 asked the interviewees what they would change about the NASM-CPT program. The results of this question were similar to question 3. Most interviewees expressed a desire for online simulations or the ability to communicate with peers and/or an instructor.

Question 5 asked if they felt prepared to start working as a personal trainer after completing the program. Most participants said they gained sufficient knowledge to work as a personal trainer but lacked practical skills and experience. This was an overarching theme amongst all participants who were interviewed. One participant stated:

*“Like actually, you can read everything in the world, but like sometimes you need the real-life examples, and you need to be challenged...”*

Question 6 was an open-ended question asking participants if they had anything else to add. Most participants reiterated what they had stated earlier in their interview. They enjoyed the program's content, online assets, and interface. However, they desired more practical experiences before starting their professional career.

### **Interviews: Synopsis of Findings**

After completing all the interviews, a story emerged from the participants. All participants' initial reaction to the NASM-CPT program was positive. They felt the content was



appropriate for aspiring personal trainers, and they liked the online interface and learning tools (e.g., videos, assessments, reading materials) to prepare them for the certification exam. One interviewee said:

*“I thought it was organized really well, especially the online portion, because I liked the ability to outline, to revisit, to the videos were extremely valuable, cause ah, it was just really helpful to have like the literature.”*

However, like survey respondents, they would have preferred the opportunity to engage with peers through an online forum and in-person instruction opportunities. The participants felt they had sufficient content knowledge but lacked experience training clients. All interviewees mentioned that online case studies (simulations) would have been an added benefit to gaining practical knowledge and experience designing exercise programs for various client types (i.e., athletes, bodybuilders, women). One interviewee said:

*“Like, you know, I kind of, for some reason, feel like there’s nothing like quite compares to actually doing the thing. You know, after you learn it. So, I don’t know if there would be some way to like, umm, add in a simulation or something.”*

Another interviewee praised the idea of NASM offering live instruction in addition to the eLearning program. This person stated:

*“Yes, I think that would be a huge benefit bonus even and really would make NASM stand out no matter how much we believe NASM is better.”*

## **Discussion**

The primary objective of assessing the NASM-CPT program was to gauge its effectiveness in meeting the learners' requirements and adequately equipping them for a career in personal training. Additionally, the evaluation aimed to ascertain whether any modifications to

the NASM-CPT product offering were necessary, as these changes could significantly impact learning outcomes, such as knowledge acquisition, retention, and professional practice.

Furthermore, the evaluation sought to determine if future investments are necessary to enhance the program, such as introducing new instructional materials/technologies, revising content, or increasing support staff. A mixed-methods design was employed to achieve these objectives, which involved two distinct phases: administering a survey and conducting virtual interviews.

The objective of the survey was to identify and illustrate the attitudes and behavioral patterns exhibited by NASM-CPTs by gathering quantitative data on a larger scale. The survey provided a dependable snapshot of a specific moment in time, offering insights into respondents' perspectives when the survey was conducted. This quantitative data was statistically analyzed, allowing for generalizations and comparisons.

On the other hand, the interviews aimed to provide an opportunity for in-depth exploration and understanding of individual experiences, perspectives, and motivations. The interviews allowed the PI to explore complex topics further and discover new insights that may not have been captured through surveys alone. The qualitative data from the interviews provided a more comprehensive understanding of the survey findings, adding depth and context to the numerical data.

By combining surveys and interviews in a mixed-methods approach, the study benefited from the strengths of both methods. The survey provided a broader understanding of trends and patterns, while the interviews offered a deeper understanding of individual experiences and perspectives. This comprehensive approach led to a more holistic and nuanced interpretation of the research topic, providing a more thorough and robust analysis, as discussed below.

Most respondents' initial reaction to the NASM-CPT program was favorable, and they believed they acquired the intended knowledge from the training program. NASM-CPT learners were satisfied with the study materials (text, videos, assessments) provided. However, looking deeper into the data, some program sections performed better than others. More specifically, respondents wanted to learn more about business tactics (sales and marketing) to maximize earning a living as a personal trainer. These topics warrant expansion in future editions.

In addition, the delivery of content needs significant revision. The NASM-CPT is an online, self-paced, and self-taught eLearning program and entails mostly passive learning (reading and watching content). However, a consensus can be determined when evaluating the data: aspiring personal trainers seek a sense of community and opportunities to communicate with peers, interactive simulations to practice creating customized exercise programs, and instruction from qualified instructors. Based on the available data, the PI recommends investigating additional eLearning technologies and formats, such as asynchronous instructor-led digital offerings, developing robust exercise programming simulations and case studies, and online forums for student interaction. Further rationale for these recommendations based on scholarly research is presented below.

Many higher educational institutions are shifting toward a learner-centered approach to curriculum development. In this approach, instructional strategies foster student autonomy, student responsibility for learning, and student participation and engagement. Weimer (2012) discusses how learner-centered approaches have been successfully implemented in college classrooms to achieve higher student learning motivation. This approach aims to achieve transformative learning or a learning environment that significantly changes beliefs about teaching and learning in and of itself (Weimer, 2012). In addition, integrating case presentations

can challenge learners and improve outcomes. Integrating case-based discussions (i.e., case studies) engages students and adds value to the learning experience (Mackavey & Cron, 2019).

Furthermore, Heinerichs, Luzita, and Drouin (2013) found that a learner-centric approach emphasizing case presentations is feasible and effective for improving clinical reasoning skills. Similarly, commentary from Goodyear and Dudley (2015) described the importance and effectiveness of a learner-centered approach to physical education instruction. The authors claim instruction should be contextually relevant and align with a student-centered approach, facilitating active versus passive learning opportunities. Martin et al. (2021) found that interactive lessons had a significantly higher effect than lectures. This finding demonstrates that fitness certifying agencies such as NASM should emphasize interactive lessons, with oversight from an online instructor integrating learner-centric instruction.

Investing in new technology, emphasizing active learning, and offering mentoring opportunities for learners can significantly impact knowledge acquisition and retention for aspiring NASM personal trainers. Moreover, the literature suggests that earning a college degree is more effective in preparing aspiring personal trainers for their profession than fitness certifications. Consequently, NASM should adopt best practices used by higher education to prepare students for a career in personal training. The PI's recommendations are as follows:

- NASM should offer an online forum within the NASM-CPT program for learners to communicate with their peers.
- NASM should offer an asynchronous instructor-led version of the NASM-CPT program in addition to the self-study version so students can ask questions, gain clarity, and learn from the experiences of a mentor. This format should use a cohort enrollment strategy. An asynchronous (versus synchronous) format is recommended

because NASM students are in various geographic locations and time zones, and hundreds of people enroll monthly. An asynchronous online learning format will enable students to access course materials and complete assignments at a convenient time for them. Furthermore, it allows greater flexibility for students and instructors to engage with each other based on their geographic locations and eliminates the burden for instructors to host live lectures. Class size and the ratio of students per instructor must be considered to maximize personalized attention and learning outcomes for students while minimizing administrative burdens for the instructors to create an optimal learning environment. It will be imperative for NASM to ascertain if the technological, financial, and personnel requirements to offer an asynchronous instructor-led offering are feasible.

- NASM should develop and integrate simulated case studies with a contextual backstory so learners can practice writing exercise programs for fictional clients. The case studies should incorporate a variety of media (text, video, audio) with an automatic feedback system to critique the learner's work.

In summary, the evaluation of NASM's CPT program was conducted in two parts using a mixed-methods design. First, a survey was administered, followed by interviews with personal trainers who recently obtained NASM's CPT credential. The survey was constructed using the New World Kirkpatrick model as a framework. The New World Kirkpatrick model is a proven model that helps create a process-oriented method for measuring the outcomes of learning programs.

The study had some limitations. The data collected only reflected the perceptions of NASM-certified personal trainers. The study did not examine perceptions from current students,

those who discontinued the program, fitness employers, or fitness experts. Gaining insights from these groups was beyond the scope of this study. Another potential limitation of the study was receiving only a 5% response rate to the online survey (N = 20,745; n = 974). Some research indicates an adequate survey response rate of 20% or higher, depending on the population size, to generate a representative sample (Nulty, 2008; Shiyab et al., 2023; Story & Tait, 2019). It is important to note that, on average, NASM receives a 1-2% response rate for their customer surveys, and the survey's response rate from this study surpassed this mark. Moreover, the PI's power analysis estimated that the smallest sample needed was 380 respondents, yet 974 survey responses were received. However, it is still noteworthy that a 5% response rate is a potential limitation of the study. Furthermore, the study did not examine how well the program prepares learners to pass the NASM-CPT examination; however, a follow-up study is feasible to answer this question.

In conclusion, the current study found that most respondents had a positive initial reaction to the NASM-CPT program and believed they had gained the intended knowledge. However, there is room for improvement in the delivery of content. The NASM-CPT program is an online, self-paced, and self-taught eLearning program that primarily involves passive learning through reading and watching content. The data revealed a consensus among aspiring personal trainers that they desire a sense of community, opportunities to communicate with peers, interactive simulations for practicing writing customized exercise programs, and instruction from qualified instructors. Based on the available data, the PI recommends investing in additional eLearning technologies to better equip aspiring personal trainers for their profession.

## CHAPTER II: DISSEMINATION

This dissertation assessed learner perceptions of the NASM-CPT program and its ability to prepare individuals for the personal training profession. The immediate dissemination of this work is to present a 45-minute presentation to NASM Leadership personnel, followed by 15 minutes of Q&A.

NASM Leadership includes the following:

- CEO
- VP of Product Development
- VP of Marketing
- VP of Sales
- Senior Director of Product Development

The presentation will review the findings from the online survey and individual interviews. Furthermore, recommendations on how the findings can be used for future curricula development will also be addressed. Following is a brief version of the presentation. The slides can be found in Appendix N.

**Slides 1-2:** Hello, and thank you for joining me! In the next hour, I will overview my dissertation work, discuss the findings, and provide recommendations for the CPT 8<sup>th</sup> edition.

**Slides 4:** I will begin by providing a brief overview of current literature that served as the basis for my dissertation. When I analyzed the literature from scholarly sources, a few interesting conclusions were discovered:

- CPTs lack knowledge regarding:
  - Assessment

- Exercise programming
- Coaching, interpersonal communication, and behavior change
- Duration of work experience has little impact on competency
- CPTs without a degree rely more on non-scholarly sources of information
- CPTs with a college degree display more competencies than those without

It is important to note that there is limited research investigating personal trainer attributes and competencies and even less research regarding CPT certification programs. However, the findings were consistent across studies, showing that college-educated fitness professionals are more prepared for their occupation than those who have only earned a certification.

**Slide 5:** Therefore, the purpose of my dissertation is to assess learner perceptions of the NASM-CPT program and its ability to prepare individuals for the personal training profession. My aims were to (1) collect and analyze NASM personal trainers' opinions of the efficacy of the NASM-CPT educational program when preparing for a professional career in personal training and (2) generate recommendations to guide the future development of the NASM-CPT program.

**Slide 6:** I used a mixed-methods design to conduct my study. A mixed-methods design gathers both quantitative and qualitative data to answer my research question. The survey was written using the New World Kirkpatrick model as a framework. The New World Kirkpatrick model is a well-recognized framework for evaluating the results of instructional training programs. However, before the official survey was released, the survey questions were validated via a small pilot study of personal training experts to validate the survey's questions and format. To collect qualitative data, I conducted virtual interviews.



**Slide 7:** The survey was sent to 20,745 people, and I received 974 responses with a 91% completion rate. Following the survey, I interviewed five people: three women and two men.

**Slide 8:** Let's begin by discussing the survey and the population demographics. Of the 974 responses, 64% were women and 35% were men. The average age was mid-thirties. Furthermore, 73% of survey respondents earned at least an associate's degree; however, 81% did not have a degree in a related field like kinesiology or exercise science. Moreover, 70% of respondents have worked as a personal trainer, but 73% have worked as a personal trainer for two years or less. This sampling represents NASM's database as most of our customers are new or aspiring personal trainers, are mostly women, and have not earned a college degree in a related field.

**Slide 9:** Now that we understand the demographics, I'd like to share some survey results, starting with how respondents initially reacted to the NASM-CPT program. 85% of respondents were satisfied or extremely satisfied with the CPT program.

**Slide 10:** 75% of survey respondents agreed or strongly agreed the CPT material motivated them to pursue (or continue) a career in personal training.

**Slide 11:** 81% of survey respondents felt that the content of the NASM-CPT was complete or extremely complete in preparation for a career in personal training.

**Slides 12-13:** 90% of survey respondents felt the content was written clearly, and 88% believed the online format was effective or extremely effective when preparing for a career in personal training.

**Slide 14:** Overall, 86% of respondents indicated that the NASM-CPT program was effective or extremely effective in teaching the knowledge necessary to begin (or continue) a

career in personal training. This information is promising as most NASM-CPT graduates perceive the program as favorable.

**Slide 15:** The second part of the survey aimed to ascertain if learners acquired the intended knowledge and skills from the training program. We examined all six sections of the NASM-CPT. Here are the results, starting with the top-performing domains:

- 80% agreed the CPT sufficiently taught how to conduct fitness assessments
- 76% agreed the CPT sufficiently taught how to correct a client's exercise techniques
- 73% agreed the CPT sufficiently taught how to source information from scientific/scholarly sources
- 68% agreed the CPT sufficiently taught how to create customized exercise programs

However, two domains were ranked much lower:

- 48% agreed the CPT sufficiently taught how to sell personal training services
- 45% agreed the CPT sufficiently taught how to market personal training services

These data indicate that we can better serve our learners by expanding sections of the course that teach sales and marketing.

**Slide 16:** I also wanted to investigate the medium of content delivery. 49% of respondents indicated they preferred the current delivery format of an online, self-paced, and self-taught program. 33% of respondents prefer a hybrid delivery format of online learning and in-person instruction. 9% of respondents prefer an instructor-led online program, whereas 7% desire an in-person classroom environment. This information is enlightening as it shows an appetite for instructor-led course offerings.

**Slide 17:** 89% of respondents stated that the CPT program positively influenced their ability to perform the job functions of a personal trainer.

**Slide 18:** Here is a chart of personal trainers' most common job functions. The job function performed the most was correcting client's exercise techniques, followed by designing customized exercise programs, motivating clients using behavioral change strategies, and performing fitness assessments. Job functions performed less often include sourcing information from scholarly sources and selling and marketing personal training services.

**Slide 19:** The survey also included one open-ended question. *In your opinion, what NASM-CPT content, services, or experiences should be changed to better prepare someone for a personal training career?"*

- 188 people desired live instruction
- 119 people desired more content regarding sales and marketing
- 108 people desired more instruction on how to design exercise programs
- 80 people desired an online forum to interact with peers going through CPT
- 68 people desired more exercise instructional videos

These results indicate room for improvement regarding the NASM-CPT program, the content we teach (sales and marketing), and how we deliver such content (offer live instruction).

**Slide 20:** Expanding on the results from slide 19, 86% of respondents desire the opportunity to purchase live instruction in addition to the eLearning program. With such an overwhelming desire for live instruction, there's an opportunity to expand our services for aspiring personal trainers.

**Slide 21:** After analyzing the survey data, my next task was to conduct virtual interviews using Microsoft Teams. I asked six questions to each participant:

1. What was your first reaction to the NASM-CPT program?
2. What do you think are the strengths of the NASM-CPT program?

3. What do you think are the weaknesses of the NASM-CPT program?
4. If you could change one thing about the NASM-CPT program, what would it be?
5. Did you feel prepared to start working as a personal trainer after getting certified? Why or why not?
6. Is there anything else you would like to say about the NASM-CPT program?

**Slide 22:** I used Atlas.ti software to analyze the qualitative data from the interviews, and a few themes emerged.

### **Positive Results**

1. Initial reaction to CPT was positive
2. Liked online interface and learning tools

### **Areas for Opportunities**

1. Desire online case studies (exercise programming simulations)
2. Desire online forum to interact with peers and instructor
3. Desire live instruction (in-person or virtual)

**Slide 23:** Therefore, I triangulated the data from both the survey and interviews to draw the following conclusions:

#### *Positive Results*

- Initial reaction to the NASM-CPT is positive
- NASM-CPT's are satisfied with study materials (text, videos, quizzes)

#### *Opportunities for Improvement*

- Offer more content regarding sales and marketing
  - This will entail minimal cost and time and is standard practice when updating content.

- Offer more exercise instructional videos
  - I will continue to build our library of exercises to be the most robust in the industry. An average video shoot costs approximately \$250-500K, depending on the number of videos.
- Offer an online forum for learners to communicate with their peers
  - We can integrate <https://faq.nasm.org/> at no cost or develop a more robust system.
- Offer an instructor-led version in addition to the self-study version
  - NASM offered the CPT eTeach program many years ago, which enabled us to enroll students as cohorts facilitated by an instructor. I can work with our technology team to ascertain if Pages and Moodle (our LMS systems) can enable an instructor-led version of CPT 8.
- Develop and integrate simulated case studies
  - I have contacts with eLearning firms that can help us create customized case studies similar to those used in other NASM products. Typical costs per simulation are \$50-100K.

If we make the following updates when developing CPT 8, we will have an even better product offering. NASM will enhance its reputation as the gold standard for personal training education, increase brand awareness, and better prepare our learners for their profession.

**Slide 24:** Thank you for listening to my presentation. I hope it provided unique insights into our customers' experiences and opinions of our CPT program. I want to open the floor questions.

## CHAPTER III: ACTION PLAN

Scholarly evidence indicates that research is most effectively disseminated using multiple communication channels (Ross-Hellauer et al., 2020). So, in addition to hosting a PowerPoint presentation for NASM Leadership, I plan to email an executive summary report to a select group of NASM stakeholders, followed by virtual meetings. An executive summary is a concise overview summarizing the whole report so key stakeholders can rapidly acquire a basic understanding of the evaluation. The executive summary will provide (1) the purpose of the report, (2) summarize methodology and findings, and (3) provide conclusions and practical recommendations.

More specifically, my executive summary will illustrate data findings from my study about learner perceptions of the NASM-CPT program toward career readiness. Moreover, the information from the executive summary will help stakeholders determine if future investments are feasible to enhance the NASM-CPT program.

The individuals receiving the executive summary include the following:

- Director of Customer Service
- Director of Marketing
- Director of Sales
- Director of Business Development
- Manager of Product Management

These individuals (in addition to NASM Leadership personnel) have tremendous influence over business, technology, and product development processes and budgets. However,

these individuals would not likely read the entire report and require a brief summary of findings to facilitate buy-in. My recommendations to these key stakeholders include the following:

- NASM should offer an online forum within the NASM-CPT program for learners to communicate with their peers
- NASM should offer an asynchronous instructor-led version of the NASM-CPT program in addition to the self-study version
- NASM should develop and integrate simulated case studies in the NASM-CPT program

My recommendations cannot be implemented in isolation even though I oversee the development of the NASM-CPT program and have personal biases reflected in my positionality statement (Appendix O). My recommendations require collaboration with NASM's information technology (IT), customer service, sales, and operation teams. For example, a new online forum for learner interaction may not be feasible if NASM's IT team can not build this interface or the software is too expensive. Moreover, the NASM customer service department may not wish to offer such a feature because the forums may require oversight from their department. However, the first step is to present my findings before we can ideate creative solutions to meet the needs of NASM learners.

### **Long-term Action Plan**

After emailing my executive summary and meeting key stakeholders, the next step is planning and implementing agreed-upon solutions. Some of my recommendations may be feasible, and others may not. Once agreed-upon solutions have been determined, we will begin the development of technologies and services to enhance the NASM-CPT program. I am aware

that not all of my recommendations may be feasible due to budget, personnel, or technology restraints. However, through collaboration and thoughtful planning, we can determine which new features can be added to the NASM-CPT program and positively impact aspiring personal trainers' educational experience.



## REFERENCES

- Alsalamah, A., & Callinan, C. (2021). Adaptation of Kirkpatrick's four-level model of training criteria to evaluate training programmes for head teachers. *Education Sciences*, 11(3), 116. <https://doi.org/10.3390/educsci11030116>
- Bennie, J. A., Wiesner, G. H., van Uffelen, J. G. Z., Harvey, J. T., & Biddle, S. J. H. (2017). Sources of practice knowledge among Australian fitness trainers. *Translational Behavioral Medicine*, 7(4), 741–750. <https://doi.org/10.1007/s13142-017-0482-4>
- Bianchi, F. P., Labbate, M., Castellana, M., Stefanizzi, P., De Nitto, S., Notarnicola, A., & Tafuri, S. (2020). Epidemiology of injuries among amateur athletes who attended fitness activities: The role of the qualification of the trainer. *The Journal of Sports Medicine and Physical Fitness*, 60(3). <https://doi.org/10.23736/S0022-4707.19.10068-0>
- Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty, C., Chaput, J.-P., Chastin, S., Chou, R., Dempsey, P. C., DiPietro, L., Ekelund, U., Firth, J., Friedenreich, C. M., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P. T., ... Willumsen, J. F. (2020). World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *British Journal of Sports Medicine*, 54(24), 1451–1462. <https://doi.org/10.1136/bjsports-2020-102955>
- Certified Personal Trainer (CPT) exam info*. (n.d.). NASM. Retrieved September 5, 2022, from <https://www.nasm.org/certified-personal-trainer/exam-info>
- Creswell, J. W. (2015). *A concise introduction to mixed methods research*. SAGE.
- De Lyon, A. T. C., & Cushion, C. J. (2013). The acquisition and development of fitness trainers' professional knowledge. *Journal of Strength and Conditioning Research*, 27(5), 1407–1422. <https://doi.org/10.1519/JSC.0b013e3182653cc1>
- Doody, O., & Noonan, M. (2013). Preparing and conducting interviews to collect data. *Nurse researcher*, 20(5), 28–32. <https://doi.org/10.7748/nr2013.05.20.5.28.e327>
- Dorri, S., Akbari, M., & Sedeh, M. (2016). Kirkpatrick evaluation model for in-service training on cardiopulmonary resuscitation. *Iranian Journal of Nursing and Midwifery Research*, 21(5), 493. <https://doi.org/10.4103/1735-9066.193396>
- Farjad, S. (2012). The evaluation effectiveness of training courses in university by Kirkpatrick model (Case study: Islamshahr university). *Procedia - Social and Behavioral Sciences*, 46, 2837–2841. <https://doi.org/10.1016/j.sbspro.2012.05.573>
- Feenstra, S., Begeny, C. T., Ryan, M. K., Rink, F. A., Stoker, J. I., & Jordan, J. (2020). Contextualizing the impostor “syndrome.” *Frontiers in Psychology*, 11, 575024. <https://doi.org/10.3389/fpsyg.2020.575024>
- Foley, G., & Timonen, V. (2015). Using grounded theory method to capture and analyze health care experiences. *Health Services Research*, 50(4), 1195–1210. <https://doi.org/10.1111/1475-6773.12275>
- Gandomkar, R. (2018). Comparing Kirkpatrick's original and new model with CIPP evaluation model. *Journal of Advances in Medical Education & Professionalism*, 6(2), 94–95.
- Goodyear, V., & Dudley, D. (2015). “I'm a facilitator of learning! ” Understanding what teachers and students do within student-centered physical education models. *Quest*, 67(3), 274–289. <https://doi.org/10.1080/00336297.2015.1051236>
- Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PLOS ONE*, 15(5), e0232076. <https://doi.org/10.1371/journal.pone.0232076>

- Heinerichs, S., Vela, L. I., & Drouin, J. M. (2013). A learner-centered technique and clinical reasoning, reflection, and case presentation attributes in athletic training students. *Journal of athletic training*, 48(3), 362–371. <https://doi.org/10.4085/1062-6050-48.2.17>
- Heydari, M. R., Taghva, F., Amini, M., & Delavari, S. (2019). Using Kirkpatrick's model to measure the effect of a new teaching and learning methods workshop for health care staff. *BMC Research Notes*, 12(1), 388. <https://doi.org/10.1186/s13104-019-4421-y>
- How to become a certified personal trainer in 2024. (n.d.). NASM. Retrieved March 25, 2024, from <https://www.nasm.org/how-to-become-a-personal-trainer>
- Jankauskiene, R., & Pajaujiene, S. (2018). Professional competencies of health and fitness instructors: Do they match the European standard? *Kinesiology*, 50(2), 269–276. <https://doi.org/10.26582/k.50.2.16>
- Jebb, A. T., Ng, V., & Tay, L. (2021). A review of key likert scale development advances: 1995–2019. *Frontiers in Psychology*, 12, 637547. <https://doi.org/10.3389/fpsyg.2021.637547>
- Keogh, A., Matthews, J., Segurado, R., & Hurley, D. A. (2018). Feasibility of training physical therapists to deliver the theory-based self-management of osteoarthritis and low back pain through activity and skills (Solus) intervention within a trial. *Physical Therapy*, 98(2), 95–107. <https://doi.org/10.1093/ptj/pzx105>
- Kodama, S., Saito, K., Tanaka, S., Maki, M., Yachi, Y., Asumi, M., Sugawara, A., Totsuka, K., Shimano, H., Ohashi, Y., Yamada, N., & Sone, H. (2009). Cardiorespiratory fitness as a quantitative predictor of all-cause mortality and cardiovascular events in healthy men and women: a meta-analysis. *JAMA*, 301(19), 2024–2035. <https://doi.org/10.1001/jama.2009.681>
- Ku, G. C., & Hsieh, C. M. (2020). Can Fitness Education Programs Satisfy Fitness Professionals' Competencies? Integrating Traditional and Revised Importance-Performance Analysis and Three-Factor Theory. *International journal of environmental research and public health*, 17(11), 4011. <https://doi.org/10.3390/ijerph17114011>
- Lavie, C. J., Ozemek, C., Carbone, S., Katzmarzyk, P. T., & Blair, S. N. (2019). Sedentary Behavior, Exercise, and Cardiovascular Health. *Circulation research*, 124(5), 799–815. <https://doi.org/10.1161/CIRCRESAHA.118.312669>
- Mackavey, C., & Cron, S. (2019). Innovative strategies: Increased engagement and synthesis in online advanced practice nursing education. *Nurse education today*, 76, 85–88. <https://doi.org/10.1016/j.nedt.2019.01.010>
- Malek, M. H., Nalbone, D. P., Berger, D. E., & Coburn, J. W. (2002). Importance of health science education for personal fitness trainers. *The Journal of Strength and Conditioning Research*, 16(1), 19. [https://doi.org/10.1519/1533-4287\(2002\)016<0019:IOHSEF>2.0.CO;2](https://doi.org/10.1519/1533-4287(2002)016<0019:IOHSEF>2.0.CO;2)
- Martin, F., Sun, T., Turk, M., & Ritzhaupt, A. (2021). A meta-analysis on the effects of synchronous online learning on cognitive and affective educational outcomes. *The International Review of Research in Open and Distributed Learning*, 22(3), 205–242. <https://doi.org/10.19173/irrodl.v22i3.5263>
- Melton, D. I., Dail, T. K., Katula, J. A., & Mustian, K. M. (2010). The current state of personal training: managers' perspectives. *Journal of strength and conditioning research*, 24(11), 3173–3179. <https://doi.org/10.1519/JSC.0b013e3181e381f5>
- Noble, H., & Heale, R. (2019). Triangulation in research, with examples. *Evidence-Based Nursing*, 22(3), 67–68. <https://doi.org/10.1136/ebnurs-2019-103145>

- Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301–314.  
<https://doi.org/10.1080/02602930701293231>
- Ogunleye, T. A. (2023). Unconscious bias. *Dermatologic Clinics*, 41(2), 285–290.  
<https://doi.org/10.1016/j.det.2022.08.003>
- Personal trainer accreditation. (n.d.). IHRSA. Retrieved September 5, 2022, from  
<https://www.ihrsa.org/industry-issues/personal-trainer-accreditation/>
- Pojednic, R., Bantham, A., Arnstein, F., Kennedy, M. A., & Phillips, E. (2018). Bridging the gap between clinicians and fitness professionals: A challenge to implementing exercise as medicine. *BMJ Open Sport & Exercise Medicine*, 4(1), e000369.  
<https://doi.org/10.1136/bmjsem-2018-000369>
- Ponto, J. (2015). Understanding and evaluating survey research. *Journal of the Advanced Practitioner in Oncology*, 6(2), 168–171.
- Puente, R., & Anshel, M. H. (2010). Exercisers' perceptions of their fitness instructor's interacting style, perceived competence, and autonomy as a function of self-determined regulation to exercise, enjoyment, affect, and exercise frequency. *Scandinavian journal of psychology*, 51(1), 38–45. <https://doi.org/10.1111/j.1467-9450.2009.00723.x>
- Qualtrics. (2023, March 21). *Sample size calculator*. Qualtrics.  
<https://www.qualtrics.com/blog/calculating-sample-size/>
- Rafiq, M. (2015). Training evaluation in an organization using kirkpatrick model: A case study of pia. *Journal of Entrepreneurship & Organization Management*, 04(03).  
<https://doi.org/10.4172/2169-026X.1000151>
- Reimers, C. D., Knapp, G., & Reimers, A. K. (2012). Does physical activity increase life expectancy? A review of the literature. *Journal of Aging Research*, 2012, 1–9.  
<https://doi.org/10.1155/2012/243958>
- Ross-Hellauer, T., Tennant, J. P., Banelytė, V., Gorogh, E., Luzi, D., Kraker, P., Pisacane, L., Ruggieri, R., Sifacaki, E., & Vignoli, M. (2020). Ten simple rules for innovative dissemination of research. *PLOS Computational Biology*, 16(4), e1007704.  
<https://doi.org/10.1371/journal.pcbi.1007704>
- Rounsefell, K., Gibson, S., McLean, S., Blair, M., Molenaar, A., Brennan, L., Truby, H., & McCaffrey, T. A. (2020). Social media, body image and food choices in healthy young adults: A mixed methods systematic review. *Nutrition & Dietetics: The Journal of the Dietitians Association of Australia*, 77(1), 19–40. <https://doi.org/10.1111/1747-0080.12581>
- Shiyab, W., Ferguson, C., Rolls, K., & Halcomb, E. (2023). Solutions to address low response rates in online surveys. *European Journal of Cardiovascular Nursing*, 22(4), 441–444.  
<https://doi.org/10.1093/eurjcn/zvad030>
- Smidt, A., Balandin, S., Sigafos, J., & Reed, V. A. (2009). The Kirkpatrick model: A useful tool for evaluating training outcomes. *Journal of Intellectual & Developmental Disability*, 34(3), 266–274. <https://doi.org/10.1080/13668250903093125>
- Stacey, D., Hopkins, M., Adamo, K. B., Shorr, R., & Prud'homme, D. (2010). Knowledge translation to fitness trainers: A systematic review. *Implementation Science*, 5(1), 28.  
<https://doi.org/10.1186/1748-5908-5-28>
- Story, D. A., & Tait, A. R. (2019). Survey research. *Anesthesiology*, 130(2), 192–202.  
<https://doi.org/10.1097/ALN.0000000000002436>

- Struessel, T. S., Sleddens, N. M., & Jones, K. J. (2022). Quality improvement content in physical therapist education: A scoping review. *Physical Therapy, 102*(7), pzac012. <https://doi.org/10.1093/ptj/pzac012>
- Sullivan, G. M., & Artino, A. R. (2013). Analyzing and interpreting data from likert-type scales. *Journal of Graduate Medical Education, 5*(4), 541–542. <https://doi.org/10.4300/JGME-5-4-18>
- Suter, W. (2012). *Introduction to educational research: A critical thinking approach*. SAGE Publications, Inc. <https://doi.org/10.4135/9781483384443>
- Sutton, B. G. (Ed.). (2022). *NASM essentials of personal fitness training* (Seventh edition). Jones & Bartlett Learning.
- Vetter, T. R. (2017). Descriptive statistics: Reporting the answers to the 5 basic questions of who, what, why, when, where, and a sixth, so what? *Anesthesia & Analgesia, 125*(5), 1797–1802. <https://doi.org/10.1213/ANE.0000000000002471>
- Warburton, D., & Bredin, S. (2017). Health benefits of physical activity: a systematic review of current systematic reviews. *Current opinion in cardiology, 32*(5), 541–556. <https://doi.org/10.1097/HCO.0000000000000437>
- Waryasz, G. R., Daniels, A. H., Gil, J. A., Suric, V., & Ebersson, C. P. (2016). Personal trainer demographics, current practice trends and common trainee injuries. *Orthopedic Reviews, 8*(3), 6600. <https://doi.org/10.4081/or.2016.6600>
- Weimer, M. (2012). Learner-centered teaching and transformative learning. *The handbook of transformative learning: Theory, research, and practice, 439-454*.
- Zenko, Z., & Ekkekakis, P. (2015). Knowledge of exercise prescription guidelines among certified exercise professionals. *Journal of strength and conditioning research, 29*(5), 1422–1432. <https://doi.org/10.1519/JSC.0000000000000771>

# APPENDIX A: NASM-CPT LEARNING MANAGEMENT SYSTEM (LMS)

Certified Personal Trainer, 7th Edition

CHAPTER 5 | The Nervous, Skeletal, and Muscular Systems

## Physical Activity and the Nervous System

The nervous system helps individuals successfully perform **motor skills** (i.e., movement) through the coordinated effort of the sensory and motor subsystems. To perform physical activity, motor skills must be acquired.

For example, humans are not born with fully developed coordination (babies are not born walking), and physical abilities must be developed over time. In most cases, motor skills, such as lifting weights or riding a bike, are learned and acquired through repetitive practice.

The nervous system plays a major role on how humans learn and retain new skills. The mechanisms behind motor-skill learning are related to brain development through neuroplasticity and neurocircuitry (Hotting & Röder, 2013). The development of motor skills is best understood as a three-stage process (Taylor & Ivry, 2012):

- Stage 1 (cognitive): The client is just learning a skill. They understand the goals of the skill and develop movement strategies and can perform the skill but with inconsistent performance.
- Stage 2 (associative): The client begins to understand the skill. Through practice, they refine the skill and movement strategy and can perform the skill with less error.
- Stage 3 (autonomous): The client has mastered the skill. They perform the skill consistently with no error and independently modify the skill without error.

**TRAINING TIP**

The three stages of motor skill development may provide the fitness professional with a road map for teaching clients new movements or exercises.

- During stage 1 (cognitive), you may need to use simple instructions and break down the skill into smaller steps so your clients will be able to understand the goals of the movement.
- During stage 2 (associative), you may need to help refine your clients' skills through practice and regular feedback.
- During stage 3 (autonomous), you may be able to teach your clients new versions of the skill to further challenge them.

Certified Personal Trainer, 7th Edition


CHAPTER 20 | Resistance Training Concepts

## Resistance Training Exercises

The following is a list of common stabilization-focused, strength-focused, and power-focused resistance training exercises. However, this is not an exhaustive list.


### Back/Pulling Exercise Descriptions

#### Ball Cobra



**TECHNIQUE**

Externally rotate the arms during this exercise as the thumbs are pointing up toward the sky.



Resistance Set: Cobra  
Dip: Intermediate/Terminator

---

Certified Personal Trainer, 7th Edition

CHAPTER 1 | The Modern State of Health and Fitness

Question: 1 of 10      ID: #21      Score: 100%      Timer: Off

At her first visit to her new fitness trainer, Alisha's BMI was 26. According to this information, how would Alisha be classified?

Obese

Underweight

Overweight

Healthy weight

< Previous      Submit      Next >

Certified Personal Trainer, 7th Edition

CHAPTER 1 QUIZ

## APPENDIX B: JOB TASK ANALYSIS

### **Domain 1: Basic and Applied Sciences and Nutritional Concepts**

#### **Knowledge of:**

- K1. Concepts and structures of anatomy, including the nervous system, muscular system, skeletal system, cardiorespiratory system, and endocrine system
- K2. Functions of exercise physiology related to:
  - a. nervous system
  - b. muscular system
  - c. skeletal system
  - d. endocrine system
  - e. cardiorespiratory system
  - f. digestive system
  - g. bioenergetics and exercise metabolism
- K3. Functional biomechanics (such as levers, force, and torque)
- K4. Principles of human movement science related to:
  - a. planes of motion (sagittal, frontal, transverse)
  - b. muscle action spectrum (isometric, concentric, eccentric)
  - c. force-couple relationships (agonist, antagonist, synergist, stabilizer)
  - d. length-tension relationship
  - e. stretch-shortening cycle
  - f. reciprocal inhibition and autogenic inhibition
  - g. joint actions (such as rotation, flexion, and extension)
  - h. integrated muscle system (global and local systems, including deep longitudinal subsystem, anterior oblique subsystem, and posterior oblique subsystem)
- K5. Principles of motor development (motor learning, motor control, motor behavior)
- K6. Macronutrients (carbohydrates, protein, fat)
- K7. Micronutrients (vitamins and minerals)
- K8. Hydration concepts and guidelines
- K9. Recommendations and guidelines for caloric intake and expenditure
- K10. Units of energy measurement (Kcals/Calories)
- K11. Dietary reference intakes
- K12. Portion sizes, meal timing, and frequency
- K13. Crash/fad/myth diets
- K14. Common nutritional supplements, including possible risks, benefits, uses, and effects
- K15. Food and supplement label reading
- K16. Factors that may influence weight management physiology (such as the law of thermodynamics, poor sleep, endocrine abnormalities, medication, and metabolism)

### **Domain 2: Client Relations and Behavioral Coaching**

#### **Tasks**

1. Establish and maintain professional client-trainer relationships using techniques such as rapport building, active listening, and communication strategies.
2. Develop and continuously re-evaluate realistic short- and long-term goals in collaboration with client and based on the outcome of assessments.
3. Facilitate lifestyle and behavioral change through education, monitoring, and coaching.

**Knowledge of:**

- K17. Communication methods and strategies (such as verbal and non-verbal communication, active listening, rapport building)
- K18. Goal types (such as SMART, stepping stone, short-term, long-term, lifetime)
- K19. Client expectation management related to client-trainer relationship and overall training goals
- K20. Transtheoretical model of behavior change (or Stages of Change)
- K21. Behavioral coaching methods (such as motivational coaching, positive and negative emotional attractors, reinforcements)
- K22. Behavior change strategies (such as habit stacking, stress reduction, time management)
- K23. Barriers to behavior change
- K24. Psychological responses to training and coaching

**Domain 3: Assessment****Tasks**

1. Select, perform, document and interpret results of subjective assessments using tools and techniques (such as questionnaires and interviews) to assess client's medical history, needs and readiness for fitness program.
2. Select, perform, document, and interpret results of:
  - a. static postural assessments of upper and lower extremities and lumbo-pelvic-hip complex in order to evaluate muscle imbalances.
  - b. movement assessments (such as overhead squat, push/pull, single leg squat) in order to evaluate proper versus improper movement patterns.
  - c. strength, muscular endurance, and power assessments (such as 1-repetition maximum strength tests, push-up test, vertical jump test).
  - d. speed, agility, and quickness assessments (such as 40-yard dash, Pro shuttle, L.E.F.T. test).
  - e. cardiorespiratory assessments (such as 3-minute Step Test, Rockport Walk Test, VO<sub>2</sub>MAX Test, Rate of Perceived Exertion [RPE]).
  - f. physiological assessments (such as resting heart rate, blood pressure, waist-to-hip ratio).
  - g. body composition assessments (such as skinfold, circumference measurements, bioelectric impedance).

**Knowledge of:**

- K25. Physical Activity Readiness Questionnaire (PAR-Q) assessment
- K26. Essential elements of personal, occupational, and family medical history
- K27. Medical risk factors (such as injuries, surgeries, chronic pain, diseases, medications)
- K28. Elements of a lifestyle questionnaire (such as sleep, stress level, smoking, alcohol)
- K29. Cardiorespiratory assessments (such as 3-minute Step Test, Rockport Walk Test, VO<sub>2</sub>MAX Test, Rate of Perceived Exertion [RPE]).
- K30. Physiological assessments relevant to CPTs (such as resting heart rate, blood pressure, waist-to-hip ratio)
- K31. Kinetic chain checkpoints (ankles, knees, lumbo-pelvic-hip complex, shoulders, head)

- K32. Applicability of assessments from other health professionals (such as blood pressure, cholesterol, glucose, BMI)
- K33. Body composition assessments and calculations (such as skin fold calipers, circumference, bioelectrical impedance, fat mass, lean mass)
- K34. Static posture assessment
- K35. Performance assessments (such as 1-repetition maximum, vertical jump, long (broad) jump)
- K36. Types of movement assessments (such as overhead squat, single-leg squat, push/pull, gait)
- K37. Considerations for selection of assessment(s) to administer based on client's goals, fitness level and contraindications
- K38. Considerations and modifications for performing assessments with special populations (such as youth, seniors, prenatal, clinical, obese)
- K39. Standards for assessments and outcome expectations for special populations (such as youth, seniors, prenatal, clinical, obese)
- K40. Indicators that client's condition requires a medical release/clearance, or is out of scope and requires referral to another professional
- K41. Criteria for reassessment (such as time lapsed, client plateau, change in goals, change in health, change in phase)

#### **Domain 4: Program Design**

##### **Tasks**

1. Design client-specific program, based on assessment results and client abilities, including:
  - a. Flexibility training
  - b. Resistance training
  - c. Cardiorespiratory training
  - d. Core training
  - e. Balance training
  - f. Reactive training, including plyometrics
  - g. Speed Agility Quickness (SAQ) training
2. Modify program as needed based on variables such as modalities, space, time, and client's current condition.

##### **Knowledge of:**

- K42. Periodization concepts, programming and methods, including:
  - a. Macro-, meso-, and micro-cycles
  - b. levels (such as stabilization, strength, power)
  - c. phases (such as stabilization endurance, strength endurance, hypertrophy, maximal strength, power)
  - d. approaches (linear, undulating)
- K43. Principles of specificity, variation, overload
- K44. General adaptation syndrome
- K45. Flexibility training methods (such as self-myofascial release (SMR), static, active-isolated, dynamic stretching)
- K46. Resistance training systems (such as single set, multiple set, super set, pyramid set, circuit training, vertical loading, horizontal loading)
- K47. Resistance training modalities (such as machines, body weight, free weights)



- K48. Cardiorespiratory training methods (such as zone/stage training, interval training, steady state)
- K49. Core training exercises for core-stabilization (such as plank, bird dog, bridge), core-strength (such as reverse crunches, ball crunches, cable rotations) and core-power (such as soccer throw, rotation chest pass, medicine ball pullover throw)
- K50. Balance training exercises for balance-stabilization (such as single-leg balance, single-leg balance and reach, single-leg windmill), balance-strength (such as single-leg squat, single-leg deadlift, lunge to balance) and balance-power (such as single-leg box hop-up, single-leg box hop-down, multiplanar single-leg hop)
- K51. Proprioceptive progression and regression (such as closing or opening eyes, single-leg stand, sitting)
- K52. Reactive training exercises for reactive-stabilization (such as squat jump with stabilization, box jump-up to stabilization, multiplanar jumps with stabilization), reactive-strength (such as butt kicks, tuck jumps, squat jump) and reactive-power (such as Box run steps, ice skaters, proprioceptive plyometrics)
- K53. Speed Agility Quickness (SAQ) training exercises (such as resisted sprints, cone drills, agility ladder drills)
- K54. Exercise progression/regression
- K55. Acute variables (such as sets, repetitions, exercise selection, progressions, FITTE principle)
- K56. Risk versus reward of different modalities and exercises
- K57. Overtraining, rest and recovery
- K58. Current trends and their applicability to individual training programs
- K59. Types of fitness technology (such as heart rate monitors, performance trackers, nutrition trackers, applications) and their uses and benefits
- K60. Considerations for selection of exercises based on client's assessment results, goals, fitness level and contraindications
- K61. Considerations for exercise program design for special populations (such as youth, seniors, prenatal, clinical, obese)

## **Domain 5: Exercise Technique and Training Instruction**

### **Tasks**

1. Provide instruction and demonstrate proper exercise technique for clients.
2. Observe, analyze, cue, and provide feedback on client's exercise technique to ensure safe and effective movement.
3. Identify need for and implement appropriate exercise progressions and regressions.
4. Administer safe, effective, and professional spotting techniques when needed.

### **Knowledge of:**

- K62. Proper set-up and technique of:
  - a. Flexibility training methods
  - b. Core exercises
  - c. Balance exercises
  - d. Reactive exercises, including plyometrics
  - e. Speed, agility and quickness (SAQ) exercises
  - f. Resistance training exercises
  - g. Warm-up protocol
  - h. Cool-down protocol

- K63. Kinesthetic, auditory, and visual cueing techniques
- K64. Safe training practices (such as maintaining a safe environment, monitoring exercise intensity, proper equipment setup)
- K65. Application and modalities of exercise regressions and progressions
- K66. Safe, effective, and professional spotting techniques
- K67. Proper breathing techniques during exercise
- K68. Kinetic chain checkpoints (ankles, knees, lumbo-pelvic-hip complex, shoulders, head)
- K69. Physical signs or symptoms that indicate need for training modification or discontinuation

## **Domain 6: Professional Development and Responsibility**

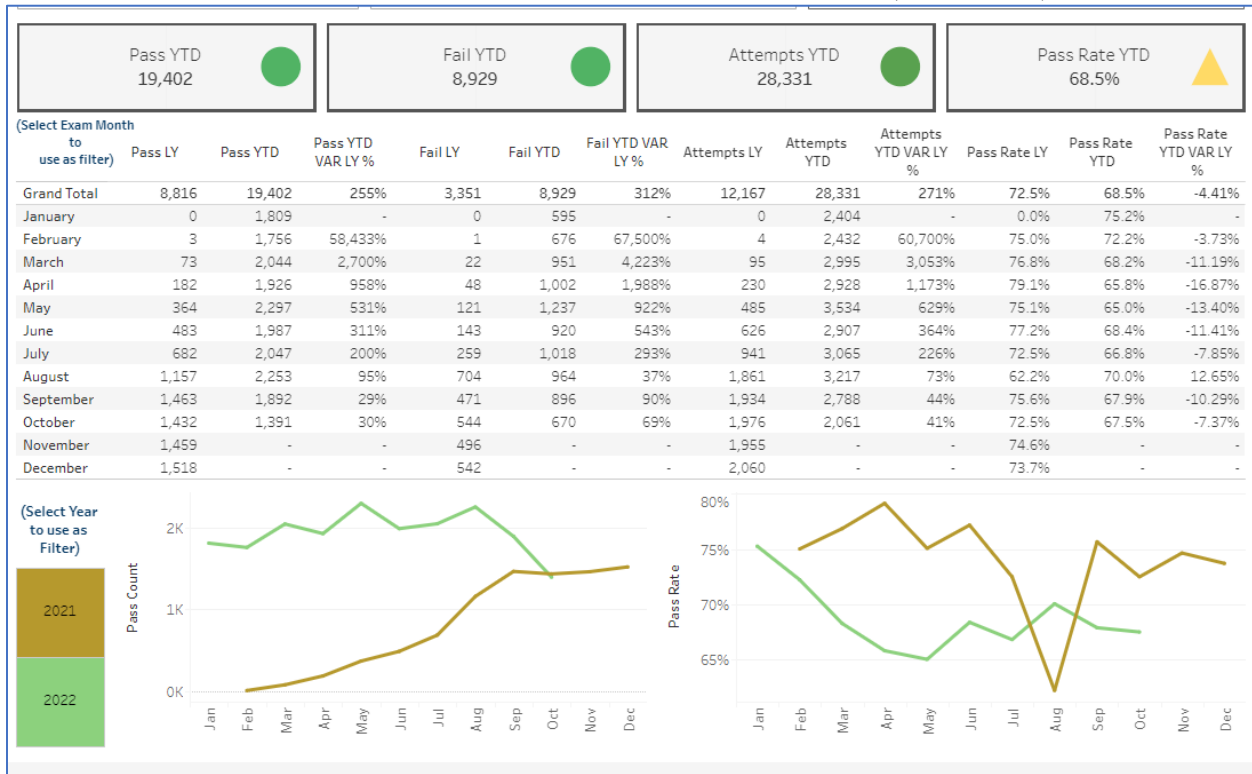
### **Tasks**

1. Adhere to applicable professional standards, guidelines, regulations, and codes of conduct.
2. Act within CPT scope of practice (such as respecting occupational limitations, referring when necessary).
3. Develop and grow business (such as lead generation, client acquisition, retention, and ascension, marketing, networking, financial planning).
4. Follow proper safety procedures (such as reporting equipment malfunction, hazards, damages, dangers).
5. Follow proper emergency protocols (such as activate EMS, implement facility emergency action plan).
6. Engage in continuing education and professional development in order to remain current, grow expertise, and increase credibility.

### **Knowledge of:**

- K70. Professional and ethical guidelines and standards and codes of conduct (such as record keeping, client medical clearance, physical appearance and attire, punctuality)
- K71. Scope of practice and professional limitations of personal trainer (such as psychological counseling, meal planning, diagnosing injury)
- K72. Requirements for maintaining professional credentials
- K73. Resources regarding rules and regulations applicable to CPTs
- K74. Business fundamentals (such as forecasting techniques, projections)
- K75. Marketing concepts and techniques (such as branding, B2B and B2C networking, sponsoring, use of social media, community involvement)
- K76. Techniques for client acquisition, retention and ascension (such as professional and timely communications, events, promotions, social media campaigns, email campaigns)
- K77. Sales concepts and techniques (such as lead generation, presenting, pre-handling and overcoming objections)
- K78. Equipment maintenance and safety considerations
- K79. Emergency protocols (such as activating EMS, implementing facility emergency action plan)
- K80. Credible resources of information regarding health and fitness education (such as scholarly articles, peer-review articles, conferences, workshops)
- K81. Opportunities for professional development through education and/or other professional experiences

## APPENDIX C: NASM-CPT EXAM PASS RATES (10/24/2022)



APPENDIX D: CPT 7 END-OF-COURSE SURVEY RESULTS

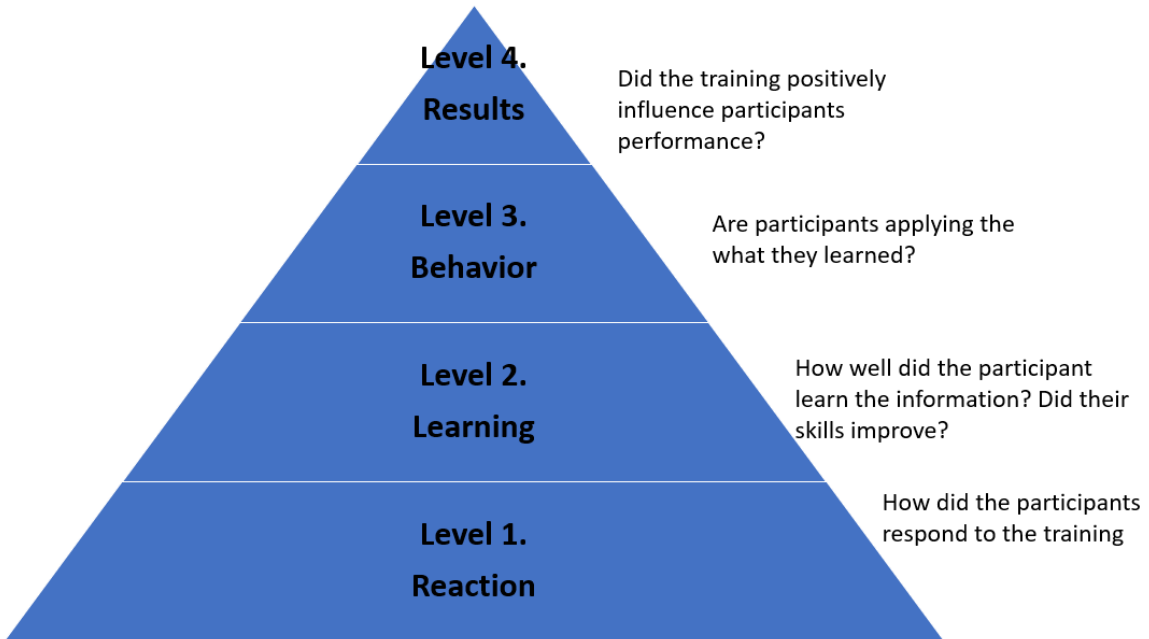
Table 3

<b>Response Rates of the NASM-CPT End-of-Course Survey</b>	
<b>NASM-CPT End-of-Course Survey Response Rates (Jan 2021- December 2022)</b>	
# of Individuals Enrolled in CPT 7	152,000
# of Individuals Who Completed the Entire Survey	1,752
# of Individuals Who Partially Completed the Survey	1,743
Total Responses	3,495
Response Rate	2%
Completion Rate	1%

<b>NASM-CPT End-of-Course Survey Results</b>						
<b>Organization and Course Flow</b>						
	Completely disagree	Disagree	Neutral	Agree	Completely Agree	Responses
It was easy to navigate the course using the navigation features	1.5%	1.8%	8.9%	38.7%	49.0%	2,300
The course dashboard clearly tracked my progress and helped me to stay on track	1.1%	1.7%	8.3%	36.9%	52.0%	2,301
What I needed to do to pass the course was clearly articulated and easily understood	3.4%	5.5%	16.3%	38.6%	36.2%	2,302
<b>Course Content Delivery</b>						
	Not very helpful	Somewhat helpful	Very helpful	I did not use this material	Responses	
Reading/text content	3.2%	17.2%	73%	6.5%	2,180	
Lecture videos	4.9%	25.1%	59.6%	10.4%	2,182	
Key terms/glossary	2.7%	18.2%	71.1%	8.0%	2,182	
Exercise instructional videos	3.2%	19.3%	70.8%	6.8%	2,181	
Anatomy/Animation videos	3.3%	18.5%	64.7%	13.4%	2,181	
PDF handouts	4.0%	22.5%	60.0%	13.5%	2,181	
Sample workouts	4.1%	21.3%	65.9%	8.7%	2,180	
<b>Course Assessments</b>						

	Not very helpful	Somewhat helpful	Very helpful	I did not use this material	Responses	
Chapter quizzes	3.0%	12.9%	83.4%	0.8%	2,086	
Knowledge checks	3.7%	18.6%	75.9%	1.7%	2,086	
Section reviews	3.1%	17.3%	77.7%	1.9%	2,084	
Practice exam	4.5%	11.3%	82.3%	1.9%	2,085	
<b>User Perceptions of the Program</b>						
	Completely disagree	Disagree	Neutral	Agree	Completely Agree	Responses
The course content, media, and materials were engaging and relevant.	2.1%	3.1%	13.0%	31.1%	50.7%	1,963
The course had a good flow in terms of sections and topics covered.	2.3%	2.8%	11.7%	29.9%	53.3%	1,964
The course enhanced my interest in the subject matter.	2.1%	2.2%	12.0%	26.9%	56.8%	1,965
I am more enthusiastic about this subject matter than I was before taking the course.	3.6%	2.9%	15.1%	25.5%	53.0%	1,962
The course content was presented in manageable sections or modules through which I could easily navigate.	2.0%	2.2%	9.9%	25.5%	56.4%	1,962
I engaged with all of the material presented to me.	2.3%	5.8%	14.5%	32.9%	44.5%	1,962
The course was appropriately challenging.	2.1%	2.9%	11.9%	28.3%	54.8%	1,961

## APPENDIX E: KIRKPATRICK MODEL



## APPENDIX F: PILOT INVITATION EMAIL

Hello {insert name},

I hope this email finds you well. As a trusted colleague and an expert in personal training education, I'm contacting you to help me with an important project. This is a long email, so bear with me.

I am formally evaluating the NASM-CPT product by sending out a survey to CPT 7th edition graduates (this is both my doctoral dissertation and a work project). The purpose of assessing the NASM-CPT program is to identify if the curriculum sufficiently meets learners' needs and prepares them for an occupation in personal training. Performing such an evaluation ascertains if changes to the NASM-CPT product offering are warranted, which can significantly impact learning outcomes, such as knowledge acquisition, retention, and professional practice. Moreover, the evaluation results will determine if future investments are needed to enhance the program (i.e., new instructional materials, revised content, and increased support staff).

However, before I send out the survey that I wrote, I need to have it validated via a small pilot of content experts. I would be honored if you could help validate the survey by providing feedback. I will also contact other individuals separately to help me validate the survey. Combined, we can ensure that the survey asks the right questions to answer my purpose statement and aims.

### **Purpose Statement and Aims**

This dissertation is designed to assess learner perceptions of the NASM-CPT program and its ability to prepare individuals for the personal training profession.

Therefore, my study aims to:

1. Collect and analyze NASM personal trainers' opinions of the efficacy of the NASM-CPT educational program when preparing for a professional career in personal training.
2. Generate recommendations to guide the future development of the NASM-CPT program.

Note- I am not analyzing how well the program prepares an individual to pass the certification exam or how well the program prepares someone for a career in the strength and conditioning profession. Instead, it is focused on evaluating how it prepared NASM learners for the personal training profession. In other words, do NASM-CPT graduates perceive the program as having effectively prepared them for a career in personal training?

### **Participants**

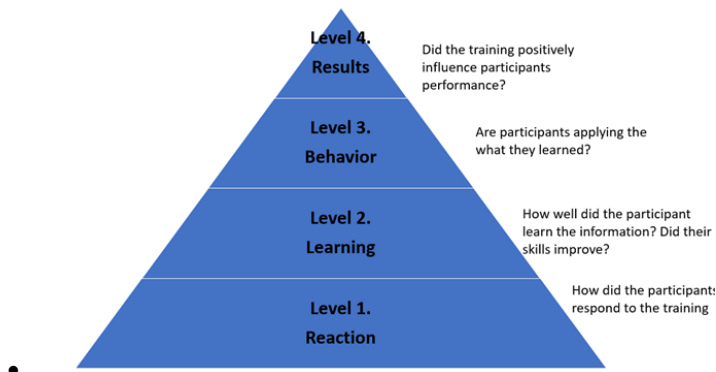
- The target population is NASM Certified Personal Trainers who passed the 7<sup>th</sup> edition NASM-CPT between January 2021 and May 2023.

### **Important information:**

To help write this survey, I completed an intensive literature review of the personal training profession, and per my dissertation requirements, the findings of my literature review must be reflected in my survey. The findings of the literature review revealed these concerns:

- Personal trainers often lack the knowledge and skills to optimally provide their clients with evidence-based exercise programming.

- Many personal trainers without an academic degree tend to rely on non-scholarly resources for information (i.e., magazines, blogs, YouTube, and colleagues).
- Personal trainers may lack essential skill sets such as interpersonal communication and coaching methods to foster adherence to exercise programs.
- The New World Kirkpatrick model is a viable framework for evaluating training programs (I used this framework to write the survey).
  - The survey uses the Kirkpatrick model to formulate the assessment and is divided into three clusters: reaction, learning, and behavior. Level 4 of the Kirkpatrick model, results, is intentionally omitted because measuring direct outcomes against NASM's KPIs, such as return on investment (ROI), is beyond the scope of this study.



If you're able to assist, I will send out a meeting invite so we can discuss the project in more detail. The overall process will include the following steps:

1. We will discuss the project via a 30-minute phone call, and I will email you the survey.
2. Email the survey back to me (ideally within a week) with your suggested edits using track changes.
3. I will make the necessary edits and email the revised survey to the group of experts for approval.
4. If edits are still required, repeat steps 2 and 3 until a 75% threshold consensus is determined (i.e., 7 out of 9 or 6 out of 8) among everyone providing feedback.

Thank you for your time and consideration.

Best Regards,

**Brian Sutton MS, MA, NASM-CPT, PES, CES, CSCS**  
 Senior Content Development and Production Manager  
 Direct I 602-383-1251  
[brian.sutton@nasm.org](mailto:brian.sutton@nasm.org)



## APPENDIX G: SURVEY

Thank you for taking the time to complete this survey. You may go back at any time to review and change your responses before submitting the survey. To get started, please read the information below and consent to participate.

**Project Title:** Career Readiness of Individuals Obtaining an Accredited Personal Training Certification and Suggestions for Professional Education

**Principal Investigator:** Brian Sutton NASM Senior Content and Production Manager and doctoral candidate at UNC, Greensboro

**Faculty Advisor:** Dr. Paul Davis, PhD

### *What is this all about?*

I am asking you to participate in this research study to gather information regarding your perception of the NASM Certified Personal Trainer (NASM-CPT) program and how well it prepared you for an occupation in personal training. This research project is for Brian Sutton's dissertation project. It will only take about 10 minutes and will involve you completing a short online survey. Your participation in this research project is voluntary.

### *How will this negatively affect me?*

Other than the time you spend on this project, there are no known or foreseeable risks involved with this study.

### *What do I get out of this research project?*

Your feedback will help NASM provide a better learning experience for future students seeking certification for a career in personal training.

### *Will I get paid for participating?*

As a thank you for completing our brief survey, which will only take 10-15 minutes, you can enter our random drawing to win a free NASM Specialization of your choice.

### *What about my confidentiality?*

We will do everything possible to make sure that your information is kept confidential. All information obtained in this study is strictly confidential unless disclosure is required by law. We will not ask for any identifying information, we will use pseudonyms when presenting data, and the data will be securely stored by NASM.

Absolute confidentiality of data provided through the Internet cannot be guaranteed due to the limited protections of Internet access. Please be sure to close your browser when finished so no one will be able to see what you have been doing.

### *What if I do not want to be in this research study?*

You do not have to be part of this project. This project is voluntary, and it is up to you to decide to participate in this research project. If you agree to participate at any time in this project, you may stop participating without penalty.

***What if I have questions?***

You can ask Brian Sutton (brian.sutton@nasm.org) anything about the study. If you have concerns about how you have been treated in this study, call the Office of Research Integrity Director at 1-855-251-2351.

1. By clicking “yes”, you agree to participate in this survey study. By clicking “no,” you are choosing not to participate.

Yes

No

2. Did you earn your NASM Certified Personal Trainer certification between January 2021 - May 2023?

Yes

No

3. Why did you decide to enroll and complete the NASM-CPT certification? Select all that apply.

- To learn the skills required for the personal training profession
- It was a requirement of my employer
- Personal interest
- Professional development (e.g., earn an additional CPT certificate)
- Other (please specify) [Click or tap here to enter text.](#)

4. Do you currently work, or have you ever worked as a certified personal trainer?

Yes

No

5. How long have you worked as a personal trainer (past or present)?

Sliding scale from 0-30 years



6. Which of the following choices best describes the type of health/fitness employer (business/organization) you currently (or previously) worked for? Select all that apply.

- Commercial gym chain
- Boutique/private studio
- Sports performance center
- Recreation center
- Corporate fitness/wellness center
- Retirement community
- Medical clinic
- Education institution (i.e., high school, trade school, university, etc.)

- Self-employed
- Other, please explain: [Click or tap here to enter text.](#)

7. What is your current occupation (select all that apply)?

- Certified Personal Trainer
- Group Fitness Instructor
- Yoga or Pilates Instructor
- Strength and Conditioning Coach
- Wellness Coach
- Exercise Physiologist
- Fitness Manager (at a fitness facility)
- General Manager (at a fitness facility)
- Front Desk Staff (at a fitness facility)
- Gym Owner
- Educator/ Professor
- Physical Education Teacher
- Sports Coach (i.e., basketball, baseball, football, golf, etc.)
- Social Media Fitness Influencer
- Health or Fitness Author /Blogger
- Certified/Licensed Athletic Trainer
- Licensed Massage Therapist
- Chiropractor
- Registered Dietitian
- Physical Therapist
- Occupational Therapist
- Medical Professional (e.g., MD, DO, RN, PA)
- Other (please specify) [Click or tap here to enter text.](#)

8. How satisfied are you with the NASM-CPT program in preparing you to begin (or continue) your career in personal training?

Extremely dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Extremely satisfied
1	2	3	4	5

9. How strongly do you agree with the following statement: The NASM-CPT material motivated me to pursue (or continue) a career in personal training.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

10. How complete was the content of the NASM-CPT program in preparing you to begin (or continue) your personal training career?

Extremely incomplete	Incomplete	Neither complete nor incomplete	Complete	Extremely complete
----------------------	------------	---------------------------------	----------	--------------------

11. How strongly do you agree with the following statement: The NASM-CPT content was written clearly.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

12. How effective was the online format of the NASM-CPT program in preparing you to begin (or continue) your personal training career?

Extremely ineffective	Ineffective	Neither effective nor ineffective	Effective	Extremely effective
1	2	3	4	5

13. How effective did you find the following learning materials of the NASM-CPT program in preparing you to begin (or continue) your personal training career? Please make sure to provide an answer for each row.

	1 Extremely ineffective	2 Moderately ineffective	3 Moderately effective	4 Highly effective	5 Extremely effective
Reading materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instructional videos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assessments (e.g., knowledge checks, chapter quizzes, practice exam)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Please rank the usefulness of each section of the NASM-CPT program for preparing you to begin (or continue) your personal training career. Please make sure to provide an answer for each row.

	1 Not useful at all	2 Slightly useful	3 Moderately useful	4 Highly useful	5 Extremely useful
<b>Section 1</b> Professional Development and Responsibility (topics include scope of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

practice, sales, marketing)					
<b>Section 2</b> Client Relations and Behavioral Coaching (topics include psychology, goal setting, and behavior change techniques)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Section 3</b> Basic and Applied Sciences and Nutritional Coaching (topics include anatomy, physiology, metabolism, and nutrition)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Section 4</b> Assessment (topics include preparticipation health screening, health, fitness, and performance assessments)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Section 5</b> Exercise Technique and Training Instruction (topics include flexibility, cardio, core, balance, plyometric, and resistance training)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Section 6</b> Program Design (topics include the periodization, using various exercise equipment, and exercise programming for health conditions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

15. Overall, how effective was the NASM-CPT program in teaching you the knowledge necessary to begin (or continue) your personal training career?

Extremely ineffective	Ineffective	Neither effective nor ineffective	Effective	Extremely effective
1	2	3	4	5

16. Since completing the NASM-CPT program, how strongly do you agree with the following statements (please make sure to provide an answer to each row):

	1 Strongly disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly agree
The NASM-CPT sufficiently taught me how to perform fitness assessments (e.g., preparticipation health screening, body fat testing, fitness testing).					
The NASM-CPT sufficiently taught me how to correct clients' exercise techniques.					
The NASM-CPT sufficiently taught me how to create customized exercise programs for clients.					
The NASM-CPT sufficiently taught me how to sell personal training services.					
The NASM-CPT sufficiently taught me how to market personal training services.					
The NASM-CPT sufficiently taught me how to motivate clients using behavior					

change techniques (e.g., goal setting, communication techniques).					
The NASM-CPT sufficiently taught me how to source information from scientific/scholarly sources (such as peer-reviewed journals) to acquire new knowledge.					

17. Which learning format would you have preferred when preparing for a personal training career?

- An online course that is self-paced and self-taught that I can start at any time
- An online course with an instructor/facilitator with a specific start date (i.e., cohort)
- An in-person classroom environment
- A hybrid format that combines in-person and online learning
- Other, please explain. [Click or tap here to enter text.](#)

18. How strongly do you agree with the following statement: The NASM-CPT program positively influenced my ability to perform the job functions of a personal trainer.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

19. After completing the NASM-CPT program, how often do you perform the following personal training job functions? Please make sure to provide an answer for each row.

	1 Never	2 Rarely	3 Sometimes	4 Often	5 Very often
Fitness assessments (e.g., preparticipation health screening, fitness & performance assessments)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct clients' exercise techniques during a training session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create customized exercise programs for clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motivate clients using behavior change techniques (e.g., goal setting,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

motivational interviewing)					
Sell personal training services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market personal training services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source information from scientific/scholarly sources (such as peer-reviewed journals) to acquire new knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. How strongly do you agree with the following statement: Offering an opportunity to purchase in-person instruction (e.g., attending a live workshop) in addition to the NASM-CPT online program would have been an important component in preparing me to begin (or continue) my personal training career.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

21. In your opinion, what NASM-CPT content, services, or experiences should be changed to better prepare someone for a personal training career?

Click or tap here to enter text.

22. What is your age?

Sliding scale from 18-79



23. What is your gender (check all that apply)?

- Male
- Female
- Non-binary/third gender
- Other [Click or tap here to enter text.](#)
- Prefer not to answer

24. What is your highest earned level of education?

- High school or GED
- Some college
- Associate's degree
- Bachelor's degree
- Master's degree
- Doctorate degree



- Prefer not to answer
25. Do you have a degree in kinesiology, exercise science, or a related field (e.g., exercise physiology, physical education, biomechanics, physical therapy, athletic training, nutrition etc.)?
- Yes
  - No
26. Which NASM-CPT package did you purchase?
- Exam Only
  - Self-Study
  - Premium Self-Study
  - All-Inclusive
  - Elite Trainer Bundle
  - I don't remember
27. Are you interested in being entered into a raffle to earn a \$100 gift card for participating in the survey?
- Yes  Enter your name and email here
- No
28. Are you willing to participate in a 60-minute virtual (online) follow-up focus group about the NASM-CPT program hosted by NASM? All focus group participants will receive a \$200 gift card incentive.
- Yes  Enter your name and email address here
- No

## APPENDIX H: INVITATION EMAIL

Hello!

Congratulations, you are part of an exclusive group of people who have successfully passed the NASM Certified Personal Trainer (NASM-CPT) 7<sup>th</sup> edition program. We are proud to have you as a part of the NASM community!

We are reaching out to request your participation in a survey regarding your experience interacting with NASM-CPT content and its effectiveness in preparing you for a career in personal training. We would love to hear your thoughts and opinions; your feedback will help us provide a better learning experience for future students seeking certification for a career in personal training.

To thank you for completing the survey, you can enter a chance to win a Free [NASM Specialization](#) of your choice. See official rules here [insert link to NASM Giveaway Terms and Conditions].

To begin the survey, please click the link below.

<https://survey.alchemer.com/s3/7468117/CPT-7th-Edition-Evaluation-Survey-Brian-Sutton>

Thank you for your time; it is greatly appreciated.

Best in Health,

The National Academy of Sports Medicine



## APPENDIX I: INTERVIEW INVITATION EMAIL

Dear [insert name],

My name is Brian Sutton, and I am a Senior Content Manager with the National Academy of Sports Medicine (NASM). I hope this email finds you well. Last October, you completed our online survey gathering your opinion of NASM's Certified Personal Trainer program. Thank you; your feedback is very helpful!

In the survey, you answered that you would be willing to partake in a 60-minute virtual meeting so I can better understand your opinions of the program. I am reaching out to see if you would still be interested in participating in a virtual meeting with me. The incentive for your participation is \$200.

My goal is to gather your honest opinions so we can continue to make improvements and serve our student's needs. Your answers will remain completely anonymous. As the person who oversees the development of NASM eLearning programs, I recognize the importance of your opinions and feelings about the program.

If you're still interested in joining me for a 60-minute discussion, please let me know your availability, and I'll schedule a conference call. We will use Microsoft Teams software, and I'll send you a link to talk. There's no need to prepare for our discussion as this will be a light-hearted conversation about your perceptions of the NASM-CPT program.

I look forward to hearing back.

Best in Health,

**Brian Sutton MS, MA, NASM-CPT, PES, CES, CSCS**  
Senior Content Development and Production Manager  
Direct I 602-383-1251  
[brian.sutton@nasm.org](mailto:brian.sutton@nasm.org)

APPENDIX J: SURVEY PARTICIPANT DEMOGRAPHICS (AGE, GENDER, EDUCATION,  
 WORK HISTORY)

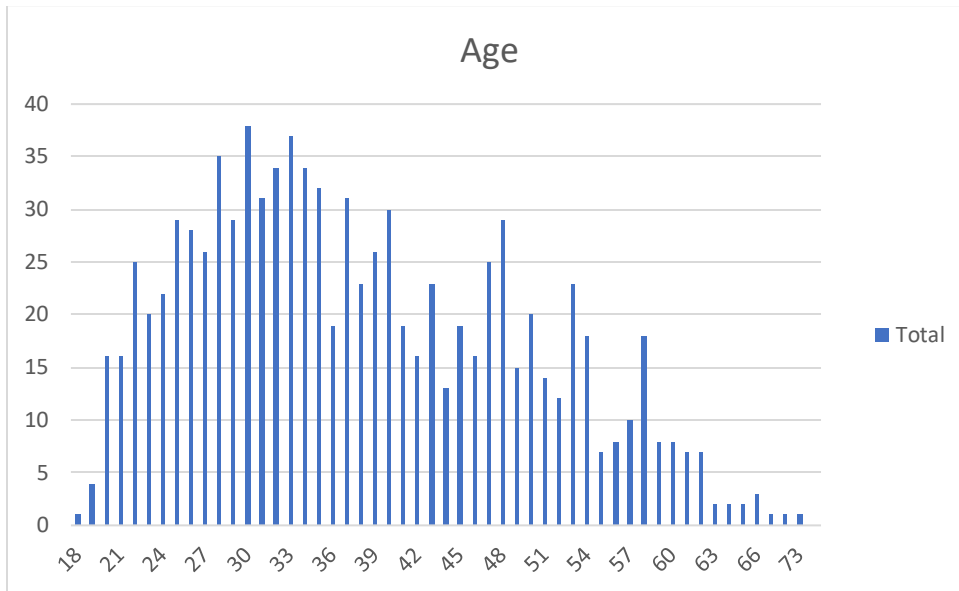
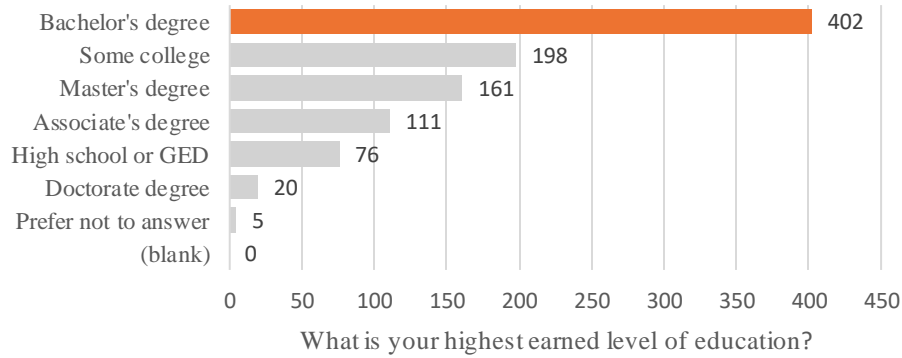


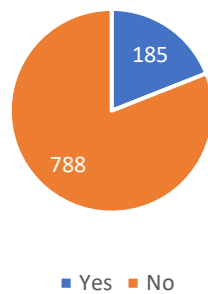
Table 4

Gender	Count	Percentage
Female	619	63.68%
Male	336	34.57%
Prefer not to answer	8	0.8%
Non-binary/third gender	6	0.6%
Other - Write In	3	0.3%

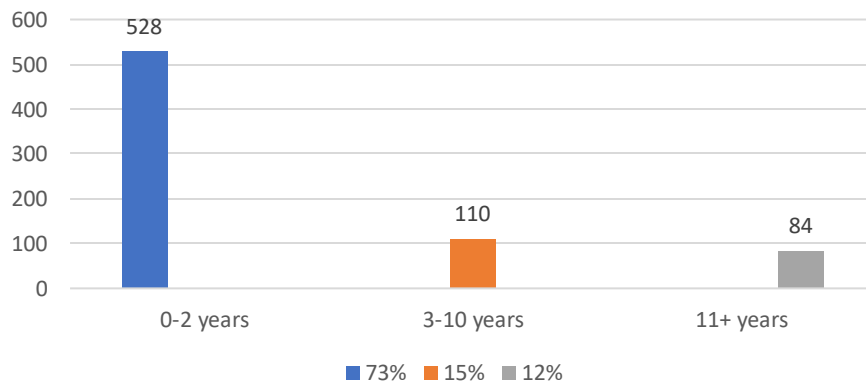
'What is your highest earned level of education?': Bachelor's degree appears most often.



Do you have a degree in kinesiology, exercise science or a related field?



Years of Work Experience



## APPENDIX K: KIRKPATRICK LEVEL 1 (REACTION) RESULTS

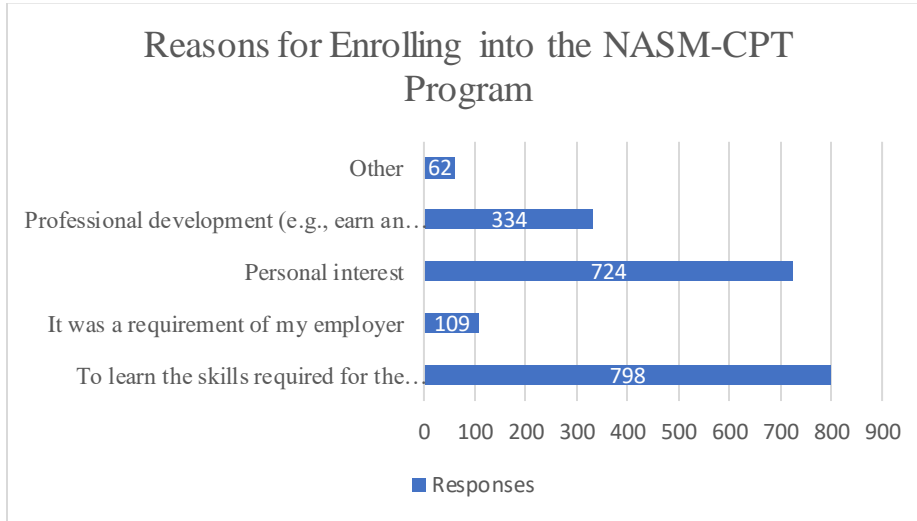


Table 5

Satisfaction Level of NASM-CPT	Count	Percent
Extremely satisfied	344	35.0%
Satisfied	481	49.8%
Neither satisfied nor dissatisfied	94	9.9%
Dissatisfied	35	3.6%
Extremely dissatisfied	17	1.8%

Was the Material Motivating?	Count	Percent
Strongly agree	326	32.3%
Agree	438	43.4%
Neither agree nor disagree	188	18.6%
Disagree	42	4.2%
Strongly disagree	16	1.6%

Was the Content Written Clearly?	Count	Percent
Strongly agree	416	41.0%
Agree	493	48.6%
Neither agree nor disagree	68	6.7%

Disagree	29	2.9%
Strongly disagree	8	0.8%

<b>Was the Online Format Effective?</b>	<b>Count</b>	<b>Percent</b>
Extremely effective	354	35.6%
Effective	514	51.7%
Neither effective nor ineffective	86	8.7%
Ineffective	34	3.4%
Extremely ineffective	6	0.6%

APPENDIX L: KIRKPATRICK MODEL LEVEL 2 (LEARNING) RESULTS

Table 6

Was the Learning Materials Effective?	Count	Percent
<b>Reading Materials</b>		
Extremely effective	269	27.1%
Highly effective	432	43.5%
Moderately effective	257	25.9%
Moderately ineffective	24	2.4%
Extremely ineffective	10	1.0%
<b>Instructional Videos</b>		
Extremely effective	292	29.4%
Highly effective	402	40.4%
Moderately effective	269	27.1%
Moderately ineffective	22	2.2%
Extremely ineffective	9	0.9%
<b>Assessments (knowledge checks, chapter quizzes, practice exam)</b>		
Extremely effective	353	35.5%
Highly effective	403	40.5%
Moderately effective	191	19.2%
Moderately ineffective	35	3.5%
Extremely ineffective	13	1.3%

Rate Usefulness of Six Sections	Count	Percent
<b>Section 1 Professional Development and Responsibility</b>		
Extremely useful	208	20.9%
Highly useful	382	38.4%
Moderately useful	299	30.1%
Slightly useful	83	8.4%
Not useful at all	22	2.2%
<b>Section 2 Client Relations and Behavioral Coaching</b>		
Extremely useful	259	26.0%
Highly useful	439	44.1%
Moderately useful	230	23.1%
Slightly useful	64	6.4%
Not useful at all	3	0.3%
<b>Section 3 Basic and Applied Sciences and Nutritional Concepts</b>		
Extremely useful	344	34.6%
Highly useful	433	43.5%



Moderately useful	169	17.0%
Slightly useful	41	4.1%
Not useful at all	8	0.8%
<b>Section 4 Assessment</b>		
Extremely useful	363	36.5%
Highly useful	403	40.5%
Moderately useful	186	18.7%
Slightly useful	34	3.4%
Not useful at all	8	0.8%
<b>Section 5 Exercise Technique and Training Instruction</b>		
Extremely useful	417	41.9%
Highly useful	392	39.4%
Moderately useful	131	13.2%
Slightly useful	48	4.8%
Not useful at all	7	0.7%
<b>Section 6 Program Design</b>		
Extremely useful	360	36.3%
Highly useful	366	36.9%
Moderately useful	187	18.8%
Slightly useful	68	6.8%
Not useful at all	12	1.2%

<b>Effectiveness of Knowledge Acquisition</b>	<b>Count</b>	<b>Percent</b>
Extremely effective	320	33.1%
Effective	515	53.2%
Neither effective nor ineffective	89	9.2%
Ineffective	37	3.8%
Extremely ineffective	7	0.7%

<b>Skill Acquisition</b>	<b>Count</b>	<b>Percent</b>
<b>Conduct Fitness Assessments</b>		
Strongly agree	245	24.9%
Agree	543	55.2%
Neither agree nor disagree	156	15.9%
Disagree	31	3.2%
Strongly disagree	9	0.9%
<b>Correct Client's Exercise Technique (cueing)</b>		
Strongly agree	267	27.1%

Agree	483	49.1%
Neither agree nor disagree	166	16.9%
Disagree	54	5.5%
Strongly disagree	14	1.4%
<b>Create Customized Exercise Programs</b>		
Strongly agree	221	22.5%
Agree	455	46.2%
Neither agree nor disagree	196	19.9%
Disagree	86	8.7%
Strongly disagree	26	2.6%
<b>Sell Personal Training Services</b>		
Strongly agree	111	11.3%
Agree	360	36.6%
Neither agree nor disagree	327	33.2%
Disagree	152	15.4%
Strongly disagree	34	3.5%
<b>Market Personal Training Services</b>		
Strongly agree	111	11.3%
Agree	332	33.8%
Neither agree nor disagree	344	35%
Disagree	163	16.6%
Strongly disagree	33	3.4%
<b>Motivate Clients Using Behavioral Change Techniques</b>		
Strongly agree	229	23.3%
Agree	579	58.9%
Neither agree nor disagree	138	14.0%
Disagree	29	3.0%
Strongly disagree	8	0.8%
<b>Source Information from Scholarly Sources</b>		
Strongly agree	247	25.1%
Agree	468	47.6%
Neither agree nor disagree	180	18.3%
Disagree	71	7.2%
Strongly disagree	17	1.7%

<b>Format of Instruction</b>	<b>Count</b>	<b>Percent</b>
Online (self-paced, self-taught)	487	49.4%
Hybrid (online + live instruction)	320	32.5%
Online (with instructor/facilitator)	88	8.9%

Classroom environment	66	6.7%
Other	25	2.5%

APPENDIX M: KIRKPATRICK MODEL LEVEL 3 (BEHAVIOR) RESULTS


Table 7

Frequency of Job Functions	Count	Percent
<b>Conduct Fitness Assessments</b>		
Very Often	161	23.2%
Often	263	38%
Sometimes	185	26.7%
Rarely	62	8.9%
Never	22	3.2%
<b>Correct Client's Exercise Technique (cueing)</b>		
Very often	417	60.3%
Often	202	29.2%
Sometimes	57	8.2%
Rarely	8	1.2%
Never	7	1.0%
<b>Create Customized Exercise Programs</b>		
Very often	391	56.5%
Often	177	25.6%
Sometimes	88	12.7%
Rarely	26	3.8%
Never	10	1.4%
<b>Sell Personal Training Services</b>		
Very often	135	19.5%
Often	183	26.5%
Sometimes	211	30.5%
Rarely	115	16.5%
Never	47	6.8%
<b>Market Personal Training Services</b>		
Very often	110	15.9%
Often	134	19.4%
Sometimes	224	32.4%
Rarely	153	22.1%
Never	70	10.1%
<b>Motivate Clients Using Behavioral Change Techniques</b>		
Very often	292	42.2%
Often	251	36.3%
Sometimes	117	16.9%
Rarely	25	3.6%

Never	7	1.0%
<b>Source Information from Scholarly Sources</b>		
Very often	176	25.5%
Often	209	30.3%
Sometimes	173	25.1%
Rarely	96	13.9%
Never	36	5.2%


<b>Pay Extra for Live Instruction?</b>	<b>Count</b>	<b>Percent</b>
Strongly agree	252	25.7%
Agree	390	39.8%
Neither agree nor disagree	230	23.5%
Disagree	71	7.3%
Strongly disagree	36	3.7%

# APPENDIX N: DISSEMINATION POWERPONT SLIDES




Career Readiness of Individuals Obtaining an Accredited Personal Training Certification and Suggestions for Professional Education

Brian Sutton  
Dissertation Committee  
Dr. Paul Davis  
Dr. Robert Owens  
Dr. William Karper




**Goals for Today**

- **Overview** the CPT evaluation project
- **Discuss** the findings
- **Provide** recommendations for CPT 8<sup>th</sup> edition





**Background Research**



**Review of Literature**

- CPTs lack knowledge regarding:
  - Assessment
  - Exercise programming
  - Coaching, interpersonal communication, and behavior change
- Duration of work experience has little impact on competency
- CPTs without a degree rely more on non-scholarly sources of information

CPTs with a college degree display more competencies than those without




**Purpose Statement and Aims**

**Purpose:**  
Assess learner perceptions of the NASM-CPT program and its ability to prepare individuals for the personal training profession.

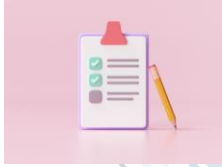
**Aims:**


1. Collect and analyze NASM personal trainers' opinions of the efficacy of the NASM-CPT educational program when preparing for a professional career in personal training.
2. Generate recommendations to guide the future development of the NASM-CPT program



**Methods**


- **Mixed-methods design**, conducted in two parts:
  1. Administering a survey
  2. Hosting virtual interviews





**Methods Continued**

- **Survey**
  - 974 responses
  - 91% completion rate
- **Interviews**
  - 5 people
    - 3 women, 2 men






**Survey Demographics**

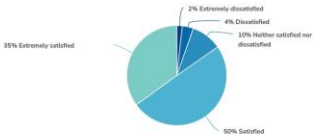
- **Population**
  - 64% women; 35% men
  - Average age: mid-thirties
  - 73% earned at least an associates degree
    - 81% have a degree in an unrelated field
  - 70% have worked as a personal trainer
    - 73% with 2 years or less of work experience






**Survey Results Part 1**

8. How satisfied are you with the NASM-CPT program in preparing you begin (or continue) your career in personal training?

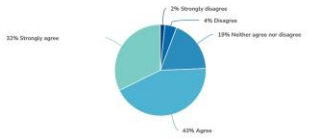


Satisfaction Level	Percentage
Extremely satisfied	35%
Satisfied	50%
Neither satisfied nor dissatisfied	10%
Dissatisfied	4%
Extremely dissatisfied	2%



**Survey Results Part 1**

9. How strongly do you agree with the following statement: The NASM-CPT material motivated me to pursue (or continue) a career in personal training.

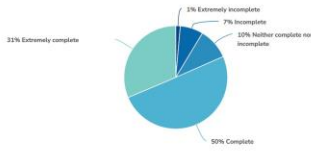


Agreement Level	Percentage
Strongly agree	32%
Agree	42%
Neither agree nor disagree	18%
Disagree	4%
Strongly disagree	2%

### Survey Results Part 1



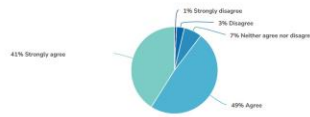
10. How complete was the content of the NASM-CPT program in preparing you to begin (or continue) your personal training career?



### Survey Results Part 1



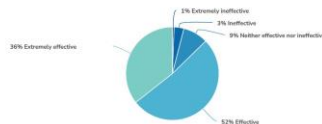
11. How strongly do you agree with the following statement: The NASM-CPT content was written clearly.



### Survey Results Part 1



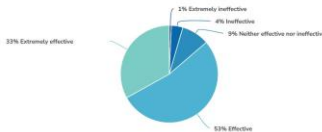
12. How effective was the online format of the NASM-CPT program in preparing you to begin (or continue) your personal training career?



### Survey Results Part 2



15. Overall, how effective was the NASM-CPT program in teaching you the knowledge necessary to begin (or continue) your personal training career?



### Survey Results Part 2



#### Top Performing Domains

- 80% agreed the CPT sufficiently taught how to conduct fitness assessments
- 76% agreed the CPT sufficiently taught how to correct a client's exercise techniques
- 73% agreed the CPT sufficiently taught how to source information from scientific/scholarly sources
- 68% agreed the CPT sufficiently taught how to create customized exercise programs

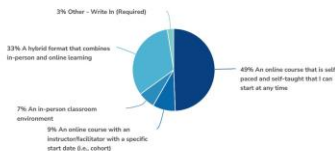
#### Lowest Performing Domains

- 48% agreed the CPT sufficiently taught how to sell personal training services
- 45% agreed the CPT sufficiently taught how to market personal training services

### Survey Results Part 2



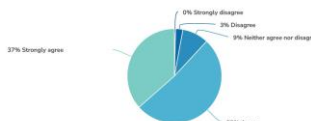
17. Which learning format would you have preferred when preparing for a personal training career?



### Survey Results Part 3



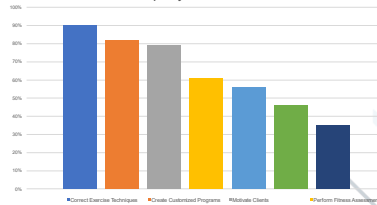
18. How strongly do you agree with the following statement: The NASM-CPT program positively influenced my ability to perform the job functions of a personal trainer.



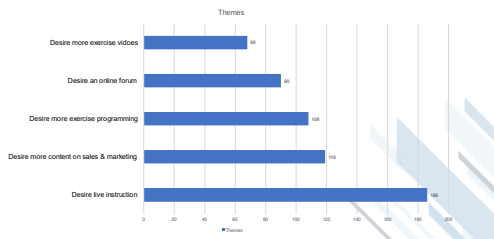
### Survey Results Part 3



Frequency of Job Functions



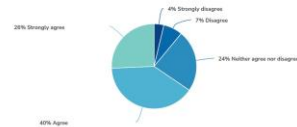
### Survey Results Part 3



### Survey Results Part 3



20. How strongly do you agree with the following statement: Offering an opportunity to purchase in-person instruction (e.g., attending a live workshop) in addition to the NASM-CPT online program would have been an important component in preparing me to begin (or continue) my personal training career.



## Interviews



### Questions

1. What was your first reaction to the NASM -CPT program?
2. What do you think are the strengths of the NASM -CPT program?
3. What do you think are the weaknesses of the NASM -CPT program?
4. If you could change one thing about the NASM -CPT program, what would it be?
5. Did you feel prepared to start working as a personal trainer after getting certified? Why or why not?
6. Is there anything else you would like to say about the NASM -CPT program?

## Interviews



### Positive Results

1. Initial reaction to CPT was positive
2. Liked online interface and learning tools

### Areas for Opportunities

1. Desire online case studies (exercise programming simulations)
2. Desire online forum to interact with peers and instructor
3. Desire live instruction (in -person or virtual)

## Discussion



### Positive Results

- Initial reaction to the NASM -CPT is positive
- NASM-CPT's are satisfied with study materials (text, videos, quizzes)

### Opportunities for Improvement

- Offer more content regarding sales and marketing
- Offer more exercise instructional videos
- Offer an online forum for learners to communicate with their peers
- Offer instructor-led version in addition to the self -study version
- Develop and integrate simulated case studies

## Q&A





## APPENDIX O: POSITIONALITY STATEMENT

I have worked in the fitness industry for more than 20 years, serving in many roles, from gym attendant – to personal trainer – to adjunct faculty – to my current role as a Senior Content and Production Manager for NASM.

In my current role, I manage a team of instructional designers and content developers. We are collectively responsible for ideating, developing, and launching new NASM certification and continuing education courses. This process includes overseeing the content development of NASM's textbooks and online assets (instructional videos and assessments). It is a considerable responsibility and something our team does not take lightly. We are responsible for educating thousands of aspiring and seasoned fitness professionals—who directly impact the health and well-being of their clients. It is a great honor, and our collective aim is to elevate the fitness profession to greater heights.

NASM is the world's largest fitness-related certification and continuing education program provider and is the market leader in fitness credentialing. As judged by the number of enrollments and revenue, the company's largest and most profitable program is the NASM Certified Personal Trainer (NASM-CPT) certification, which my staff and I created.

The existing NASM-CPT curriculum uses a constructivist approach to teaching content. In collaboration with subject matter experts and instructional designers, the curriculum uses microlearning, scaffolding, and spaced repetition elements to improve learning outcomes. However, up to this point, the instructional methods had not been formally evaluated to determine their impact on career readiness.

Given the importance of personal training education, examining the pedagogy, educational technologies, and processes was imperative to determine if the NASM-CPT

curriculum adequately prepared aspiring fitness professionals for entering the workforce as competent and skilled personal trainers. Moreover, results from the evaluation justify updates and augmentation to the NASM-CPT based on objective data, and these data findings can significantly impact learner retention and outcomes. To do so, I aimed to develop a mixed-methods research study that combined survey data and interview results. Once I gathered all the data, I triangulated the results and identified themes for improvement.

My end goal was to perform a detailed review of the NASM-CPT program so we can build an even better version in the future, which will significantly impact the field of kinesiology and personal training. More people enroll for the NASM-CPT certification than any other personal training certification worldwide. Consequently, improvements in the NASM-CPT curriculum can significantly trickle down to professionals who work directly with clients, ensuring they facilitate safe, effective, and evidence-based exercise programs.

As an individual who oversees the curriculum development of the NASM-CPT, I must mitigate conscious and unconscious biases toward my findings (Ogunleye, 2023). I am vested in the success of the NASM-CPT program because its success is directly tied to my yearly compensation in the form of an annual bonus. Consequently, I have done my very best to ensure I reported the findings as objectively as possible, regardless of my personal feelings about the program.