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Perceptions of Burden in Needs Assessment: An Exploration of Measurement Creation and Validation

Kim N. Pinckney-Lewis
Old Dominion University, kim.pinckneylewis@gmail.com

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PERCEPTIONS OF BURDEN IN NEEDS ASSESSMENT: AN EXPLORATION OF
MEASUREMENT CREATION AND VALIDATION

Kim N. Pinckney-Lewis

B.A. June 2002, Swarthmore College

M.A. May 2006, University of Maryland, College Park

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Approved by:

John Baaki (Director)

Robert Moore (Member)

Jason Lynch (Member)

ABSTRACT

PERCEPTIONS OF BURDEN IN NEEDS ASSESSMENT: AN EXPLORATION OF MEASUREMENT CREATION AND VALIDATION

Kim Pinckney-Lewis
Old Dominion University, 2021
Director: Dr. John Baaki

Needs assessment is a valuable tool in the instructional designer and performance improvement practitioner toolbox. However, it is often avoided due to perceived burdens associated with the needs assessment process. The current research explores needs assessment participants' perceptions of four proposed components of burden, including: 1) duties, obligations, and responsibilities; 2) cost; 3) needs assessment facilitator skills; and 4) needs assessment facilitator systemic sensitivities. The researcher also developed and tested a Perceived Burden for Needs Assessment Participants Survey (PBNAPS) as a potentially reliable and valid measure of this phenomena. The PBNAPS proved to be both internally consistent ($\alpha = 0.86$) and applicable across organizational contexts, constituent types, and lengths of affiliation. The majority of participants reported low levels of perceived burden ($M = 2.97$, $SD = 0.88$), suggesting that perceived burden in needs assessment is not as high as anticipated. Finally, an exploratory factor analysis yielded 1) a four-component model accounting for 52.27% of the variation on the concept of perceived burden, and 2) several implications for practitioners and future iterations of the PBNAPS.

Keywords: needs assessment, burden, participant experience

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This dissertation is dedicated to my family, including my mother, Bessie; my father, Melvin; my husband, Larry; and my son, Gavin. I could not have done this without your love, encouragement, support, and sacrifices. I appreciate the encouraging text messages, calls, healthy snacks for brain food, and welcomed interruptions when I needed a brain break. I hope I have made you proud.

Finally, I dedicate this dissertation to all of those who have needs and those who support those with needs. I firmly believe that to have needs is to be human. The identification of needs and development of interventions to address those needs is the best of humanity in action. Here's to the humanity in each and every one of us.

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To my son, Gavin: you are by far my biggest accomplishment. You have also been my greatest teacher. In fact, I owe a lot of credit to you. Being thrust into the journey of assessing your needs, I found my calling, my flow. In learning to meet you where you are, celebrate your strengths, and identify and support your needs, I have found such a deep sense of purpose. You are simply the best, and I am so proud to be your mom. Never a burden; always a privilege.

“Yes! Different needs are normal.

But, different needs are still needs.

And, different needs require different supports.

We must thrive to understand the nature of the needs, honor how someone meets their own needs, and learn meaningful ways to provide helpful supports.” – Autism Level UP

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NOMENCLATURE

<i>BEM</i>	Behavioral Engineering Model
<i>GST</i>	General Systems Theory
<i>EFA</i>	Exploratory Factor Analysis
<i>HCI</i>	Human Computer Interaction
<i>HPT</i>	Human Performance Technology
<i>ID</i>	Instructional Design
<i>IDKB</i>	Instructional Design Knowledge Base
<i>IEP</i>	Individualized Education Plan
<i>NAC</i>	Needs Assessment Committee
<i>OEM</i>	Organizational Elements Model
<i>PBNAPS</i>	Perceived Burden for Needs Assessment Participants Survey
<i>PDOR</i>	Perceived Duties, Obligations, and Responsibilities Subscale
<i>PFIP</i>	Perceptions of Facilitators in Relation to Individual Participants
<i>PFOC</i>	Perceptions of Facilitators in Relation to the Organizational Context
<i>PIT</i>	Performance Improvement Theory
<i>POC</i>	Perceptions of Cost Subscale
<i>POCE</i>	Perceptions of Other Commitments in Relation to the Needs Assessment Experience
<i>PPS</i>	Perceived Practitioner Skills
<i>PSSP</i>	Perceived Systemic Sensitivities of the Practitioner Subscale
<i>PTRE</i>	Perceptions of Task Responsibility/Energy
<i>RQ</i>	Research Question
<i>SGO</i>	Student Goal Objective
<i>SME</i>	Subject Matter Expert

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CHAPTER 1: INTRODUCTION

Introduction to the Research Problem

Needs assessment is a valuable tool and an integral component of both instructional design (ID) and human performance technology (HPT) spaces (Morrison et al., 2013; Sleezer et al., 2008; Stefaniak et al., 2018). Needs assessment generally refers to the identification of some need to be addressed. While there are several models of needs assessment, for the purpose of this research I operationally define needs assessment as *the data-driven search for opportunities to maximize individual, team, or organizational performance by contributing to the effectiveness, efficiency, and/or ease of supporting organizational goals* (Pinckney-Lewis & Baaki, 2020).

As with all other interventions within organizational contexts, conducting needs assessments has its challenges. In fact, they are often neglected (Aull et al., 2016), many times due to the aspects of perceived burden of participating in the process. In many organizational contexts, there is a need to complete processes and yield products more efficiently, with minimal strain to organizational resources. Therefore, I explored the lived experience on the part of needs assessment participants, and specifically, the extent to which they perceive burden within the process. By describing the types and how much burden participants experience, this research can inform and influence needs assessment practices in the future.

Theoretical and Conceptual Framework

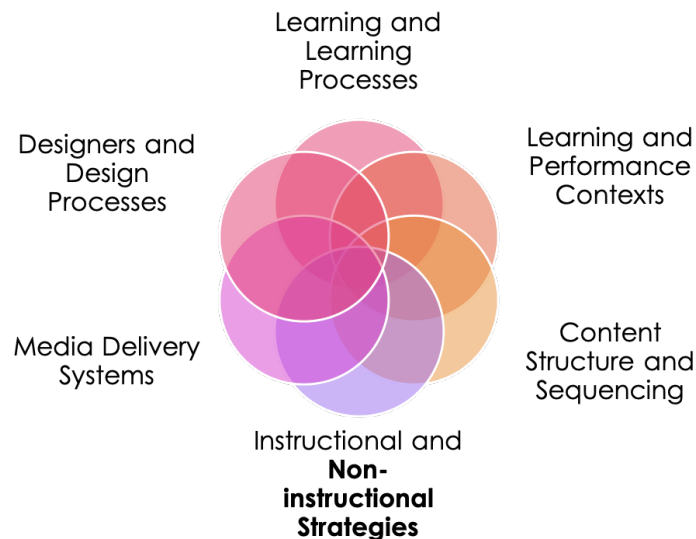
Instructional Design Knowledge Base (IDKB)

In accordance with the IDKB as the overarching conceptual framework (see Figure 1), this research is firmly grounded within the area of non-instructional strategies (Richey et al., 2011). Needs assessment, itself, is a non-instructional strategy that can be applied to any organizational environment (Kaufman & Watkins, 1999). Similarly, within the HPT framework, recommendations from needs assessments should always include pertinent non-instructional

interventions, as instructional interventions are only appropriate when there is an identified gap in knowledge or skills (Altschuld & Kumar, 2010; Richey et al., 2011).

Figure 1.

Non-Instructional Strategies within the Instructional Design Knowledge Base



Instructional Design and Human Performance Technology

Needs assessment has roots in both instructional design (ID) and human performance technology (HPT) as follows. Instructional design is the “science and art of creating detailed specifications for the development, evaluation, and maintenance of situations which facilitate learning and performance,” (Richey et al., 2011, p. 3). Needs assessment is a part of the science of ID; it allows for the collection of data required to be able to create detailed specifications that will facilitate learning and performance. HPT is the “study and ethical practice of improving productivity in organizations by designing and developing effective interventions that are results-oriented, comprehensive, and systemic,” (Pershing, 2006, p. 6). Based on this definition, needs assessment and HPT are inextricably linked. A main focus of needs assessment is to ultimately improve performance, which is a goal of HPT.

HPT is firmly situated within and draws from a number of theories. Two of those that are foundational to this research are General Systems Theory (GST) and Performance

Improvement Theory (PIT). In this section, I will explore each of these theories as they serve as the theoretical basis for the literature review.

General Systems Theory

Initially verbalized at the 1930s, von Bertalanffy described GST as “a logico-mathematical field whose task is the formulation and derivation of those general principles that are applicable to ‘systems’ in general,” (von Bertalanffy, 1972, p. 411). GST views systems as being made up of objects, parts, wholes and the relationships between those objects, parts, wholes and their components (Hall & Fagen, 1958; von Bertalanffy, 1972). GST embodies “the idea of viewing a problem or situation in its entirety with all its ramifications, with all its interior interactions, with all its exterior connections and with full cognizance of its place in its context,” (Mood, 1964, p. 1). HPT practitioners should not approach their projects within a vacuum. Instead they should consider the purpose and function of interventions within the larger systems within which they are intended. Taking a systemic view requires practitioners to recognize the subsystems within every organization such that implementing a change in one area will inevitably affect other areas (*Human Performance Technology*, 2013; *What Is HPT?*, 2013).

Specifically, the social systems and channels as they function within organizations is of particular importance in this case. Social systems include the interrelated units involved in problem solving towards a common goal (Rogers, 2003). When conducting needs assessments, organizational social systems are inescapable, while simultaneously being essential to its success. Organizations, whether educational or otherwise, are made up of people and all of the power dynamics that come with that. Therefore, it is virtually impossible to isolate components in open systems with embedded social systems (Ayers, 2011).

Performance Improvement Theory

PIT applies the systems approach to performance opportunities (Richey et al., 2011). It also birthed HPT, which is the “study and ethical practice of improving productivity in organizations by designing and developing effective interventions that are results-oriented,

comprehensive, and systemic”(Pershing, 2006, p. 6). This definition grounds the current research, as this operational definition of needs assessment values organizational contexts, such that performance is relative to and situated within a specific context. It also references being comprehensive and systemic to reference the level of rigor in the work that HPT professional perform as well as the notion that we must solve the whole problem, not just address a portion of it (Persing, 2006). Because needs assessment is a tool within the HPT toolbox, this current research investigates one piece of the needs assessment process that has not yet been examined explicitly: the lived experience of needs assessment participants.

Purpose Statement

Challenges of Needs Assessment in Practice

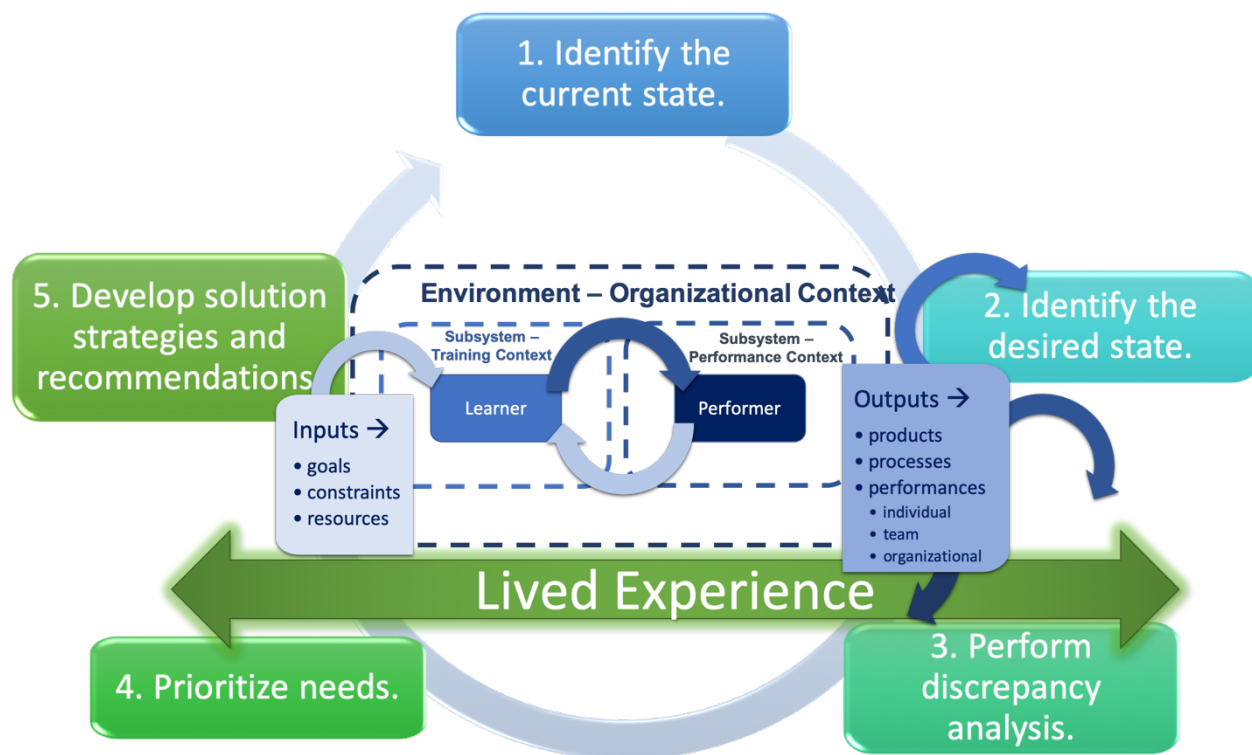
Needs assessment, how it is conducted, how often it is conducted, and how valued it is within organizational contexts, varies. Naturalistic approaches recognize that needs assessment may not be feasible, given time and resource constraints (Cervero & Wilson, 2006; Zemke, 1998). On the other hand, classical approaches regard needs assessment as a fundamental, formal process (Lippitt et al., 1958; Zemke, 1998). This discrepancy highlights an initial challenge with how we understand and practice needs assessment.

Organizations and clients often avoid needs assessments for several reasons, including those mentioned above. In fact, practitioners often go so far as to completely relabel the process (i.e., call the needs assessment process by some other name) (Adams et al., 2018) in order to limit perceptions of burden. The published literature often explores challenges in conducting needs assessment from the perspective of the practitioners conducting the assessment (Bates & Holton, 2002; Zemke, 1998). However, those challenges as a result of the lived experience of the participants in a needs assessment are largely absent from the literature. Figure 2 highlights the lived experience of participants in needs assessments as an integral, unavoidable piece of the overall needs assessment process. When the perceived burdens of needs assessment overshadow its inherent value, practitioners are less likely to conduct needs

assessments, and organizations fail to benefit from properly contextualized performance improvement interventions (Hopfl, 1994; Marshall & Rossett, 2014; Zemke, 1998). By examining needs assessment in practice, I set out to explore the experiences of participants in the hopes of identifying specific mitigations to combat these perceptions.

Figure 2.

Initial Notional Representation of Needs Assessment



Assumptions within this Research

There are several needs assessment models. Practitioners vary with the frequency and level of depth in which they conduct needs assessments in practice. This research does not accept the assumptions that needs assessments must always follow classical approaches (Boone et al., 2002; Witkin & Altschuld, 1995), which often mandate a formal, linear process. It also does not subscribe to the extreme interpretation of humanist approaches (Cafarella & Daffron, 2013) that claim needs assessments may not be necessary at all. In this analysis I

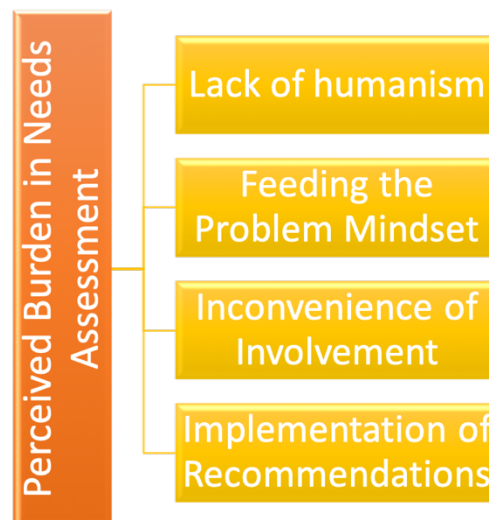
accept that needs assessment in practice lives somewhere in between and that what is appropriate for one organizational context may not be appropriate for other environments (Leigh et al., 2000).

Summary of Previous Research on Perceived Burden in Needs Assessment

My previous research examined how needs assessment in practice yields perceptions of burden on the part of project clients, stakeholders, and other data-providing participants. In the previous study, I explored lack of humanism, problem mindset, inconvenience of involvement, and implementation of recommendations as potential elements of the perceived burden construct, as depicted in Figure 3 (Pinckney-Lewis, 2019; Pinckney-Lewis & Baaki, 2020).

Figure 3.

Initial Conceptualization of the Perceived Needs Assessment Burden Construct Components



However, when exploring the construct validity of that survey, the results did not indicate a high level of fidelity. While the qualitative data collected via interviews and focus groups provided thick descriptions regarding the participant perceptions of burden or lack thereof (Hays & Singh, 2012), the quantitative survey items lacked sufficient reliability ($\alpha = 0.48$). The survey subscales ranged in how well they correlated with the overall measurement (lack of humanity subscale: $r = -0.11$; problem mindset subscale: $r = 0.59$, $p < .01$; inconvenience of involvement

subscale: $r = .86$, $p < .01$; and tax of implementing recommendations: $r = .047$, $p < .01$). Each of the items that was operationalized in the 2019 study are provided in Appendix I.

Rationale for Further Research

This concept of burden within needs assessment from the participant perspective is worth further study. While my previous effort yielded some interesting insight into the process as experienced by the participants, it was quite cumbersome because I not only conducted the research on perceptions of burden but also conducted the needs assessment project into which the burden research was embedded. In furthering that work, the current research includes a more strategically designed measure of burden to be applied to needs assessment projects conducted by other practitioners. While there are a number of needs assessment models that prescribe what to do, the literature is lacking in terms of how practitioners should go about these endeavors (Stefaniak et al., 2018). Obtaining a better sense of how perceptions of burden affect needs assessment processes and outcomes can help participants further determine *how* to go about their work.

Purpose of the Current Research

The results from the previous study were not ideal. Part of the issue was there is no current, established instrument in which to measure perceptions of burden in needs assessment practice. Whereas my initial research took an exploratory approach in conceptualizing the aspects of burden that may be present in needs assessment, this current research builds on those results and is the outcome of 1) revisiting the literature to better approximate to the perceived burden construct and its components, 2) refining the previously used survey instrument in accordance with the literature, and 3) assessing the construct validity and reliability of that measure based on its use with needs assessment participants. Therefore, the purpose of this follow-on research is to create and validate an instrument that captures and measures the construct of burden as perceived by needs assessment participants.

Research Questions

To fully address what was lacking in the previous research study, I refined four research questions for this current effort. Specifically, they focus on the elements of burden, practitioner reflections on their work on related needs assessment projects, and the construct validity of the measure used to assess its presence as reported by participants. I used the following research questions to achieve the purpose as outlined above:

1. How do participants in needs assessments rate their perceived burden in the process?
2. How do participants in needs assessments describe their perceived burden in the process?
3. What is the meaning of perceived participant burden for instructional design practitioners?
4. How reliable and valid is the refined survey instrument in measuring the construct of perceived burden?

Significance of the Study

This study explores an aspect of needs assessment that has not been studied extensively. Participant experiences within the needs assessment process are largely absent from the literature. Therefore, this research is addressing a gap within the field in the hopes to better understand the complexities of needs assessment as a service offering.

Definition of Terms

To fully understand the need for this research, I will first provide an overview of needs assessment and the types of perceived burden that have been documented in the literature.

Defining Needs Assessment

Needs assessment generally refers to the identification of some need or gap to be addressed. While there are several models of needs assessment, for the purpose of this research I operationally define needs assessment as *the data-driven search for opportunities to maximize individual, team, or organizational performance by contributing to the effectiveness,*

efficiency, and/or ease of supporting organizational goals (Pinckney-Lewis & Baaki, 2020). It has roots in both Instructional Design (ID) and Human Performance Technology (HPT) as follows. ID is the “science and art of creating detailed specifications for the development, evaluation, and maintenance of situations which facilitate learning and performance,” (Richey et al., 2011, p. 3). Needs assessment is a part of the science of ID; it allows for the collection of data required to be able to create detailed specifications that will facilitate learning and performance. HPT is the “study and ethical practice of improving productivity in organizations by designing and developing effective interventions that are results-oriented, comprehensive, and systemic,” (Pershing, 2006, p. 6). Based on this definition, needs assessment and HPT are inextricably linked. A main focus of needs assessment is to improve performance, which is an ultimate goal of HPT.

Defining Perceived Burden

Despite the inherent importance of needs assessment, clients and organizational stakeholders too often undervalue this systematic, data-driven intervention. The criticisms that needs assessments have faced illustrate various perceived burdens of the process on clients, participants and related organizations. Some of those criticisms are of interest in this research effort are the 1) perceptions of duty, obligation, and responsibility; 2) perceptions of cost; and 3) perceptions of interactions with the practitioner. I describe each of these aspects in detail in the Literature Review chapter.

Organization of Remaining Chapters

Within this first chapter, I provided an introduction to the research, while grounding it theoretically and conceptually within the ID and HPT disciplines. Within the next chapter, I will provide an overview of the literature as it relates to needs assessment and perceived burden. Within chapter three, I will document the methodology leveraged within this research. Next, within chapter four, I will provide the results of the research. Finally, within chapter five, I will discuss those results and provide recommendations for further research.

CHAPTER 2: LITERATURE REVIEW

Historical Perspectives on Needs

To explore the relevant needs assessment literature, we must first understand the nature of needs. Maslow was an integral theorist who explored needs from a humanistic perspective and greatly influenced how educators conceptualize needs. As the most cited theorist in the late 60s (Pearson & Podeschi, 1999), Maslow (1943) organized basic human needs into tiered categories, including, physiological (e.g., food, water, sleep), safety (e.g., security of body, health, employment), love and belonging (e.g., friendship, family, intimacy), esteem (e.g., confidence, respect for and of others), and self-actualization (e.g., morality, creativity, problem solving) (Lester, 2013; Maslow, 1943). He proposed that those needs at more basic levels are required for the upper level ones to be met, and all of these needs affect human performance.

Dewey (1933, 1939) and Kaufman (1977) are theorists that also emphasized determining learner needs prior to designing instruction (Rossett, 1982). Fervent debates regarding what needs are and what constitutes needs assessments emerged in the 1960s and 1970s (Watkins & Kavale, 2014). Kaufman (1977) has been instrumental in this area and is credited with establishing needs as nouns, gaps in results, and not verbs (Leigh et al., 2000; Watkins & Kavale, 2014). He firmly posits that needs should be identified first. Then, and only then, can means, processes, or solutions be identified to close the gap in results (Kaufman, 2014, 2018; Kaufman & Guerra-López, 2013). The way in which needs are conceptualized influences how they are assessed. The next section will explore how needs assessment has been defined.

Origins of Needs Assessment

Emerging during the 1960s and 1970s, needs assessment was born out of a number of key historic events. As Maslow popularized the concept of needs in the field of psychology, the term joined the national discourse around education such that the Elementary and Secondary Education Act (ESEA) of 1965 demanded the determination of needs for its programs and

projects (Altschuld & Watkins, 2014). While Gilbert (1967) continued this dialogue around needs in terms of training requirements, a number of needs assessments were conducted from the 1960s thru the 1980s and beyond.

Definitions of Needs Assessment Documented in the Literature

Within the HPT context, needs assessment is a tool for identifying gaps or deltas between current results and required results, which can then be prioritized according to the difference between the relative cost of closing those gaps versus ignoring them or their consequences (Altschuld & Kumar, 2010; Kalman, 2016; Kaufman, 1992; Leigh et al., 2000; Stefaniak et al., 2018; Swart & Kaufman, 2009). Additionally, Altschuld and Kumar (2010) emphasize the action-oriented role needs assessment plays in addressing organizational problems as they relate to organizational needs, changes, developments, and use of resources. Perhaps one of its greatest gifts, though, is that it enables data-informed decision making within organizational spaces (King & Jakuta, 2002). In this way, needs assessment is also considered a form of evaluation that takes place in the front end of a project or initiative (Kalman, 2016; Sleezer et al., 2008).

Sample of Needs Assessment Models

One of the ways in which we can view the evolution of needs assessment is through the various models which have emerged over time. The following models, the Behavior Engineering Model (BEM), Organizational Elements Model (OEM), and the Three-Phased Model, are presented to show some of the key elements under consideration when conducting a needs assessment. These three models were selected not because they are representative of all needs assessment models, but they serve as needs assessment practice snapshots in time. They also align with the principles of GST and PIT.

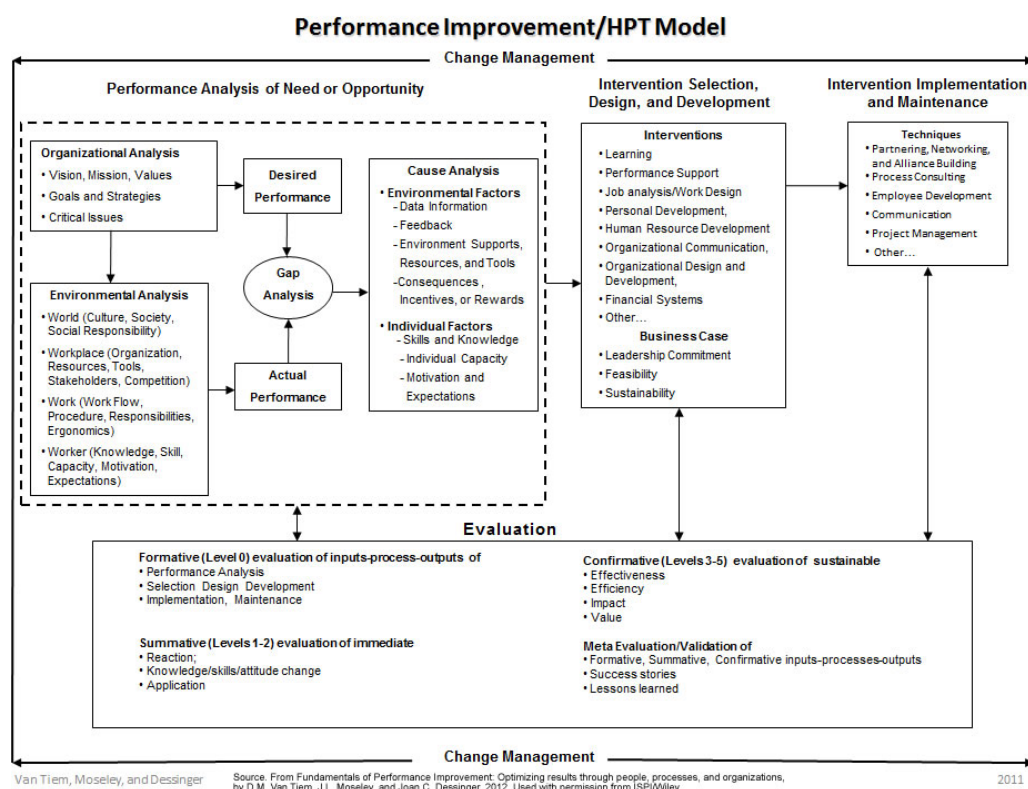
Behavior Engineering Model

While not strictly proposed for needs assessment, Gilbert's (1978) Behavioral Engineering Model (BEM) is an example of a pivotal shift in the ID discipline to link individual

performance to larger organizational and societal impact (Leigh et al., 2000). With a focus on human performance from a behavioral perspective, the model emphasizes six ways of looking at an event, situation, or need that form a stimulus, response, reinforce relationship (Bruner, 2010; Gilbert, 1978). This layered approach to examining a specific context contributes to performing a thorough and comprehensive performance analysis and cause analysis, two integral components of the Performance Improvement/HPT model (Van Tiem et al., 2012) which is depicted in Figure 4.

Figure 4.

Performance Improvement/HPT Model



Specifically, the BEM explores both environmental supports as well as the individual's repertory of behavior (Leigh et al., 2000) as what von Bertalanffy (1972) would call system properties. In terms of environmental supports, performance expectations, feedback, and clear

guidance on how to perform the job are critical data. The instrumentation includes the “science-based tools and materials needed for work,” (Bruner, 2010, p. 151) including access to leaders, personnel, or work processes that affect performance (Gilbert, 1978). In terms of motivation at the environmental level, analysts should consider the incentives provided, which may be monetary, non-monetary, opportunities for career development, or consequences for poor performance (Gilbert, 1978).

At the performer level, the information provided via their repertory of behavior consists of their knowledge, as evidenced by opportunities to receive training and the extent to which that training is designed to match requirements of performers (Gilbert, 1978). In terms of instrumentation at this level, analysts consider capacity in terms of any tailored approaches to maximize learners’ abilities (Bruner, 2010). Examples of this might include flexible scheduling and ensuring people are appropriately matched to the positions they perform (Gilbert, 1978). Lastly, in terms of motivation, practitioners must assess the actual motives of the individual (Gilbert, 1978) and how well that is in alignment with the incentives offered within the environment.

Organizational Elements Model

Kaufman’s Organizational Elements Model (OEM) emerged in 1992 as a means to apply systems engineering to the process of identifying and prioritizing needs (Kaufman, 2004, 2009, 2014). It is an important example because it represents another shift in the field as the first to explicitly examine the linkages between individual, group, organizational and societal results (Leigh et al., 2000). Rather than a process model, the GST-driven OEM is a framework within which gaps at the societal level (Mega), organizational level (Macro), and individual or team level (Micro) must be aligned with those processes and inputs that drive the system (Leigh et al., 2000; Watkins & Kavale, 2014).

The most marked distinction of this model as it applies to HPT is its emphasis on first addressing the Mega level performance results and then filtering down into Macro and Micro

level results (Leigh et al., 2000). The OEM model is unique in that it does what von Bertalanffy (1972) calls intuitively applying an open system view of organizations. In that way, it is a holistic model, exploring what organizations use, produce, and deliver in order to benefit society (Leigh et al., 2000, p. 92).

Three-Phased Model

Finally, the three-phased model initially promoted by Witkin and Altschuld (1995) provides a systematized, process oriented approach to needs assessment (Leigh et al., 2000) based on the modern premise that “needs assessment is partly technical and partly artistic,” (Altschuld & Kumar, 2010, p. 29). Addressing criticisms for being too process oriented (Leigh et al., 2000), Altschuld and Kumar (2010) later stressed that the three-phase model is not meant to be a “straitjacket,” (p. 29). While they provide descriptions of the phases and corresponding steps to follow, they also acknowledge that some steps happen simultaneously or are revisited.

In this model, the influence of GST is evident as it calls for the exploration of three levels of need to be addressed across each phase: the primary level, the secondary level, and the tertiary level. The primary level, or level one, refers to those needs related to individuals, such as students, clients, or customers who receive services to resolve their needs. The secondary level, or level two, refers to the needs of those who deliver services and products to those in level one. Examples would include teachers, therapists, or counselors. The tertiary level, or level three, focuses on the resources and infrastructure that enables the provision of services, including facilities, classrooms, transportation systems, salaries and benefits (Altschuld & Kumar, 2010).

With the levels of need in mind, each phase of the needs assessment can begin. The first of the three phases is preassessment, where a Needs Assessment Committee (NAC) is formed to determine the focus of the needs assessment and get organized. During this exploratory phase, the NAC or needs assessment lead collects any and all already available information (Witkin & Altschuld, 1995). While taking advantage of primarily existing data during

this phase, decisions can be made as to how best to proceed through the needs assessment or to terminate the process due to lack of evidence of a need (Altschuld & Kumar, 2010).

During the second phase, known as assessment, new data are collected based on what was learned in the first phase. Various data gathering methods may be employed during this phase, including focus groups, interviews, observations and/or surveys (Witkin & Altschuld, 1995). At this point, a more in-depth review of the needs is conducted to determine the implications across all three need levels. If multiple needs surface, they are sorted by level, prioritized, and analyzed for root cause and potential solution strategies (Altschuld & Kumar, 2010).

Phase three is called postassessment. During this phase, the NAC takes action to resolve those problems underlying the needs by completing causal analysis, developing criteria for solution strategies (Altschuld & Kumar, 2010), and communicating the results to the customers and stakeholders (Witkin & Altschuld, 1995). The PIT-driven design, development, and implementation of solutions to address high priority needs then ensues. The proper diffusion of any solutions created requires careful thought about the implementation (Rogers, 2003); during this phase, the NAC must also build organizational support for their proposed solutions and then evaluate the effectiveness of the solutions implemented (Altschuld & Kumar, 2010). As such, this phase is known for considering utilization (Witkin & Altschuld, 1995)

Commonalities Across the Models that Align with the Current Theoretical Framework

Multi-dimensionality

Each of these examples embody GST in that they emphasize multi-dimensionality, allowing instructional designers to examine needs through multiple lenses. This is necessary to truly understand how organizational components contribute to the whole, how those components relate to the whole, and vice-versa (von Bertalanffy, 1972). The BEM achieves this with its matrix approach, considering the lenses of information, instrumentation, and motivation across dimensions within environmental supports and a person's repertoire of behavior. The

OEM urges practitioners to go beyond the work-group frame of reference by relating organizational efforts with their results and societal effects (Kaufman, 1981). The Three Phase Model achieves multi-dimensionality by overlaying an emphasis on the three distinct levels of needs over its three process phases. Needs, whether they be individual, organizational, or environmental, are complex; the only way to obtain an authentic view of them is to explore them from multiple angles.

Focus on Performance

Other evidence of alignment with the current theoretical framework is the connection to PIT through the models' shared a focus on performance. For example, Gilbert's BEM is a "diagnostic tool that helps pinpoint the most effective way to improve performance," (Bruner, 2010, p. 151). Kaufman's OEM approach to needs assessment accounts for and is compatible with continuous improvement models that are rooted in PIT (Swart & Kaufman, 2009). While constantly focusing on ways to improve production and outcomes, needs assessment data can serve as the indicators of where improvement can be made and the order in which improvements should be targeted. Finally, the Three Phase Model emphasizes a causal analysis that leads to preliminary solution design in phase two and final design implementation and evaluation in phase three. Each of the models also call for comprehensive and thorough assessments to be made, which is a cornerstone of HPT (Pershing, 2006).

Emphasis on Practitioner Tasks Over Participant Experience

While each of these models focus on performance and emphasize the need to consider multiple sources of data, they are also clear in those actions that HPT practitioners must carry out in order to be successful. Taking a practitioner-focused standpoint, the various frameworks, matrices, and steps included in these models provide processes that guide practitioners. They do not overtly speak to the participant experience outside of acknowledging their participation is crucial to the process. While not an overt criticism of these models, the current author does posit that there is a gap in the field that this current research will address.

Criticisms of Needs Assessment Models

Terminology

There are several models of needs assessment that stem from varied domains (e.g., instructional design, curriculum development, organizational development, managerial planning) (Ayers, 2011; Leigh et al., 2000). When pulling from various domains, terminology can be defined differently and misunderstood across disciplines. Understanding of the terminology also influences how the needs assessment process is carried out (Leigh et al., 2000; Watkins & Kavale, 2014).

Lack of Humanism

Data collection methodology is a key technical skill when conducting needs assessments. Some needs assessment models erroneously project that by merely following prescribed technical steps, an effective needs assessment or planned educational program will result (Leigh et al., 2000; Wilson & Cervero, 1996). However, the preference for quantitative data in many models led to the common reliance and dependence on Likert-scale responses and surveys to collect data (Witkin, 1994). These methods, while self-reported, are “not humanistic and [do] not get to the subtleties of the human condition” which are often better understood through qualitative approaches (Altschuld & Watkins, 2014, p. 9). Such traditional methods of training needs assessments do not often fit modern organizations; they lack the ability to access tacit knowledge and retrospective thinking (Dachner et al., 2013). Overwhelmingly, this criticism suggests that survey data collection methods might lack empathy for the lived, human experiences of the individuals and organizations of study.

Another major criticism is the notion that needs assessment takes an inappropriate top-down approach to addressing needs, such that those most affected by the needs were merely subjects in the assessment instead of partners or collaborators (Altschuld & Watkins, 2014). Humanism assumes that all individuals have personal autonomy and are capable of influencing social progress (Pearson & Podeschi, 1999). Specifically, humanistic approaches value the

individuals' ability to evaluate themselves through self-observation or other analysis (Thorndike & Thorndike-Christ, 2010). When taking a humanistic and systemic view, all those who contribute to and play a role in the organizational context are valued. However, the power dynamics inherent within organizations may make it difficult for practitioners to access all relevant constituents (Cervero & Wilson, 2006; Kaufman & Guerra-López, 2013).

Client and Organizational Avoidance: Problem Mindset

Negative Connotation

Some clients shy away from needs assessments because they do not wish to dwell on problems that may reflect poorly on them (Kaufman & Guerra-López, 2013). In fact, the concept of investigating needs is negatively connotated as opposed to being seen as an optimistic activity that will lead to performance improvement (Altschuld, 2015). Sometimes described as a war on performance problems (Rossett, 1982), needs assessment can have an overwhelmingly negative association.

Other clients may fear the results of the needs assessment. For various reasons, agreeing to unearth problems within an organization at any level can be daunting. Clients or leaders easily embarrassed or fearful of finger pointing might shy away from the perceived negative attention a needs assessment might bring. There is a "distinct possibility that the people in power might not look kindly toward the results, or the major changes it might suggest," (Kaufman, 1977, p. 6). Therefore, practitioners should make every effort to highlight strengths as well as needs when reporting results (Perry & Ziemba, 2014).

Time-consumption

One of the main reasons organizations do not engage in needs assessment is that they are perceived as too time intensive (Zemke, 1998). Even once clients agree to engage in or seek out a needs assessment, their involvement does not end with that decision. Because clients and stakeholders are faced with their own competing priorities, their willingness to engage may decrease over time (Kaufman & Guerra-López, 2013). Conducting a needs

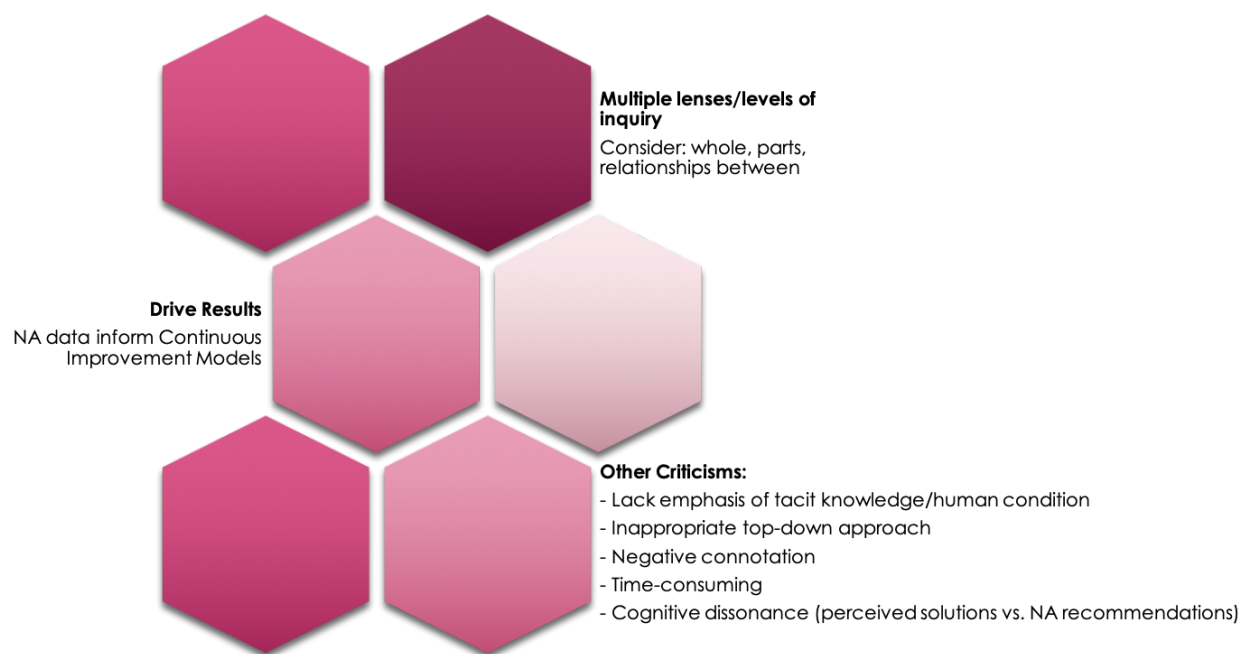
assessment often includes the prerequisite of ongoing participation and engagement from various stakeholders throughout the process. Practitioners must make sure the ways in which they require participation and act upon the social systems they serve are suitable for those organizational contexts (Wilson & Cervero, 1996).

Cognitive Dissonance Between Perceived Solutions and Data-driven Recommendations

Any combination of recommendations that emerge from needs assessments may not reflect what preconceived solutions clients and stakeholders had in mind (Kaufman & Guerra-López, 2013). When recommendations counter the expectations of the clients or stakeholders involved, “cognitive dissonance” often ensues, as in cases where major shifts are required (Kaufman, 1977). The degree to which there is cognitive dissonance can impact perceptions of burden in terms of implementing the recommendations. This and other previously mentioned model commonalities and criticisms are summarized in Figure 5.

Figure 5.

Key Commonalities and Criticisms of Needs Assessment



Alternate Needs Assessment Models to Address Criticisms

Several alternate needs assessment approaches have emerged to address the reality of the constraints within various organizational settings (Altschuld & Watkins, 2014), including rapid needs assessment approaches that prioritize efficiency (D'Ardenne et al., 2016; Dachner et al., 2013; Zemke, 1998) and appreciative inquiry approaches that prioritize what is working well in an environment (Whitney & Trosten-Bloom, 2010). Some practitioners simply modify how they refer to needs assessment procedures altogether or conduct them without explicitly naming the process (Adams et al., 2018). Some end up avoiding them altogether in efforts to please clients or just pull from whatever extant data is available to make somewhat informed needs-related decisions.

Current Operational Definition of Needs Assessment

One of the interventions within the HPT toolbox is needs assessment (Kaufman & Watkins, 1999). More specifically, needs assessment itself can be considered a technology, when considering technology refers to “a systematic and systemic approach to solve practical problems,” (*What Is HPT?*, 2013). While some needs assessment practices have been criticized for their emphasis on fixing problems, I take a different perspective and operationally define needs assessment as *the data-driven search for opportunities to maximize individual, team, or organizational performance by contributing to the effectiveness, efficiency, and/or ease of supporting organizational goals* (Pinckney-Lewis & Baaki, 2020).

By searching for *opportunities to maximize...performance*, this approach is appropriate in two circumstances: 1) when there is a desire to identify the extent to which current performance is successful as well as the extent to which it is not, and 2) when there is a desire to ensure the organization is adding value both internally and externally (Kaufman & Watkins, 1999). In this sense, needs assessment is a tool that can be leveraged proactively. While there are many performance improvement interventions, it is the responsibility of the HPT practitioner to select interventions as they are appropriate.

Skills to Address Needs Assessment Criticisms

While the process-oriented models speak to the science and technology skills practitioners must possess, they do not always address the soft skills required to navigate the people work that comes with complicated social systems (Rogers, 2003; Wilson & Cervero, 1996). To be effective practitioners, both skillsets are necessary. Within the next section, I will explore best practices in needs assessments, not from a procedural perspective, but from the required skills that practitioners must possess to effectively serve diverse organizations in context.

Union of Art and Science

In response to complaints of early needs assessment practices lacking humanism (Altschuld & Watkins, 2014), practitioners emphasized both the technical and the artistic nature of needs assessment (Altschuld & Kumar, 2010). Each of these components plays an essential role in the successful execution of needs assessments. While the emphasis on science in needs assessment reflects the level of rigor and technical skills required, it also requires a level of art to successfully manage the interpersonal piece (Bates & Holton, 2002). Critical listening skills, observation skills, sensitivity, people skills, persuasion skills, and the ability to convert technical knowledge into easily understood terms for the customers are mandatory in this area (Forester, 1989; Gorantis et al., 2014; Wilson & Cervero, 1996). Essentially, practitioners must be empathic and place themselves in the mindset or experiences of the targeted population (Landwehr, 2007).

For example, Altschuld and Kumar (2010) emphasize the artistic skills required to carry out the needs assessment, which work in concert with the scientific skills. In fact, they describe the needs assessment facilitator as “a weaver of the tapestry,” (p. 30) because they must be flexible, leveraging their experience and personality to navigate the process. In this way, the needs assessment practitioner must have a firm understanding of the system within which they are operating. This acknowledgment of diversity in skill requirements that contributes to the

success of needs assessment work is descriptive and likely the result of the model being a synthesis of a number of models.

Just as von Bertalanffy (1972) predicted, “modern technology and society have become so complex that...approaches of a holistic or systems, and generalist and interdisciplinary, nature became necessary,” (p. 420). To be successful, practitioners must possess a great deal of skills that enable them to make the plethora of decisions required, especially as they relate to navigating the social systems and dynamics within the organizations they serve. As such, there is an incredible level of inductive, deductive, and abductive thinking required to provide value to the client organization (Aull et al., 2016).

Political Savvy and Systemic Sensitivity

When organizations avoid needs assessment, they sometimes perceive or have experienced assessments that were conducted in a way that was not compatible with their organizational culture. Borrowing from the educational program planning literature, needs assessment is an inherently social process (Wilson & Cervero, 1996). Therefore, practitioners must have a firm understanding of the system(s) in which they are operating, especially when it comes to the sociopolitical dynamics and existing organizational culture to obtain and sustain the buy-in and trust required to make meaningful contributions (Altschuld & Kumar, 2010; Kaufman & Guerra-López, 2013). When practitioners fail to acknowledge organizational politics, they run the risk of misinterpreting or misrepresenting the nature of the actual needs (Forester, 1989).

Organizations are comprised of social systems and networks that impact how they operate. Because organizations are made up of people, they reflect the social dynamics of the professional and personal relationships those people maintain. One of the byproducts of those social systems are the official and unofficial communication channels through which messages get delivered and interventions get diffused (Rogers, 2003). Because needs assessment is an intervention (Kaufman & Watkins, 1999) that may also yield additional intervention

recommendations, needs assessment practitioners must take care to navigate the social dynamics to include operating within the existing communication channels endemic to the organization. Specifically, practitioners must be skilled to deal with the dynamics of power, competing interests, negotiation, and their own responsibility as practitioners (Wilson & Cervero, 1996).

Power

Organizational dynamics are socially constructed and do influence how actions and processes are carried out (Cervero & Wilson, 2006; Giddens, 1979). Needs assessment is no exception. Power can be described as the capacity to act within a system based on one's organizational and social position (Wilson & Cervero, 1996). Practitioners must be aware of the power dynamics at play within the organization as well as their own position within it.

Additionally, needs assessment practitioners also possess their own kind of power. Connecting practitioners' power to the concept of mega, or adding societal value, Kaufman (2010) explains, "everyone has choices, and the choices made will determine what success or failures will be experienced...the power of one can be energized by simply asking, *If I do this, will it take us closer or further away from Mega?*" (p. 31). Successfully carrying out needs assessment, in part, depends on the relationship the practitioner is able to establish with key constituents of the target organization and the subsequent decisions they make throughout the process.

Interests

Every contributor to the organization brings with them their own interests: "predispositions,...values, desires, expectations, and other orientations...that lead [them] to act in one direction or another" (Morgan, 1986, p. 41). Needs assessment practitioners also bring their own interests into the system and must be sensitive to where they are in concert as well as conflict with those they serve (Wilson & Cervero, 1996). When in conflict, the issue of cognitive dissonance, as previously explained, can arise.

Negotiation

From gaining entrée into an organization, to obtaining buy-in, and carrying out any needs assessment activities, practitioners must engage in a series of negotiations. Specifically, they must negotiate the various interests and power relationships within the organizational context. In working and interacting with key members of the organization, practitioners actually renegotiate the existing power structures as they act upon it (Wilson & Cervero, 1996). The way in which practitioners handle these negotiations can greatly influence the level of humanism and efficiency of the process.

Responsibility

In addition to all of these considerations, needs assessment practitioners still have a responsibility to provide added value to the organizations they serve. In my operational definition of needs assessment, practitioners are expected to *maximize individual, team, or organizational performance by contributing to the effectiveness, efficiency, and/or ease of supporting organizational goals* (Pinckney-Lewis & Baaki, 2020). To achieve this tall order, Wilson and Cervero (1996) suggest the responsibility of engaging in a democratic process such that all those affected by an intervention should be involved in the deliberation. When there is a real effort to actively promote substantive involvement, many of the previously mentioned criticisms of needs assessment can be avoided.

Lack of Focus on the Participant Experience Within Needs Assessment Literature

While the lived experience of participants in needs assessments is indeed an integral piece of the organizational context, it is largely absent from the literature. Research addressing needs assessment challenges (e.g., Altschuld & Watkins, 2014; Hung & Altschuld, 2013; Leigh et al., 2000; Marshall & Rossett, 2014; Millar, 2005; Steege et al., 2012; Zemke, 1998) is largely addressed from the perspective of the practitioner. While Leigh et al. (2000) emphasize the need to recognize how needs assessment models assess participants' reactions to interventions, practitioners should also be concerned with how participants experience the entire

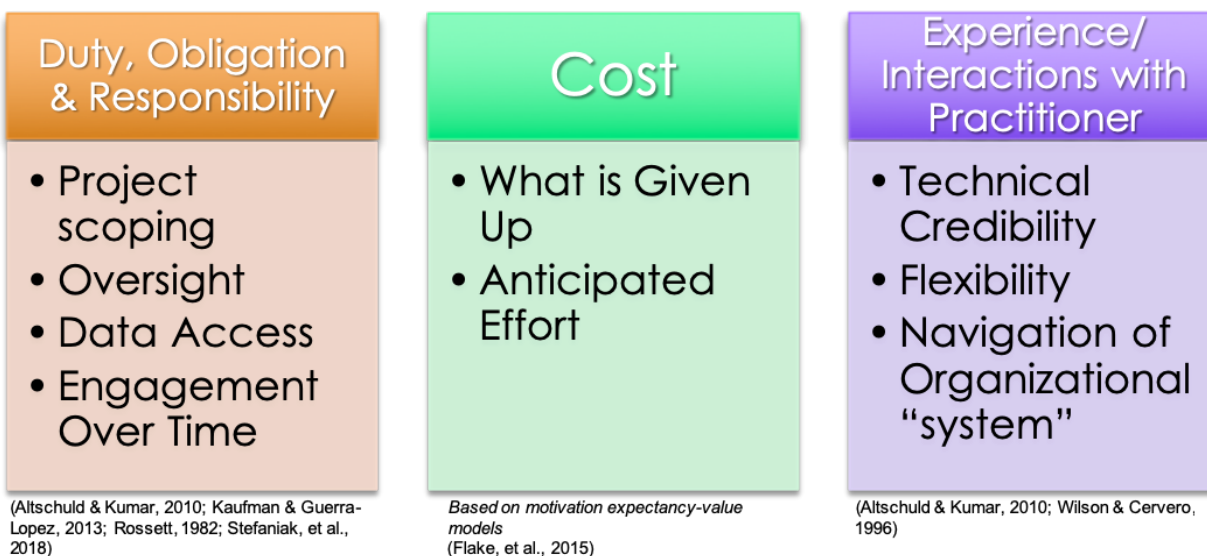
needs assessment process, and particularly the extent to which they experience burden within the process.

Defining Burden

While there are various definitions of burden, it is important to operationally define it here. Within the context of needs assessments, participants may experience burden from three angles: 1) what they are asked to do (i.e., duties, obligations, and responsibilities), 2) what they must give up to accomplish what they are asked to do (i.e., cost), and 3) how they experience interactions with needs assessment practitioners while engaged in the related tasks. Each of these concepts are displayed in Figure 6 and explained further in the sections that follow.

Figure 6.

Literature-based Dimensions of Participant Burden in Needs Assessment



Duty, Obligation, and Responsibility

In the legal sense, burden can be defined as “something that is a duty, obligation, or responsibility” (*Burden*, 2019). There are various ways in which participants fulfill duties, obligations, and responsibilities within the needs assessment process. For example, when conducting a needs assessment, the layers of required data can come from extant sources, but

largely come from people. When clients or organizations do agree to conduct needs assessment, they sometimes have the misperception that they can assign it to an internal or external entity without having any involvement until it is completed. Others lack a realistic understanding of the value their own organizational resources will have in the process. The following examples represent some ways in which people are involved or otherwise perform duties or responsibilities within needs assessments in practice.

Project Scoping and Oversight

In some needs assessment models, organizational clients help needs assessment practitioners to plan and scope the effort, while also providing some level of oversight throughout the process. For example, within their three-phased model, Witkin and Altschuld (1995) call for a Needs Assessment Committee (NAC) to form with representation from the client organization to determine the focus of the needs assessment as well as to stay involved throughout the entire needs assessment process. In addition to participating in and supporting data collection efforts, the NAC also takes action to resolve those problem(s) underlying the need(s) by completing causal analysis, developing criteria for solution strategies (Altschuld & Kumar, 2010). While the NAC is integral to the success and relevance of the needs assessment, the nature and extent to which client and organizational involvement is desired can be seen as an inconvenience. Because clients and stakeholders are faced with their own competing priorities, their willingness to engage may decrease over time (Kaufman & Guerra-López, 2013).

Gatekeepers to Data Access

In many instances, clients serve as the gateway to the data, thus controlling the depth and frequency of access granted to useful information (Kaufman & Guerra-López, 2013). It is atypical that clients would proactively grant access to an ideal amount or type of data for such an endeavor (Stefaniak et al., 2018). Especially when the data in question are confidential,

clients engage in decision-making processes to determine whether or not to restrict access to those data (Kaufman, 1977; Rossett, 1982).

Participants in the Data Collection

In addition to project scoping, oversight, and providing access to data, participants in the needs assessment process may also be subjected to participating in other aspects of data collection. If the needs assessment facilitator leverages survey data collection methodology, people must complete that survey. Similarly, if there are interviews or focus groups, people with the organization or other stakeholders must offer their time and resources to participate in those processes (Altschuld & Kumar, 2010; Leigh et al., 2000). The extent to which participating in the data collection process impacts them, may influence the amount of burden these participants experience.

Cost

Another important aspect of burden is cost. This concept has been studied within the framework of motivation science expectancy-value models (Eccles, 2005; Flake et al., 2015). In an exploration of academic achievement and related student choices, Eccles (2005) defined cost as “what an individual has to give up to do a task, as well as the anticipated effort one will need to put into task completion,”(p. 113). Eccles et al. (1983) were the first to explore expectancy-value models of motivation within the educational context, whereby motivation was understood as a function of both expectancy (i.e., perceived judgments of one’s ability to succeed) and task value (i.e., perceived importance of the task). Within the same publication, these authors explored cost as a mediator affecting that perceived task value.

Flake et al. (2015) further explored this construct and finalized a cost scale ($\alpha = .97$) complete with 19 items across the following components: 1) task effort cost ($\alpha = .95$), 2) outside effort cost ($\alpha = .93$), 3) loss of valued alternatives ($\alpha = .89$), and 4) emotional cost ($\alpha = .94$). The full list of items from this expectancy-value model are provided below in Table 1. As described in

this sense, cost has yet to be explored within the context of needs assessment participation.

However, several items from the expectancy value scale can be modified to capture cost within the needs assessment context.

Table 1.

Flake et al. (2015) Expectancy-Value Scale

Subscale	Item Identifier	Statement
Task Effort Cost ($\alpha = .95$)	TE1	This class demands too much of my time.
	TE2	I have put too much energy into this class.
	TE3	This class takes up too much time.
	TE4	This class is too much work.
	TE5	This class requires too much effort.
Outside Effort Cost ($\alpha = .93$)	OE1	I have so many other commitments that I can't put forth the effort needed for this class.
	OE2	Because of all the other demands of my time, I don't have enough time for this class.
	OE3	I have so many other responsibilities that I am unable to put in the effort necessary for this class.
	OE4	Because of other things that I do, I don't have time to put into this class.
Loss of Valued Alternatives ($\alpha = .89$)	L1	I have sacrificed too much to be in this class.
	L2	This class requires me to give up too many other activities I value.
	L3	Taking this class causes me to miss out on too many other things I care about.
	L4	I can't spend as much time doing other things I would like because I am taking this class.
Emotional cost ($\alpha = .94$)	EM1	I worry too much about this class.
	EM2	This class is too exhausting.
	EM3	This class is emotionally draining.
	EM4	This class is too frustrating.

Subscale	Item Identifier	Statement
	EM5	This class is too stressful.
	EM6	This class makes me feel anxious.

Experience of Interactions with Practitioners

The ways in which needs assessment participants perceive practitioners rounds out the third dimension of burden operationalized within this research. Much of the ways in which needs assessment practitioners can interact with participants have been described previously within the “Skills to Address Needs Assessment Criticisms” section. When considering the union of art and science needed on the part of the practitioner, the extent to which participants perceive the technical credibility of the practitioner while also feeling heard and experience the practitioner as being flexible, can influence how they experience burden. Similarly, the extent to which the practitioner seamlessly navigates the organizational social system, including the dynamics of power, interests, negotiation, and responsibility can also contribute to how participants experience burden.

Lack of Literature on Perceived Burden in Needs Assessment

There are several burden-related scales within the medical field, such as the Disease Burden Morbidity Assessment (Wijers et al., 2017), Perceived Family Burden Scale (Levene et al., 1996), and the Perceived Stress Scale (Nielsen et al., 2016). However, a search of prominent ID and HPT journals, including *Educational Communication and Technology*, *Educational Technology Research & Development*, *International Education Studies*, *Performance Improvement*, and *Performance Improvement Quarterly*, did not yield any scales of burden. Much like the previous research, this effort will leverage the related concepts documented in this literature review to create a scale that reflects the lived experience of participants within this inherently social process.

Summary

Individuals, teams, and organizations all have needs. Needs assessment is a tool to unearth those needs. However, because it can be daunting, practitioners must ensure it is meaningful and minimally burdensome for the participants. By exploring how participants perceive their duties and obligations within the process, the cost of completing those duties, and their interactions with the practitioners, this research will attempt to unearth the ways in which needs assessment practitioners experience burden. Specifically, this research will address the following questions:

1. How do participants in needs assessments rate their perceived burden in the process?
2. How do participants in needs assessments describe their perceived burden in the process?
3. What is the meaning of perceived participant burden for instructional design practitioners?
4. How reliable and valid is the refined survey instrument in measuring the construct of perceived burden?

CHAPTER 3: METHODOLOGY

Epistemological Approach and Research Design

Operating from a constructivist epistemology, the current research explores needs assessment and the perception of burden based on the mosaic of perceptions as reported from various constituents as well as observed experiences. Constructivism assumes that knowledge is dependent on perception, human experience, social interactions, and the interpretations made from each of these ways of knowing (Mack, 2010). Taking a mixed method and layered approach, including surveys, interviews, and/or focus groups of various participant types to achieve triangulation of data is supported by the theoretical and conceptual frameworks presented (Rossett, 1982; Stefaniak et al., 2015; Unruh, 2005). Additionally, the qualitative portions allow for the holistic examination of complex phenomena within the bounds of the contexts in which they take place (Baxter & Jack, 2008; Hays & Singh, 2012; Merriam, 1998). This overall epistemological approach is displayed in Figure 7.

Figure 7.

Epistemology Driven Methods.



While merely including both quantitative and qualitative data does not automatically qualify research as a mixed methods study, the ways in which I leverage them in the current

research does. Specifically, I followed the convergence model variation of the triangulation design and implemented a combination of survey data collection, interviews, and focus group data collection to compare and contrast the results to see how well any conclusions around perceived burden can be substantiated. This model is a traditional variation and an appropriate mixed method approach when researchers intend to collect and analyze quantitative and qualitative data separately against the same phenomenon (Creswell & Creswell, 2013). Within the current research, I administered the PBNAPS to needs assessment participants as a central piece of the data collection. Additionally, PBNAPS respondents were invited to participate in follow on interviews to both provide deeper context for their needs assessment experience as well as to compare their results across data types, which is an essential element of the mixed method convergence model variation. Though the current study is centered on the participant experience, I included another layer of triangulation from needs assessment facilitators. I invited those participants to participate in interviews and focus groups for another source of data to determine whether or not any conclusions around perceived burden could be substantiated.

Context for the Current Research

Masters and doctoral level graduate students taking a Needs Analysis and Needs Assessment course at one southeastern university are required to complete a needs assessment project for an organization of their choosing. So that I could remain objective in my analysis of the perception of burden on the part of needs assessment participants, I obtained permission from the department to solicit participation from these student practitioners themselves as well as their own needs assessment participants. Additionally, having participants from a wide range of needs assessment projects helped contribute to triangulation of data.

Through collaboration with the course professor, I introduced this research effort to the practitioners during a class session at the beginning of the spring 2020 semester. Because each needs assessment project varied in terms of the operational settings being served,

stakeholders' level of engagement, and political sensitivities, I offered to meet one-on-one with each of the needs assessment practitioners to strategize the best approach to seamlessly engage their needs assessment participants without putting undue ownness on the part of the practitioners. The specific options I offered included: 1) embedding language about this additional research into any needs assessment Informed Consent forms leveraged for their needs assessment projects, which would allow me to have access to their participants' contact information, 2) embedding language at the end of any needs assessment survey instruments allowing participants the option to participate in this additional research, 3) providing the practitioners with a flyer regarding this research that the practitioners can provide to or email their participants at the conclusion of their needs assessment (See Appendix II). Of those options, only the third was operationalized based on the interests of the participants.

While I did put a contingency plan in place to solicit participation from similar graduate needs assessment courses at other universities in the event that I did not yield enough participants from that course iteration, I did not enact that course of action. In both an unexpected and unprecedented turn of events, the COVID-19 global pandemic emerged within the United States in the spring of 2020. Not only did this cause shifts in the dynamics of the targeted needs assessment course, but it also had a major impact on various business operations. Several needs assessment projects were discontinued, and participation was not optimal. Given this context of collecting data during the COVID-19 global pandemic, I addended the IRB approval to expand solicitation to professional organizations (i.e., International Society for Performance Improvement, Needs Assessment Listserv) and social media networks (e.g., LinkedIn professional groups, Facebook Groups) to include any current/former needs assessment practitioners and constituents in their projects as potential participants in this research.

Defining Participant Types for this Research

The current research focuses on needs assessment but explores it primarily from the lens of those having participated in needs assessments. In part due to the lack of research on needs assessment from that lens, it is important to define and scope the participation types under consideration for this research. When soliciting participation for the research, I defined needs assessment participants as any constituent involved in the needs assessment process that was not responsible for the analysis, findings, or results of the effort. More specifically, I binned these participant types into three categories: 1) Clients, who could be considered needs assessment requestors or recipients of the needs assessment results; 2) Data Providers, who could be survey respondents, interview or focus group participants, and/or document providers; and 3) Stakeholders, who could be any constituent with a vested interest in the organization and/or the needs assessment outcomes. For these individuals, it is commonplace to identify as more than one constituent type. In contrast, Needs Assessment Facilitator participants are those that did carry out the needs assessment and were responsible for the analysis, findings, and/or results of the effort.

Participant Sampling Procedures

The sampling procedure included a combination of criterion sampling, such that participants were chosen based on the specific criteria explained below; convenience sampling, based on the ease of accessibility; and maximum variation sampling, providing the most heterogeneity as possible within the sample (Hays & Singh, 2012). Each of these sampling types helped to round out the sample. In the first sampling type, the criterion for inclusion in this research was that participants must represent at least one completed needs assessment project, as described in the section above. They had to either be a needs assessment facilitator or a needs assessment participant. Further, they needed to be aware they played one of these roles within a needs assessment to realize their research participation eligibility.

Next, I leveraged convenience sampling for a number of reasons. First, I am a doctoral student at this southeastern university, having completed the graduate level needs assessment course. My advisor also agreed to provide entrée to the course instructor for this research endeavor. Given concerns that one section of the course and its resulting projects may not yield enough participants, I have established professional connections with professors at two other institutions that offer project-based graduate level needs assessment courses. Additionally, I am a member of various ID related professional organizations and social media groups, like those previously mentioned.

Finally, I made every effort to achieve maximum variation of participants. Because I leveraged completed needs assessment projects, without limiting the organizational contexts, level of formality or rigor, there was sufficient opportunity to ensure participant diversity within the sample. The goal of such variation is to identify the central elements of the needs assessment process across variation types (Hays & Singh, 2012; Patton, 2002).

Participants meeting any one of these criteria were solicited via 1) a class presentation, 2) direct email, 3) professional organization listserv notifications, 4) social media postings, and/or 5) word of mouth from the graduate student-practitioners to their participants. Each of the data collection methodologies are described in the following sections. While participation was voluntary, participants could opt into entry for a lottery to win one of five \$25 gift cards.

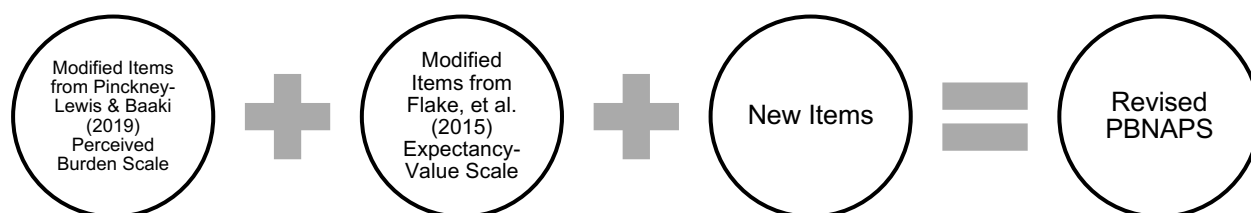
Survey Scale Development

To address the main purpose of this quantitative component of the research and to directly respond to RQ1 (i.e., How do participants in needs assessments rate their perceived burden in the process?) and RQ4 (i.e., How reliable and valid is the refined survey instrument in measuring the construct of perceived burden?), I revised the survey scale items leveraged in the previous research, modified items from Flake et al. (2015)'s expectancy-value scale, and create new items to align with this revised conceptualization of perceived burden. This process

resulted in a revised Perceived Burden in Needs Assessment Participants Survey (PBNAPS) as indicated in Figure 8.

Figure 8.

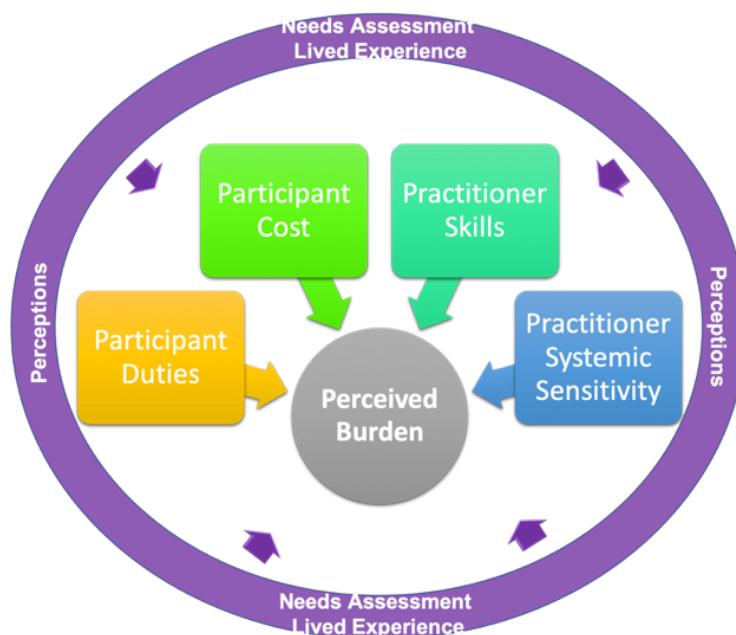
Development of the Revised Perceived Burden in Needs Assessment Participants Survey



The PBNAPS assesses the level to which needs assessment participants perceived the proposed components of burden during the needs assessment process. Specifically, the survey includes the following subscales: 1) perceptions of duty, obligation, and responsibility; 2) perceptions of cost; 3) perceptions of practitioner skills (e.g., perceived appropriateness of the practitioner's technical skills and people skills); and 4) perceived systemic sensitivity of the practitioner (e.g., treatment of power dynamics, competing interests, negotiation skills, and personal responsibility). This revised conceptualization is available in Figure 9.

Figure 9.

Revised Conceptualization of the Perceived Needs Assessment Burden Construct



In addition to adhering to this revised conceptualization, the survey included sections to obtain informed consent, demographic data, and a combination of Likert, multiple-choice, and open-ended items. To ensure sufficient construct representation of attitudes and perceptions, each of the subscales, the survey included six to eight Likert items per subscale (Subedi, 2016; Thorndike & Thorndike-Christ, 2010). The initial draft of the revised PBNAPS scale is available in Appendix III.

Beta Review and Pilot to Enhance Content Validity

When leveraging survey data collection, construct validity is an essential consideration, requiring researchers to refine their conceptualization in the creation of survey measures (Bulloch, 2013). One of the ways to enhance the content and construct validity of the survey as a measure of perceived burden on the part of needs assessment participants is to engage in a beta review and pilot process. First, I created a draft battery of five items for the subscales. Then I identified subject matter experts (SMEs) to engage in a beta review and pilot process for those draft items in an effort to finalize items for the operationalized version of the PBNAPS.

This necessary step prior to survey deployment aided and assisted in the preservation of construct validity (Hays & Singh, 2012; Thorndike & Thorndike-Christ, 2010; Worthington & Whittaker, 2006). While this was challenging because perceived burden is not well documented in the literature, nor has it been studied in this way, each of the SMEs were selected based on their expertise in either needs assessment or survey development. Of the seven SMEs solicited, five SMEs completed both the beta review and pilot of the items. Two professors and one doctoral candidate, each from different universities in the southeastern region of the United States, lent their expertise in needs assessment. Offering expertise in survey scale development, two additional professors from different universities in the southeastern region of the United States also participated in the process. Table 2. provides the details on those SMEs and their expertise.

Table 2.

PBNAPS Subject Matter Expert Participants

SME ID	Area of Expertise for Beta Review	Academic/Professional Role
SME1	Needs assessment	Full Professor of Educational Leadership
SME2	Needs assessment	Assistant Professor of Learning, Design, and Technology Programs
SME3	Needs assessment	Doctoral Candidate in Instructional Design and Technology; Senior Consultant in Performance Improvement
SME4	Survey scale development	Assistant Professor of Higher Education
SME5	Survey scale development	Associate Professor of Education

I completed the beta review and pilot at the same time in a two-pronged process. First, for those SMEs that had also recently participated in a needs assessment, they piloted the items based on their experiences. For each of the item statements, they indicated how well they agreed with the statement based on a seven-point Likert scale from “Strongly Disagree” to “Strongly Agree”. The purpose of this pilot was to collect some preliminary data on how the drafted items performed and to leverage their item statistics to make data-informed decisions on

which items to keep and which items to remove from the final survey prior to deployment. This step was completed prior to the content review to obtain their responses based on their needs assessment experience without having them think too deeply about the items and the subscales.

Next, the SMEs reviewed the items for fit to the construct and subscale as well as wording choice. They were instructed to review the component/subscale definition. Then, for each drafted item, they indicated 1) how well they believed the item reflected the component/subscale definition, 2) whether or not they would suggest recommendations to the item, and 3) whether or not that item was one of the top three items for that subscale.

In this case, I examined the descriptive statistics that resulted from both the pilot and the content review. While the content review provided rich data and input for the final survey construction, I was only able to pull descriptive statistics and feedback from the pilot to make final determinations. With such a small sample size for the pilot, I was not able to determine exact factor loadings for the appropriate subscales. With a larger sample size, I could have determined the correlations amongst the items to ensure they were functioning appropriately (i.e., more highly correlated within the subscales and with the overall perceived burden items than across the subscales). Final item selection would have then been largely contingent upon those with the top three factor loadings for the appropriate subscales (Thorndike & Thorndike-Christ, 2010). As a result of the beta review and item pilot, four (4) items were kept as is, twenty-one (21) items were modified, and five (5) items were eliminated from final survey. This process resulted in 25 final total items.

Duty, Obligation, and Responsibilities

To guide the SMEs on their review of items in this subscale, I included guidance that explained duty, obligation, and responsibility refers to what people are asked to do within a needs assessment. There are various ways in which participants fulfill duties, obligations, and responsibilities within the needs assessment process. For example, they may be asked to

provide project scoping, project oversight, data access and/or engagement over time (Altschuld & Kumar, 2010; Kaufman & Guerra-López, 2013; Rossett, 1982; Stefaniak et al., 2018). On a scale of 1 “Completely Disagree” to 5 “Completely Agree”, SMEs ranked how well each item reflected the subscale definition. I then used the total points each item received to determine the items with best fit to the subscale. Then, the SMEs indicated whether or not the item required revisions due to word choice by selecting “Yes”, “No”, or “Maybe”. If respondents answered either Yes or Maybe, they also had the option to include their wording suggestions. Finally, the SMEs selected their top three items in this subscale by providing a ranking of 1 for “Best represents the definition”, 2 for “Second best in representing the definition”, and 3 for “Third best in representing the definition”. I used the average of these ratings per item as well as the number of SMEs selecting the item into the Top 3 to determine the best items per subscale. However, I made the final decisions of which items and wording to include in the revised PBNAPs based on a combination of all three data points to ensure coverage of the full scope of the definition and adherence to best practices in survey development as described in the sections that follow. Table 3 provides a summary of the initial items and feedback obtained through the beta review process.

Table 3.*Results of the Duty, Obligation, and Responsibility Subscale Item Beta Review Rankings*

Item Number	Initial Item Wording	Total Points for Adherence to Subscale Definition (<i>n</i> = 4; 1 = Completely Disagree, 5 = Completely Agree)	# Requests for Item Revisions	Average Ranking from Top 3 Analysis	#SMEs Voting Item into Top 3
PDOR1	This needs assessment demanded too much of my time.	17	2	1	2
PDOR2	I participated in the needs assessment because I wanted to.	12	2	1	1
PDOR3	The tasks I was asked to complete were reasonable given my affiliation with the organization.	19	2	2	4
PDOR4	I had too many responsibilities within the needs assessment.	19	1	2	1
PDOR5	I only took part in the needs assessment because I was obligated to.	18	1	2.67	3
PDOR6	I would be willing to take on more duties related to a needs assessment in the future.	16	3	0	0
PDOR7	I am willing to do my part to address recommendations from the needs assessment.	15	4	3	1

From this subscale, only one item was kept as is (i.e., PDOR4) as it tied for the highest total points for adherence to the scale. While one SME indicated it might need some word choice revision, they did not provide actionable wording revision recommendations. One item was eliminated (i.e., PDOR6) as it had one of the lowest total points for adherence to the subscale definition and no SMEs ranked it within the Top 3 for the subscale.

For those items that remained within the subscale, I then reviewed the SME feedback on item wording. These items were ultimately modified not only based on the SME feedback, but also to ensure a good balance of positively worded items and negatively worded items as indicated in the Ensure Balance in Survey Items section to come. The following table summarizes the feedback I received from the SMEs on item wording as well as the revision considerations I made prior to the final item versions for the PBNAPS.

Table 4.

Results of the Duty, Obligation, and Responsibility Subscale Item Wording Beta Review

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
PDOR1	This needs assessment demanded too much of my time.	SME1: It seems more related to cost than duty or obligation, it is about the time cost of participating -- which is relative to the value and that aspect isn't captured. So, I would move it and try to capture the relative time required to the value it added in the question. SME5: The needs assessment demanded an excessive amount of my time.	Modify with attention to SME1 concern. This may mean moving it to another subscale.
PDOR2	I participated in the needs assessment because I wanted to.	SME2: You might want to consider rewording and incorporate the word "interest" SME5: I was motivated to participate in the needs assessment.	Revise, but the suggested edit will confound it with another subscale, where interest is heavy.
PDOR3	The tasks I was asked to complete were reasonable given my affiliation with the organization.	SME1: It may help to say that they were reasonable within the scope of responsibilities I have with the organization.	Revise using SME1 suggestion.
PDOR4	I had too many responsibilities within the needs assessment.	SME1: This is just about the number of responsibilities, not about if they were appropriate, within their capacity, and/or resources, which may be other important aspects.	Keep as is. SME1 comment does not necessitate an edit as the comment is correct. This distinction is intentional.

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
PDOR5	I only took part in the needs assessment because I was obligated to.	SME2: I would recommend adding to this statement. Why were they obligated? Who made them participate? SME5: I took part in the needs assessment because I was obligated to. Alternatively, I was obligated to participate in the needs assessment.	Address SME2 comment to include "by my organization."
PDOR6	I would be willing to take on more duties related to a needs assessment in the future.	SME5: I would be willing to assume more duties in future needs assessments.	Eliminate based on item rankings.
PDOR7	I am willing to do my part to address recommendations from the needs assessment.	SME1: This seems to be post-needs assessment to me, though that may be part of what you are looking for (though maybe not within the scope of the definition of NA above). SME3: I think the last item should either have an "out" or some relative scale of the amount of responsibility for implementation that the respondent bears. Not all participants will have implementation responsibilities.	Modify to address SME feedback. This may require a two-pronged item. The 2019 version did not address this aspect.

The final wording for each of these items can be found in the Final PBNAPS Items section.

Cost

To guide the SMEs on their review of items in this subscale, I included guidance that defined cost as "what an individual has to give up to do a task, as well as the anticipated effort one will need to put into task completion," (Flake et al., 2015, p. 232). SMEs engaged in the same process for this subscale as was described above. Table 5 provides a summary of the initial items and feedback obtained through the beta review process.

Table 5.*Results of the Cost Subscale Item Beta Review*

Item Number	Initial Item Wording	Total Points for Adherence to Subscale Definition (<i>n</i> = 4; 1 = Completely Disagree, 5 = Completely Agree)	# Requests for Item Revisions	Average Ranking from Top 3 Analysis	#SMEs Voting Item into Top 3
POC1	I did not have to sacrifice my other commitments to participate in the needs assessment.	18	2	1.67	3
POC2	Because of all the other demands of my time, I did not have enough time for this needs assessment.	17	3	3	1
POC3	My other responsibilities did not impede me from participating in this needs assessment.	17	0	3	1
POC4	This needs assessment required me to give up too many activities I value.	14	3	2.50	2
POC5	While participating in this needs assessment, I was still able to complete other tasks required of me.	20	2	2	3
POC6	The sacrifices I made to participate in the needs assessment are worth the benefits the organization will gain.	14	2	1	2

From this subscale, none of the items were retained as is; none were eliminated. While the range in total points for adherence to the subscale definition was 14 – 20, each of the items were selected as a top item in the subscale by at least one SME. However, each of the items were modified based on the feedback from the SMEs for item word choice. Then, they ranked it within the Top 3 for the subscale. The following table summarizes the feedback I received from

the SMEs on item wording as well as the revision considerations I made prior to the final item versions for the PBNAPS.

Table 6.

Results of the Cost Subscale Item Wording Beta Review

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
POC1	I did not have to sacrifice my other commitments to participate in the needs assessment.	SME1: I think that I would not put this as a Yes/No, but rather the commitments I had to sacrifice were worth the value of the NA. If you do a NA you are automatically not doing something else, so it is a value comparison in my view. SME4: "Sacrifice" seems like a word with a lot of connotation. Maybe use a less "strong" word?	Reword: change sacrifice to "give up".
POC2	Because of all the other demands of my time, I did not have enough time for this needs assessment.	SME1: I would just add "... for participating" or "... for contributing" SME2: Time for what? Specify. SME5: I did not have enough time to participate in the needs assessment.	Modify to address SME comments. Also, reword item to include the <i>effort</i> part of the construct.
POC3	My other responsibilities did not impede me from participating in this needs assessment.	SME5: My other responsibilities did not prevent me from participating in the needs assessment.	Modify to include <i>effort</i> part of the construct.
POC4	This needs assessment required me to give up too many activities I value.	SME1: I value "more" maybe. SME3: This might be clearer without the "too many." SME4: I'd leave out "too many." That way the item can directly address the question "is there a perception that they are giving up activities?" Also, "activities I value" seems a bit vague. Activities at work? Out of work?	Modify to include <i>effort part of the construct</i> .
POC5	While participating in this needs assessment, I was still able to complete other	SME5: I was still able to complete other tasks required of me while participating in this needs assessment.	Modify based on SME recommendations.

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
	tasks required of me.		
POC6	The sacrifices I made to participate in the needs assessment are worth the benefits the organization will gain.	<p>SME1: Good, this gets to my points above.</p> <p>SME2: I'd recommend eliminating.</p> <p>SME4: "Sacrifice" seems like a word with a lot of connotation. Maybe use a less "strong" word?</p>	Keep item but modify based on SME recommendations.

While reviewing the feedback from the SMEs, I recognized that the *effort* portion of the cost subscale definition was not appropriately represented in the initial items I provided the SMEs. Since a number of the items yielded suggested edits from the SMEs, I ensured coverage of that portion of the subscale definition during the revision process. The final wording for each of these items can be found in the Final PBNAPS Items section.

Perceptions of Practitioner Skills

To guide the SMEs on their review of items in this subscale, I explained this concept as the extent to which participants perceive the practitioner's technical credibility, level of rigor, and interpersonal skills, including critical listening skills, and flexibility (Altschuld & Kumar, 2010). The SMEs responded to the same prompts for this subscale as they did with the other two. Table 7 provides a summary of the initial items and feedback obtained through the beta review process.

Table 7.*Results of the Perceptions of Practitioner Skills Subscale Item Beta Review*

Item Number	Initial Item Wording	Total Points for Adherence to Subscale Definition (<i>n</i> = 4; 1 = Completely Disagree, 5 = Completely Agree)	# Requests for Item Revisions	Average Ranking from Top 3 Analysis	#SMEs Voting Item into Top 3
PPS1	The needs assessment facilitator was a good listener.	19	0	0	0
PPS2	When interacting with the needs assessment facilitator, I did not feel understood.	19	3	2.33	3
PPS3	The needs assessment facilitator(s) explained their process in terms that I did not understand.	20	0	2	2
PPS4	The needs assessment facilitator(s) interacted well with me.	15	3	0	0
PPS5	I trusted the needs assessment facilitator(s) to carry out the needs assessment appropriately.	18	1	1.67	3
PPS6	The needs assessment facilitator(s) made the needs assessment process feel seamless.	16	2	1	1
PPS7	Based on my experience, the needs assessment process could have been more skillfully executed.	16	1	2	2

From this subscale, two of the items were retained as is (i.e., PPS1, PPS3) since they both had high total points for adherence to the subscale definition and no requests for revision. One item was eliminated (i.e., PPS4) because it had the lowest overall total points for adherence to the subscale definition, there were three SME requests for revision, and none of the SMEs voted it in the top three. All the other items ended up with revisions based on the

SME comments. The following table summarizes the feedback I received from the SMEs on item wording as well as the revision considerations I made prior to the final item versions for the PBNAPS.

Table 8.

Results of the Perceptions of Practitioner Skills Subscale Item Wording Beta Review

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
PPS1	The needs assessment facilitator was a good listener.		Keep as is.
PPS2	When interacting with the needs assessment facilitator, I did not feel understood.	<p>SME1: This is a challenging one since people's perception of what is required to be "understood" varies widely. I would actually prefer to see some frequency scale questions in here (such as how many times did the facilitator not answer one of my questions) or something where you can get a better feel for what really happened (rather than just perceptions that we may all scale differently without really strong anchors).</p> <p>SME5: I did not feel understood when interacting with the needs assessment facilitator.</p>	Modify per SME revision. Unable to find better word than "understood".
PPS3	The needs assessment facilitator(s) explained their process in terms that I did not understand.		Keep as is.
PPS4	The needs assessment facilitator(s) interacted well with me.	<p>SME1: Probably too hard to know what data on this question really means.</p> <p>SME2: What do you mean by interacted? (might not be necessary given your other statements)</p>	Eliminate.
PPS5	I trusted the needs assessment facilitator(s) to carry out the	SME4: I would consider incorporating a couple of items that directly address the definition (ex: flexibility, rigor, etc.)	Modify to cover the rigor portion of the definition.

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
	needs assessment appropriately.		
PPS6	The needs assessment facilitator(s) made the needs assessment process feel seamless.	SME1: Again, hard to interpret when you get the data most likely. SME4: May reconsider word "seamless." Commonly used, but I think it is technically a figure of speech. (Ex: Would an ESL individual understand this?) I would consider incorporating a couple of items that directly address the definition (ex: flexibility, rigor, etc.)	Modify to cover the flexibility portion of the definition.
PPS7	Based on my experience, the needs assessment process could have been more skillfully executed.	SME2: There's a lot implied with this sentence. Might want to consider revising it.	Modify to eliminate implications.

While reviewing the feedback from the SMEs, I recognized that the *rigor* and *flexibility* portions of this subscale definition were not appropriately represented. Two items were modified (i.e., PPS5 and PPS6) to better address those aspects. The final wording for each of these items can be found in the Final PBNAPS Items section.

Perceived Systemic Sensitivity of the Practitioner

To guide the SMEs on their review of items in this subscale, I described this concept as the extent to which the participant perceives the practitioner's political savvy and ability to seamlessly navigate the organizational social system, including the dynamics of power, interests, negotiation, and competing responsibilities (Wilson & Cervero, 1996). Again, the SMEs provided their feedback on these items. Table 9 provides a summary of the initial items and feedback obtained through the beta review process.

Table 9.*Results of the Perceived Systematic Sensitivity of the Practitioner Subscale Item Beta Review*

Item Number	Initial Item Wording	Total Points for Adherence to Subscale Definition (<i>n</i> = 4; 1 = Completely Disagree, 5 = Completely Agree)	# Requests for Item Revisions	Average Ranking from Top 3 Analysis	#SMEs Voting Item into Top 3
PSSP1	Regardless of my stature within the organization, the needs assessment facilitator(s) valued my contributions to this needs assessment.	14	3	1	1
PSSP2	The needs assessment facilitator(s) had a good grasp on how the organization functions.	19	2	2	3
PSSP3	The needs assessment facilitator(s) had some difficulty navigating the organizational dynamics.	19	1	2	4
PSSP4	The needs assessment facilitator(s) interests seemed to overshadow mine.	14	2	0	0
PSSP5	The needs assessment facilitator(s) understood the culture of the organization.	18	1	1.5	2
PSSP6	The needs assessment facilitator(s) contributions made a positive impact on the organization.	13	2	0	0
PSSP7	The needs assessment facilitator(s) presence disrupted organizational functionality.	18	2	3	1
PSSP8	The needs assessment facilitator(s) had very little influence on organizational stakeholders.	14	3	2.5	2

From this subscale, two of the items were retained as is (i.e., PSSP3, PSSP5) since they both had high total points for adherence to the subscale definition and minimal requests for revision. Two items were slated for elimination (i.e., PSSP4, PSSP6) because they had low overall total points for adherence to the subscale definition, there were SME requests for revision, and none of the SMEs voted them in the top three. I revised the other items in accordance with SME feedback and the need to ensure representation of items across the subscale definition. The following table summarizes the feedback I received from the SMEs on item wording as well as the revision considerations I made prior to the final item versions for the PBNAPS.

Table 10.

Results of the Perceived Systemic Sensitivity of the Practitioner Subscale Item Wording Beta Review

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
PSSP1	Regardless of my stature within the organization, the needs assessment facilitator(s) valued my contributions to this needs assessment.	SME2: I'm having a hard time seeing how this fits with this category. SME4: "Stature with the organization" feels awkward. Consider revising. Also feels like this might go with the previous construct. SME5: The needs assessment facilitator(s) valued my contributions to this needs assessment.	Revise. Take out "Regardless of my stature within the organization". Will analyze this based on the demographic information collected at the end of the survey. The link to this section would have been clearer for SME2 if I had provided more in-depth content re: dynamics of power.
PSSP2	The needs assessment facilitator(s) had a good grasp on how the organization functions.	SME3: Could "grasp" be more precise? Perhaps "solid understanding." SME4: Replace "good grasp" with something more concrete	Revise. Replace "good grasp" with "solid understanding"
PSSP3	The needs assessment facilitator(s) had some difficulty	SME4: Take out "some" to make it more declarative.	Revise. Remove some.

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
	navigating the organizational dynamics.		
PSSP4	The needs assessment facilitator(s) interests seemed to overshadow mine.	<p>SME2: I'm having a hard time linking this to your use of the word "systemic".</p> <p>SME4: What do you mean by "my interest" in this context?</p> <p>SME5: The interests of the needs assessment facilitator overshadowed my own interests.</p>	Consider elimination. However, if this is eliminated, there will be no item addressing competing interests. If needed, revise to include SME5 edit.
PSSP5	The needs assessment facilitator(s) understood the culture of the organization.	SME1: "understood" and "culture" make this a really hard question to answer and/or interpret.	Kept as is after considering alternative wording.
PSSP6	The needs assessment facilitator(s) contributions made a positive impact on the organization.	<p>SME1: Seems out of place with the definition.</p> <p>SME5: The contributions of the needs assessment facilitator made a positive impact on the organization.</p>	Eliminate.
PSSP7	The needs assessment facilitator(s) presence disrupted organizational functionality.	<p>SME1: "functionality" may not be the best word for this, may "functioning" or "productivity".</p> <p>SME5: The presence of the needs assessment facilitator disrupted organizational functionality.</p>	Revise in accordance with SME feedback.
PSSP8	The needs assessment facilitator(s) had very little influence on organizational stakeholders.	<p>SME1: Hard for someone to judge, I think.</p> <p>SME2: Would you want to add "decision-making" at the end of this sentence?</p> <p>SME4: This one seems a bit broad.</p>	Replace "stakeholders" with "the organization's decision-making"

Ultimately, I revised PSSP4 instead of eliminated to ensure proper coverage of the *interests* portion of the subscale definition. I edited the other items in accordance with SME feedback.

The final wording for each of these items can be found in the Final PBNAPS Items section.

Overall Rates of Perceived Burden

The initially drafted PBNAPS items also included two items to be placed at the end of the survey for the purpose of soliciting participants' own overall burden ratings. Both items received a low total points value for adherence to any subscale definition. There were requests for revision, and both items only received one SME vote into the Top 3 items. These results are summarized in Table 11.

Table 11.

Results of the Overall Rates of Burden Item Beta Review

Item Number	Initial Item Wording	Total Points for Adherence to Subscale Definition (<i>n</i> = 4; 1 = Completely Disagree, 5 = Completely Agree)	# Requests for Item Revisions	Average Ranking from Top 3 Analysis	#SMEs Voting Item into Top 3
OB1	Overall, considering my role/responsibilities in the needs assessment and anything I had to give up to participate, I would participate in a similar needs assessment in the future.	12	3	3	1
OB2	Overall, considering my role/responsibilities in the needs assessment and anything I had to give up to participate, my participation was worthwhile.	11	3	2	1

Before considering how to treat these items, I further explored the additional comments from the SMEs. While there were various wording revision suggestions, one SME provided a strong argument for eliminating them both altogether. All of the SME comments on these two items are provided in Table 12.

Table 12.*Results of the Overall Burden Item Wording Beta Review*

Item Number	Initial Item Wording	Compilation of SME Feedback	Researcher Revision Considerations and Decisions
OB1	Overall, considering my role/responsibilities in the needs assessment and anything I had to give up to participate, I would participate in a similar needs assessment in the future.	<p>SME1: Maybe word it again in relation to the value.</p> <p>SME4: I would consider paring this down to "I would participate in a similar needs assessment in the future." Is this being included in the scale? I might advise against this since it is not associated with the sub-constructs you are piecing together to get at the construct of "burden." Maybe consider adding a 5th construct around "effectiveness"...in which case, I'd add a 3rd item?</p> <p>SME5: Overall, I would participate in a similar needs assessment in the future given a similar role, responsibilities, and costs of participation.</p>	Eliminate per SME 4 feedback.
OB2	Overall, considering my role/responsibilities in the needs assessment and anything I had to give up to participate, my participation was worthwhile.	<p>SME2: Worthwhile to what? Specify? (I think you need to add a few extra words to this sentence)</p> <p>SME4: I would consider paring this down to "This needs assessment was not a worthwhile experience." Is this being included in the scale? I might advise against this since it is not associated with the sub-constructs you are piecing together to get at the construct of "burden." Maybe consider adding a 5th construct around "effectiveness"...in which case, I'd add a 3rd item?</p> <p>SME5: Overall, I would not choose to participate in a similar needs assessment in the future.</p>	Eliminate per SME4 feedback."

Ultimately, I swapped out both items for one general open-ended question for participants to provide any comments they desired. The revised item is intentionally not tied to

any subscale. One of the goals in operationalizing the PBNAPS was to keep the overall length to a minimum. For both of these reasons, I was willing to sacrifice these items.

Ensure Balance in Survey Item Directionality to Support Reliability

One of the limitations in the previous study's survey was a lack of balance of negatively and positively worded items. Table 13 summarizes the previous survey's items and direction (positive or negative) according to which of the prior scales they applied.

Table 13.

Summary of (Pinckney-Lewis, 2019) Survey Scale Items and Directions

Component/ Scale	Items and Direction
Lack of Humanism	0++00000000
Problem Mindset	000-+0-0000
Inconvenience of Involvement	+0000+000-+
Implementation of Recommendations	0000000++00
Total	+++--++--++-

All but three of the items within the perceptions of burden survey are positively worded. Having a balance of positively and negatively worded statements helps to enhance the overall survey's performance (Thorndike & Thorndike-Christ, 2010). Therefore, heading into the beta review and pilot, I included both positively and negatively worded survey items. Table 14 summarizes the directionality of the draft revised items presented to the SMEs for the beta review and pilot.

Table 14.*Summary of Draft Revised Survey Scale Items and Directions*

Component/ Scale	Items and Direction
Perceptions of duty, obligation, and responsibility	-+---++000000000000000000000000
Perceptions of cost	0000000+-+--+000000000000000000
Perceptions of practitioner skills	00000000000000++-+++0000000000
Perceived systemic sensitivity of the practitioner	0000000000000000000000++-++-00
Overall rates of perceived burden	0000000000000000000000000000+-
Total	-+---+++--++++--+++++--++--+

When considering the SME feedback from the beta review, I also had to consider the directionality of these items when making the final edits. As such, I reviewed the new PBNAPS items again to ensure the balance of positively and negatively worded items (Thorndike & Thorndike-Christ, 2010). When scales include a proper balance of directionality, the overall survey performance is enhanced, decreasing the prospect of acquiescence in responses (Thorndike & Thorndike-Christ, 2010). While the exact wording of the final PBNAPS items is provided in the Final PBNAPS Items section, Table 15 provides a summary of directionality of the final PBNAPS items.

Table 15.*Summary of Final Revised Survey Scale Items and Directions*

Component/ Scale	Items and Direction
Perceptions of duty, obligation, and responsibility	++++--000000000000000000000000
Perceptions of cost	000000---+++000000000000000000
Perceptions of practitioner skills	00000000000000++-++00000000
Perceived systemic sensitivity of the practitioner	0000000000000000000000++-+--
Total	+++-----++++-++-++-+-

While there are twelve (12) positively worded items in the Final PBNAPS, there are thirteen (13) negatively worded items. This represents a near equal split for overall survey balance.

Final PBAPS Items

After revisiting the literature to establish a first draft revision of items, I considered feedback from SMEs in the Beta review as well as reviewing the items across subscales for a balance of directionality. Ultimately, I operationalized 25 items in the revised PBNAPS. Table 16 provides a list of the items in the final scale, grouped in accordance to the subscales to which they belong.

Table 16.

Final PBNAPS Items

Revised Construct Component	Item ID	Item Description	Creation Notes
Perceptions of duty, obligation, and responsibility	PDOR1	I had few responsibilities within the needs assessment.	Initially modified from (Flake et al., 2015) TE1 & TE3; further revised post Beta review
	PDOR2	I volunteered to participate in this needs assessment.	Initially modified from (Pinckney-Lewis, 2019) RR_PBS6_C2; further revised post Beta review.
	PDOR3	The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization.	New Item; revised post Beta review.
	PDOR4	I had too many responsibilities within the needs assessment.	Initially modified from (Flake et al., 2015) TE4 & TE5; kept as is post Beta review.

	PDOR5	I was obligated by my organization to participate in the needs assessment.	New Item; revised post Beta review.
	PDOR6	I should not be tasked with addressing any recommendations from the needs assessment.	Modified from (Pinckney-Lewis, 2019) RR_PBS8
Perceptions of cost	POC1	I had to give up other commitments to participate in the needs assessment.	Modified from (Flake et al., 2015) OE1 and L2
	POC2	I have so many other commitments that I could not put forth the effort required for the needs assessment.	Modified from (Flake et al., 2015) OE2
	POC3	I have put too much energy into this needs assessment.	Modified from (Flake et al., 2015) OE3
	POC4	The needs assessment required a reasonable amount of effort.	Modified from (Flake et al., 2015) L2
	POC5	I was still able to complete other tasks required of me while participating in the needs assessment.	New Item
	POC6	The efforts I made to participate in the needs assessment are worth the benefits the organization will gain.	Modified from (Pinckney-Lewis, 2019) RR_PBS5, RR_PBS5_PSR
Perceptions of practitioner skills	PPS1	The needs assessment facilitator was a good listener.	New Item
	PPS2	I did not feel understood when interacting with the needs assessment facilitator.	Modified from (Pinckney-Lewis, 2019) RR_PBS3, RR_PBIF1
	PPS3	The needs assessment facilitator explained their process in terms that I did NOT understand.	New Item
	PPS4	I trusted the needs assessment facilitator to carry out the needs assessment with the appropriate level of rigor.	Modified from (Pinckney-Lewis, 2019) RR_PBS2
	PPS5	The needs assessment facilitator worked around my schedule.	New Item

	PPS6	I was NOT confident in the needs assessment facilitator's skills.	New Item
Perceived systemic sensitivity of the practitioner	PSSP1	The needs assessment facilitator valued my contributions to the needs assessment.	Modified from (Pinckney-Lewis, 2019) RR_PBS3
	PSSP2	The needs assessment facilitator had a solid understanding of how the organization functions.	New Item
	PSSP3	The needs assessment facilitator had difficulty navigating the organizational dynamics.	New Item
	PSSP4	The interests of the needs assessment facilitator overshadowed my own interests.	New Item
	PSSP5	The needs assessment facilitator understood the culture of the organization.	New Item
	PSSP6	The presence of the needs assessment facilitator disrupted organizational productivity.	New Item
	PSSP7	The needs assessment facilitator had very little influence on the organization's decision making.	New Item

Ensure Appropriate Likert Scale Demarcations to Support Internal Validity

The previous survey solely leveraged 5-point Likert scales, which provided respondents with a decent number of demarcations to discriminate their responses. While this substantial and odd number of steps helped to the reliability of the scale (Thorndike & Thorndike-Christ, 2010), there are some instances in which this number of demarcations was not high enough. Considering the low reliability of the overall survey version from 2019 ($\alpha = 0.48$), I opted to increase the number of demarcations for this current study. This version of the PBNAPS leveraged a more granulated seven-step Likert to still yield acceptable reliability data (Thorndike

& Thorndike-Christ, 2010). While the seven point Likert scale was initially popularized by Symonds (1924), other researchers have also agree that seven response categories optimize reliability (Finstad, 2010; Foddy, 1994; Miller, 1956; Thorndike & Thorndike-Christ, 2010). This was intended to allow for more accurate data and therefore, a more appropriate measure of central tendency for these important data.

While there is an ongoing debate over the use of even-numbered Likert versus odd-numbered Likert demarcations, maintaining an odd number does allow respondents to have a neutral option (Fink, 2013; Thorndike & Thorndike-Christ, 2010). In this case, there was value in the neutral option since this was an exploratory look at how burden is perceived. Additionally, since I did not limit the scope of participants by organizational context or formality/thoroughness of the needs assessment process, I did not want to force participants into selecting responses on either of the extremes if their experience really didn't mirror one of the extreme poles.

Demographic Information

While the intent of the PBNAPS was to allow respondents to remain anonymous, it was also important to collect some information regarding their organizational context, their role within that organizational context, and the length of their affiliation. While not explicitly hypothesized, I felt there was value in exploring whether or not there were any differences in perceived burden across these demographic types. Respondents did not have to name any specific organization or individual person. However, I provided them with an optional open-ended space to share any additional context for the purpose of this research. I placed the section of demographic questions at the end of the PBNAPS so that respondents could focus their energies up front on the main content of the survey without being fatigued. A copy of the full PBNAPS, including demographic data items is located in Appendix IV.

Survey Data Collection

I leveraged the PBNAPS to address RQ1 (i.e., How do participants in needs assessments rate their perceived burden in the process?) and RQ4 (i.e., How reliable and valid

is the refined survey instrument in measuring the construct of perceived burden?). With the goal of obtaining a minimum of 100 survey responses, I deployed the survey electronically via Qualtrics™ to reach as many diverse participants as possible (“Needs Assessment Evaluation,” 2015; Watkins & Altschuld, 2014). Participants accessed the survey either via an anonymous link or QR code as shared via email, recruiting flyer, or social media post. While I ensured the availability of paper copies for those requesting them, no respondents requested paper copies.

Focus Group and Interview Data Collection

Purpose and Process

To obtain a more in-depth understanding of the survey data, expand on the lived experiences of the needs assessment participants in response to RQ2 (i.e., How do participants in needs assessments describe their perceived burden in the process?), and address RQ3 (i.e., What is the meaning of perceived participant burden for the instructional design practitioners?), I implemented semi-structured focus group and interview protocols (available via Appendices V - VI). These allowed each participant to convey their nuanced experience with a previously executed needs assessment (Hays & Singh, 2012). I designed separate protocols for the needs assessment participants and the needs assessment facilitators, with the goal of achieving minimum of 10% of the PBNAPS respondents participating and at least 10 facilitator participants. In an effort to make participation as convenient as possible, I leveraged Zoom web conferencing to conduct, record, and machine transcribe the focus groups and interviews. Participants were invited to participate in this portion of the data collection as follows.

Comparative Case Study of Needs Assessment Participants

First, those needs assessment participants who completed the PBNAPS were divided into two groups based on Qualtrics™ survey logic analysis of their survey responses: high levels of perceived burden (i.e., avg of 4.5 or higher on the 7 point Likert scale), and those with low to medium levels of perceived burden (i.e., 4.4 or lower on the 7 point Likert scale). The survey conclusion message included an invitation to participate in focus group corresponding to their

level of burden. The message included an embedded hyperlink to Doodle™, a free online scheduler, allowing participants to sign up via for a focus group designated for participants of their same burden-level grouping. To ensure ample opportunities for participants to see this invitation, I also programmed Qualtrics™ to directly email those survey participants who opted to provide their email addresses with an invitation to participate in the appropriate focus groups. I also planned to invite any focus group participant that reported a unique experience or one that required clarification, to participate in a follow-up interview. However, this was not needed.

Cumulative Case Study of Needs Assessment Practitioners

Given more direct access to the needs assessment practitioners within a southeastern university setting, I presented this research opportunity directly to the potential interviewees in one of their initial classes in the spring 2020 semester. I invited each student to participate in an interview or focus group for practitioners. Again, I leveraged Qualtrics™ to capture their consent as well as to provide a link to Doodle™ so they could sign up for an available interview or focus group time slot. Because 1) enrollment in the spring 2020 needs assessment course was lower than anticipated, and 2) only three students provided their consent to participate, I obtained IRB approval to expand the sample to needs assessment practitioners outside of this class environment to include professional associations and professional development social media groups. These interviews provided another layer of variation and perspective on the phenomenon of perceived burden.

Trustworthiness

Because this effort leveraged qualitative data collection and analysis, I made every effort to ensure the trustworthiness of the data. Specifically, trustworthiness refers to how reputable and rigorous the research is (Shenton, 2004). Aligning with the constructs of trustworthiness proposed by Guba (1981), I addressed notions of credibility, transferability, dependability, and confirmability.

Credibility

While credibility corresponds to internal validity, it refers to how well the data apply across similar samples (Guba, 1981; Shenton, 2004). To ensure that the research addresses the actual questions of inquiry, I leveraged the methodology thus described, which is common and widely accepted within qualitative inquiries (Baxter & Jack, 2008). Collecting qualitative data from so many data sources across needs assessment projects allowed for triangulation. The protocols themselves contained probing questions, while allowing space to debrief participants and encourage them to be honest (Shenton, 2004). As such, the methodology itself contributed to the overall credibility of the research (Hays & Singh, 2012).

Transferability

Corresponding with external validity, transferability is an aspect of trustworthiness that explores how applicable results would be across settings (Guba, 1981). To address this, I provided some demographic context about the needs assessment projects from which the participants were selected, the boundaries of the research, as well as about the participants themselves to ground interpretations of the findings (Shenton, 2004). Within the next chapter, I provided thick, context specific descriptions of the data to ultimately enable readers to make judgements about the transferability of the research (Guba, 1981; Shenton, 2004).

Dependability

Corresponding to reliability, dependability is an aspect of trustworthiness that highlights the consistency and trackable variance within qualitative data sources (Guba, 1981). To address this aspect, I described the proposed methodology with great detail within this chapter. In carrying out the research, I also reflected on the methodology and how I addressed the unforeseen constraints that emerged (i.e., poor participation rates and the COVID-19 pandemic). Additionally, having operationalized definitions for the concepts under investigation and triangulated the data collection effort enhanced the dependability of the research (Shenton, 2004).

Confirmability

Corresponding to objectivity, confirmability is the aspect of trustworthiness that ensures collected data can account for any and all findings that emerge from the data (Guba, 1981). In contrast to my preliminary research done in this area (Pinckney-Lewis, 2019), the current design and methodology allows for more distance between the researcher and research participants. As such, there was space for an increased amount of objectivity in the data collection and analysis with less influence from my own positionality. Again, achieving triangulation by means of having multiple participants from various needs assessment projects also countered researcher bias and enhance confirmability (Shenton, 2004).

Data Analysis

Research Question 1

In order to explore how participants and constituents in needs assessments rate their perceived burden in the process (RQ1), I leveraged quantitative, descriptive statistics of the survey results. Specifically, I calculated their overall scores, mean scores, and standard deviations of PBNAPS scores for all respondents as well as for each demographic group of interest (i.e., organizational context, affiliation type, and length of organizational affiliation). I also compared the means of these groups to determine if there was any significant difference in their perceived burden reportings.

Research Question 2

To address how they describe their experience (RQ2), I performed a qualitative theme analysis via NVIVO12™ for MAC, pulling from the open-ended survey items and interview/focus group data as follows. First, I applied a three-phased coding approach to each data set. In general, the coding process allowed words or short phrases to symbolically assign salient attributes to the data (Saldaña, 2010). Throughout the analysis, I maintained a codebook listing each code, subcode, and their corresponding definitions as a best practice to maintain the integrity of the analyses (Hays & Singh, 2012). During the first phase of coding, I established a

list of high-level, predetermined codes relevant to the research questions as a means to initially bin the data prior to embarking on the data analysis (Creswell & Creswell, 2013).

Next, I applied these codes to the data, while maintaining an open coding option to add new codes to the codebook as they emerged through this initial data analysis process. This phase is important because key words and phrases from the participants may reveal domains within the data that were not previously accounted for (Hays & Singh, 2012). Then, I completed another round of focused coding with respect to the themes that either support or contradict the data from the survey (Saldaña, 2010). Finally, I continued to refine the coding and codebook via an axial coding process, which further helped to solidify and consolidate the relationships within the data.

To determine qualitative data reliability and to enhance the trustworthiness of the data analysis, I engaged in an intercoder agreement process, whereby SMEs in either needs assessment or qualitative data analysis provided a cross-check of the coding I performed (Creswell & Creswell, 2013). First, I asked this group of SMES to review the codebook, which provides the full list and definitions of all the inferential codes that were operationalized. I did not have them review the descriptive cases, which contain some identifiable information via classification and descriptive coding about each of the participants. Specifically, I asked the SMEs to 1) see if the codes and definitions made sense, and 2) that the organization of the coding schema made sense. Then, I asked them to 3) leverage the code book to complete a spot check of the qualitative data. For each reviewer, I randomly selected full interview cases to be reviewed, representing 10% of the data set, to be reviewed. I also pulled all the Facilitator responses to the question about what perceived burden means to them.

Next, I asked the SMEs to review 10% of the already coded Facilitator Interviews (2). While I hid the participant identifier information, I provided the SMEs with a PDF of the interview with coding visible but offset on the right side of the page. Instead of coding these interviews from scratch, the SMEs 1) read through the interview transcript with attention to the codes

assigned to the text segments, and 2) made a notation if there are other codes they felt should be applied (including any new ones that had not yet been accounted for) by leveraging the comment feature.

Then, I asked the SMEs to focus on the data across all of the facilitator interviews that were coded as the interviewee describing what perceived participant burden means to them. They performed the same coding review steps for this data set as was described for the Facilitator interviews. However, for this portion, I directed them to the Facilitator Defined Perceived Burden schema within the codebook.

Finally, they reviewed one needs assessment participant interview. Again, they followed the same steps as they were instructed to do with the other datasets. For this interview type, I directed them to the Constituent Experience coding schema to assist in their review.

I solicited two professors and one doctoral candidate, each from different universities in the southeastern region of the United States, to lend their expertise in needs assessment. Offering expertise in survey scale development, two additional professors from different universities in the southeastern region of the United States were also invited to participate in the process. Table 17. provides the details on those SMEs and their expertise.

Table 17.

Qualitative Data Subject Matter Expert Participants for Inter-coder Agreement

SME ID	Area of Expertise for Inter-coder Agreement	Academic/Professional Role
SME6	Needs assessment	PhD in Instructional Design and Technology; Assistant Vice President for Technology
SME7*	Empathic Design, Data Analysis	PhD in Instructional Design and Technology
SME8	Needs Assessment, Qualitative Research	Doctoral Candidate in Urban Planning and Policy

Note: *indicated the SME completed the review.

Of the three SMEs solicited, one (1) SME completed a review of the qualitative data coding by the deadline. SME7 confirmed the code book terms and definitions aligned with the research

questions and that the sample of coded data they received had appropriate coding. They did not suggest any additional coding. While they did have expertise, they were not involved in the conceptualization of this research. Therefore, SME7 reported not feeling familiar enough with the research to appropriately do so.

Research Question 3

Next, to address RQ3 regarding how needs assessment practitioners understand and address perceived participant burden, I leveraged their interview and focus group data. In a similar fashion to the previously described qualitative data analysis, I also performed two rounds of coding prior to reporting the theme analysis results. These data serve to complement the participant data by adding another layer to the perspectives on the phenomena of perceived burden. Additionally, it provided some baseline data in terms of where the student-practitioners and more seasoned practitioners are in terms of their awareness of and skills in navigating organizational social systems.

Research Question 4

Finally, to determine how well the refined PBNAPS measured the construct of perceive burden (RQ4), I first calculated the survey's reliability as measured by Cronbach's alpha which is widely accepted as an appropriate measure of reliability (DeVellis, 2017; Pallant, 2016; Thorndike & Thorndike-Christ, 2010). Prior to deploying the survey, I programmed Qualtrics™ to recode the negatively worded prompts within the perceptions of burden survey results so they could properly be included within the calculations (Creswell & Creswell, 2013; Thorndike & Thorndike-Christ, 2010) as well as to properly place participants volunteering for follow-on interviews into the appropriate groupings by perceived burden amount. Then, I calculated the overall survey reliability as well as that of each of the subscales therein as an indicator of how internally consistent and reliable the refined instrument is. Finally, I examined whether or not each of the PBNAPS subscales correlate with the overall measure as well as with each other via Pearson's r (Thorndike & Thorndike-Christ, 2010).

Additionally, to examine the second part of this research question regarding the construct validity of the PBNAPS, I performed an exploratory factor analysis (EFA), which examines the interrelationships amongst the variables (Pallant, 2016). Not only is EFA a commonly used statistic in the social sciences, it is also leveraged for assessing new evaluation instruments and survey scales (Costello & Osborne, 2005; Worthington & Whittaker, 2006). While this method can also be used for data reduction, I utilized it to detect the underlying factor structure inherent within the PBNAPS subscales (Keith, 2015) because there were no a priori established factors of the component documented within the literature (López-Aguado & Gutiérrez-Provecho, 2019).

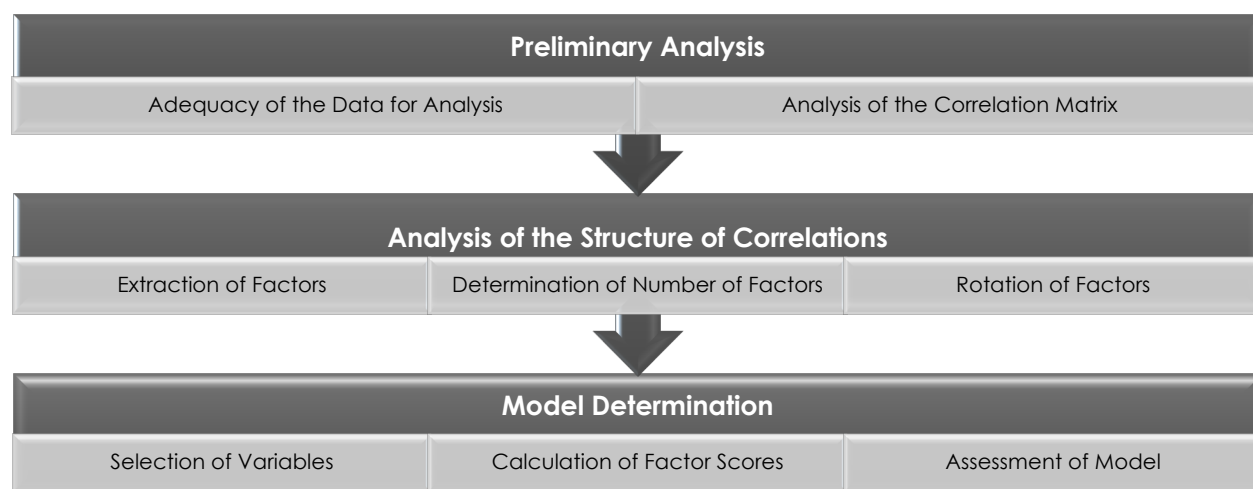
Essentially, I leveraged EFA to determine whether or not perceived burden is unitary or divisible subsets as the proposed construct suggests (Sawaki et al., 2009; Worthington & Whittaker, 2006). Within the current research, I make no assumptions about which components of the proposed perceived burden construct are most or least critical factors. As such, EFA is appropriate because it is meant to examine the underlying component structure within the PBNAPS. Because there is no evidence or precedent in the literature regarding the construct of perceived participant burden in needs assessment, confirmatory factor analysis (CFA) is not appropriate (Henson & Roberts, 2006).

The process I followed for EFA is visually represented below. Leveraging IBM SPSS, I completed preliminary analysis to ascertain the adequacy of the data for analysis. Next, I completed an analysis of the structure of the correlations. I applied the maximum likelihood extraction method to allow for a range of indexes of goodness of fit to the model (Costello & Osborne, 2005). I then applied the Direct Oblimin oblique rotation, which calculates the degree of skewness of the factors based on the delta parameter (López-Aguado & Gutiérrez-Provecho, 2019). While the PBNAPS was not built from a well-documented framework establishing a priori correlations amongst the factors, the behaviors and perceptions targeted within the PBNAPS likely yield some level of correlations amongst the factors. This is common within social science

research (Costello & Osborne, 2005). I determined factor retention after considering the initial eigenvalues, scree plot visualization, and factor matrices (Pallant, 2016). Each of those decisions, along with item retention will be presented within Chapter 4. Finally, I made determinations about the model (López-Aguado & Gutiérrez-Provecho, 2019; Pallant, 2016).

Figure 10.

Exploratory Factor Analysis Process



Adapted from López-Aguado & Gutiérrez-Provecho (2019)

Summary

Within this chapter, I provided an overview of the epistemological approach that grounds this research design, provided context for the research, and explained the participant sampling procedures. Next, I described the process of revising the 2019 survey items to develop the current PBNAPS. In addition to providing the survey data collection methodology, I described the qualitative approach to the focus group and interview portion of data collection. Finally, I described how the data were analyzed. In the chapter that follows, I will provide the results of the data analysis in response to each of these four research questions:

1. How do participants in needs assessments rate their perceived burden in the process?
2. How do participants in needs assessments describe their perceived burden in the process?

3. What is the meaning of perceived participant burden for instructional design practitioners?
4. How reliable and valid is the refined survey instrument in measuring the construct of perceived burden?

Table 18. summarizes the overall data analysis approach.

Table 18.

Data Analysis Methodology by Research Question

Research Question	Analysis Methodology
RQ1: How do participants in needs assessments rate their perceived burden in the process?	Quantitative: descriptive statistics
RQ2: How do participants in needs assessments describe their perceived burden in the process?	Qualitative: 3-phase coding, theme analysis
RQ3: What is the meaning of perceived participant burden for instructional design practitioners?	Qualitative: 3-phase coding, theme analysis
RQ4: How reliable and valid is the refined survey instrument in measuring the construct of perceived burden?	Quantitative: <ul style="list-style-type: none"> - Survey reliability via Cronbach's <ul style="list-style-type: none"> - Subscales - Overall - Correlations via Pearson's r <ul style="list-style-type: none"> - Subscale to Overall - Subscale to Subscale Exploratory Factor Analysis

CHAPTER 4: FINDINGS AND RESULTS

As stated in previous chapters, this research explored the lived experience on the part of needs assessment participants, and specifically, the extent to which they perceive burden within the process. This chapter is organized to present the findings and results from the four main research questions. First, I will provide an overview of the respondents and participants in this research. Then, I will present both descriptive statistics and qualitative theme analysis results of how participants in needs assessments rate their perceived burden (RQ1) and describe their lived experience in the process (RQ2). Next, I will provide the results from the qualitative data analysis from needs assessment facilitators as a means to complement the participant data (RQ3). Finally, I will present the descriptive statistics from the Perceived Burden in Needs Assessment Participants Survey (PBNAPS), the overall PBNAPS and subscale reliability as measured by Cronbach's alpha, the correlation data via Pearson's r to demonstrate whether or not each of the subscales correlate with the overall measure, and exploratory factor analysis (EFA) to determine whether or not the construct of perceived burden is unitary or divisible into components (RQ4).

Research Participants and Respondents

PBNAPS Participants

In addition to the five SMEs that provided input resulting in the revised PBNAPS, a number of individuals participated in this research. While 381 individuals visited the website hosting the PBNAPS, some individuals did not provide consent ($n = 31$) or completed too minimal an amount of the survey to be included within the dataset ($n = 84$). I eliminated a total of 115 respondents from the dataset for not providing consent to use their data or only completing 29% or less the actual survey. Twenty-one (21) respondents completed 30% of the PBNAPS; they remained within the dataset because they completed all items within two of the four subscales. The only subscale items they did not complete were those referencing the needs assessment facilitator(s). Even though instructions were provided to select "Neither

Agree nor Disagree” for the subscales regarding needs assessment facilitators if there was no known facilitator, respondents may have intentionally skipped these items and/or exited the survey prematurely. Including their responses within the dataset provided insight into the structure of and potential further refinement of the PBNAPS. Therefore, 265 total participants were included in the overall analyses. Of those 265 respondents included within the dataset, 237 completed the PBNAPS fully (100% complete). Two individuals completed 96%, one completed 86%, and two completed 54%. Any of their absent responses to numeric, ordinal variables were treated as missing, and not included in the statistical calculations. Table 19 summarizes these results.

Table 19.

PBNAPS Respondents’ Level of Completion

Level of Completion	Number of Respondents
Visited the PBNAPS website	381
100% completed	237
96% completed	2
86% completed	1
82% completed	3
54% completed	2
30% completed	21
19% completed*	12
7% completed*	70
2% completed*	33

Note: *indicates respondents were eliminated from analyses.

Organizational Contexts

In terms of organizational contexts, 111 respondents (45%) indicated their needs assessments took place in a government entity (i.e., county, state, or federal level). Seventy-three represented a needs assessment completed in a non-profit organizational context. Thirty-six (15%) referred to a for-profit setting. Twenty-nine (12%) indicated their organizational context was something other than the choices given. While eight respondents left this item blank

(3%), ten individuals (4%) selected more than one organizational context. All participants were given the opportunity to clarify to what organizational context(s) they were referring, while those who selected “Other” were encouraged to do so. Respondents made 29 references to the education sector, including public schools (12), higher education (9), private schools (2), and charter schools (1). Respondents made four references to the medical sector, including the doctor’s office (2), a clinic (1), and a hospital setting (1). Finally, one respondent referred to their family as the organizational context. Table 20 summarizes these results.

Table 20.

Summary of PBNAPS Respondents Organizational Context Types

Organizational Type	#Respondents	% Respondents
Government entity (i.e., county, state, or federal level)	111	45
For profit entity	36	12
Non-profit entity	73	15
No response provided	8	3
Other	29	
“Other” Organizational Context References		
Education Sector	29	
Charter Schools	1	
Higher Education	9	
Private Schools	2	
Public Schools	12	
Medical Sector	4	
Clinic	1	
Doctor’s Office	2	
Hospital	1	
Family	1	

Organizational Affiliation Types

Within the PBNAPS, respondents reported the ways in which they were affiliated with the organizations which underwent a needs assessment. Most respondents reported being an Employee of the organization ($n = 105$, 42.86%), meaning they worked for the organization and

received some form of compensation. Fifty-three (21.63%) reported being Customers or Clients of the organization, meaning they were recipients of the products or services offered by the organization. Other respondents reported holding leadership positions within the organizations they represented: 39 (15.91%) as Managers or Supervisors, and 16 (6.53%) as Executive-level Leaders. Twelve (4.90%) reported being Volunteers for the organization, meaning they worked for the organization without compensation. Ten (4.08%) reported being Partners to the organization, meaning they were not Employees, but did work with or provide guidance the organization to help them achieve their mission. For the fourteen (5.71%) that selected “Other” as their affiliation type, they clarified their roles as Parents (4), Retired Employees (3), Teachers (2), having no affiliation with the organization (2), Administrator (1), and Student (1). Table 21 summarizes these results.

Table 21.

Summary of PBNAPS Respondents Organizational Affiliation Types

Affiliation Type	#Respondents	% Respondents
Customer or Client	53	21.63
Employee	105	42.86
Executive-level Leader	16	6.53
Manager/Supervisor	39	15.92
Partner	10	4.08
Volunteer	12	4.90
More than One Affiliation Type	7	2.86
Blank	6	2.45
Other ^a	14	5.71

^aNote: Other affiliations listed by participants include: Parents, Retired Employees, Teachers, Administrators, Students, and having no known affiliation.

Years of Affiliation with the Organization(s)

Respondents also reported a range in their years of affiliation with the organizations they represented. While six (6) respondents left this survey item blank, 27 (11.02%) reported an affiliation with the organization for less than a year. The majority of respondents were affiliated

with their organizations for either 1 – 3 years ($n = 55$, 22.45%) or 4 – 6 years ($n = 55$, 22.45%). Forty-eight respondents (19.59%) reported a 7 – 10-year affiliation with their organization. Fifty-three respondents (21.63%) were affiliated with their organization for more than 11 years. Table 22 summarizes these results.

Table 22.

Summary of PBNAPS Respondents Years of Organizational Affiliation

Affiliation Length	#Respondents	% Respondents
<1 year	27	11.02%
1 – 3 years	55	22.45%
4 – 6 years	55	22.45%
7 – 10 years	48	19.59%
11+ years	53	21.63%

Time to Complete the PBNAPS

As each of the respondents completed the PBNAPS, Qualtrics™ recorded the time in seconds that they spent on the task as measured by how long the screens for the PBNAPS were opened until the final completion message was displayed. For the purposes of this reporting, I will present their time to complete the PBNAPS in minutes. A total of four clear outliers with reported times above 318 minutes (i.e., respondents having completed the PBNAPS but left their browser open for extended periods of time) were eliminated from this calculation. On average, respondents spent 9.27 minutes ($SD = 14.56$) within the PBNAPS interface, while the mode was 5.13 minutes. The distribution had a 6.08 skewness and 44.03 kurtosis. Based on its positive skewness value, the time to complete values were clustered to the left at the lower end. While the maximum time within the interface was 137.48 minutes, the minimum time within the interface was 1.28 minutes. Nearly all respondents (92%) spent 20 minutes or less within the PBNAPS interface. A large majority of respondents (88%) spent 15

minutes or less, while a smaller majority (80%) spent 10 minutes or less within the PBNAPS interface.

PBNAPS Interview Participants

Each of the PBNAPS respondents were invited, but not required to participate in a follow-on interview or focus group based on whether their responses placed them into a low to medium perceived burden group (i.e., overall PBNAPS average of 4.4 or lower on the 7-point Likert items) or a high perceived burden group (i.e., overall PBNAPS average of 4.5 or higher on the 7-point Likert items). While nine (9) respondents signed up for an interview or focus group to further share their experience, seven (7) individuals actually completed this piece of data collection. Based on their responses to the PBNAPS, all seven participants fell within the lower to medium perceived burden group ($M = 2.18$, $SD = 0.70$). None of the interview or focus group participants fell within the higher burden group. However, one interview participant's responses (PBNAPS031) did place them firmly into the medium burden range ($M = 3.36$). While I could not carry out the comparative case study as planned, having one example of a medium range perceived burden case did allow for some comparison. Table 23 summarizes those results.

Table 23.

Summary of PBNAPS Interviewees

PBNAPSID	Score (range 1-7)	Affiliation Type	Length of Affiliation	Organization Type
PBNAPS001	1.28	Partner; Volunteer	4 – 6 years	Non-profit
PBNAPS011	2.20	Customer or Client	1 – 3 years	Non-profit
PBNAPS017	1.44	Partner; Volunteer	1 – 3 years	Non-profit
PBNAPS020	2.20	Customer or Client	<1 year	Non-profit
PBNAPS031	3.36	Employee; Executive-level Leader; Manager or Supervisor	11+ years	Government Entity
PBNAPS072	2.64	Employee	7 – 10 years	Non-Profit
PBNAPS094	2.21	Volunteer	11+ years	<i>No response provided</i>

Though there was not much range in the overall amount of burden reported ($M = 1.28 - 3.36$), the interviewees did represent a range of affiliation types and lengths of time affiliated. Two reported being Customers or Clients of the organization. Three reported being Employees. One reported being both a Manager or Supervisor, and an Executive-level leader; and two reported being Partners and Volunteers. One reported having a less than one-year affiliation. Two reported having a 1 – 3-year affiliation. One reported having a 4 – 6-year affiliation. Two reported a 7 – 10-year affiliation, and one reported an affiliation greater than 11 years. While the majority of the interviewees represented non-profit organizational contexts ($n = 5$), two represented government entities.

Needs Assessment Practitioners

A number of needs assessment practitioners participated in this research as well. Of the 29 individuals who provided their consent to participate, 16 facilitators completed an interview or focus group. Within those interviews and focus groups, participants discussed six (6) cases of needs assessments in the strategic planning space, six (6) cases in the curriculum development or instructional design space, three (3) cases in the Individualized Education Plan (IEP) or Student Goal Objective (SGO) space, two (2) cases in the Human Performance Technology (HPT) space, one (1) case in the academic advising space, and one (1) case in the Human Computer Interaction (HCI) space.

The data also represent a number of levels of focus in needs assessment. There were five (5) cases at the organizational level, eight (8) at the program level, two (2) at the course level, two (2) at the individual level, and one (1) case where the level of focus was not specified. While twelve (12) of these cases involved needs assessments where the facilitators were internal to the organizational contexts they served, five (5) also represented cases where they were acting as facilitators internal to the organization. One (1) needs assessment case did not specify whether or not they were internal or external to the organization. Table 24. summarizes the contextual data for the needs assessment facilitator participants.

Table 24.*Summary of Needs Assessment Facilitator Contextual Data*

ID	NA Focus Area	Highest Level Targeted in the NA	Positionality of Facilitator in Relation to the Organization
F01	Strategic Planning	Program	External
F02	IEP/Special Needs	Individual Person	Internal
F03	Academic Advising	Program	Internal
F04	Strategic Planning	Organization	External
F05	Strategic Planning; HPT unspecified	Organization	External; Unassigned
F06	Curriculum Development; Student Goal Objective	Organization; Individual Person	Internal
F07	Curriculum Development	Course	Internal
F08	Curriculum Development	Organization	Internal
F09	Strategic Planning	Organization	External
F10	Instructional Design	Program	External
F11	Curriculum Development; Curriculum Development	Program; Program	Internal; Internal
F12	Strategic Planning	Program	Internal
F13	Curriculum Development	Course	Internal
F14	Human Computer Interaction	Program	External
F15	Strategic Planning	Organization	Internal
F16	IEP/Special Needs	Individual Person	Internal

Perceived Burden Ratings from Needs Assessment Participants**Overall Perceived Burden Ratings**

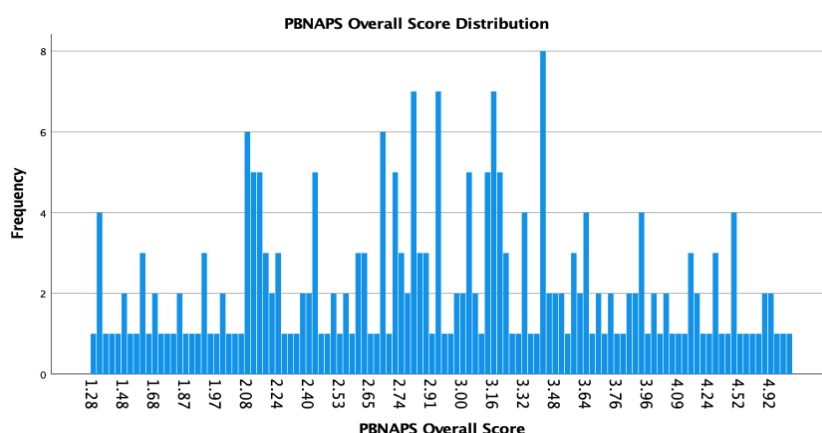
In response to RQ1 (i.e., How do needs assessment participants rate their perceived burden in the needs assessment experience?), a total of 244 respondents received PBNAPS

overall scores. On average, they reported low levels of perceived burden within their needs assessment experiences ($M = 2.97$, $SD = 0.88$) The PBNAPS scores were slightly clustered to the left towards the lower scores, with a positive skewness of 0.39 ($SE = 0.16$) and kurtosis of 0.02, suggesting the distribution of scores is slightly peaked in the center (Pallant, 2016). It is important to note that although positive kurtosis is associated with an underestimation of sample variance, its impact on resulting statistical inferences are reduced when working with sample sizes greater than 100 (Tabachnick & Fidell, 2007). While these results are within the acceptable range, having a sample size above 200 reduces any potential risks due to skewness or kurtosis (Pallant, 2016; Thorndike & Thorndike-Christ, 2010).

Most respondents (233, 95.5%) reported perceived burden levels of 4.4 or below, thus falling within the medium to low levels of burden. In fact, 161 (66.0%) respondents reported perceived burden levels of 3.2 or below, placing them into the low burden range. However, there were fifteen (6.1%) cases reporting a 4.5 perceived burden rating or above, thus falling within the high range of perceived burden. There were also 76 (31.1%) cases reporting a perceived burden between 3.3 and 4.4, firmly placing them in the mid-range of the perceived burden scale. While Figure 11. summarizes the frequency and distribution of these scores.

Figure 11.

Summary of PBNAPS Overall Score Distributions



Perceived Burden Ratings by Organizational Context

Within the PBNAPS, respondents were able to select as many of the organizational context items as were applicable as well as provide additional information in the follow-on open-ended response if they selected “Other”. For the purpose of these descriptive and inferential statistical analyses, I transformed all responses accordingly: 1) for any respondent that wrote in a response, that response was honored, 2) for any respondent selecting more than one organizational context, their response was recorded as “More than one organizational context,” and 3) for the one case identifying their family as the organizational context, it was included within the “Other unspecified” context. Therefore, the numbers of respondents from many of the groups described within the PBNAPS Participants section, decreased in this analysis.

The government sector ($n = 99$) had the largest number of constituents and the highest average PBNAPS score ($M = 3.15$, $SD = 0.94$). For the non-profit sector ($n = 64$), respondents reported an average score of 2.89 ($SD = 0.91$). Within the for-profit sector ($n = 33$), respondents reported an average PBNAPS score of 2.84 ($SD = 0.76$). Within the education sector ($n = 25$), respondents reported an average PBNAPS score of 2.91 ($SD = 0.67$). While the three respondents within the medical sector reported a slightly lower average ($M = 2.59$, $SD = 0.69$), the other unspecified context respondents ($n = 5$) reported the lowest average perceived burden score ($M = 2.49$, $SD = 0.54$). Finally, for those selecting more than one organizational context ($n = 9$), they reported an average PBNAPS score of 2.61 ($SD = 0.60$). When comparing the means of these groups, there was no significant difference by organizational context, $F(6, 231) = 1.58$, $p = 0.154$. The following table summarizes the PBNAPS scores by organizational context.

Table 25.*Summary of PBNAPS Scores by Organizational Context*

Organizational Context	<i>N</i>	Average PBNAPS Score	<i>SD</i>
Government	99	3.15	0.94
Non-Profit	64	2.89	0.91
For-Profit	33	2.84	0.76
Education	25	2.91	0.67
Medical	3	2.59	0.69
More than one context	9	2.61	0.60
Other/Unspecified	5	2.49	0.54

Perceived Burden Ratings by Organizational Affiliation Type

PBNAPS respondents also distinguished themselves by their affiliation(s) to the organizations. They were able to select as many of the organizational affiliation types as were applicable and to provide additional information in the follow-on open-ended response if they selected “Other”. For the purpose of the following descriptive and inferential statistics calculated via IBM SPSS™, I transformed respondent PBNAPS scores as follows: 1) for respondents that chose more than one affiliation type within the organization, they were coded at the most senior level they selected; 2) for those respondents that chose “Other” but specified being a paid member of an organization, parent in relation to an educational setting, student in relation to an educational setting, or a member of the public, they were coded as a “Client or Customer”; 3) for the one case selecting multiple affiliation types that could not be slated by the preceding protocol, I included it within the “Other, not specified” group.

Representing the largest number of respondents, Employees ($n = 105$) reported an overall average perceived burden of 3.10 ($SD = 0.79$). Those affiliated as a Customer or Client ($n = 57$) reported an overall average perceived burden of 2.94 ($SD = 0.74$). Managers and Supervisors ($n = 38$) reported an average perceived burden of 2.87 ($SD = 0.97$), while Executive-level Leaders ($n = 16$) reported 2.58 ($SD = 0.95$). Volunteers ($n = 9$) reported an

overall average perceived burden of 3.19 ($SD = 1.28$), while organizational Partners ($n = 8$) reported 2.74 ($SD = 1.50$). Finally, for those that reported “Other, not specified” or more than one affiliation type ($n = 4$), they reported an average perceived burden of 2.56 ($SD = 0.46$). A one-way analysis of variance showed that the effect of affiliation type on PBNAPS scores was not significant, $F(6,230) = 1.38$, $p = .222$. The following table summarizes PBNAPS scores by affiliation type.

Table 26.

Summary of PBNAPS Scores by Affiliation Type

Organizational Context	<i>N</i>	Average PBNAPS Score	<i>SD</i>
Volunteer	9	3.19	1.28
Employees	105	3.10	0.79
Manager/Supervisor	38	2.87	0.97
Executive-level Leader	16	2.58	0.95
Partner	8	2.74	1.50
Client/Customer	57	2.94	0.74
Other, not specified	4	2.56	0.46

Perceived Burden Ratings by Length of Affiliation

The PBNAPS respondents also reported distinctions by the length of time they were affiliated with the organizations. In this instance, respondents were only allowed to select one time length option, though I did transform their nominal responses to numerical, ordinal responses within IBM SPSS™. For those respondents reporting less than a year-long affiliation with their organization ($n = 27$), they reported the lowest average perceived burden of these groups ($M = 2.61$, $SD = 0.69$). Reporting the highest level of perceived burden on average ($M = 3.11$, $SD = 1.07$), those with a 1 – 3 year reported affiliation also was one of the groups with the largest number of respondents ($n = 55$). Those with a 4 – 6-year affiliation ($n = 55$) reported an average perceived burden of 2.95 ($SD = 0.86$), while those with a 7 – 10-year affiliation ($n = 48$) reported an average perceived burden of 2.99 ($SD = 0.83$). Finally, those with the longest

affiliation length of 11 years or more ($n = 53$) reported an average perceived burden of 3.03 ($SD = 0.76$). A one-way analysis of variance showed the effect of length of affiliation on PBNAPS outcomes was not significant, $F(4, 233) = 1.57, p = .183$. Table 27. summarizes these data.

Table 27.

Summary of PBNAPS Scores by Length of Affiliation

Length of Affiliation	<i>N</i>	Average PBNAPS Score	<i>SD</i>
<1 year	27	2.61	0.69
1 – 3 years	55	3.11	1.07
4 – 6 years	55	2.95	0.86
7 – 10 years	48	2.99	0.83
11+ years	53	3.03	0.76

Perceived Burden Lived Experience Descriptions from Needs Assessment Participants

Overview of Participants Sharing Lived Experiences

PBNAPS Open-Ended Item Contributors

Within the PBNAPS, respondents had the option to provide additional details about their needs assessment experience not otherwise captured within the survey. Forty-five (45) respondents provided additional information to complement their survey responses. Their subscale and overall PBNAPS scores are provided in the Table below. Each of the subscales are abbreviated by their identifiers: Perceived Duties, Obligations, and Responsibilities (PDOR); Perceptions of Cost (POC); Perceived Practitioner Skills (PPS); and Perceptions of Practitioner Systemic Sensitivities (PSSP).

Table 28.*Summary of PBNAPS Open-Ended Item Contributor Scores*

PBNAPSID	PDOR	POC	PPS	PSSP	PBNAPS Overall ^a
PBNAPS001	1.67	1.00	1.00	1.43	1.28
PBNAPS003	4.50	2.50	3.50	1.86	3.04
PBNAPS004	2.33	1.83	4.00	4.00	3.08
PBNAPS005	2.50	1.50	1.00	1.43	1.60
PBNAPS007	2.50	1.83	1.50	2.14	2.00
PBNAPS008	2.50	1.00	1.00	1.00	1.36
PBNAPS011	2.17	1.00	3.00	2.57	2.20
PBNAPS014	5.33	1.83	1.83	2.14	2.76
PBNAPS019	2.83	1.00	1.00	1.43	1.56
PBNAPS028	4.17	3.67	3.67	3.71	3.96
PBNAPS031	3.50	2.83	3.17	3.86	3.36
PBNAPS037	5.83	4.83	4.50	4.57	4.92
PBNAPS045	3.17	2.33	1.33	1.71	2.12
PBNAPS046	2.33	4.50	6.33	3.57	2.74
PBNAPS053	3.83	3.83	1.67	1.71	2.72
PBNAPS054	3.00	1.33	2.00	2.00	1.37
PBNAPS067	5.33	3.00	3.67	2.86	3.68
PBNAPS071	4.50	2.00	3.00	1.86	2.80
PBNAPS072	5.33	1.83	1.67	1.86	2.64
PBNAPS084	3.17	1.83	2.33	3.57	1.82
PBNAPS087	3.67	2.00	4.67	3.86	3.56
PBNAPS091	3.17	1.83	1.00	1.29	1.80
PBNAPS092	4.33	2.33	2.67	0.71	2.65
PBNAPS094	2.83	2.50	4.17	3.86	2.21
PBNAPS115	4.17	1.00	1.00	2.29	2.12

PBNAPSID	PDOR	POC	PPS	PSSP	PBNAPS Overall ^a
PBNAPS131	4.33	3.17	4.17	4.86	2.74
PBNAPS132	3.00	1.83	4.00	4.00	3.24
PBNAPS133	4.67	4.67	2.83	4.00	4.04
PBNAPS144	5.00	1.50	2.50	2.29	2.80
PBNAPS147	4.67	4.17	3.33	2.57	3.64
PBNAPS159	4.33	2.83	3.17	3.71	3.52
PBNAPS161	3.00	2.67	3.17	3.71	3.16
PBNAPS167	1.17	1.00	0.83	2.14	1.57
PBNAPS181	2.50	2.00	3.83	3.43	2.96
PBNAPS206	3.83	1.83	6.17	4.57	2.71
PBNAPS217	3.83	2.17	2.50	2.00	2.60
PBNAPS228	3.17	3.00	3.83	3.71	3.44
PBNAPS235	5.17	2.00	1.83	1.71	2.64
PBNAPS244	3.67	2.33	4.00	2.57	3.12
PBNAPS245	4.33	3.67	1.00	1.29	2.52
PBNAPS247	4.17	4.50	4.00	5.14	4.48
PBNAPS263	6.00	3.50	5.33	5.43	5.08
PBNAPS271	5.00	3.00	8.33	8.29	4.11
PBNAPS276	4.00	1.17	1.00	1.29	1.84
PBNAPS368	2.50	3.83	7.83	4.71	3.11

^a Note: PBNAPS overall score was determined by taking the mean of the total points across all

25 questions. It was not determined by taking the average of each subscale mean.

Given the lack of structure and formative guidance for their responses, these participants' responses will be considered as supplemental to the interviewee participants.

PBNAPS Interviewees

In response to RQ2, PBNAPS participants were invited to participate in follow on interviews. Those interviews allowed them to further describe their experiences within the needs assessments as well as how much burden they perceived. In this section, I present their demographic information as well as their interview results.

Interviewee PBNAPS scores. Consistent with the PBNAPS results showing a majority of respondents falling within the low to medium burden range, all of the PBNAPS interview participants fell within that same range as well. All seven interviewees had overall PBNAPS scores in the low range with one closer to the midline of the scale range (PBNAPS031). The following Table provides each of the interviewees overall PBNAPS scores as well as the average scores for each of the subscales.

Table 29.

Summary of PBNAPS Interviewee Scores

PBNAPSID	PDOR	POC	PPS	PSSP	PBNAPS Overall ^a
PBNAPS001	1.67	1.00	1.00	1.43	1.28
PBNAPS011	2.17	1.00	3.00	2.57	2.20
PBNAPS017	2.00	1.00	1.50	1.29	1.44
PBNAPS020	2.00	3.00	1.00	2.71	2.00
PBNAPS031	3.50	2.83	3.17	3.86	3.36
PBNAPS072	5.33	1.83	1.67	1.86	2.64
PBNAPS094	2.83	2.50	4.17	3.86	2.21

^a Note: PBNAPS overall score was determined by taking the mean of the total points across all 25 questions. It was not determined by taking the average of each subscale mean.

For these PBNAPS respondents, they reported more variety in their subscale scores than their overall scores. In fact, there were five instances of subscale scores at or above 3.50.

Contexts of their needs assessment experiences. These interviewees represented a variety of organizational contexts and needs assessment scenarios. This sample includes representation from the non-profit sector, educational sector, and the medical sector. Their needs context areas fell either within the strategic planning space of the special needs planning space. Their referenced needs assessments served individual entities and up to the organization level. They also represent needs assessment experiences with facilitators both internal and external to the organizational context. Table 30 provides a summary of these data.

Table 30.

Summary of PBNAPS Interviewee Organizational and Needs Assessment Contexts

PBNAPSID	Organizational Context	Entity Type	Needs Context Area	Highest Organizational Level Served	Facilitator Type: Internal or External to Organization
PBNAPS001	Non-profit	Combination: brick and mortar; virtual	Strategic planning	Organization	Internal
PBNAPS011	Living Community	Brick and mortar	Strategic planning	Organization	External
PBNAPS017	Non-Profit	Combination: brick and mortar; virtual	Strategic planning	Organization	Internal
PBNAPS020	Medical Sector	Brick and mortar	Special Needs	Individual Person	Internal
PBNAPS031	Higher Education	Combination: brick and mortar; virtual	Strategic planning	Organization	External
PBNAPS072	Non-profit; K-12 Educational Setting	Combination: brick and mortar; virtual	Strategic planning	Organization	External
PBNAPS094	K-12 Educational Setting	Brick and mortar	Special Needs	Program	Internal

Constituent types within the subsample. Within this subsample of interviewees, a number of constituent types were represented. Representing those that might have requested the needs assessment or received the results, there were four (4) identified clients. There were eight (8) cases of serving as a data provider within a needs assessment, meaning they either were survey respondents, interview or focus group participants, or served as document

providers within the needs assessments they referenced. There were seven (7) instances of stakeholder activity, meaning the interviewee identified as someone with a vested interest in the organization they represented or the needs assessment results. There were also four (4) instances of interviewees mentioning they also served as facilitators of needs assessments, either referring specifically to the needs assessment they referenced in the PBNAPS or as a part of their other duties and responsibilities. As a reminder, it was possible and common for the interviewees to identify as more than one constituent type.

Awareness of the Needs Assessment

To help frame their experience, I asked the PBNAPS interviewees about their level of awareness of the needs assessment. Within nine (9) instances, interviewees mentioned they were aware that the needs assessment was taking place. For some, their awareness was due to needs assessment being common in their work. PBNAPS072 mentioned that involvement in a needs assessment was “one of the first things...to do” when engaging in a new project. Similarly, in describing their experience in a large-scale higher education system redesign, PBNAPS031 mentioned, “it was very explicit” that the needs assessment was taking place.

Lived Experiences with Perceived Duties, Obligations, and Responsibilities in Needs Assessment

Tasks

Initiation and oversight. To get an understanding of what these constituents were asked to do within the needs assessment experience they referenced, I asked the interviewees to describe their experience, with special attention to the tasks they performed. While one (1) interviewee mentioned they requested the needs assessment, others discussed their tasks in relation to a working group or what Witkin and Altschuld (1995) would consider a Needs Assessment Committee (NAC). Across a total of four (4) instances, participants discussed being involved in the formation of such a group, attending group meetings, and serving on the committee.

Completing tasks spelled out by the needs assessment facilitator. Some interviewees completed tasks as put forth by the facilitators, while others reported providing guidance and support to the facilitator(s) associated with the effort. For example, across three (3) instances, interviewees mentioned participating in a survey; one (1) participated in a focus group. Other instances of performed tasks within the needs assessment experiences included driving or otherwise transporting themselves to and from the data collection site (2), completing evaluator tasks (1), and gathering data in response to a needs assessment inquiry (1).

Guiding the needs assessment facilitator. Within the context of tasks oriented back to the needs assessment facilitator(s), these interviewees played various roles. Across three instances, the theme of guiding the needs assessment facilitator(s) emerged. For example, when describing how they had to explain how some of the facilitator's data requests and language was problematic, PBNAPS031 stated "We led them by the hand a little bit as well...It was like we were helping them while they helped us." In one instance a participant had to request additional time to complete the tasks expected of them in the needs assessment. In another instance a participant (1) had to ask for additional time to perform the tasks asked by the needs assessment facilitator in order to properly address the data request.

Supporting group dynamics. In other instances, interviewees reported having engaged in activities to help maintain positive dynamics amongst constituents. PBNAPS072 mentioned, "...as a stakeholder, it was my responsibility to build a team...and that team was supposed to become like leaders. They also explained that while serving as a stakeholder amongst constituents with contentious relationships, they had to help ease tensions so the needs assessment could be carried out. They also stated, "[my] job was to work with the teachers...encourage the teachers to work with the principals...be a part of...the right thing to do."

Motivation

To gain insights into why these interviewees engaged in their needs assessments, I provided a prompt around motivation. I asked these participants to identify which of the following words resonated with them and why: desire, duty, obligation, and responsibility. The following summarizes their responses.

Duties, obligations, and responsibilities. Across six (6) instances, interviewees expressed their motivation to participate in the needs assessment as a duty. As PBNAPS020 mentioned, “first of all, my son’s first needs assessment recommended that he have a full re-eval by kindergarten...so you know just from a duty to my son based on what the therapist recommended.” PBNAPS011 felt a sense of duty to her neighborhood in which the needs assessment was conducted: “Yeah, I guess duty. I feel, you know, as a member of the community...I try to participate.”

Across ten (10) instances, the interviewees described how they felt obligated within the needs assessment. PBNAPS017 described their obligation to be a vehicle for change on a macro level, as well as their obligation to their child on a micro level, and the needs assessment facilitator based on their personal relationship. PBNAPS094 described their sense of obligation due to a rapid change in the severity of needs in the population of students they served. They explained that after some time away, “there are many more districts dealing with young children who had severe behavior outbursts and it was really difficult for each district to find and develop programs to meet their needs.”

Finally, across six (6) instances, interviewees confirmed their sense of responsibility within the needs assessments they referenced. In particular, PBNAPS017 attributed this to their lineage within advocacy. “Yes, it’s a responsibility...I mean, I could go into telling you that both my parents were labor union members...and all that plays together in a special way, the way I look at things and how you look at things in this country.”

Desire. Constituent desire represented the highest number of mentions within the interview data (9). Participant desire across these cases was shaped by their affinity for the organization or individual being served. Describing their desire based on affinity for the organization served, PBNAPS072 mentioned, “I wanted to do something that would leave [the organization] in good standing...I desired so much for them to be successful.” Encapsulating their affinity for the organization, PBNAPS001 mentioned, “I love [the organization]...and I was hoping the needs assessment would help them out.” When describing their desire to participate in a needs assessment for their special needs son, PBNAPS020 explained, “I’m a loving parent...I guess [that’s the] desire...part of it.”

Interest. Interviewees also described their motivation in terms of their interest in the various needs assessment efforts or outcomes (6). PBNAPS001 mentioned, “I’m very interested in the work [the organization] does to serve families as well, both from a personal interest as well as from a professional interest.” PBNAPS017 stated, “I have a vested interest. I see this...as a vehicle for improvement, improving the whole...special education system in [the county].”

Lived Experiences with Perceived Cost in Needs Assessment

Little to No Cost

When asked about any costs associated with their involvement in the needs assessment, there were four (4) instances where interviewees mentioned there were no costs associated with their efforts. However, it is fair to say that these participants may not have understood what was truly being asked. The participants were responding to the word cost prior to having received the definition.

Money

Prior to being provided with the operational definition for cost, some participants immediately associated cost with money. Across three (3) instances, interviewees addressed monetary costs they incurred within the needs assessment they referenced. For example,

PBNAPS020 described, “in terms of cost, yeah...like the commuting costs, right, like the gas...like the expense...you know, whatever is not covered by insurance.”

Time

The most commonly referenced aspect of cost was the time allocated to the needs assessment effort (9). As PBNAPS031 mentioned, “yeah, I mean, time was definitely a thing...Initially for the first couple rounds of this, we were all...working you know well past 5 o’clock.” In contrast, PBNAPS001 described their time cost as minimal: “Well I probably sacrificed 10 minutes of my time.” Additionally, one (1) other participant (PBNAPS020) elaborated on their time sacrifice in terms of the annual leave they used in order to participate. “I had to take a full day paid time off, annual time from work.”

Energy and Effort

Across four (4) instances, the interviewees described the level of energy and effort they put into the needs assessment. PBNAPS 031 mentioned, “it was a lot of work. I mean there were some days where it took at least half the day...there was definitely a cost there.” In reflecting on the aftermath of their needs assessment activity, PBNAPS020 mentioned, “[afterwards] I was tired, and I remember coming home, it was like really hard for me...to stay awake.” Another participant (PBNAPS072) spent energy and effort garnering resources in support of the needs assessment. “If there were [materials] and I knew the school would not provide it, I would try to find resources and provide it myself” given their role as a stakeholder.

Risk

When describing their efforts in the needs assessments, another theme emerged. Across five (5) instances, participants associated potential costs with the notion of personal *risk*. As PBNAPS031 explained, “There was a little bit of paranoia at first that depending on the numbers that we provided, they might say...then [those positions] should be cut...like a healthy bit of suspicion, you know. You didn’t want to provide information without context because you were afraid of how it’s going to be used.”

Sacrifice of Other Duties

Another area of focus within these interviews was in addressing the other activities these participants had to give up in order to participate in the needs assessment. Across five (5) instances, participants discussed the need to give up their day duties, whether that would have been a school day or a workday. While PBNAPS020 had to take paid time off from work, their son “he had to take a day off of school...he didn’t want to leave school. Yeah, he does not like to miss a day in class.” For PBNAPS031, the needs assessment took place within their work environment, but due to their participation in the needs assessment, they described “not getting other stuff done.”

Sacrifice of Preferred Activities

For other participants, they described having to give up preferred activities outside of their daytime obligations across four (4). For example, as PBNAPS020 leveraged paid time off from work, they mentioned, “[that’s] time that...could have been used otherwise.” Similarly, PBNAPS031 mentioned, “probably every other activity would have been preferred over what we were doing.” PBNAPS072 discussed their time spent on the needs assessment after work hours would have otherwise been spent winding down from the day or running errands.

Lived Experiences with Needs Assessment Facilitators

The next portion of the discussion centered around the participants’ lived experiences with needs assessment facilitators. While each of the interviewees reported being aware of a specific facilitator associated with their respective needs assessment projects, there were three (3) reported instances of only one facilitator being associated with the efforts. The remaining four (4) interviewees referred to more than one facilitator being present. Within the special needs evaluation context, PBNAPS020 described their facilitators as follows: “she was a psychologist and there was another one that was assisting her and evaluating [my son]. But she was the interface with me.” Within a separate educational context, PBNAPS094 described the group responsible for the needs assessment as follows: “this was a group of special education

directors in [the] county and the county supervisors of special education. So, they were pretty well versed in doing needs assessments.”

Perceptions of Practitioner Technical Skills in Needs Assessment

I asked the interviewees to comment both on how they perceived the technical and the people skills of the practitioners. While one participant (PBNAPS031) described their facilitator’s technical skills as “above average,” there were seven (7) instances in which participants described perceiving their facilitator(s) as having good technical skills. Specifically, across six (6) instances, the interviewees associated their facilitator’s ability to pinpoint actual needs with having good technical skills. As PBNAPS094 mentioned, “it was to me very exciting that [the needs assessment was] solving a real problem.” PBNAPS020 elaborated, “the technical skills...were just demonstrated in her knowledge and her ability to pinpoint [my son’s] one particular area of development that is [needed].”

In other instances, interviewees perceived good technical skills on the part of their facilitators based on the questions (2) they asked, and the amount of rigor perceived (2). As PBNAPS017 mentioned, “I thought [the facilitator’s] questions were really good at kind of just pulling that stuff out...making me think about what might be missing.” PBNAPS031 described their needs assessment experience as “structured...and putting some rigor on [the issue].” Other examples of perceived good technical skills included having an experienced needs assessment facilitator (1), demonstrated professionalism (1), creating a smooth process (1), and having backing from an institution known for their rigorous research (1). However, PBNAPS011 clarified that their assessment of the facilitator having good technical skills came from the information provide in their bios; they had very little interaction with the facilitator.

On the other hand, some of the interviewees reported perceiving a lack of technical skills on the part of their facilitator(s) (8). Most commonly, this was due to a perceived lack of experience (3) or professed lack of experience (1). As PBNAPS031 mentioned, the needs assessment facilitator stated, “we don’t have a lot of higher ed experience...they’re pretty up

front about that...there was definitely a learning curve.” Within that experience, PBNAPS031 elaborated that the facilitator misjudged both who the right constituents were as well as the scope of the effort.

Perceptions of Practitioner People Skills in Needs Assessment

When referencing the facilitators’ perceived people skills, most of the sentiments were positive, indicating interviewees perceived their facilitator(s) as having good people skills (15). Primarily, they attributed this to good communication skills (5). For example, PBNAPS011 explained the role communication played in the needs assessment process she referenced. “They were very good with advanced information that was in our newsletter...so we knew...the needs assessment’s coming. It’s coming. It’s coming...they communicated the response rates...and they shared the results in a number of ways.” PBNAPS020 explained how communication skills showed up during the needs assessment, “she had really effective communication skills...If she could sense, maybe I was giving her an answer [that didn’t address hers], she would reword it to make sure she was being clear on what was being asked...which actually cleared things up and gave her a more complete refined answer from me.”

In addition to having a good demeanor (1) and exhibiting empathy (1), interviewees also mentioned their facilitators demonstrated good people skills by being open to feedback (3). PBNAPS031 explained, “they were receptive to us saying...here’s the exact answer to your question, but here’s why that’s not going to be helpful...I think the big thing was being receptive to feedback...” One of the detriments that were pointed out by the interviewees were a lack of flexibility (2). PBNAPS011 described wanting to take part in the focus group portion of the needs assessment, but the facilitators were not amenable to a session that would accommodate their schedule. They mentioned, “I would like to know why, because we could have done it like this [referring to Zoom]...they don’t have to drive up here from Virginia and yeah we could have done it.”

Perceptions of Perceived Practitioner Systemic Sensitivity in Needs Assessment

Finally, the interviewees responded to prompts addressing how they perceived the facilitator(s) systemic sensitivities. While two (2) interviewees reported having no opportunities to assess the facilitator's systemic sensitivities, there were two (2) instances of interviewees reporting a perceived lack of systemic sensitivity on the part of the facilitator(s). PBNAPS011 explained that despite having access to a board of constituents, "I think [the survey] was a little more bland than I would have expected given the board and the planning committee that they had to interact with. So, I think there was some white washing that went on."

Competing interests. I asked interviewees to respond to how well the facilitators managed any competing interests within the needs assessment. They did so across five (5) instances. PBNAPS014 confirmed there were competing interests that impacted their needs assessment experience. "That was tougher...other people were engaged in other activities that they couldn't pull away from or decided not to pull away from to answer a needs assessment." While constraints like these can cause difficulties for needs assessment facilitators, PBNAPS031 explained how being both forthright about the constraints as well as open to hearing from constituents helped their facilitator navigate competing interests. "She was certainly receptive to hearing...when they had different interests, but I think she was good about being forthright...[and saying] 'We understand there's a lot of complexity to it. In all honesty, I don't see how this could be consolidated.' Like she would do that kind of stuff with you."

Navigating organizational power dynamics. For those interviewees that were able to observe their facilitator navigate organizational power dynamics, their responses were positive across six instances (6). Specifically, PBNAPS031 mentioned that having a facilitator with previous or related experience was helpful in allowing them to navigate the organizational dynamics at play. "Yeah, I think her experience with the Commonwealth before helped her...there was a lot of red tape and politics." PBNAPS094 commented their facilitator "was excellent in inviting everybody to participate and have a voice." Additionally, PBNAPS020

discussed how their facilitator was able to find workarounds to navigate the dynamics at play. When their insurance only allowed for 1 day of a 4 day needs assessment and evaluation process, the facilitator “said that based on the first [day] they were able to conclude he still has...autism...She was able to take it to the neuropsych[ologist] who otherwise would have needed to complete [another assessment] and get her signoff that it wasn’t needed...so she essentially navigated that power dynamic in her organization, while also dealing with...insurance.”

Negotiation skills. While interviewees reported one (1) instance in which there was no need for their facilitator to engage in negotiation skills, one interviewee perceived a lack of negotiation skills on the part of the facilitator. In explaining their disappointment in the facilitator’s lack of flexibility, PBNAPS011 mentioned, “I would have felt better if she...gave a good reason...there wasn’t any negotiating. There was just, that was the answer.”

In contrast there were three (3) instances where interviewees described facilitators with good negotiation skills. For example, despite dealing with strong personalities, PBNAPS031’s facilitator was able to reach resolution when needed. “She did as well or better than I think anybody else could with that kind of group.”

Personal responsibility. When asked to comment on their needs assessment facilitator’s sense of taking personal responsibility for the effort, one (1) interviewee mentioned being unsure of how much personal responsibility the facilitator took on. PBNAPS031 mentioned a period of uncertainty: “Ultimately, yes, she did assume responsibility, but we didn’t really know if [that would happen].” Another interviewee stated their facilitator explicitly stated the responsibility they were taking for the effort. PBNAPS020 stated, “[the facilitator] actually did even articulate that...she expressed a sense of responsibility for...assuring me that...the written report was going to state [my son’s needs].”

In PBNAPS011’s case, they perceived the facilitator as taking personal responsibility because the facilitator offered themselves as the main point of contact for the effort. “Her name

was on everything, and to her credit, that was the number you called. You didn't call the graduate students. You called the Principal Investigator. So, I think that shows personal responsibility." Similarly, both PBNAPS017 and PBNAPS031 witnessed their facilitators assume lead and critical roles across the effort. PBNAPS017 explained, "it was clear [the facilitator] was trying to determine what was needed."

Finally, across two (2) instances, interviewees explained they considered the facilitator's follow through as evidence of their personal responsibility. For PBNAPS020, they described receipt of the final report with the needs that emerged during the assessment as an example of follow through and personal responsibility. "When she [provided the written report], I did feel like there was a sense of responsibility there." Similarly, PBNAPS094 confirmed that the needs assessment facilitators in her context "took responsibility for the effort and saw it through."

Distinctions Between Participants Reporting Lower Perceived Burden and Medium Perceived Burden

As previously mentioned, each of the interviewees fell within the low to medium burden range. Only one of the interviewee's scores placed them firmly in that medium range: PBNAPS031. For the purpose of this analysis, I will explore any distinctions that may have arose within the data to help differentiate the experiences of needs assessment participants who experience low amounts of burden from those who experience more burden.

Positive Needs Assessment Experiences

For the purposes of this discussion, both PBNAPS interviewee and PBNAPS open-ended item contributor data are included, as appropriate. Each of the PBNAPS interviewees, including PBNAPS031, reported having positive experiences within their respective needs assessments. In fact, there were 45 instances in which interviewees identified a positive experience in their needs assessment and 29 instances in which the open-ended item contributors identified a positive experience. The following table summarizes the types of

positive experiences reported by the interviewees and PBNAPS open-ended item contributors across levels of perceived burden.

Table 31.

Summary of PBNAPS Interviewee Reported Positive Experiences

Category	General sentiment	Low Burden Participant	Medium or High Burden Participant
Needs assessment as a valuable tool	Needs assessments are rare, but valuable.	PBNAPS011 PBNAPS094	PBNAPS031
	Participating in the needs assessment was an opportunity for me personally.	PBNAPS115	PBNAPS031
Participation Support and Accommodations	I received advanced notice of the needs assessment.	PBNAPS011	
	The facilitators ensured accessibility within the data collection process.	PBNAPS011	
	There was a clear needs assessment goal.	PBNAPS001 PBNAPS017 PBNAPS094	PBNAPS031
	Clear instructions and process.	PBNAPS001	
	The process was well received.	PBNAPS017 PBNAPS072	
Facilitator Skills	The facilitator(s) had good organizational insight.	PBNAPS008	
	The facilitator(s) made a good effort.	PBNAPS008 PBNAPS084	
	The facilitator was good to work with.		PBNAPS028
	The facilitator was skilled in needs assessment.	PBNAPS071 PBNAPS084 PBNAPS131	

Category	General sentiment	Low Burden Participant	Medium or High Burden Participant
Participation Experience	Relationship-making was a part of the process.	PBNAPS072	
	My participation was effortless.	PBNAPS001	
	Constituents were involved and engaged.	PBNAPS011	
		PBNAPS045	
		PBNAPS072	
		PBNAPS094	
	The associated organization has a good reputation.	PBNAPS001	
		PBNAPS017	
		PBNAPS020	
		PBNAPS094	
Time Required	I appreciated the opportunity to have my voice heard.	PBNAPS005	
		PBNAPS019	
		PBNAPS094	
Time Required	My involvement only involved a short amount of time.	PBNAPS001	
	I received timely feedback or results.	PBNAPS020	
Outcomes Focused Experiences	The needs assessment produced useful recommendations.	PBNAPS001	
		PBNAPS020	
		PBNAPS045	
		PBNAPS054	
		PBNAPS084	
		PBNAPS276	
	The needs assessment addressed actual needs.	PBNAPS053	
		PBNAPS084	
	The needs assessment resulted in good interventions.	PBNAPS094	
	The needs assessment was thorough and detailed.		PBNAPS031
	There were multiple methods of feedback.	PBNAPS011	

Category	General sentiment	Low Burden Participant	Medium or High Burden Participant
	The needs assessment opened my eyes to various needs.	PBNAPS017 PBNAPS019	

Negative Needs Assessment Experiences

Unlike the previous section, all but two of the interviewees reported negative experiences they had within the needs assessment process. Both PBNAPS001 and PBNAPS017, who reported lower levels of perceived burden, reported there were no negative experiences they could think of. However, there were 38 instances in which other interviewees identified a negative experience in their needs assessment and 27 instances which PBNAPS open-ended item contributors identified negative experiences. In fact, for two interviewees (PBNAPS020, PBNAPS031), they reported their negative experiences were more salient than their positive ones. However, the negative, burdensome aspects were more so at the onset of the needs assessment and faded over time. The following table summarizes the types of negative experiences reported by the interviewees across levels of perceived burden.

Table 32.*Summary of PBNAPS Interviewee Reported Negative Experiences*

Category	General sentiment	Low Burden Participant	Medium or High Burden Participant
Data Collection Issues	The needs assessment should have allowed for more and/or different data collection	PBNAPS011 PBNAPS161	PBNAPS067 PBNAPS147
	The needs assessment did not accommodate my schedule.	PBNAPS011	
	The needs assessment approach demonstrated a lack of familiarity with the organization.	PBNAPS011	PBNAPS031
	I perceived a redundancy in data collection requests.	PBNAPS020	PBNAPS147
	The process felt like a separate job.	PBNAPS020	PBNAPS031
	There was a poor response rate or participation rate.	PBNAPS094 PBNAPS206	
	There were unnecessary meetings involved in the process.		PBNAPS031
	There was a lack of transparency in the process.		PBNAPS028
Emotional Concerns	Addressing the severity or type of need was overwhelming.	PBNAPS020 PBNAPS094	
	The process was emotionally loaded because it was addressing the needs of a loved one.	PBNAPS020	
	Being unsure of how the data would be used caused heightened emotions.		PBNAPS031 PBNAPS133
Facilitator Skills	Facilitator(s) did not stay in their lane.	PBNAPS003	
	Facilitator(s) were not SMEs.	PBNAPS084	
	I felt like my contributions were not valued or accounted for.	PBNAPS003	PBNAPS247
Organizational System Sensitivity Issues	There were issues of nepotism in the organization.	PBNAPS072	
	Constituents within the process were negative.	PBNAPS072	
	The needs assessment did not seem to understand the	PBNAPS071	PBNAPS037 PBNAPS361

Category	General sentiment	Low Burden Participant	Medium or High Burden Participant
Time-Related Issues	organization at the individual level.		
	Participants were uncomfortable participating with their supervisors in the room.	PBNAPS003	
	There was not enough or the right stakeholder involvement.		PBNAPS067 PBNAPS087
	There was lag time in initiating the needs assessment.	PBNAPS020	
	The time given to complete the needs assessment tasks was unrealistic.		PBNAPS031
	The process was too time consuming.		PBNAPS228
	There was lag time in getting the final report.	PBNAPS020	
Outcomes-related Issues	It was difficult spending time on the needs assessment when I really wanted to work on solutions.	PBNAPS094	
	The resulting interventions did not meet a real need.	PBNAPS046 PBNAPS131	PBNAPS087
	The needs assessment did not result in sustained benefits.		PBNAPS133 PBNAPS159
	The needs assessment was too limited in scope.		PBNAPS067

Reasons Given for the Reported Low Level of Perceived Burden

By the end of the semi-structured interview protocol, I revealed to participants that their scores fell within the medium to low perceived burden range. They responded as to why they believed that to be the case. For the purpose of some descriptive comparison, I will separately discuss the results of those reporting low perceived burden scores from PBNAPS031, who reported a medium level burden. The following section provides details on the reasons provided by those interviewees reporting low levels of perceived burden.

Participant attributes. This first area emerging from the data that interviewees voiced to qualify their low perceived burden rates can be summarized as their own personal attributes

with which they approached the needs assessment experience. Despite their low perceived burden rates, two interviewees (PBNAPS017, PBNAPS020) were aware of the related burdens, but reported being willing to incur whatever burdens were associated with the needs assessment. Specifically, PBNAPS020 reported, “Was I willing to? Was I glad to incur the burden? Yes.” For them, it was a matter of love. “It’s like out of love. So, it’s like, of course you would do it...You love your children. You want to provide care for them.”

While PBNAPS094 attributed her low levels of perceived burden to the fact that they initiated the needs assessment request. “I did not [feel much burden] because it was initially my overtures. So, then I was happy people took me up on an idea I had voiced...it was very exciting that we were trying to move forward.” Similarly, PBNAPS020 requested their needs assessment because “I was very curious where things stood with [my son]. It was fulfilling to get the information.”

Needs assessment attributes. Interviewees also associated some of their lower levels of perceived burden with attributes of the needs assessment itself. For example, across eight (8) instances, interviewees reported the small amounts of time and effort required for the needs assessment as rationale for their lower levels of burden. PBNAPS001 mentioned, “honestly, because it was so short...I remember thinking, wow, this is really quick.” The further elaborated that the automation within the needs assessment process was helpful: “Yeah, I mean, it was all automated...so that everything just went flawlessly.” PBNAPS011 also mentioned, “so this was a small thing I could do” to contribute to their community.

In other instances, interviewees reported that flexibility to participate in the parts of the needs assessment they desired was an important feature. For example, PBNAPS017 appreciated not being obligated to complete the focus group portion of the data collection after they completed the survey portion. PBNAPS011 noted, “They made it as easy as possible...I was able to schedule [my participation] when it was raining. So, it was something to do when I didn’t have anything else to do.” They also commented that the data collection timeframe

allowed them to plan to complete it during an off-season for softball, one of their preferred activities.

For others, the experience of participating in the needs assessment process was rewarding. PBNAP072 appreciated the collaboration amongst the constituents. "It was a new experience for me...I was learning as [the other constituents] were learning...all the staff...were personally involved...and also the Principal and Lead Educator, they gained trust in us, and we were able to work together." PBNAPS094 shared similar sentiments regarding the constituents involved. "They worked well together as a group, you know, as everybody took a part...it was very smooth." That effort was well supported by leadership as well. "At one point...the county supervisor invited state level participants...to hear what we were doing. It was so nice to get that kind of support." For PBNAPS020, it was about enjoying quality time with her son that she was afforded due to participating in the needs assessment. She explained her lower burden rate as follows: "Okay, well I think because, well, one I got to spend a little more time with my son, which was nice, like in the car, and like at lunchtime...We packed our lunch and there was a little picnic table...so we got to have a little time together."

Finally, some of the interviewees pointed to the outcomes of the needs assessment process as an explanation for their low rates of perceived burden. Across four (4) instances, interviewees pointed to the high rewards to be gleaned from the process. For example, PBNAPS017 mentioned, "I felt like I would gain something by participating...so it's also kind of an investment in a sense." PBNAPS072 stated "I just felt it was an opportunity for me to be there for [the organization] and to try to work out whatever problems that may have existed." For PBNAPS094, the outcomes were far reaching. "It meant that we were targeting issues that were very much alive in the whole state." On the personal side, PBNAPS020 appreciated that the needs assessment outcomes also focused on strengths that her son possesses. "What I loved about it was...what I'm not getting from [other resources] is how to use his strength to his advantage to help us."

Reasons Given for the Reported Medium Level of Perceived Burden

Unrealistic timeframe. To determine any distinctions PBNAPS031 may have had from the rest of the interviewees reporting lower levels of perceived burden, their sentiments are compiled here. For them, a major issue causing increased levels of perceived burden was the unrealistic timeframe of the data collection. “The biggest thing was the timeframe...The questions they were asking, were not easy questions to answer...Each round was...like a week turnaround or something. It was difficult, and it wasn’t like we didn’t have other jobs to do.” When their organizational leadership tried to push back on the unrealistic timeframe, the needs assessment leaders “said they don’t care if it’s unrealistic. This is gonna be done in a week.”

Resource-intensive tasks. Additionally, PBNAPS031 described the effort as resource intensive. “The person who manages the nuts and bolts of our [Information Technology] budget reports to me, and so there was definitely a cost there in terms of there were days on end where he couldn’t do anything else. So sometimes, there would be a shifting of duties just to get this done.” As the tempo of the effort continued, PBNAPS031 and the other constituents had to make adjustments. “So yeah, initially for the first couple rounds of this, we were all freaking out and working...and not getting other stuff done. I think as the process continued, we kind of became more efficient at it because it lasted several weeks.”

Discussion of why their score was not higher. Because PBNAPS031 discussed several tensions, inconveniences, and negative experiences, we also discussed why their score was not higher. After all, their PBNAPS results still placed them into the Medium to Low perceived burden group. To that end, they responded: “I think probably I was closer to medium...I think I averaged it out and said hey you know [by the end] it was manageable...The person facilitating it was open to feedback through the process and adjusted throughout...The part of the experience that was less burdensome was that it sort of morphed as it went.”

Conceptualizations of Perceived Participant Burden by Needs Assessment Facilitators

In response to RQ3 (i.e., What is the meaning of perceived participant burden for instructional design practitioners?), I engaged various needs assessment facilitators to glean their thoughts on the topic. While a number of interesting and rich themes emerged from the data, I will only present those findings that prove germane to the research question at hand. While those findings related to how the needs assessment facilitators' define needs assessment, conduct needs assessments, and experience needs assessments themselves, I will explore how they conceptualize perceived participant burden in greater detail in the sections that follow.

Defining Perceived Burden

To address the main essence of RQ3 (What is the meaning of perceived participant burden to needs assessment facilitators?), I asked the interviewees what the term *perceived participant burden* meant to them and how they would define it. To ensure that the facilitator interviewees were not biased by the definition I had constructed of perceived burden, they were not yet privy to the operational definition I have proposed. For some, this was a challenge, as there were four (4) instances of admitted difficulty in defining the phrase. Two (2) interviewees pointed out that the phrase had a negative connotation. Across six (6) instances, though, they emphasized the role that perception plays in the construct, such that it's "how you think it will go" (F02), but "it's a perceived burden. It's not an actual burden" (F16). And yet, there were several instances where the interviewees defined the phrase in ways that align with the construct model I have proposed. The following sections review those themes.

Duties, Obligations, and Responsibilities

My operationalized definition of the perceived burden construct involves what facilitators ask their participants to do and the nature of their motivation to complete those tasks. The interviewees addressed themes that align with this portion of the construct across ten (10) instances. As F04 mentioned, "to me, it's if I'm a participant, and I'm responsible to some part of

the needs assessment, what is the ask of me?” Similarly, according to F09, “I think it’s what they’re being asked to do in the process.” More specifically, F02 and F03 associated perceived burden with burden of proof. F02 stated, “participant burden...means I have to come forth with evidence to prove my point.” F03 described it as “getting all the information...[for] your understanding...or your informed [decision].”

While F02 and F06 clarified that in some instances, participants do not know they are participating in a needs assessment, both F01 and F12 mentioned participant motivation as a factor. According to F01, “I guess it just means...how willing they are to share information.” Similarly, F12 mentioned, “It could be motivation of the participants in terms of how much they want to be involved.” However, F16 described the phrase as “that [they] would have some obligation to participate in the needs assessment.” F06 likened it to the perception of some professors at her higher education institution: “I can tell you already that my...director of assessment has told me...perception is [the professors] have to do so much extra work,” with the needs assessment being one of those extra tasks.

Cost

The facilitators discussed various aspects of the notion of cost across 25 instances. Most commonly, they mentioned the amount of effort that a participant must put forth in the needs assessment as an aspect of perceived burden (7). F03 stated, “it could be the energy that you put into [it]...how much effort am I going to put into it.” F05 described perceived burden as “some kind of effort...that is outside of the normal processes.” Additionally, F11 mentioned, “so what’s sticking out in my head I like strain...as far as...effort...” While F01 and F05 associated the amount of effort with how easy or difficult the participant tasks are, there were also five (5) instances in which participant associated perceived burden with an associated time commitment.

Another theme that emerged from these discussions was the notion of opportunity costs and perceived benefits (5). F04 posed this question: “What’s the opportunity cost? In other

words, what am I not doing while I'm doing this?" F11 similarly related "just thinking about and anticipating future states" to perceived burden. On the benefit side, F06 mentioned that constituents might question, "am I doing this because of some BS regulation or am I doing it because it actually is going to matter to my [students]?"

Finally, a theme emerged in the emotional/mental domain. Across eight (8) instances, interviewees related perceived burden to these aspects. For example, F12 and F13 described fear that participants may face when involved in a needs assessment. F12 mentioned, "that feeling...it could be fear." Similar to the notion of risk that emerged in both the PBNAPS and facilitator data, F13 described someone with perceived burden as "someone who is afraid of screwing up." Facilitators also described the emotional burden which can be brought about from participating in a needs assessment. F08 mentioned "today, participants' burden is when we feel they students are feeling overwhelmed". F06 stated, "I think that's a mental and emotional burden."

Facilitator Skills

Within response to this question, none of the interviewees mentioned their own skills. They did discuss their skills when explicitly asked questions about their technical and people skills within the protocol. However, they did not display any instances of referring to their own skills as a factor in their participants perceived burden.

Facilitator Systemic Sensitivities

While these facilitators did not collectively reference their own technical or people skills, they did mention considerations they would keep in mind within the systemic sensitivities space across five (5) instances. Most commonly, this surfaced in terms of the amount of interference the needs assessment process would cause disruption of the constituents' interests. As F07 mentioned, "I immediately think of the students and ensuring that my need to address their gap doesn't interfere with the instruction and time to allow them to practice and work on their stuff." F10 mentioned, "I think it's trying to be cognizant of how much you're gonna put on the

participants because you don't want to overload them cause it may make them step back and not put their full effort in."

Overall Perceptions of Participant Burden in Their Needs Assessments

After being presented with the current construct of perceived burden, I then asked the facilitators how they perceive the levels of burden their participants felt. While there were two (2) instances where facilitators were not sure how much burden their participants felt, there were 44 instances of perceived low burden and 31 instances of perceived medium to high burden.

Commonalities Amongst Facilitator Perceptions of Low Burden Participants

Duties, obligations, and responsibilities. Across ten (10) instances, the interviewees provided reasons why they perceived their participants as having low burden which would fall into the duties, obligations, and responsibilities category. While some participants merely had to "show up" (F14), others were not aware of the process. For example, within four (4) instances, they mentioned they conducted the needs assessments behind the scenes such that their participants might not have even known it was happening. As F06 mentioned, "the students, the co-teachers, don't even know they're participating...I don't think the students are burdened at all." Similarly, F14 mentioned, "my stakeholders were the students...most of our professional development stuff is transparent to them...that we're doing...all of that stuff is beyond their horizon. Right? So, the burden to them is non-existent."

Another perception was that participants perceiving low amounts of burden were happy to help the organization (2). F01 stated, "I think in the grand scheme of things, they were probably happy to offer that information, just to help this organization improve." Similarly, when describing their colleagues in the K-12 setting, they described them as "much more invested" in the school's mission to educate their students.

Finally, the facilitators commented that their participants likely had low levels of perceived burden due to the tasks asked of them not being taxing (2) or allowing them choice (1) in the amount or type of tasks that needed to be completed. As F14 explained, "the extent

that they usually had to do anything was just the tasks I asked them to do during the session, and so that involved...clicking, manual dexterity...to engage with a computer or mobile device.” F15 expressed similarly that their participants in one of their needs assessments had minimal tasks: “it was only a survey, you know.”

Cost. One of the main themes that emerged in this discussion was that the small amounts of time required of the participants likely contributed to their low perceived burden (3). For example, F12 mentioned “we carefully picked the measurement tools in such a way that we did not take too much time from our participants.” F14 also commented, “for the majority of it...my studies were only...like an hour long.” They also provided all the materials necessary for the needs assessment, so participants would not be burdened financially.

In addition to not requiring much time from the participants to contribute to the needs assessment, the interviewees also cited how convenient the time of their participation as a potential reason for low perceived burden. Across two (2) instances, the facilitators discussed the importance of incorporating needs assessment activities into the participants’ workday. As F10 explained, “I’m fortunate that we can do it during work, so...I think the burden was almost nothing.” When the tasks cannot be completed on regular workdays, as was the case for F15, finding a convenient time or methodology is preferable. While F14 allowed for online, virtual data collection, F15 described their project as follows: “Doing that roundtable...it was a very low barrier to participate...on a day when you weren’t doing anything else anyway because nobody was traveling [due to the Coronavirus pandemic].”

Another theme that emerged was the notion of participants’ focus on outcomes of the needs assessment overriding whatever burdens they may incur in the process (5). In describing these high rewards, F04 mentioned “the participants that I dealt with...stood the most to gain...I think the commiserate reward or benefit was great for them as well.” For F03’s college student participants, they stated, “if [a needs assessment] is done at the onset, then everything that as a student moves through the program will become much...less of a burden.” For F02, their parent

participants might perceive less burden because their concerns were validated. “There would be some parents who would say, I’m so pleased that your bringing this up because we’re seeing that so and so was really having trouble and not liking school.”

Facilitator skills and systemic sensitivities. While very few facilitator interviewees explicitly addressed their own skills or actions navigating the organizational systems as they relate to the amount of burden their participants experienced, the fact that they were able to articulate how they perceived the participant experience does provide some insight into their levels of awareness at a minimum. While one interviewee (F14) referenced their own preparation for needs assessment sessions as a reason for low perceived burden, another F07 confessed “I would say I sacrifice my needs assessment to reduce that burden...so that balance. The weight I put on needs assessment is lower...If I put burden on that student in that moment, I’m going to lose them.”

Commonalities Amongst Facilitator Perceptions of Medium to High Burden Participants

While the interviewees did not at all speak to their own technical skills, people skills, or ability to adhere to systemic sensitivities within their needs assessments as factors of why their participants may have perceived medium to high burden, they did discuss a number of themes that do align with the construct. The following sections will cover their discussion of those duties, obligations, responsibilities, and costs posed to their participants.

Duties, obligations, and responsibilities. Across three (3) instances, facilitator interviewees discussed that both having a fixed mindset as well as potentially being tasked with implementing recommendations could be a cause for increased levels of perceived burden. As F04 stated, “whatever was decided, it was...very likely that [the participants] would carry the burden forward to implement and to try to address the needs that we agreed upon together.” F16 discusses the fixed mindset as a culprit in heightened amounts of perceived burden. “I think that the teacher saw it as a very burdensome thing, and then the irony of that is that she did not do anything. So, the burden was avoiding me...so the perceived burden is that it’s

insurmountable and the truth is that it's beautifully aligned with your actual job description already."

Cost. One of the most prevalent themes in the area of cost was the notion of risk and vulnerability. Across five (5) instances, interviewees discussed this concept, which also came up for the PBNAPS interviewees. As F09 elaborated, "I'm not sure where this fits in here, but I mean there's a risk piece that I do think participants who are down in the organizations are giving when they...try to respond to questions about function and processes and direction." Similarly, F04 confirmed that participants needed to be vulnerable in his setting. "They all had to...present all of [their performance maps] to their boss and be open in their discussion of those needs and the challenges that they faced and even the root causes of those needs." Similarly, F15 stated, "for the roundtable discussion, the burden was...if I don't show up to this thing, are they going to remember that next year?"

In contrast to their descriptions of lower perceived burden groups, the facilitators mentioned that those with higher levels of burden both more of a time commitment (4) or a taxing cognitive load (1). As F09 mentioned, "Oh, I think they were burned too, because I mean, there was definitely a time issue they had to contend with." Similarly, in F04's case, "they all gave up significant amounts of time." Describing how their constituents engaged in difficult duties for the need assessment, F11 stated, "there's just so much cognitive overload in the sense of, when you're done with your day...Okay, I think I'm just done."

They also perceived many of their participants to be juggling other duties with their participation in the needs assessment (3). For example, F02 explained "I'm going to say medium [perceived burden] because usually the number of caseloads [the child study team] had to deal with..." when examining the needs of students having trouble in school. In F11's scenario, they recalled their constituents "kind of mentioning sometimes being stressed...you need to go pick [your kid] up, or he needs to take [his kid] to an appointment, and then he would hustle back even after 6pm."

While financial burdens were not voiced as perceived by many of the facilitators, there was one (1) instance where financial costs played a major role. F11 professed, “Oh I definitely think there was a high level of perceived burden. You know, financially speaking...that was like the number one motivator for the stakeholder. I think that was pretty obvious.” In that instance, the financial pressure proved a major source of burden for those constituents.

Facilitator skills and systemic sensitivities. Within this area of discussion, the participants did not explicitly reference the potential roles their technical skills, people skills, or systemic sensitivities. That they did not address them does not necessarily imply that these aspects had no influence on those experiencing heightened levels of perceived burden. That being said, the next section will explore what methods these facilitators felt would serve in keeping the burden low for their needs assessment participants.

Methods for Easing Participant Burden in Needs Assessment

In reflecting on their practice as needs assessment facilitators from a perceived participant burden lens, I asked the facilitator interviewees what we can do as practitioners to ease the burden on participants. While F12 admitted to not exploring ways in which to ease participant burden, many facilitators were able to articulate many ideas and suggestions from their current practice. The following sections explore those sentiments as binned into the components of the proposed perceived burden construct.

Considerations for Minimizing Burdens Associated with Duties, Obligations, and Responsibilities

While F07 practiced deprioritizing the needs assessment process within their context, others conducted the needs assessment behind the scenes (2) such that their participants would not realize they were even involved. Another tactic was to minimize the tasks their participants would need to complete within the needs assessment process. Across ten (10) instances, they explained ways in which it was important to “keep things to a minimum” (F01). F01 made sure not to “double-barrel” their participants by forcing them to complete both surveys

and interviews. Being engaged in a large, complex needs assessment, F05 “broke the problem down into bite size questions for them to answer.” In their approach to survey construction, F15 mentioned, “just trying to distill the questionnaire down to as few questions as possible...the point was to keep it short.”

One of the major themes centered around participant duties, obligations, and responsibilities was to set expectations with them (8). As F01 stated, “set the expectations up front so they know...what’s coming down the line.” F04 mentioned that practitioners should “communicate the benefit and signal the efficiency of your process in advance...if they can see that going in, I think that perception-wise lowers the burden.” F13 agreed: “The more we can do to enable people to understand those milestones...educating people in the process, I think that’s going to help with that burden.”

To address the extrinsically motivated, some interviewees mentioned the importance of incentivizing needs assessment participation (7). Incentivizing participation helps the constituent determine “what’s in it for me?” (F05). In F09’s case, “to make it more pleasant...there was food involved. There were some little incentives...sort of a raffle kind of thing.” In addition to food (3) incentives, F14 even provided monetary incentives as compensation for their participants’ time.

Considerations for Minimizing Burdens Associated with Cost

One of the themes that emerged regarding cost was the notion of time (5). While participants should have ample time to complete the tasks required of them within the needs assessment, facilitators should also limit the amount of time needed on task. F04 provided his participants with pre-work “far, far in advance...so they absolutely didn’t have to do it in any kind of focused timeframe.” Yet, their process of minimizing the tasks, as was previously mentioned, was essential for reducing the required time on task.

Additionally, the facilitators focused on ways to make the participant experience enjoyable while on task. For example, there are a number of ways that facilitators can make the participant experience convenient. As F09 mentioned, “let’s make sure we’re doing this on their

schedule and their timeframe in their setting.” Leveraging virtual software helps to afford convenience: “you try to use all the tools you can to make it easier. Like Zoom, like we’re using right now, so you don’t have to travel to each other...let them choose a setting they feel most comfortable in...whatever makes them feel most comfortable and relaxed” (F14).

Another aspect of cost that emerged was minimizing the amount of effort and cognitive load required of the participants. Explicitly providing participants choices of levels at which they can participate (2) is one way to address this, “so they can calculate...how much effort they need” (F12). The effective use of tools is also at play here. In addition to using familiar tools (1), accounting for accessibility needs within those tools (1) can help minimize extraneous cognitive load demands on participants. In F15’s case, they leveraged Google Forms for their surveys because “we use the Google education suite county-wide, so teachers know not only how to create them, but then how to use them. So that was sort of lowering the threshold.” F14 stressed the importance of “accessibility issues for people who are differently abled...like accessibility is very, very important.”

Finally, limiting memory demands (1) and providing breaks (2) for participants helps to ease the cognitive burden on them. As F01 pointed out, leveraging extant data prevents facilitators from taxing participants with “remember[ing] when you came to our workshop 18 months ago...I don’t. I can’t remember that far back!” Breaks also help keep participants energized and refreshed. F14 recalled, reminded “if it’s really long, let them take breaks.”

Considerations for Minimizing Burdens Associated with Facilitator Skills

The participants mentioned a number of technical skills (46) and people skills (6) within their disposal that can contribute to limiting the amount of burden their participants perceive. The most common theme that emerged on the technical side was facilitator preparation and organization (12). Some of that preparation is in the design of the needs assessment itself (F09). As F07 mentioned, “yeah, I reduce that load [for the participants] and do a lot of preparation in advance.” F14 clarified the kind of preparation they go through prior to a needs

assessment to reduce participant burden: “Make sure you have your materials. Make sure you have your consent form. Make sure you have your script together. Make sure you’re on point with what you’re doing so that things run smoothly.” In F15’s case, that involved testing out their own survey for accessibility and flow.

Having an appropriate methodology in place is another technical skill that emerged as important (4). As F12 mentioned, “once [facilitators] can figure out that [organizational context], I think you can select the most appropriate measurement tools. And then once you have the most appropriate measurement tools, I think that might help the participants out with burden.” In F15’s case, that meant making sure the data collection process was anonymous. They set up survey data collection “giving us honest but anonymous assessment” without fear of direct tasking. Sometimes facilitators need to break from their initial protocol methods. Knowing when to do that as appropriate to accommodate participants is a technical skill they mentioned (4). For example, F16 mentioned, “for the student, I broke all the protocols, so that I could just figure out what would make him work because that was the most important thing...I had to break the protocol too many times to get the information from the child that I knew I could get from him if he had the right instructional accommodations.” In their professional opinion, F14 felt that adhering solely to the Woodcock-Johnson test protocol would not provide any additional information; the students’ deficits were previously documented. They felt there was more value in figuring out under what conditions the student could perform.

Another set of themes emerged around data. Across five (5) instances, the interviewees discussed the role that extant data review plays in reducing perceived burden for participants. For example, F04 mentioned, “So if data exist, trying to mine that data as opposed to reinventing it. I think it’s important.” F14 proposed that leveraging extant data can also help navigate around organizational constraints to budget and time. “The more documentation you have, the better” according to F02 and F03. Being sure to have data and documentation to back up your process and recommendations was discussed across four (4) instances. F06

concurred, “Not only do I need to produce data from the needs assessment itself, I need to come to the table with data.”

One final technical skill theme that emerged were the importance of time management (1). Just as facilitators mentioned the importance of setting expectations with participants, the onnness is on the facilitator to uphold those expectations. F14 stated, “make sure to...manage your time wisely...with setting expectations and keeping to that.”

To help alleviate participant burden, the facilitator’s people skills are also important. One theme that emerged was the facilitator mindset of accepting that the burden is a perceived concept (3). These facilitators addressed how perception functions as a part of human nature. As F04 mentioned, “it’s the perceived part, right?...It may not eliminate the burden itself.” On the other hand, F14 posed, “You know, no one likes to have to change their mind...there’s nothing you can do about it sometimes.”

Another theme that emerged was the use of the facilitator’s people skills to enhance the experience for participants. F09 emphasized that being able to implement a game-like environment (1) and filling the space with that kind of energy is a key people skill. “You know, something fun,...the sort of game-like process...soften some of the formality of things I think always...makes it [feel like], ‘Well gee, that wasn’t a waste of my time.’” Similarly, humor (1) and/or having a pleasing personality (1) all work in the facilitator’s favor.

Considerations for Minimizing Burden Associated with Facilitator Systemic Sensitivities

A major area of focus was the systemic sensitivities that facilitators needed to be aware of (79). The most commonly referenced theme in this space was facilitator – constituent collaboration (20). Not only did that prove to help facilitators gain further entrée into and better understanding of the organizational systems, but it also helped the facilitators navigate those spaces. When collaborating with their constituents, F11 reflected, “just being able to kind of interview them and...go through their background and what...their end goals were, and then the type of expectations they had just made it so much easier.” F13 was able to gain a lot of

leverage through their collaborations. “I definitely did a little bit more research...within our own group...but then also, it felt like any time I was trying to compromise, they would say, ‘Well, yeah. I agree with this’ or ‘Let me look into this and figure out how we can pursue it.’” F15 was able to gain increased efficiency through their collaboration efforts. “We sort of divvied up [the tasks] based on comfort of what you felt you were an expert in...to ease their participation.”

Yet when collaborating with and tasking constituents, F15 also stated the importance of considering the power dynamics at play. “Is there anything in me asking them to do this? Is there any sort of power? You know, based on who’s asking, is there going to be an influence in that?” Once facilitators understand those dynamics, they can “stay in [their] lane” of operation (F04). As F14 mentioned, “you don’t want to run them into guard rails...one, it can get a little hard to manage. Two, they start thinking...‘Well, now I’m the designer’” and, in turn, increase their burden.

Being transparent (7) and adapting to the organizational environment (4) can help within that scenario. When participants know that you’re coming into their system and what they can expect, they may feel less burdened. F09 described this as authenticity. “It’s...saying right from the beginning, ‘This is outside your work day...off your work schedule...I know I’ve taken you away from your family...What is the benefit?...So it’s carrying that thread all the way through and helping them to see...where this is going to go.’” That transparency helps to have honest bidirectional conversations and feedback, which can assist the facilitator to adapt to that organizational environment. For F12, keeping organizational context in mind was of the upmost importance. “I think always, always look at the context...the cultural context, how the organization is. If the organization has been doing a top-down kind of thing...maybe now...they will see [the needs assessment] as bottom up...They might get excited.” F06 stated their ability to be “flexible” in adapting to the various organizational settings in which they have conducted needs assessments helped in managing burden. When considering organizational context, facilitators can also accommodate linguistic diversity (1) as needed and incorporate the needs

assessment into the organizational structure (1). Each of those emerged as themes to help decrease participant burden as well.

Finally, the interviewees reported that needs assessment facilitators should consider sharing the big picture (6) and the results (2) as appropriate within those environments. Referencing the importance of sharing the big picture, F03 mentioned that practitioners need to become “more forthright...in terms of what program requirements are, why testing is important...in order for students to get jobs.” Reminding their constituents of that end goal was reported as a key component to lessen participant burden. F04 added the importance of letting participants know they are “not alone in this. It’s a process that we’re going through together and there are benefits...on the backside.”

Finally, one theme that emerged in the space of systemic sensitivities is the ways in which to share results (4). F05 mentioned that especially for those constituents who were skeptical of the needs assessment, they ensured participants would receive the results and recommendations from the effort. “They actually got to see the results of what they participated in, and I got some very positive feedback from that.” When sharing the results, F14 mentioned an important consideration that allows for systemic sensitivities is to provide options when sharing recommendations. “At least in my realm with HCI is options, options, options...” They would provide options with variations that address budgetary and functionality constraints to ultimately let the organization decide which solution would be the most appropriate for their environment.

PBNAPS Performance as a Measure of the Construct of Perceived Participant Burden

Internal Consistency and Reliability

These results address the first part of RQ4 (i.e., How reliable is the refined survey instrument in measuring the construct of perceived burden?). In measuring a scale’s reliability via Cronbach’s alpha, a coefficient of 0.70 or above is generally deemed a desirable amount of reliability (DeVellis, 2017; Pallant, 2016; Thorndike & Thorndike-Christ, 2010). When including

all PBNAPS items, including those optional items for respondents reporting a second facilitator ($n = 28$ due to listwise deletion), the scale showed good internal consistency and reliability ($\alpha = 0.86$) (DeVellis, 2017; Pallant, 2016; Thorndike & Thorndike-Christ, 2010). Based on this calculation, the proportion of total variation on the PBNAPS that can be attributed to the construct of perceive burden and not error is 0.86 (DeVellis, 2017). When excluding the repeated items for a second facilitator, many more respondents provided a complete dataset ($n = 235$). The scale's internal consistency remained favorable ($\alpha = 0.87$), such that the proportion of total variation on the PBNAPS that can be attributed to the construct of perceived burden and not error is 0.87 (DeVellis, 2017; Pallant, 2016; Thorndike & Thorndike-Christ, 2010).

Perceived Duties, Obligations, and Responsibilities (PDOR) Subscale Results

Respondent ratings. The PDOR subscale consists of six items; two hundred sixty-three respondents ($n = 263$) completed them fully. Overall, these respondents reported an average PDOR subscale score of 3.67 ($SD = 1.07$). The item with the highest average score, and therefore the most reported perceived burden, was PDOR6: *I should not be tasked with addressing any recommendations from the needs assessment* ($M = 5.35$, $SD = 1.83$). The item with the lowest average, and therefore the least reported perceived burden, was PDOR3: *The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization* ($M = 1.94$, $SD = 1.34$). Table 33 provides a summary of the PDOR subscale results.

Table 33.*Summary of PDOR Subscale Results*

ID	Item Description	Average Score N = 263	SD
PDOR1	I had few responsibilities within the needs assessment.	4.00	2.10
PDOR2	I volunteered to participate in the needs assessment.	2.78	2.14
PDOR3	The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization.	1.94	1.34
PDOR4	I had too many responsibilities within the needs assessment.	3.18	1.91
PDOR5	I was obligated by my organization to participate in the needs assessment.	4.73	2.34
PDOR6	I should not be tasked with addressing any recommendations from the needs assessment.	5.35	1.83

Internal consistency and reliability. The PDOR subscale included six items, which performed with a good amount of internal consistency overall ($\alpha = 0.53$), which while below the 0.70 standard of desirable reliability (DeVellis, 2017; Pallant, 2016; Thorndike & Thorndike-Christ, 2010) is common for a subscale with less than 10 items (Pallant, 2016). Because Cronbach alpha coefficients are sensitive to scales with a small amount of items, I had to also examine the mean inter-item correlations to see whether they fell within the expected 0.20 to 0.40 range (Pallant, 2016). The following items did fall within the acceptable range: PDOR1 and PDOR2 ($p = 0.21$), PDOR1 and PDOR4 ($p = 0.33$), PDOR1 and PDOR5 ($p = 0.21$), PDOR2 and PDOR5 ($p = 0.38$), and PDOR3 and PDOR4 ($p = 0.46$). Table 34 provides a summary of the inter-item correlations for this subscale.

Table 34.*Perceived Duties, Obligations, and Responsibilities Inter-Item Correlation Matrix*

	PDOR1	PDOR2	PDOR3	PDOR4	PDOR5	PDOR6
PDOR1						
PDOR2	0.21					
PDOR3	0.18	0.14				
PDOR4	0.33	0.20	0.46			
PDOR5	0.21	0.38	-0.004	0.19		
PDOR6	0.17	0.04	-0.17	-0.15	0.08	

While the majority of the inter-item correlations are positive, indicating they are likely measuring the same underlying characteristic (Pallant, 2016), they were not all positive even with the coding adjustments to ensure all item scores maintained uniform directionality. The correlations were negative for PDOR3 and PDOR5 ($p = -0.004$), PDOR3 and PDOR6 ($p = -0.17$), and PDOR4 and PDOR6 ($p = -0.15$). Both PDOR3: *The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization* ($M = 1.94$, $SD = 1.34$) and PDOR6: *I should not be tasked with addressing any recommendations from the needs assessment* ($M = 5.35$, $SD = 1.83$) had two negative inter-item correlations each. For PDOR3, respondents might have interpreted either of the extremities of the scale to correspond with the nature of their relationship to the organization. While this item received the lowest average within the PDOR subscale, it might reflect external constituents that did not hold any official responsibilities within the organization. As such, it would make sense that PDOR3 would be negatively correlated to items PDOR5 and PDOR6, which both imply some level of internal constituency with the organization.

Finally, while PDOR6 references the respondent's responsibility in implementing recommendations, it is negatively worded. While this was a deliberate choice to address item directionality, some respondents might have missed the negation and misinterpreted the item.

Removing PDOR6 from the scale would increase the overall subscale reliability to $\alpha = 0.59$.

Table 35 summarizes these data for the subscale.

Table 35.

Summary of PDOR Subscale Item-Total Statistics

ID	Item Description	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PDOR1	I had few responsibilities in the needs assessment.	0.40	0.42
PDOR2	I volunteered to participate in the needs assessment.	0.37	0.43
PDOR3	The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization.	0.20	0.51
PDOR4	I had too many responsibilities within the needs assessment.	0.34	0.45
PDOR5	I was obligated by my organization to participate in the needs assessment.	0.33	0.45
PDOR6	I should not be tasked with addressing any recommendations from the needs assessment.	0.02	0.59

Perceptions of Cost (POC) Subscale Results

Respondent ratings. The POC subscale has six items; two hundred sixty-three respondents ($n = 263$) completed them fully. Overall, these respondents reported an average POC subscale score of 2.69 ($SD = 1.14$). The item with the highest average score, and therefore the most reported perceived burden, was POC1: *I had to give up other commitments to work on this needs assessment* ($M = 3.11$, $SD = 2.13$). The item with the lowest average score, and therefore the least reported perceived burden, was POC6: *The efforts I made to participate in the needs assessment are worth the benefits the organization will gain* ($M = 2.28$, $SD = 1.65$). Table 36 provides a summary of the POC subscale results.

Table 36.*Summary of POC Subscale Results*

ID	Item Description	Average Score N = 263	SD
POC1	I had to give up other commitments to work on this needs assessment.	3.11	2.13
POC2	I have so many other commitments that I could not put forth the effort required for the needs assessment.	2.66	1.79
POC3	I have put too much energy into this needs assessment.	2.88	1.86
POC4	The needs assessment required a reasonable amount of effort.	2.89	1.85
POC5	I was able to complete other tasks required of me while participating in the needs assessment.	2.29	1.64
POC6	The efforts I made to participate in the needs assessment are worth the benefits the organization will gain.	2.28	1.65

Internal consistency and reliability. The POC subscale's six items performed with an internal consistency of $\alpha = 0.68$, which while just below the 0.70 standard of desirable reliability (DeVellis, 2017; Pallant, 2016; Thorndike & Thorndike-Christ, 2010) is common for a subscale with less than 10 items (Pallant, 2016). I again, then, examined the mean inter-item correlations to see whether they fell within the expected 0.20 to 0.40 range (Pallant, 2016). Table 37 provides a summary of the inter-item correlations for this subscale.

Table 37.*Perceptions of Cost Subscale Inter-Item Correlation Matrix*

	POC1	POC2	POC3	POC4	POC5	POC6
POC1						
POC2	0.45					
POC3	0.48	0.58				
POC4	-0.05	0.07	0.03			
POC5	0.54	0.39	0.38	-0.01		
POC6	0.14	0.38	0.26	0.09	0.26	

While most of the inter-item correlations did meet that threshold and were positive, indicating they are likely measuring the same underlying characteristic (Pallant, 2016), the following did not: POC1 and POC4 ($p = -0.05$), POC1 and POC6 ($p = 0.14$), POC2 and POC4 ($p = 0.07$), POC3 and POC4 ($p = 0.03$), POC4 and POC5 ($p = -0.01$), and POC4 and POC6 ($p = 0.09$). Four of the six items achieved a corrected item-total correlation greater than .40, as would be desired. There is only one item that not only did not have any optimal inter-item correlations, but also, if removed, would increase the subscales internal consistency: POC4: *The needs assessment required a reasonable amount of effort*. Removing it from the scale would increase the overall subscale reliability to $\alpha = 0.76$. This item might be performing poorly due to the wording and respondent interpretation of how to apply “reasonable” to a demarcation on the Likert scale. Table 38 summarizes these data for the subscale.

Table 38.

Summary of POC Subscale Item-Total Statistics

ID	Item Description	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
POC1	I had to give up other commitments to work on this needs assessment.	0.50	0.61
POC2	I have so many other commitments that I could not put forth the effort required for the needs assessment.	0.62	0.57
POC3	I have put too much energy into this needs assessment.	0.56	0.59
POC4	The needs assessment required a reasonable amount of effort.	0.04	0.76
POC5	I was still able to complete other tasks required of me while participating in the needs assessment.	0.51	0.62
POC6	The efforts I made to participate in the needs assessment are worth the benefits the organization will gain.	0.34	0.67

Perceptions of Practitioner Skills (PPS) Subscale Results

Respondent ratings. The PPS subscale has six items as well. However, respondents had the opportunity to answer those questions up to two times if they reported having more than

one needs assessment facilitator. The first set of PPS items was completed by 240 respondents, while the second set was only completed by 29 respondents. Overall, the respondents completing the first set of items reported an average PPS subscale score of 2.75 ($SD = 1.27$). The respondents completing the second round of the PPS subscale items reported an average score of 2.70 ($SD = 1.23$). In both iterations, the item with the highest average score, and therefore the most reported perceived burden, was PPS5: *The needs assessment facilitator worked around my schedule* (first round: $M = 3.05$, $SD = 1.77$; second round: $M = 3.83$, $SD = 2.00$). Similarly, both iterations reported the same item with the lowest average score, and therefore the least reported perceived burden, was PPS3: *The needs assessment facilitator explained their process in terms that I did not understand* (first round: $M = 2.46$, $SD = 1.68$; second round: $M = 2.00$, $SD = 1.49$). Table 39 provides a summary of the PPS subscale results.

Table 39.

Summary of PPS Subscale Results

ID	Item Description	1 st Round Average Score $N = 263$	1 st Round SD	2 nd Round Average Score $N = 29$	2 nd Round SD
PPS1	The needs assessment facilitator was a good listener.	2.85	1.68	2.34	1.42
PPS2	I did not feel understood when interacting with the needs assessment facilitator.	2.80	1.71	2.69	2.02
PPS3	The needs assessment facilitator explained their process in terms that I did not understand.	2.46	1.68	2.00	1.49
PPS4	I trusted the needs assessment facilitator to carry out the needs assessment with the appropriate level of rigor.	2.68	1.60	2.48	1.79
PPS5	The needs assessment facilitator worked around my schedule.	3.05	1.77	3.83	2.00
PPS6	I was not confident in the needs assessment facilitator's skills.	2.63	1.75	2.83	2.19

Internal consistency and reliability. The PPS subscale first round of items performed with a good amount of internal consistency overall ($\alpha = 0.84$), and the second round of items also showed internal consistency ($\alpha = 0.75$) (Pallant, 2016; Thorndike & Thorndike-Christ, 2010). For the first round of subscale items, each of the inter-item correlations were positive and fell within the expected 0.20 – 0.40 range or above (Pallant, 2016). For the second round of items, four inter-item correlations did not fall within that expected range, and one inter-item correlation was negative. Tables 40 and 41 provide a summary of the inter-item correlations for this subscale.

Table 40.

Perceptions of Practitioner Skills Round 1 Subscale Inter-Item Correlation Matrix

	PPS1	PPS2	PPS3	PPS4	PPS5	PPS6
PPS1						
PPS2	0.76					
PPS3	0.29	0.40				
PPS4	0.64	0.66	0.28			
PPS5	0.36	0.37	0.24	0.36		
PPS6	0.69	0.66	0.30	0.76	0.35	

Table 41.

Perceptions of Practitioner Skills Round 2 Subscale Inter-Item Correlation Matrix

	PPS1	PPS2	PPS3	PPS4	PPS5	PPS6
PPS1						
PPS2	0.49					
PPS3	0.47	0.39				
PPS4	0.95	0.40	0.40			
PPS5	0.11	0.13	-0.13	0.15		
PPS6	0.59	0.53	0.22	0.50	0.20	

While the majority of the inter-item correlations are positive, indicating they are likely measuring the same underlying characteristic (Pallant, 2016), it was negative for only the second iteration of PPS3: *The needs assessment facilitator explained their process in terms that*

I did not understand and PPS5: *The needs assessment facilitator worked around my schedule* ($p = -0.13$). I am less concerned with this result because 1) the overall subscale reliability is acceptable, 2) all inter-item correlations in the first round were acceptable and had a sufficient sample, and 3) the second-round items within this subscale were only answered by a small subsample of respondents. The vast majority of the items across iterations maintained corrected item-total correlations above .40.

Within the first iteration, there are two items that, if removed, would increase the subscales internal consistency: PPS3: *The needs assessment facilitator explained their process in terms that I did not understand*, and PPS5: *The needs assessment facilitator worked around my schedule*. Removing either one of these items from the scale would increase the overall subscale reliability to $\alpha = 0.86$. Within the second iteration, removing only PPS5 would increase the subscale reliability to $\alpha = 0.81$. Table 42 summarizes these data for the subscale.

Table 42.

Summary of PPS Subscale Item-Total Statistics

ID	Item Description	1 st Round Corrected Item-Total Correlation	1 st Round Cronbach's Alpha if Item Deleted	2 nd Round Corrected Item-Total Correlation	2 nd Round Cronbach's Alpha if Item Deleted
PPS1	The needs assessment facilitator was a good listener.	0.74	0.79	0.75	0.66
PPS2	I did not feel understood when interacting with the needs assessment facilitator.	0.77	0.79	0.57	0.69
PPS3	The needs assessment facilitator explained their process terms that I did not understand.	0.38	0.86	0.36	0.75
PPS4	I trusted the needs assessment facilitator to carry out the needs assessment with the appropriate level of rigor.	0.73	0.80	0.69	0.66
PPS5	The needs assessment facilitator worked around my schedule.	0.42	0.86	0.14	0.81
PPS6	I was not confident in the needs assessment facilitator's skills.	0.74	0.79	0.58	0.69

Perceived Systemic Sensitivity of the Practitioner (PSSP) Subscale Results

Respondent ratings. The PSSP subscale is the largest with seven items. Like the PPS subscale, respondents had the opportunity to answer those questions up to two times if they reported having more than one needs assessment facilitator. The first set of PSSP items was completed by 237 respondents, while the second set was only completed by 29 respondents. Overall, the respondents completing the first set of items reported an average PSSP subscale score of 2.84 ($SD = 1.18$). The respondents completing the second round of the PSSP subscale items reported an average score of 2.92 ($SD = 0.85$). For the first iteration of the PSSP scale, the item with the highest average score, and therefore the most reported perceived burden, was PSSP7: *The needs assessment facilitator had very little influence on the organization's decision making* (first round: $M = 3.45$, $SD = 1.62$). Within the second iteration, PSSP2 had the highest overall score: *I did not feel understood when interacting with the needs assessment facilitator*: ($M = 5.31$, $SD = 2.02$). The items with the lowest average scores, and therefore the least reported perceived burden, were also different across iterations. The lowest within the first iteration was, PSSP5: *The needs assessment facilitator understood the culture of the organization* ($M = 2.61$, $SD = 1.57$). Within the second round, the lowest scored item was PSSP6: *The presence of the needs assessment facilitator disrupted organizational productivity* ($M = 2.07$, $SD = 1.22$). Table 43 provides a summary of the PSSP subscale results.

Table 43.*Summary of PSSP Subscale Results*

ID	Item Description	1 st Round Average Score <i>N</i> = 237	1 st Round <i>SD</i>	2 nd Round Average Score <i>N</i> = 29	2 nd Round <i>SD</i>
PSSP1	The needs assessment facilitator valued my contributions to the needs assessment.	2.66	1.63	2.34	1.42
PSSP2	The needs assessment facilitator had a solid understanding of how the organization functions.	2.56	1.61	5.31	2.02
PSSP3	The needs assessment facilitator had difficulty navigating the organizational dynamics.	2.89	1.74	2.69	1.67
PSSP4	The interests of the needs assessment facilitator overshadowed my own interests.	3.09	1.89	2.52	1.83
PSSP5	The needs assessment facilitator understood the culture of the organization.	2.61	1.57	2.45	1.70
PSSP6	The presence of the needs assessment facilitator disrupted organizational productivity.	2.62	1.57	2.07	1.22
PSSP7	The needs assessment facilitator had very little influence on the organization's decision making.	3.45	1.62	3.03	1.90

Internal consistency and reliability. The PSSP subscale first round of items performed with a good amount of internal consistency overall ($\alpha = 0.83$), but the second round of items showed much lower internal consistency ($\alpha = 0.50$). However, for a scale with less than 10 items, both are acceptable (Pallant, 2016; Thorndike & Thorndike-Christ, 2010). All of the inter-item correlations were positive for the first iteration of PSSP items. However, there were some negative inter-item correlations within the second iteration. Tables 44 and 45 provide a summary of the inter-item correlations for this subscale.

Table 44.*Perceived Systemic Sensitivity of the Practitioner Round 1 Subscale Inter-Item Correlation**Matrix*

	PSSP1	PSSP2	PSSP3	PSSP4	PSSP5	PSSP6	PSSP7
PSSP1							
PSSP2	0.61						
PSSP3	0.45	0.47					
PSSP4	0.58	0.45	0.47				
PSSP5	0.61	0.73	0.55	0.48			
PSSP6	0.53	0.46	0.41	0.52	0.48		
PSSP7	0.09	0.14	0.25	0.15	0.19	0.16	

Table 45.*Perceived Systemic Sensitivity of the Practitioner Round 2 Subscale Inter-Item Correlation**Matrix*

	PSSP1	PSSP2	PSSP3	PSSP4	PSSP5	PSSP6	PSSP7
PSSP1							
PSSP2	-0.49						
PSSP3	0.47	-0.45					
PSSP4	0.63	-0.42	0.30				
PSSP5	0.66	-0.18	0.59	0.38			
PSSP6	0.64	-0.36	0.48	0.61	0.62		
PSSP7	-0.28	0.13	0.21	0.06	0.12	-0.11	

All of the inter-item correlations are positive for items in the first iteration of the PSSP scale, indicating they are likely measuring the same underlying characteristic (Pallant, 2016).

However, five of the six inter-item correlations for PSSP7 did not meet the desired 0.20 – 0.40 threshold. For the smaller sample completing the second iteration of items, there were a number of negative inter-item correlations: PSSP1 and PSSP 2 ($p = -.49$), PSSP1 and PSSP7 ($p = -.28$), PSSP2 and PSSP3 ($p = -.45$), PSSP2 and PSSP4 ($p = -.42$), PSSP2 and PSSP5 ($p = -.18$), PSSP2 and PSSP6 ($p = -.36$), and PSSP6 and PSSP7 ($p = -.11$).

There is one item that, if removed, would increase the subscales internal consistency for both iterations: PSSP7: *The needs assessment facilitator had very little influence on the organization's decision making*. Removing this item from the scale would increase the overall subscale reliability to $\alpha = 0.86$ within the first iteration and $\alpha = 0.55$ in the second. Given its weak inter-item correlations, respondents may have been less certain or had less opportunities to observe their facilitator's influence on the organization. Additionally, within the second iteration, removing PSSP2: *The needs assessment facilitator had a solid understanding of how the organization functions*, would increase the subscale reliability to $\alpha = 0.74$. Table 46 summarizes these data for the subscale.

Table 46.

Summary of PSSP Subscale Item-Total Statistics

ID	Item Description	1 st Round Corrected Item-Total Correlation	1 st Round Cronbach's Alpha if Item Deleted	2 nd Round Corrected Item-Total Correlation	2 nd Round Cronbach's Alpha if Item Deleted
PSSP1	The needs assessment facilitator valued my contributions to the needs assessment.	0.68	0.80	0.45	0.39
PSSP2	The needs assessment facilitator had a solid understanding of how the organization functions.	0.67	0.80	-0.42	0.74
PSSP3	The needs assessment facilitator had difficulty navigating the organizational dynamics.	0.61	0.81	0.46	0.36
PSSP4	The interests of the needs assessment facilitator overshadowed my own interests.	0.62	0.80	0.41	0.38
PSSP5	The needs assessment facilitator understood the culture of the organization.	0.72	0.79	0.70	0.24
PSSP6	The presence of the needs assessment facilitator disrupted organizational productivity.	0.60	0.81	0.57	0.36
PSSP7	The needs assessment facilitator had very little influence on the organization's decision making.	0.21	0.86	0.07	0.55

Construct Validity of the PBNAPS

A major aspect of the current research was to refine and assess the performance of the PBNAPS. Especially because there is no literature specifically defining the concept of perceived participant burden, it is very important to explore the construct validity of the PBNAPS. The following section explores this in response to the second half of RQ4 (i.e., How valid is the refined survey instrument in measuring the construct of perceived burden??)

Determining Whether the PBNAPS Subscales Perform in Alignment with the Proposed Construct of Perceived Burden

Correlations between the subscales and the overall PBNAPS. One of the main implications of the proposed construct of perceived burden is that for each of the four subscales (i.e., PDOR, POC, PPS, and PSSP), they should all be positively correlated to the overall PBNAPS scores. For example, the higher the levels of reported duties, obligations, and responsibilities, should indicate a higher overall perceived burden. The same was expected for each of the proposed components of perceived participant burden. In this case, each of the subscales were positively correlated with the overall PBNAPS measure. While the Perceived Duties, Obligations, and Responsibilities (PDOR) subscale had a large, positive correlation with the overall PBNAPS scores, $r(242) = 0.53, p < .01$; it represents the smallest relationship of the subscales to the total measure. The Perceptions of Cost (POC) subscale had the largest, positive correlation with the overall PBNAPS scores, $r(241) = 0.73, p < .01$. The Perceptions of Practitioner Skills (PPS) subscale had the next largest, positive correlation with the overall PBNAPS measure, $r(242) = 0.67, p < .01$, followed by the Perceived Systemic Sensitivity of the Practitioner (PSSP) subscale $r(242) = 0.65, p < .01$. For the purpose of these analyses, I included all PPS and PSSP items across both iterations while leveraging pair-wise deletion.

Correlations amongst the PBNAPS subscales. There were also positive, significant correlations amongst most of the subscales themselves. The PDOR subscale had a medium-sized, positive correlation with the POC subscale, $r(242) = .44, p < .01$. The PDOR subscale

had a small, positive correlation with the PPS subscale, $r(242) = .15, p < .05$. The PDOR subscale was not significantly correlated with the PSSP subscale, $r(242) = .10, p = .13$. The POC subscale had a medium, positive correlation with the PPS subscale, $r(241) = .39, p < .01$; and with the PSSP subscale, $r(241) = .32, p < .01$. Finally, the PPS subscale had a large, positive correlation to the PSSP subscale, $r(242) = .80, p < .01$. Table 47 summarizes these data.

Table 47.

PBNAPS and Subscale Correlation Matrix

	PDOR	POC	PPS	PSSP	PBNAPS Overall
PDOR					
POC	0.44**				
PPS	0.15*	0.39**			
PSSP	0.01	0.32**	0.80**		
PBNAPS Overall	0.53**	0.73**	0.67**	0.65**	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Overall, the data from the PBNAPS and subscale correlation matrix show that for two out of four subscales (i.e., PDOR, POC), they had stronger correlations to the overall PBNAPS than they did to themselves. For the other two (i.e., PPS, PSSP), they have stronger correlations with themselves than they do with the overall PBNAPS scores.

Determining Whether Perceived Participant Burden is Unitary or Divisible into

Components

Construct validity is an important topic when assessing unobservable variables (Hayton et al., 2004). While the proposed perceived burden construct includes four subscales or components, I leveraged the multivariate analysis of exploratory factor analysis (EFA) to explore the dimensionality of the construct as measured by the PBNAPS (Costello & Osborne, 2005; López-Aguado & Gutiérrez-Provecho, 2019; Worthington & Whittaker, 2006). Within the

sections that follow, I will provide the results aimed at determining whether or not perceived participant burden is a unitary construct or divisible into components.

Suitability of the data for factor analysis. First, I examined the data for factor analysis suitability. In this case, not only is the sample size sufficient ($n = 237$ completed at 100%, $n - 244$ with PBNAPS scores), but the participant to item ratio is sufficient and exceeds the 10 participants per each item minimum (López-Aguado & Gutiérrez-Provecho, 2019; Pallant, 2016). The correlation matrix of individual items did reveal 20 of the 25 PBNAPS items maintained an absolute value correlation of $r = 0.30$ or greater with at least one other item (López-Aguado & Gutiérrez-Provecho, 2019; Pallant, 2016; Tabachnick & Fidell, 2007). The table providing those data can be found on the next page. Additionally, the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.89, such that Kaiser and Rice (1974) would consider it meritorious and a good candidate for factor analysis (Pallant, 2016). Also, the Bartlett's Test of Sphericity was significant ($X^2 [300] = 2591.81, p < 0.00$), suggesting the sample correlation matrix is significantly different than the from an identity matrix and therefore appropriate for factor analysis (López-Aguado & Gutiérrez-Provecho, 2019; Pallant, 2016; Tabachnick & Fidell, 2007). In summary, I determined through these preliminary analyses that the data were adequate for further EFA (López-Aguado & Gutiérrez-Provecho, 2019; Pallant, 2016).

Table 48.*PBNAPS Item Correlation Matrix*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1_PDOR1																									
2_PDOR2	0.21																								
3_PDOR3	0.18	0.14																							
4_PDOR4	-0.33	-0.20	-0.46																						
5_PDOR5	-0.21	-0.38	0.01	0.19																					
6_PDOR6	0.17	0.04	-0.17	0.15	-0.08																				
7_POC1	-0.26	-0.23	-0.27	0.35	0.24	-0.03																			
8_POC2	-0.18	-0.30	-0.32	0.44	0.24	0.14	0.45																		
9_POC3	-0.26	-0.20	-0.40	0.50	0.19	0.12	0.48	0.58																	
10_POC4	-0.09	0.04	0.16	0.00	0.86	-0.11	0.05	-0.07	-0.03																
11_POC5	0.17	0.15	0.29	-0.29	-0.05	-0.11	-0.54	-0.39	-0.38	-0.01															
12_POC6	0.03	0.14	0.42	-0.37	-0.02	-0.23	-0.15	-0.38	-0.26	0.09	0.26														
13_PPS1	0.04	0.10	0.28	-0.17	-0.01	-0.16	0.00	-0.25	-0.25	0.19	0.12	0.37													
14_PPS2	-0.04	-0.15	-0.25	0.19	0.03	0.17	0.03	0.33	0.25	-0.09	-0.16	-0.34	-0.76												
15_PPS3	-0.10	-0.06	-0.25	0.20	0.01	0.25	0.13	0.26	0.25	-0.06	-0.17	-0.11	-0.29	0.40											
16_PPS4	0.07	0.23	0.36	-0.25	-0.07	-0.13	-0.11	-0.35	-0.32	0.11	0.22	0.40	0.64	-0.66	-0.28										
17_PPS5	0.06	0.23	0.17	-0.13	-0.10	-0.09	-0.25	-0.25	-0.18	0.05	0.20	0.15	0.36	-0.37	-0.24	0.37									
18_PPS6	-0.03	-0.23	-0.33	0.24	0.03	0.11	0.11	0.27	0.29	-0.17	-0.18	-0.33	-0.69	0.66	0.30	-0.75	-0.36								
19_PSSP1	0.07	0.20	0.33	-0.19	-0.08	-0.20	-0.07	-0.22	-0.29	0.18	0.12	0.31	0.70	-0.68	-0.31	0.69	0.38	-0.67							
20_PSSP2	0.03	0.12	0.29	-0.16	0.13	-0.16	-0.02	-0.15	-0.20	0.18	0.14	0.33	0.51	-0.52	-0.21	0.56	0.28	-0.57	0.60						
21_PSSP3	-0.03	-0.09	-0.25	0.19	-0.02	0.09	0.13	0.14	0.27	-0.01	-0.16	-0.19	-0.43	0.43	0.35	-0.49	-0.21	0.47	-0.45	-0.46					
22_PSSP4	-0.09	-0.08	-0.31	0.32	0.16	0.15	0.15	0.40	0.37	-0.04	-0.15	-0.24	-0.55	0.61	0.30	-0.63	-0.32	0.63	-0.58	-0.42	0.48				
23_PSSP5	0.07	0.09	0.39	-0.16	0.06	-0.14	-0.15	-0.17	-0.28	0.08	0.19	0.25	0.55	-0.60	-0.28	0.63	0.27	-0.58	0.61	0.71	-0.55	-0.48			
24_PSSP6	-0.02	-0.07	-0.26	0.15	0.05	0.19	0.07	0.28	0.26	-0.14	-0.19	-0.26	-0.50	0.57	0.29	-0.49	-0.36	0.46	-0.53	-0.45	0.43	0.52	-0.48		
25_PSSP7	0.08	0.03	-0.03	0.05	-0.13	-0.01	-0.13	-0.06	-0.03	-0.07	0.03	-0.06	-0.12	0.17	0.01	-0.18	0.03	0.17	-0.10	-0.18	0.23	0.13	-0.18	0.15	

Initial eigenvalues. Next, I examined the initial eigenvalues resulting from the maximum likelihood extraction method. As Table 49. suggests, the first six components have eigenvalues of 1.00 or greater.

Table 49.

Total Variance Explained via Initial Eigenvalues

Component	Total	% of Variance	Cumulative %
1	7.72	30.87	30.87
2	2.83	11.31	42.18
3	1.50	6.00	48.18
4	1.22	4.86	53.05
5	1.14	4.57	57.62
6	1.02	4.09	61.71
7	0.94	3.76	65.47
8	0.90	3.61	69.08
9	0.82	3.30	72.38
10	0.74	2.97	75.35
11	0.67	2.68	78.03
12	0.65	2.60	80.63
13	0.60	2.41	83.03
14	0.56	2.24	85.27
15	0.50	2.01	87.28
16	0.46	1.85	89.13
17	0.44	1.74	90.88
18	0.41	1.63	92.51
19	0.36	1.44	93.44
20	0.34	1.37	95.31
21	0.30	1.20	96.51
22	0.27	1.09	97.60

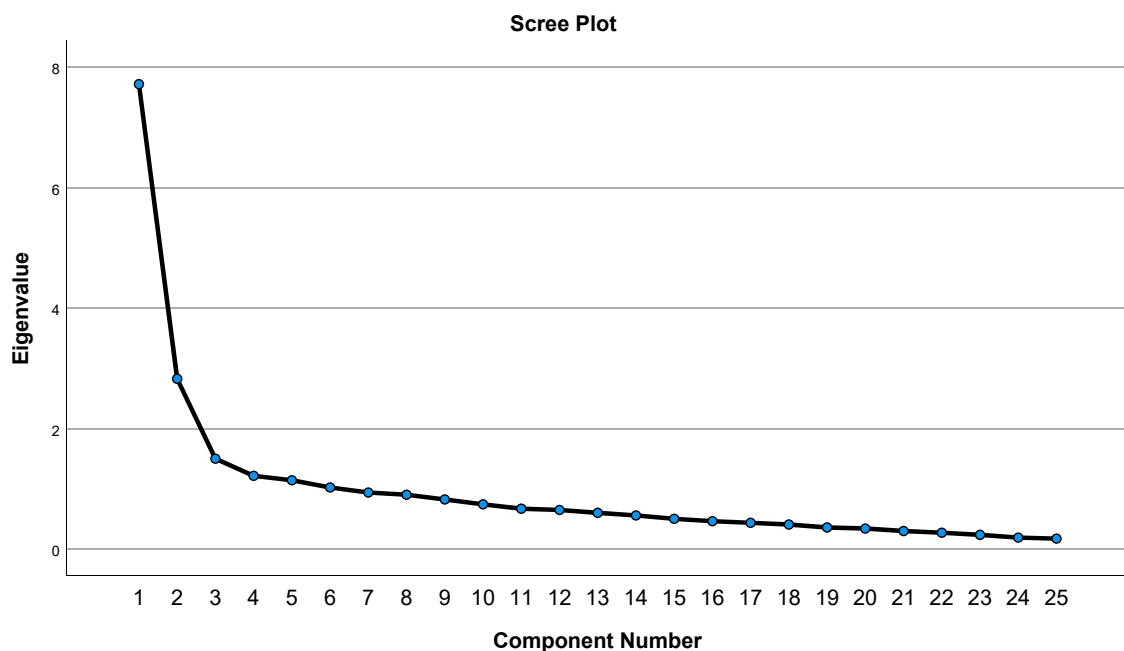
Component	Total	% of Variance	Cumulative %
23	0.24	0.95	98.54
24	0.19	0.76	99.31
25	0.17	0.70	100.00

While the most variance is explained by the first component (7.72, 30.87%), the first six components have initial eigenvalues at or above 1.00. These six components account for 61.71% of the variance.

Factor examination via Scree Plot. Scree plots are typically utilized to determine the number of factors that should be included in further analyses. There are two ways to interpret the results presented within Scree Plots: 1) pursue the number of factors with eigenvalues over one, or 2) pursue the number of factors present before the slope of the line starts to level out. Figure 12 provides the Scree Plot.

Figure 12.

Scree Plot of PBNAPS



Typically, the number of points above a clear break or bend reflects the number of factors to

retain (Pallant, 2016). However, in this case, it is challenging to determine the number of components to retain because there are few small breaks within the scree plot (Costello & Osborne, 2005). Though six components have eigenvalues at or above 1.0, the image above shows similar small breaks between the fifth, sixth, and seventh components. However, the greatest amount of variation visually appears to be explained by the first four components, which also accounts for what I view as the first major break in the scree plot. This interpretation also aligns with the proposed construct of perceive burden. Because these visual data were not explicitly conclusive, I then looked to the resulting matrices, which I discuss in the next section.

Examination of the pattern matrix. Additionally, because I was not confident in finalizing the number of factors based on the previous results, I reviewed the Pattern Matrix, which holds the loadings of each PBNAPS item onto the factors resulting from the Direct Oblimin oblique rotation to help determine the number of factors to retain. As mentioned, I used the Maximum Likelihood extraction method and the Oblimin with Kaiser Normalization rotation method. The results indicated 21 items with pattern coefficients greater than 0.30 loading onto one or more factors. While three PBNAPS items had multiple loadings (PSSP3, POC2, and POC3), four items (PDOR1, PDOR6, POC4, and PSSP7) did not have any loadings meeting the minimum 0.30 loading threshold. I removed these items within the final model assessment. Three of the six factors had a minimum of three PBNAPS items loaded; I considered the other factors not achieving this standard for deletion. The final model as presented below in Table 50.

Table 50.*PBNAPS Pattern Matrix*

PBNAPS Item ID	Item Description	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6
PSSP4	The interests of the needs assessment facilitator overshadowed my own interests.	-0.77					
PPS2	I did not feel understood when interacting with the needs assessment facilitator.	-0.77					
PPS1	The needs assessment facilitator was a good listener.	0.70					
PPS6	I was NOT confident in the needs assessment facilitator's skills.	-0.57					
PSSP1	The needs assessment facilitator valued my contributions to the needs assessment.	0.57					
PSSP6	The presence of the needs assessment facilitator disrupted organizational productivity.	-0.55					
PPS4	I trusted the needs assessment facilitator to carry out the needs assessment with the appropriate level of rigor.	0.54					
PPS5	The needs assessment facilitator worked around my schedule.	0.40					
PPS3	The needs assessment facilitator explained their process in terms that I did NOT understand.	-0.38					
POC1	I had to give up other commitments to participate in the needs assessment.		0.77				
POC5	I was still able to complete other tasks required of me while participating in the needs assessment.		-0.64				
PSSP5	The needs assessment facilitator understood the culture of the organization.			0.69			
PSSP2	The needs assessment facilitator had a solid understanding of how the organization functions.			0.66			
PSSP3	The needs assessment facilitator had difficulty navigating the organizational dynamics.	-0.33		-0.43			

PBNAPS Item ID	Item Description	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6
PSSP7	The needs assessment facilitator had very little influence on the organization's decision making.						
POC6	The efforts I made to participate in the needs assessment are worth the benefits the organization will gain.				-0.54		
POC4	The needs assessment required a reasonable amount of effort.						
PDOR6	I should not be tasked with addressing any recommendations from the needs assessment.						
PDOR2	I volunteered to participate in the needs assessment.					0.65	
PDOR5	I was obligated by my organization to participate in the needs assessment.					-0.49	
PDOR4	I had too many responsibilities within the needs assessment.						0.69
PDOR3	The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization.						-0.44
POC3	I have put too much energy into this needs assessment.		0.34				0.44
POC2	I have so many other commitments that I could not put forth the effort required for the needs assessment.	-0.33	0.32				0.34
PDOR1	I had few responsibilities within the needs assessment.						

Final factor model. Within EFA, I anticipated having several PBNAPS items loading onto each factor at 0.30 or higher, little to no cross-loading, and high communalities (Costello & Osborne, 2005). With this in mind, I examined the data above and made the following decisions regarding onto which components each of the items load. While the extraction yielded a six-factor solution, my analysis of the EFA results produced a four-factor solution, each with three or more items loading, for a total of eighteen (18) retained items, which explained 52.27% of the total variance in perceived burden.

The first main decision point was handling items that loaded on more than on component, which was the case for PSSP3, POC2, and POC3. For both PSSP3 and POC3, I assigned these items to the component with the highest factor loading. POC2 required more analysis because its factor loadings were each within .01. POC2 (*I have so many other commitments that I could not put forth the effort required for the needs assessment*) had the highest loading on the sixth component (0.34). Each of the other items that strongly loaded onto the sixth component all had a needs assessment internal focus, relating to needs assessment tasks and the energy required of them in those tasks. POC2's next largest absolute value loading was onto the first component (-0.33). However, each of the items with strong loadings on the first component dealt with perceptions of the needs assessment facilitator. The final loading was onto the second component (0.32). The items loading onto this component all referenced commitments outside of the needs assessment. These aspects were associated to cost within the literature. Based on the main opening clause having such an explicit reference to outside commitments and having an acceptable loading, I assigned it to the second component.

Upon first look, there was one item that seemed hard to rationalize its loading. PSSP6 (*The presence of the needs assessment facilitator disrupted organizational productivity*) initially seemed ill-fit amongst the other items that loaded onto the first component. As mentioned above, the items which loaded onto the first component also dealt with perceptions of the facilitator. However, the distinction is that PSSP6 explores perceptions of the facilitator's effect

on the organization. The other items loading onto the first component examine the facilitator in relation to the individual respondent. Given that only 39 (15.91%) PBNAPS respondents reported being Managers or Supervisors, and 16 (6.53%) reported being Executive-level Leaders, the majority of respondents might have only been able to consider the facilitator's effect on their own productivity. Given their position within the organizations they represented, they may not have had line of sight into the organization as a whole. As such, I determined PSSP6 should remain assigned to the first component.

The next major decision involved examining how each of the items loaded onto components and the constructs they represent. I established the following factor labels (Keith, 2015; Lynch & Glass, 2018): Perceptions of Needs Assessment Facilitators in Relation to Individual Participants (PFIP), Perceptions of Needs Assessment Facilitators in Relation to the Organizational Context (PFOC), Perceptions of Other Commitments in Relation to the Needs Assessment Experience (POCE), and Perceptions of Task Responsibility/Energy (PTRE). The PFIP label refers to those items that ask respondents to describe their perceptions based on how the needs assessment facilitator interacted with them as participants. The PFOC component describes those items in which respondents described their perceptions of the needs assessment facilitator within the organizational context. The PFOC label refers to the respondents' perceptions of how their outside commitments affected their needs assessment experience and/or vice versa. Finally, the PTRE label refers to those items where respondents react to their assigned tasks and the energy required of them. The following table summarizes those decisions.

Table 51.*PBNAPS Exploratory Factor Analysis Results*

#	PBNAPS ID	PBNAPS Item	PFIP	POCE	PFOC	PTRE	Communality
1	PSSP4	The interests of the needs assessment facilitator overshadowed my own interests.	-0.77				0.72
2	PPS2	I did not feel understood when interacting with the needs assessment facilitator.	-0.77				0.75
3	PPS1	The needs assessment facilitator was a good listener.	0.70				0.71
4	PPS6	I was NOT confident in the needs assessment facilitator's skills.	-0.57				0.69
5	PSSP1	The needs assessment facilitator valued my contributions to the needs assessment.	0.57				0.69
5	PSSP6	The presence of the needs assessment facilitator disrupted organizational productivity.	-0.55				0.44
6	PPS4	I trusted the needs assessment facilitator to carry out the needs assessment with the appropriate level of rigor.	0.54				0.71
7	PPS5	The needs assessment facilitator worked around my schedule.	0.40				0.29
8	PPS3	The needs assessment facilitator explained their process in terms that I did NOT understand.	-0.38				0.22
9	PSSP4	The interests of the needs assessment facilitator overshadowed my own interests.	-0.77				0.72
10	POC1	I had to give up other commitments to participate in the needs assessment.		0.77			0.71
11	POC5	I was still able to complete other tasks required of me while participating in the needs assessment.		-0.64			0.46
12	POC2	I have so many other commitments that I could not put forth the effort required for the needs assessment.		0.32			0.57
13	PSSP5	The needs assessment facilitator understood the culture of the organization.			0.69		0.75
14	PSSP2	The needs assessment facilitator had a solid understanding of how the organization functions.			0.66		0.67
15	PSSP3	The needs assessment facilitator had difficulty navigating the organizational dynamics.			-0.43		0.45

#	PBNAPS ID	PBNAPS Item	PFIP	POCE	PFOC	PTRE	Communality
16	PDOR4	I had too many responsibilities within the needs assessment.				0.69	0.57
17	PDOR3	The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization.				-0.44	0.44
18	POC3	I have put too much energy into this needs assessment.				0.44	0.54
Eigenvalue			7.718	2.83	1.50	1.02	
% Variance Explained			30.87	11.31	6.00	4.09	

Summary

The current research explored the construct of perceived burden as it is experienced by needs assessment participants. Within this chapter, I presented the results to each of the four research questions. The summary of those results is included here.

In response to RQ1 (i.e., How do participants in needs assessments rate their perceived burden in the process?), a heterogeneous sample of 244 individuals on average reported relatively low perceived burden ($M = 2.97$, $SD = 0.88$), with the majority of scores clustered to the low end of the overall distribution. There were no significant differences between demographic groups within this sample.

In response to RQ2 (i.e., How do participants in needs assessments describe their perceived burden in the process?), a heterogeneous sample of seven (7) individuals who reported low to medium levels of burden according to the PBNAPS ($M = 2.18$, $SD = 0.70$) described their experiences. They attributed low levels of their perceived burden to their own traits (i.e., willingness to occur burden, self-initiating the needs assessment) and needs assessment traits (i.e., small time commitment, flexibility to participate to varying degrees or amounts, rewarding process, rewarding outcomes). The one participant who's score placed them solidly within the medium burden range attributed that rating to an unrealistic timeframe for task completion and tasks being resource intensive. However, they attributed their score not being within the high burden range due to their facilitator being open to feedback, such that the participant burden reduced over time.

In response to RQ3 (i.e., What is the meaning of perceived participant burden for instructional design practitioners?), a heterogeneous sample of sixteen (16) needs assessment facilitators defined perceived burden as negatively connotated, and in alignment with that model, though they were not privy to the construct. In terms of duties, obligations, and responsibilities, they defined perceived participant burden to include, but not limited to what participants are asked to do. In terms of cost, they defined perceived burden to include, but not

limited to time, effort, cost/benefit analysis, emotional toll, and risk. They provided less input that addressed their own skills explicitly, but did address interference to the organizational context, which aligns with systemic sensitivity.

In response to RQ4 (i.e., How reliable and valid is the refined survey instrument in measuring the construct of perceived burden?), the PBNAPS proved to be internally consistent overall ($\alpha = 0.86$) and within its individual subscales (PDOR, $\alpha = 0.53$; POC, $\alpha = 0.68$; PPS, $\alpha = 0.84$; PSSP, $\alpha = 0.83$). Additionally, each of the subscales was positively correlated with the overall PBNAPS measure:

- PDOR: $r(242) = 0.53, p < .01$
- POC: $r(241) = 0.73, p < .01$
- PPS: $r(242) = 0.67, p < .01$
- PSSP: $r(242) = 0.65, p < .01$

Finally, the EFA results yielded a four-factor model, each with a minimum of three items loading to each component to explain 52.27% of the variance. The final component model includes the following labels: Perceptions of Needs Assessment Facilitators in Relation to Individual Participants (PFIP), Perceptions of Needs Assessment Facilitators in Relation to the Organizational Context (PFOC), Perceptions of Other Commitments in Relation to the Needs Assessment Experience (POCE), and Perceptions of Task Responsibility/Energy (PTRE). While the following table provides a snapshot of these results, the following chapter will discuss the implications of these results and potential future research.

Table 52.

Summary of Results by Research Question

Research Question	High Level Results
RQ1: How do participants in needs assessments rate their perceived burden in the process?	Low levels of perceived burden on average: ($M = 2.97, SD = 0.88$), $N = 244$

RQ2: How do participants in needs assessments describe their perceived burden in the process?

Low levels of perceived burden ($N = 6$) attributed to personal traits (i.e., willingness to incur burden, self-initiating the needs assessment) and needs assessment traits (i.e., small time commitment, flexibility to participate to varying degrees or amounts, rewarding process, rewarding outcomes).
 Medium levels of burden ($N = 1$) attributed to unrealistic timeframe for task completion and tasks being resource intensive but having a flexible facilitator.
 No data for high levels of burden.

RQ3: What is the meaning of perceived participant burden for instructional design practitioners?

Negatively connotated perception; in alignment with proposed construct.
 PDOR: What participants are asked to do.
 POC: Time, effort, cost/benefit analysis, emotional toll, and risk.
 PPS: *Not explicitly addressed*.
 PSSP: Amount of interference to organizational structure.

RQ4: How reliable and valid is the refined survey instrument in measuring the construct of perceived burden?

Highly reliable and internally consistent.

- Overall PBNAPS: ($\alpha = 0.86$)
- PDOR subscale: ($\alpha = 0.53$)
- POC subscale: ($\alpha = 0.68$)
- PPS subscale: ($\alpha = 0.84$)
- PSSP subscale: ($\alpha = 0.83$)

Highly valid, in alignment with construct design.
 Subscales positive correlated with overall PBNAPS.

- PDOR: $r(242) = 0.53, p < .01$
- POC: $r(241) = 0.73, p < .01$
- PPS: $r(242) = 0.67, p < .01$
- PSSP: $r(242) = 0.65, p < .01$

Four-component factor model, including:

- Perceptions of Needs Assessment Facilitators in Relation to Individual Participants (PFIP)
 - Perceptions of Needs Assessment Facilitators in Relation to the Organizational Context (PFOC)
 - Perceptions of Other Commitments in Relation to the Needs Assessment Experience (POCE)
 - Perceptions of Task Responsibility/Energy (PTRE)
-

CHAPTER 5: DISCUSSION

The purpose of this chapter is to interpret the results presented in the previous chapter. First, I will provide interpretations of the results according to the research questions, with a focus on contributions to the existing literature and implications for the ISD and HPT fields of practice. Then, I will discuss the limitations to this research as well as any resulting recommendations for future research. Finally, I will provide an overall conclusion for the study.

The Role of Burden in Needs Assessment

In an effort to show how the role of burden in needs assessment results and corresponding recommendations can be immediately actionable for needs assessment practitioners, I contextualize this discussion amidst the Three-Phase Model of Needs Assessment, including preassessment, assessment, and postassessment (Altschuld & Kumar, 2010; Witkin & Altschuld, 1995). While I explored two other models in great detail as well within the literature review, I am choosing this particular model because it is accessible to novice and more experience practitioners alike. Also, its phases readily lend themselves to both procedural and technical skills discussions.

Constructing Perceived Burden

While the concept of perceived burden is not well documented in the literature in the needs assessment realm, needs assessment participants and facilitators alike responded to research questions 2 and 3, discussing their experiences in ways that align with the proposed construct. In fact, based on their own reactions to the phrase *perceived participant burden*, most needs assessment facilitators were able to define it in ways that align with the proposed construct definition, including aspects of duties, obligations, and responsibilities; cost; practitioner skills; and practitioner systemic sensitivities. Additionally, their discussion of perceived burden has implications for each phase of the Three Phase Model of needs assessment (Altschuld & Kumar, 2010; Witkin & Altschuld, 1995), as will be discussed in the sections that follow. Not only does this suggest that needs assessment facilitators intuitively

understand the concept of perceived burden, but it also stands that the construct has some level of face validity and worthy of study within the needs assessment space because it is present in the needs assessment space.

Rationale to Dismantle Perceptions of Severe Burden

The first two research questions explored how needs assessment participants experience burden within the needs assessment process. Across both the PBNAPS and interview data, the heterogeneous sample reported relatively low levels of burden across organizational context, affiliation types, and lengths of affiliation ($M = 2.97$, $SD = 0.88$). These results are considered favorable and complement the results from the previous study. Because participants reported limited amounts of burden across both research efforts, this should serve as evidence for organizations and potential clients not to fear engaging in needs assessment-related processes.

While the literature suggests needs assessments are not leveraged as much as possible (Aull et al., 2016), these results suggest that the perceived burden of participants and constituents should not readily be an excuse for that avoidance. The extreme, negative connotations associated with needs assessment may not be warranted. While there is no evidence within the literature that there should be any variance in levels of perceived burden across organizational context, affiliation types, or lengths of affiliation, I also had no expectation of these facets having any real impact on the ways in which perceived burden varies. The results showed there was no significant difference in the rates at which constituents perceive burden across organizational context, affiliation types, or lengths of affiliation. Therefore, potential clients should feel emboldened in undergoing needs assessments regardless of where they fall within these demographics. In addition to assuaging the fear-based perceptions of needs assessment, these data suggest that ISD and HPT practitioners should be more confident in incorporating needs assessment into their practice more deliberately. Needs assessment practitioners can use this finding as leverage within the preassessment phase of

the needs assessment process to assuage any fears of potential Needs Assessment Committee (NAC) members and clients.

Salient Themes Within Perceived Burden and Implications for Practice

Implications of Duties, Obligations, and Responsibilities: What Facilitators Ask

Participants to Do

Importance of extant data collection and analysis. Based on the descriptive statistics from the PBNAPS, the most burdensome component of the perceived burden construct on average was Perceived Duties, Obligations, and Responsibilities (PDOR), where $n = 242$ ($M = 3.67$, $SD = 1.07$). This suggests that for this sample, they reported being more impacted by their tasks within the needs assessments than the other dimensions. This finding has direct implications for both the preassessment and assessment phases of the needs assessment process. For example, preassessment allows for the combing of extant data. The more that can be gleaned from extant data collection and analysis, the more of the process that can be taken care of in the background, without many impositions on live participants. The more extant data review completed during the preassessment phase, the less taxing the assessment phase will be on the participants.

When participants are aware they are participating in a needs assessment, they are aware of what they are being asked to do during the assessment phase. Just as the facilitator interviewees within this research discussed the importance of keeping participant tasks to a minimum as a means to decrease participant burden, ISD and HPT practitioners must keep this in mind within their own needs assessment practices. It is critical that practitioners include those tasks that are necessary but eliminate those that are extraneous in any way.

The role of motivation in perceived participant burden. Similarly, based on the interview data, participant motivation shapes whether they view their duties, obligations, and responsibilities as more or less burdensome. Those intrinsically motivated to participate in their needs assessment were “willing to incur” any burden associated and therefore, bared less

negative association with their duties, obligations, and responsibilities. To help support those less intrinsically motivated, practitioners can take advantage of the themes that emerged from the data of sharing the *big picture* purpose, goals, personal relevance, and anticipated outcomes of the effort. During the preassessment phase of needs assessment, practitioners may want to go so far as to establish a Memorandum of Agreement so that all parties acknowledge the process and what is expected of them (Altschuld & Kumar, 2010). Additionally, as was emphasized from the facilitator interviewees, incentivizing participating in the needs assessment can help the more extrinsically motivated. Each of these suggestions are best practices and can certainly be implemented in cost-effective ways.

This finding around the role of motivation within the needs assessment process is a fascinating one. The current research did not focus solely on motivation, but the role that motivation plays within the needs assessment process is certainly intertwined with the participant experience as it relates to perceived burden. Further research should explore whether there is a correlation relationship between these two phenomena. A summary of future research is provided within the Conclusion section in Table 53.

Implications of Cost: What Participants Must Give Up

While each of the PBNAPS subscales had a significant, positive correlation with the overall perceived burden scores, the Perceptions of Cost (POC) subscale had the strongest correlation of the four: $r(241) = .73, p < .01$. Therefore, of all the proposed components of burden, practitioners should prioritize limiting cost to their participants. If addressing each of the four components within practice seems too overwhelming, addressing cost would be a beneficial place to start.

Limit participant monetary costs. Based on the literature, cost consists of what participants must give up to participate and their anticipated effort to participate (Eccles, 2005; Flake et al., 2015). With this definition in mind, there are several implications for facilitators within the assessment phase of the process. One example of limiting the cost for participants

includes removing any monetary costs from participants. Facilitators should incorporate into their plans the costs associated with all meetings, materials preparation, final reports, refreshments, and any other incentives to the needs assessment process (Altschuld & Kumar, 2010). The more that individual contributors can avoid having out of pocket financial requirements, the better. Determining how any associated monetary costs are handled is essential, but probably best placed on the requesting organization or clients such that individual participants do not incur such costs while they participate.

Limit the time required of participants. Additionally, throughout each phase of the needs assessment process, practitioners should limit the amount of time required of participants their participants. The issue of time was very salient within the data. While participants understand there will be some type of time commitment, many participants perceiving low amounts of burden attributed that to there being only a small time commitment. As was recommended in the previous section, incorporating extant data review into the data collection process can serve practitioners in this area (Altschuld & Kumar, 2010; Zemke, 1998). When they leverage extant data review, not only can practitioners ask more pointed, succinct questions of their participants, but their design can limit the time required of participants to only that what is needed to answer questions not answered from that review.

Provide ample time to complete needs assessment tasks. On the other hand, facilitators can enhance the participant experience by ensuring they provide enough time for the required tasks. In this way, time plays a role in the cognitive load experienced by individuals when completing tasks. Within the current research, facilitator interviewees prioritized accessibility and accommodating their participants, such that sufficient time was an important component. When dealing with rich content and/or fast-paced tasks, individuals can become overloaded with essential processing demands (Mayer & Moreno, 2003). Therefore, allowing sufficient time for participants to complete the tasks without feeling rushed is essential. In an

effort to accommodate diverse participants with varying abilities, practitioners should also build in additional time for those that may need it.

Depending on the nature of the content and tasks involved within the needs assessment, there will undoubtedly be some intrinsic cognitive load. However, the needs assessment design must limit extraneous cognitive load, or those mental efforts and activities that do not directly tie to the information and performance needed from those participants (Beckmann, 2010). While the tasks will undoubtedly require some amount of effort, participant effort should be placed where it counts.

Create a safe space for needs assessment participation. One of the most unique yet poignantly articulated themes that emerged from the data within the realm of cost was the notion of risk. Risk is one of the many characteristics of the modern work environment (Dachner et al., 2013). Therefore, needs assessment participants, regardless of organizational context may be preoccupied with what is at stake given their participation. Similarly, the nature of needs and that of risk are inextricably linked. The participants' in the current research suggests the same. As participants reveal and examine needs, they also think about the negative consequences, or risks associated (Altschuld & Kumar, 2010). It is essential that needs assessment practitioners level the playground to minimize risk throughout each phase of the needs assessment process, whether that be by providing safe, anonymous spaces for data collection or leveraging alternative methods to maximize participant comfortability.

Minimize sacrifice by increasing convenience for participants. Practitioners should also consider the sacrifices they intentionally and unintentionally ask of their participants. The theme of sacrificing other work duties and preferred activities emerged from the participant interview data. With minimizing participant sacrifice in mind, practitioners should examine the extent to which they can make the needs assessment process convenient for participants. Those suggestions that emerged from the data included leveraging locations, times, and tools that provide the most convenience to participants.

While it is true that needs assessment is a data driven process, needs assessment facilitators must not forget that their data sources are very often people; their data access is often provided by people. These people have their own existing duties, obligations, and responsibilities both within and outside of the organizational context of interest. As practitioners, we must acknowledge we are asking them to temporarily give up on some of these in order to participate in the needs assessment. So, their participation needs to be as accessible and convenient as possible.

Treat needs assessment as an intervention. Needs assessment is not only a process, but it is also an intervention in and of itself. Needs assessment is a tool for identifying gaps and prioritizing those gaps (Kaufman & Watkins, 1999). Preassessment, assessment, and postassessment phases all offer opportunities to focus on performance improvements, where there may not have been that space previously. Merely thinking and talking about needs can initiate change within the organizational space. Furthermore, when we view needs assessment from an HPT lens, it fits nicely within a continuous improvement model. When done continually and proactively, organizations monitor performance to make corrections and ensure overall effectiveness (Hoban, 1977).

For any intervention to be accepted and successfully diffused into an environment, it must have a high degree of compatibility with the existing practices and values of that environment (Rogers, 2003). In that way, the needs assessment process should be as convenient as possible for the organization, its teams, and its individuals. Not only does making the needs assessment convenient add to the perceived relative advantage of it as an intervention, but also increases its perceived compatibility and value within the organizational context. Both of these elements are key determinants in the rate and success of diffusing interventions within an organizational context (Rogers, 2003). This is another area that warrants future research: how much, how fast, and in what ways does the needs assessment process itself impact organizational processes, performance, or beliefs before recommendations are

yielded from the needs assessment? A summary of future research suggestions is provided in the Conclusion within Table 53.

Allow for participant choice within the data collection process. When you cannot limit the cognitive load or sacrifice, practitioners can certainly create space for participants to have agency and choice within the needs assessment process. This theme emerged from the data as a means to diminish the participants' perceived burden. For example, when data collection can be tiered or have options, needs assessment design can allow participants to elect at which level they would like to participate. Participants may choose to engage in the portions of data collection they view as having the most relative advantage or least complexity (Rogers, 2003).

During the assessment phase, practitioners can opt to give participants their choice of participating in all aspects of the data collection (e.g., survey, interview) or just one of the options. Not only may this approach help to gain initial buy-in, but it may also help to diminish the perceived burden experienced along the way. Of course, they will need to ensure their design accounts for participant choice in a way that still allows the practitioner to get the data required for analysis. Similarly, this is also an area that warrants further investigation. Future research should explore whether there is any correlational relationship and how strong that relationship is between the type and amount of choices afforded to needs assessment participants and their perceived level of burden. A summary of all future research suggestions is provided within the Conclusion section in Table 53.

Implications for Needs Assessment Facilitator Skills and Systemic Sensitivities

While the subscales that focused on facilitator technical skills, people skills, and systemic sensitivities did not yield the highest amounts of burden or the most significant correlation to the overall PBNAPS scores, the data are still clear: the role the facilitator plays within the needs assessment is essential to the needs assessment experience. In fact, within the exploratory factor analysis (EFA), many of these items strongly loaded onto one component

of the construct, accounting for 30.87% of variance within the PBNAPS results alone. Within the sample of needs assessment facilitators, there was a varied degree of experience. However, they all executed some form of a needs assessment and were able to explain their process and methodology.

Novice practitioner reliance on prescribed models. As was the case within this sample, novice practitioners rely more on prescriptive models than do experienced professionals. Much of the needs assessment research also suggests needs assessment to be an inherent systematic, sequenced process (Kalman, 2016; Keller, 1983; King & Jakuta, 2002; Lee et al., 2007; Marchese, 1987; Witkin, 1994) essential for data informed decision making (Watkins, 2014). In fact, many of the current participants who self-identified as novice needs assessment practitioners accredited their success within the process to reliance on a model, teachings from a related class, and/or support from their co-facilitators to adhere to the prescribed model steps.

However, there was not enough evidence within the research to explore how these potentially novice practitioners leveraged existing models and whether or not that influences the perceptions of burden on the part of the participants. The current research was designed to be inclusive of all needs assessment models and did not explicitly collect data on model-specific characteristics. Future research can explore this in greater detail.

That being said, one implication for preservice programs is to continue emphasizing needs assessment models such that aspiring practitioners gain practical experience in their execution. As indicated within the literature review, the work of ISD and HPT practitioners is part art and science (Altschuld & Kumar, 2010; Altschuld & Watkins, 2014; Aull et al., 2016; Bates & Holton, 2002; Forester, 1989; Gorantis et al., 2014; Landwehr, 2007; Sterman et al., 2015; von Bertalanffy, 1972; Wilson & Cervero, 1996). Experience working with needs assessment models can help increase technical skills, which do contribute to the overall success and experience of

the needs assessment. Then, as practitioners gain more experience over time, they can also improve their skills within the art space of needs assessment as well.

Needs assessment facilitators as agile change agents. One recommendation that serves all needs assessment facilitators, regardless of their length of experience is the ability to remain flexible and open to feedback. As was clear from PBNAPS031's lived experience, their initial perceived burden was high. Yet, due to the facilitator being open to feedback and adaptable, PBNAPS031's perceived burden dissipated some over time. In that instance, the facilitator did reveal a lack of experience in that higher education organizational context but made up for it by remaining agile.

Not only applicable in the above instance, this concept of remaining flexible and open to feedback is imperative for all practitioners throughout each phase of the needs assessment process. Needs assessment facilitators can improve the participant experience and potentially diminish perceived burden by remaining agile. While a main goal of needs assessment is to collect and analyze data to make meaningful recommendations, it is also important not to cause any harm within that process. When we consider needs assessment as an intervention in and of itself, needs assessment facilitators, then, must be what Rogers (2003) would describe as change agents, serving as the communication link between the recommendations gleaned from the needs assessment and the organizational context. As Rogers (2003) mentions, "change agents would not be needed in the diffusion of innovations if there were no social and technical chasms between the change agency and the client system," (p. 368). Therefore, it is essential that needs assessment facilitators remain flexible and responsive to the nuances of the client system, or organizational context.

Needs assessment facilitators as cross-trained consultants. Other facilitators within the sample expressed either a lack of skill or a lack of comfort in various components of the systemic sensitivities realm. As ISD and HPT professionals, the work that we perform should never exist in a vacuum. The work should always be cognizant of and compatible with the

organizational environments in which we work. Because many of the skills required of a practitioner to successfully be able to engage with and navigate systems are actively taught and valued within the consulting domain, both ISD and HPT practitioners could benefit from cross-training within the consultant domain.

For example, just as F04 described, performance consulting is a strategic process that aligns with both disciplines and provides techniques for navigating organizational systems via the Access, Credibility, Trust (ACT) approach to Performance Consulting (Robinson et al., 2015). Familiarity with such models can greatly benefit needs assessment facilitators because they can help practitioners enhance their HPT grounding. In this case, access is defined in terms of the amount of face time a client is willing to provide. The best way for practitioners gain access to the organizational context is to be proactive, identifying key constituents, and maintaining communications with sustained clients (Robinson et al., 2015).

The credibility portion of this model directly speaks to what I have considered in the current research as perceptions of the practitioner's skills. Within the Performance Consulting Model, credibility is considered confidence in the practitioner's ability to deliver business results. While credibility is key, and certainly requires technical and people skills, it cannot be achieved without an explicit systemic sensitivities; needs assessment facilitators must first demonstrate an understanding of the organizational context and its business model (Robinson et al., 2015). Finally, trust refers to the client's confidence in the practitioner's integrity and reliability in delivering results. While this can only be achieved over time, practitioners will know they have achieved it when clients seek them out for their advice and counsel (Robinson et al., 2015).

Based on these descriptions, cross-training in spaces such as Performance Consulting can not only help practitioners to improve in their technical skills, but also to help with their people skills. Within the data, needs assessment facilitators mentioned feeling less confident in their navigating many of the systemic sensitivities of the organizational contexts they serve. For those practitioners that would identify as more novice in their organizational dealings, having

models such as the Performance Consulting model within their toolbox can provide concrete steps to approach and navigate the complex organizational contexts that practitioners will inevitably encounter. When access, credibility, and trust increase and endure within the practitioner-client relationship, mutual affinity is enhanced. When there is mutual affinity, perceptions of any associated burdens may dissipate.

Needs assessment facilitators as empathic. One key tool that could serve practitioners in this work is taking an empathic approach. Within the ISD space, taking an empathic approach refers to exploring needs and considering interventions from the end user's perspective (Landwehr, 2007). When conducting needs assessments, facilitators should strive to be empathic as well.

Several themes emerging from the current data suggest needs assessment constituents have emotionally heightened experiences that effect their perceptions of the process. Notions of risk, ego, self-worth, vulnerability, and the toll that dealing with severe needs can bring are not at all easy to navigate, yet they are ever present and emerged as themes from the current data. Needs assessment facilitators cannot avoid these factors just because they are less pleasant or more emotionally laden. For better or worse, feelings shape how needs are felt and presented. Feelings permeate the social systems that make up organizational context. Feelings color the ways in which needs assessment recommendations are received.

At the very least, needs assessment facilitators need to approach these needs assessment work with sensitivity. They should put themselves in the "shoes" of their participants as a means to get closer to their lived experiences (Kouprie & Sleeswijk Visser, 2009). Even when the facilitator does not experience these heavy emotions themselves, being empathic can help to bridge the gap between the facilitator and participant as well as improve the needs assessment process (Pinckney-Lewis & Baaki, 2020). In fact, it is a necessary quality for truly meeting constituent needs (Kouprie & Sleeswijk Visser, 2009).

In describing the empathic approach, Kouprie and Sleeswijk Visser (2009) propose a four-phase process including, 1) discovery, 2) immersion, 3) connection, and 4) detachment. Some practitioners get to know their constituents through a process of ethnographic inquiry (Stefaniak & Baaki, 2013) or persona discovery (Canziba, 2018). Regardless of the specific approach, when needs assessment facilitators take an empathic approach to the work, there are often positive outcomes, such as increases in client engagement, access to data, favorable interactions with the practitioner, and favorable experiences in the process (Pinckney-Lewis & Baaki, 2020). As such, an empathic approach is an essential tool within the needs assessment facilitator toolbox.

The importance of a reflective practice. In reference to another theme that emerged from the data (i.e., needs assessment facilitators accrediting their success to being reflective throughout each phase of their practice), professionals across all domains should be reflective in their practice as a means to benchmark and improve. While it is one thing to reflect individually on the work completed, it is more valuable to have data from other constituents related to the work to obtain a more holistic view of the situation. The PBNAPS can be a tool for practitioners to obtain those additional data points for their own reflective practice. Instead of merely reflecting on the participant experience as someone external to their experience, the PBNAPS can help provide data from those participants about their experience. Ultimately, needs assessment practitioners could use the PBNAPS as a means to continue to improve and refine their skills and practice. By leveraging the PBNAPS with a chosen periodicity after either a certain amount of time or after a certain amount of needs assessments completed, practitioners can take the results as a spot-check on their participants experiences. I discuss this suggestion further in the “Suggested Uses of the PBNAPS” section.

Summary of Recommendations and Implications for Needs Assessment Practitioners

Throughout the sections above, I have not only explored the implications of the findings from Chapter 4 but have also provided some recommendations for practice. As mentioned, I have

mapped these recommendations onto the Three-Phase Model of needs assessment (Altschuld & Kumar, 2010; Witkin & Altschuld, 1995). The following table provides a summary of those recommendations by phase within that model.

Table 53.*Summary of Recommendations for Needs Assessment Practitioners by Phase*

Needs Assessment Phase	Finding	Recommendation for Practitioners
Preassessment	Across both the PBNAPS and interview data, the heterogeneous sample reported relatively low levels of burden across organizational context, affiliation types, and lengths of affiliation ($M = 2.97$, $SD = 0.88$).	Needs assessment practitioners can use this finding as leverage within the preassessment phase of the needs assessment process to assuage any fears of potential Needs Assessment Committee (NAC) members and clients.
Preassessment	The most burdensome component of the perceived burden construct on average was Perceived Duties, Obligations, and Responsibilities (PDOR), where $n = 242$ ($M = 3.67$, $SD = 1.07$).	During preassessment, leverage extant data collection and analysis.
Preassessment	Those intrinsically motivated to participate in their needs assessment were “willing to incur” any burden associated and therefore, bared less negative association with their duties, obligations, and responsibilities.	During the preassessment phase of needs assessment, practitioners may want to go so far as to establish a Memorandum of Agreement so that all parties acknowledge the big picture, what is expected of them, and any incentives to participating (Altschuld & Kumar, 2010).
Assessment	The most burdensome component of the perceived burden construct on average was Perceived Duties, Obligations, and Responsibilities (PDOR), where $n = 242$ ($M = 3.67$, $SD = 1.07$).	The more extant data review completed during the preassessment phase, the less taxing the assessment phase will be on the participants. It is critical that practitioners include those tasks that are necessary but eliminate those that are extraneous in any way.
Assessment	Those intrinsically motivated to participate in their needs assessment were “willing to incur” any burden associated and therefore, bared less negative association with their duties, obligations, and responsibilities.	Incentivize participation for the extrinsically motivated.

Needs Assessment Phase	Finding	Recommendation for Practitioners
Assessment	<p>The Perceptions of Cost (POC) subscale had the strongest correlation of the four with the overall PBNAPS scores: $r(241) = .73, p < .01$</p> <p>Within the current research, facilitator interviewees prioritized accessibility and accommodating their participants, such that sufficient time was an important component.</p> <p>The theme of sacrificing other work duties and preferred activities emerged from the participant interview data.</p> <p>Cognitive load and sacrifice are inevitable.</p>	<p>Limit participant monetary costs. Practitioners should include any costs within their budget.</p> <p>Provide ample time to complete needs assessment tasks. Facilitators can enhance the participant experience by ensuring they provide enough time for the required tasks to reduce cognitive load.</p> <p>In an effort to accommodate diverse participants with varying abilities, practitioners should also build in additional time for those that may need it.</p> <p>Minimize sacrifice by increasing choice for participants. Those suggestions that emerged from the data included leveraging locations, times, and tools that provide the most convenience to participants.</p> <p>When you cannot limit the cognitive load or sacrifice, practitioners can certainly create space for participants to have agency and choice within the needs assessment process.</p>
All phases: preassessment, assessment, and postassessment	<p>While participants understand there will be some type of time commitment, many participants perceiving low amounts of burden attributed that to there being only a small time commitment.</p> <p>Risk emerged as a major theme within the data.</p> <p>People are a big part of the needs assessment process.</p>	<p>Throughout each phase of the needs assessment process, practitioners should limit the amount of time required of participants their participants.</p> <p>Create a safe space for needs assessment participation. It is essential that needs assessment practitioners level the playground to minimize risk throughout each phase of the needs assessment process, whether that be by providing safe, anonymous spaces for data collection or leveraging alternative methods to maximize participant comfortability.</p> <p>Treat needs assessment as an intervention throughout each phase.</p>

Needs Assessment Phase	Finding	Recommendation for Practitioners
Pre-service programs	Facilitator flexibility and openness to feedback can decrease the perceived burden.	Regardless of experience level, facilitators must remain flexible and open to feedback. Needs assessment facilitators can improve the participant experience by remaining agile.
	Facilitators within the sample expressed either a lack of skill or a lack of comfort in various components of the systemic sensitivities realm.	Needs assessment facilitators should be cross-trained consultants with skills developed in accordance with performance consulting.
	When needs assessment constituents have emotionally heightened experiences, it affects their perceptions of the process.	Needs assessment facilitators should employ an empathic approach.
	Needs assessment facilitators accrediting their success to being reflective throughout each phase of their practice.	Needs assessment facilitators to engage in reflective practice.
	Novice practitioners rely more on prescriptive models than do experienced professionals.	Continue emphasizing needs assessment models such that aspiring practitioners gain practical experience in their execution.

Introducing the First Measure of Perceived Burden

There was no scale in existence for measuring the perceived burden experienced by participants in needs assessments until now. It is not enough to just create a scale; it is important to ensure the scale actually measures the intended construct, that it performs consistently in discriminating levels of that construct, and account for any flaws within the measurement such that any conclusions drawn from the scale can be appropriately caveated and interpreted (DeVellis, 2017; Thorndike & Thorndike-Christ, 2010). The third research question sought to determine how reliable and valid the revised PBNAPS was as operationalized within the current research. Within this section, I will discuss how well the PBNAPS performed and make recommendations for its future uses.

Internal Consistency and Reliability

Based on the results of this research, the PBNAPS can be considered as a promising tool. The current iteration of the PBNAPS improved upon the 2019 version. I was hoping to achieve a Cronbach alpha score greater than .70 as an indicator of acceptable reliability and internal consistency (DeVellis, 2017; Pallant, 2016; Thorndike & Thorndike-Christ, 2010) both for the overall PBNAPS and each of the subscales. Overall, it performed well enough to achieve the goal of improving on its performance as measured by reliability and internal consistency ($\alpha = 0.86$). While this goal was also achieved for two subscales (i.e., PPS: $\alpha = 0.84$, PSSP: $\alpha = 0.83$), two subscales fell short of this standard (i.e., PDOR: $\alpha = 0.53$, POC: $\alpha = 0.68$). However, I argue that they are all still acceptable for the following reasons: 1) alpha coefficients below 0.70 are common with subscales having less than 10 items (Pallant, 2016), 2) both subscales did have a good number of mean inter-item correlations as reported in Chapter 4, 3) each subscale's internal consistency can be improved by eliminating an item as discussed in Chapter 4, and 4) no high stakes decisions will be made regarding the individuals responding to the PBNAPS or to the corresponding facilitators. Even with the existing levels of reliability, needs

assessment practitioners can still draw dependable conclusions about the group of respondents; however, there is a level of caution around drawing conclusions regarding individuals based on the PDOR and POC subscales (Thorndike & Thorndike-Christ, 2010).

Additionally, each of the subscales were significantly correlated to the overall PBNPS scores. As such the PBNAPS exceeded expectations and proved to be highly reliable and internally consistent, with respondents showing little ambiguity in the meaning of the dimensions (Thorndike & Thorndike-Christ, 2010). This is a monumental accomplishment.

Minimal Time Commitment

Additionally, the PBNAPS proved to be fairly quick to complete. While 92% of respondents were able to complete the PBNAPS in 20 minutes or less, 80% were able to complete it in 10 minutes or less. While the goal of the PBNAPS is to provide insight on the participant experience and assist facilitators in their reflective practice, it should not, in itself, be a burden. Ensuring the PBNAPS only requires a short amount of time from its respondents was another key goal achieved through this study. In fact, the overall time to complete the PBNAPS may be decreased even further based on the recommended revisions I discuss in the Potential Revisions to the PBNAPS section.

External Validity as Measured by Likert Scale Variation

In the case of external validity, I hoped to see sufficient variation in participant use of the Likert scale items. In exploring the resulting item standard deviations, proper variation would result in values of 1.5 or more (Thorndike & Thorndike-Christ, 2010). This level of variance indicates participants are leveraging the full scale and not skewing or biasing their responses. When examining each of the PBNAPS items individually, the vast majority of those items did achieve standard deviations of 1.5 or more. The only items that did not were PDOR3 and the second-round iterations of PPS1 and PPS3. These results are favorable and suggest the PBNAPS has some degree of external validity.

When I examined the Likert scale variation of the PBNAPS as a whole, the results were not as ideal. The overall standard deviation in responses across all items on average was 0.88. While this does not hit the ideal benchmark, there are a few reasons why this might be the case. As reported, the majority of the PBNAPS respondents were in the low to medium burden range ($n = 233$, 95.5%). It would have been ideal to have more variety in the severity of burden represented within the current sample. However, participants experiencing heightened levels of burden either 1) do not exist, or 2) are less inclined to participate in follow on activities related to an experience they already deemed highly burdensome. Follow on research should explore focusing on participants with heightened levels of perceived burden by incentivizing their completion of the PBNAPS. It will be a challenge to find the most appropriate and effective incentive, but it would be worth exploring. Additionally, when choosing to operationalize the PBNAPS, facilitators can explore embedding it within their existing needs assessment materials or protocols so that it can seem more seamless to respondents as opposed to a completely separate, later task.

Implications of the Construct Validity Analysis

Interpreting the Relationship of Subscales to Total PBNAPS Scores

Overall, the data from the PBNAPS and subscale correlation matrix show that for two out of four subscales (i.e., PDOR, POC), they had stronger correlations to the overall PBNAPS than they did to themselves. For the other two (i.e., PPS, PSSP), they had stronger correlations with themselves than they do with the overall PBNAPS scores. Ideally, each of the subscales would have lower correlations with each other than they do with the overall PBNAPS scores because subscales are intended to measure distinct components or subconstructs of the larger construct (Thorndike & Thorndike-Christ, 2010). The most concerning relationship, then, is the correlation between PPS and PSSP ($r = 0.80$).

However, there are a number of reasons why that was the case. First, within the PBNAPS interface, the PPS and PSSP items were randomized, but grouped together in the

same section. I made the design choice to put those items within the same section of the instrument because 1) the visual model of the main pillars of the perceived burden construct combines these two subscales under the concept of *experiences with the facilitator*, 2) I was not requiring respondents to already be able to mentally distinguish the facilitator's skills from their systemic sensitivities, 3) combining the items limited the number of sections and perceived length of the PBNAPS, and 4) combining these items made it easier to handle the survey flow for those participants that reported having more than one facilitator and therefore having to repeat the PPS and PSSP items. Furthermore, as will be discussed in the next section, the EFA results largely show these subscales converging on the same component.

Internal Validity and Interpreting the Results of the Exploratory Factor Analysis (EFA)

According to Lissitz and Samuelson (2007), internal validity is a combination of reliability and content validity. As discussed in the previous section, the PBNAPS showed a high amount of reliability through its internal consistency. This version of the PBNAPS also has increased content validity given the level of rigor in the development and review of the items. As demonstrated through the scale definition and development process, I argue that it also displays construct validity as well. While the proposed construct model presents as more than merely unitary, the factor analysis proved the perceived burden construct to be divisible into components. The results of the EFA also confirmed that while the overall model maintains four factors, the PBNAPS items align to the components differently than I proposed. The following table displays how the initial construct maps onto the revised model.

Table 54.

Mapping of the 2020 PBNAPS to the Revised Factor Model

2020 PBNAPS Subscale	PFIP	POCE	PFOC	PTRE
PDOR				X
POC		X		X
PPS	X			
PSSP	X		X	

Instead of Perceptions of Practitioner Skills (PPS) and Perceptions of Systemic Sensitivities of the Practitioner (PSSP) items each loading onto separate, distinct factors, the items shared two factors. Both subscales had items that loaded onto what became the Perceptions of Needs Assessment Facilitators in Relation to Individual Participants (PFIP) component. Some of the PSSP items also loaded onto the Perceptions of Needs Assessment Facilitators in Relation to the Organizational Context (PFOC) component.

Additionally, the Perceptions of Cost (POC) subscale did not load onto one component as expected. Instead its items divided in their loadings between the Perceptions of Other Commitments in Relation to the Needs Assessment Experience (POCE) component and the Perceptions of Task Responsibility/Energy (PTRE) component. As previously defined, the concept of cost included both what is given up to participate in the needs assessment and the energy required to complete the tasks (Flake et al., 2015). The final factor model accounts for the breadth of this construct but distinguishes those two aspects of cost.

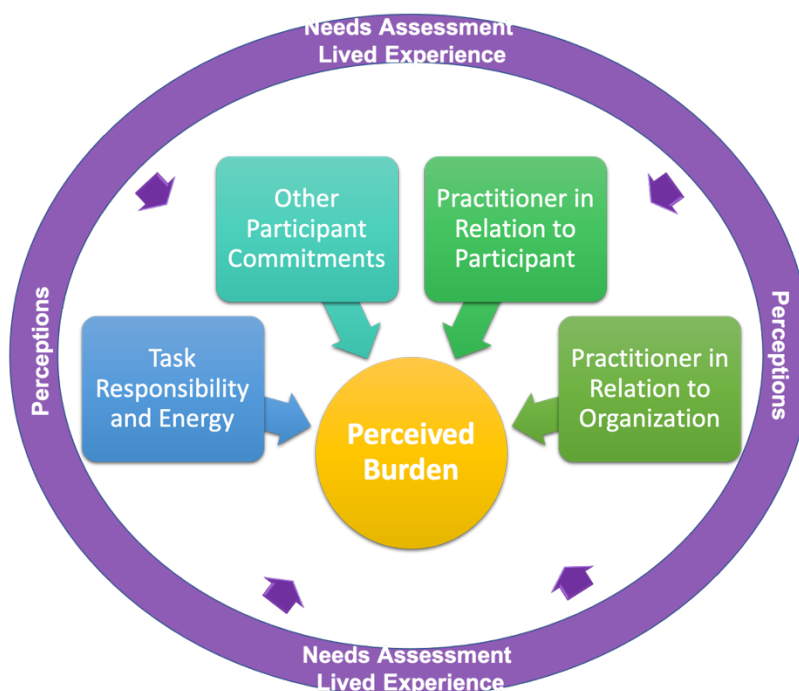
While there were some unexpected loading patterns across the PBNAPS items and subscales, I argue that the initial construct and the final factor model are conceptually congruent. At a high level, each of the major concepts initially proposed (i.e., what participants are asked to do, what participants have to give up, and how participants perceive the facilitator) remain accounted for. What participants are asked to do within needs assessment was initially accounted for in the Perceived Duties, Obligations, and Responsibilities (PDOR) subscale. Based on their factor loadings, a cross-section of three items representing what participants are asked to do is now covered within the PTRE component. What participants must give up to participate was initially covered within the POC subscale. The final factor model now subsumes this concept in reference to other obligations withing the POCE component. How participants perceive their facilitator(s) was initially covered across two subscales (i.e., PPS and PSSP) such that perceptions of the facilitators skills and their systemic sensitivities were treated separately. While many of these items converged onto one component, indicating less of distinction than I

initially conceptualized, a new distinction emerged. The final factor model does cover perceptions of the facilitator across two components, distinguishing the facilitator in relation to the participant from the facilitator in relation to the organizational context. Based on this final factor model, future research must take a more nuanced look at each of these components.

Based on the current findings, I revised the visual representation of the PBNAPS to more accurately reflect the construct components as upholding the four dimensions of the final factor model (i.e., PFIP, PFOC, POCE, and PTRE). That revision is provided below in Figure 13.

Figure 13.

Visualization of the Final Factor Model



However, the PBNAPS is still in its infancy. Future research should replicate the factor analysis and explore confirmatory factor analysis with new datasets to help solidify the underlying factor structure of the PBNAPS. Specifically, the confirmatory factor analysis should explore this four-dimension model to see if this interpretation of the construct holds across a new sample. All of the suggestions for future research are summarized in Table 56.

Potential Revisions to the PBNAPS

Even though the PBNAPS performed well in many ways, there is always room for improvement. As a result of the analyses, a number of PBNAPS items were eliminated from the final model, including PDOR1 (i.e., *I had few responsibilities within the needs assessment*), PDOR6 (i.e., *I should not be tasked with addressing any recommendations from the needs assessment*), POC4 (i.e., *The needs assessment required a reasonable amount of effort*), POC6 (i.e., *The efforts I made to participate in the needs assessment are worth the benefits the organization will gain*), and PSSP7 (i.e., *The needs assessment facilitator had very little influence on the organization's decision-making*). For future assessments of the PBNAPS and replication of the revised factor model, I recommend removing those items that were shown to hamper the PBNAPS' reliability and consequently did not load onto any components (i.e., PDOR6, POC4, and PSSP7). For those items that did not have a strong loading but did not cause any harm to the PBNAPS' reliability, I recommended revising those items to better align to a component within the model that yielded a small number of items loading. Finally, to better ensure a balance of the number of items across components, I recommended either adding or deleting items. A summary of these recommendations is provided in Table 55.

Table 55.

Summary of Suggested Revisions to the PBNAPS

PBNAPS ID	Item Description	Decision	Rationale
PDOR1	I had few responsibilities within the needs assessment	Revise	Item did not load strongly onto any one model component Revision to better align with PTRE component
PDOR6	I should not be tasked with addressing any recommendations from the needs assessment	Remove	Removal would result in increased PBNAPS reliability Item did not load strongly onto any one model component
POC4	The needs assessment required a reasonable amount of effort	Remove	Removal would result in increased PBNAPS reliability

PBNAPS ID	Item Description	Decision	Rationale
			Item did not load strongly onto any one model component
POC6	The efforts I made to participate in the needs assessment are worth the benefits the organization will gain	Revise	Item loaded strongly onto a component deleted for not achieving sufficient amount of item loadings Revision to better align with POCE component
PSSP7	The needs assessment facilitator had very little influence on the organization's decision-making	Remove	Removal would result in increased PBNAPS reliability Item did not load strongly onto any one model component
N/A	N/A	Add	Additional items are needed for the PFOC, POCE, and PTRE components to achieve a minimum of 5 for a subscale
TBD	TBD	Remove	Based on future PBNAPS iterations, eliminate poor performing PFIP items to ensure more even distribution of subscale items

Suggested Uses of the PBNAPS

Having this reliable and valid measure of perceived burden will contribute to the field, but it is important to discuss how the scale should be used within in the field. In response to the fourth research question, the facilitator interviewees demonstrated an intrinsic understand of perceived burden. Yet they had no tools to measure that perceived burden. The PBNAPS can be that tool for facilitators. From a temporal perspective, the PBNAPS should be deployed either at the conclusion of the postassessment phase or at some time set after the postassessment concludes. It is important, though, that the PBNAPS be deployed within a timeframe that the needs assessment experience is still prevalent in the memory of the respondents. As such, I recommend deploying the PBNAPS no more than one month post the needs assessment conclusion. Capping the timeframe of deployment will also help respondents distinguish the needs assessment process from any additional intervention development or implementation.

However, it is important to note the PBNAPS is not intended to be operationalized in conjunction with each and every needs assessment; that would be counterproductive and likely increase the levels of perceived burden on the parts of the needs assessment stakeholders. Instead the PBNAPS should be leveraged as a spot-check, where practitioners periodically operationalize the survey to gain some informative information and engage in reflection on their own practice. Practitioners may wish to leverage the PBNAPS within a set periodicity (i.e., once a year with a sample of their needs assessment participants), after piloting a new approach to their needs assessment practice, or after engaging in a new organizational setting. As practitioners grow in their practice, the PBNAPS can offer key insight into their participants' experience as well as to document for them how well they are able to execute needs assessments across settings and constituents. This useful information should help practitioners determine whether their approaches were equitable given the burden to their participants. Based on the PBNAPS results, practitioners should make adjustments to their practice. Ultimately, the PBNAPS will help their practice become more efficient and less burdensome over time.

Social Consequences: A Validity Consideration

While I have proposed some potential uses for and implementations of the PBNAPS, I must also acknowledge there may be some unintended consequences. To fully assess the value of the PBNAPS, it should be examined with considerations for all of its effects, both intended and unintended. Even when scales are content valid and reliable, they can still lead to unintended ends (Lissitz & Samuelsen, 2007). Social consequences come into play whenever there are consequences resulting from test use (Cronbach, 1988; Messick, 1989; Thorndike & Thorndike-Christ, 2010). The PBNAPS is not meant to be punitive or have adverse consequences for the facilitator or its respondents. It is not meant as a decisional, high stakes tool, but should be used for personal facilitator reflection and process improvement.

Limitations of the Research

As with any research effort, there were limitations within the current research. Within the following section, I will address those limitations. The goal of this section is to provide readers with enough context with which to interpret the results of this research.

Lack of Existing Literature

As mentioned throughout this dissertation, there is little to no published literature that tackles the perceived burdens of needs assessment participants. This is the first effort that I know of that explores needs assessment from the participant experience. While I did take measures to support the construct validity by engaging in a SME beta review of the PBNAPS, it should still be considered in its infancy. The current research is helping to establish a presence within the literature on this topic. However, replication of the research and further trials of the PBNAPS are needed. Any future research in this space will help to establish a more prominent presence within the literature, which will also continue to build out the construct of perceived burden.

Absence of Participants Reporting High Levels of Perceived Burden

One major absence from the data was the experience of those needs assessment participants reporting high levels of perceived burden. They represented only 15 (6.1%) of the PBNAPS cases, and they had virtually no presence within the qualitative data. While this was likely due to there being little to no high levels of burden experienced across needs assessments in reality, there is also the chance the current research suffered from a threat to internal validity by means of selection into the study. Participants self-selected into the research after responding to the research advertisements and data calls. However, the respondents may have elected to participate in needs assessment research because they had positive needs assessment experiences. Having a more randomized survey would combat this threat (Creswell, 2012). As such any future iterations of PBNAPS research should aim to leverage random sampling to see if this absence of participants reporting high levels of burden holds true.

Furthermore, the experiences of those reporting elevated levels of perceived burden were completely absent from the interview and focus group data. If there truly are individuals who perceive high levels of burden within the needs assessment process, their experiences should be voiced as a means to better understand the construct and improve needs assessment practices. Future research should aim to further explore the experience those reporting higher levels of perceived burden. Certainly, examining these experiences merit a more layered analysis. Doing so will certainly be challenging since individuals reporting higher levels of burden will likely not readily volunteer to respond to additional demands. However, when properly framed and incentivized, individuals may feel called to share their experience as a means to air a grievance or provide feedback to change the process for the future. Just as emerged as a theme within the current data, risk may be an issue for this contingency. To gain additional insight from those reporting elevated levels of burden, it will be imperative to provide a safe space for these individuals, so they do not suffer retribution. A summary of future research suggestions is provided in Table 55. in the conclusion section.

Potential for Researcher and Halo Effects

While both the PBNAPS and needs assessment facilitator participants within this research generally reported less elevated levels of perceived burden, most participants did mention the presence of some form of burden. In fact, based on the rich discussion, I would be remiss if I did not acknowledge the potential of some level of researcher or experimenter effect as a threat to both the internal and external validity of this study (Creswell, 2012). When research participants are aware they are participating within research and are being observed the researcher, their performance might be altered (Leedy & Ormrod, 2013). In cases where the research participants knew me outside of the context of this research, their affinity for me may have swayed their reportings. Within the current research, it is conceivable that based on these effects, participants may have reported lower levels of burden than were experienced in reality.

Treatment of Missing Data, “Not Applicable” Selections, and “Neither Agree nor Disagree” Selections in Discrepancy Analysis

One of the subtle problems with discrepancy analysis in needs assessment is dealing with missing data pertaining to either the current or desired states, which yields varying n 's within the calculations (Lee et al., 2007). Within the current research, there were a number of true instances of missing data. However, there were no opportunities for participants to select “Not Applicable” or “Not Sure” options within the surveys. Instead, they were forced to either make their best guess or, as was the case for the PPS and PSSP subscales, they were instructed to select “Neither Agree nor Disagree”. In instances where the PBNAPS respondents did not have a known facilitator, the most meaningful item selection might have been “Not Applicable” as that type of selection also has meaning (Lee et al., 2007). Instead, respondents were forced into leveraging the scale. Future research should examine the PBNAPS performance if altered to include “Not Applicable” and “Not Sure” options.

Globalization and Accessibility

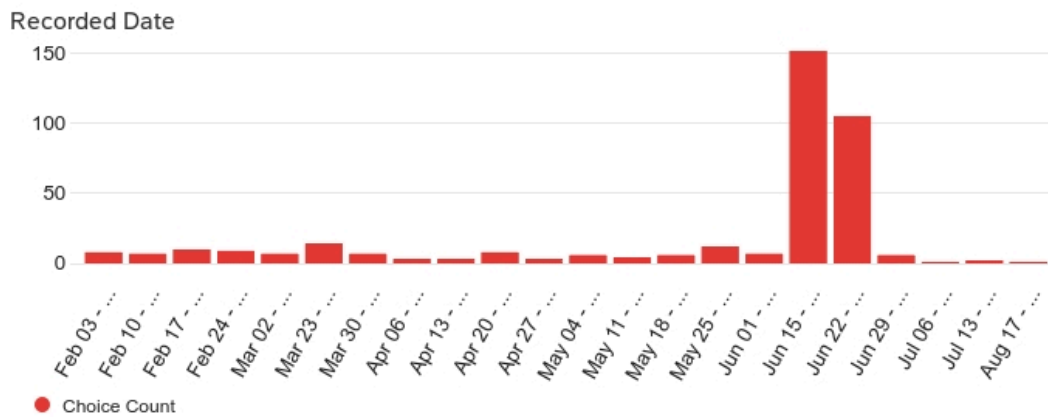
In the spirit of ensuring all survey instruments are appropriate on a global scale and accessible to all individuals with differing abilities, the ultimate goal is for the PBNAPS to be applicable across settings and across ability types. However, one of the major limitations of the current research is that it did not explicitly address or account for either of these importance considerations. None of the PBNAPS items are intended to solely apply to a highly educated and English-proficient audience. Therefore, I do acknowledge there should have been more consideration to the inherent diversity within the PBNAPS respondent population. Just as needs assessments themselves should take a globalized perspective and display cultural sensitivity (Watkins & Altschuld, 2014), so too should the PBNAPS. Future iterations of such research could benefit from beta testing with a more intentionally linguistically and culturally diverse sample of the target population.

Limitations to the Factor Analysis

Some general limitations of factor analysis studies include the fact that items or entire measures may not have been created to reflect the constructs, as theorized (Costello & Osborne, 2005; Pallant, 2016). Based on the final component model, it is clear that a more nuanced look at the construct of perceived burden is warranted. Also, potentially true within this dataset, there may have been too few items to represent the underlying construct dimensions. In each of the subscales, the number of items ranged from six (6) to seven (7). This provides a relatively small pool of items from which to examine the dimensionality of a construct as broad as perceived participant burden (Costello & Osborne, 2005; Pallant, 2016; Thorndike & Thorndike-Christ, 2010).

Jargon vs. Layman Terms: Implications on Research Participation

One initial limitation of the study was that it was very difficult to obtain respondents for the PBNAPS. Though I started data collection in earnest in late January 2020, participants only slowly trickled in. While this could be due to the fact that potential respondents simply did not want to partake in the research, or because the COVID-19 global pandemic affected their ability to participate, there is something else important to mention. As visible in Figure 14, there was a noticeable spike in participation in June 2020.

Figure 14.*PBNAPS Completions by Recorded Date*

Interestingly, this spike coincides with a final push I made in recruitment for the research. With additional IRB approval to solicit participants via social media and professional groups, I added plain, everyday examples of needs assessments in the recruiting materials. While this was not a major area of focus in this research, obtaining this spike in June might also mean that people who would otherwise have been willing to participate simply did not know what was meant by *needs assessment*. They may not realize that in addition to the commonly perceived extremely rigorous, business-related needs assessments, we perform needs assessments every day in common scenarios.

As mentioned in the literature, different domains use a different term for what is considered a needs assessment in the ISD and HPT space. Terminology is key: According to Zemke (1988), Kaufman recommended talking about needs assessment without the jargon. He speculated that the needs assessment process and experience “would be far easier to ‘sell’ if trainers would only talk about it in plain English,” (Zemke, 1998, p. 42). I agree with this statement; my research certainly benefitted from a plain language approach. Much like my research was able to advance once I made that change, any future research in the needs assessment space should also use plain language when recruiting participants.

Conclusion

As previously mentioned, the study of burden as it applies to needs assessment is largely absent from the literature. In particular, the lived experience of participants is not documented. This current research has helped to fill in some of that gap and present initial evidence of the ways in which these operationalized components of perceived burden surface in needs assessment practice. The results were favorable suggesting both that practitioners and organizations alike should not shy away from conducting needs assessments, as they offer far more value than any burden incurred.

Based on the thick descriptions offered in Chapter 4 and interpreted here in this chapter, I do believe the research overall to have exhibited substantial trustworthiness. The triangulation of data, examination of previous findings, and honesty displayed by the participants support the notion of credibility (i.e., that the research is addressing the construct of perceived burden as it intended to) (Shenton, 2004). Within this dissertation I have also provided the context within which the research was collected as well as the contexts which the respondents and interviewees represent. Based on the results across organizational contexts, affiliation types, and lengths of affiliation, these findings can be deemed transferable to other scenarios as well (Shenton, 2004).

Additionally, this research also exhibits transferability. Both based on the literature and my own personal practice, I have posited that needs assessment is too often dismissed due to perceptions of burden within the process. However, these perceptions are not always the reality. The data here show across participant types and methods of data collection, that needs assessment participants likely to do not experience high levels of burden in needs assessment projects. While these initial suppositions were proven through the data, the current research is devoid of the issues of confirmability that plagued my previous research. My studying the experiences of needs assessment participants across a heterogeneous group of projects and

contexts where I was not consistently involved as the facilitator, helped to preserve my objectivity in the analysis (Shenton, 2004).

Furthermore, the PBNAPS is the first of its kind to examine the needs assessment participant experience. It can and should be operationalized as a valuable, reliable instrument to measure the amount of perceived burden experienced by needs assessment participants. However, it does require some revisions based on the final component model. As it continues to be refined and validated over time, the tool can also provide valuable feedback to practitioners. Obtaining a better sense of how perceptions of burden affect needs assessment processes and outcomes can help participants further determine how to go about their work.

While the literature suggest that needs assessments are negatively connotated or a burden, this research shows that the burden is within the perception, not the needs assessment itself. As such, the results from this research can help demystify needs assessment and eliminate false perceptions. When done with the appropriate considerations for what participants are asked to do, what they must give up, and how they perceive facilitators, needs assessment is a great tool, from which participants and organizations stand much to gain.

The results of this research also provide some implications for ISD and HPT training programs for pre-service practitioners. They should continue promote needs assessment as a valuable tool and enhance coursework in this area to include consulting skills, empathic approaches, and reflective practice. While some programs may include these elements, they should be added to those programs that do not as a means to set future practitioners up for success. With future research, as summarized within the table below, replication, and continued verified results, the PBNAPS can also be introduced into these preservice programs, arming future practitioners with an additional tool for their future work.

Table 56.*Summary of Future Research Recommendations*

Area of Focus	Theme	Future Research Recommendation
Perceived burden construct	Relationship of perceived burden and motivation	Explore whether there is a direct correlation between perceived burden and motivation
	Presence within the literature	Replicate the current study for further presence within the literature
	Relationship of participant choice and perceived burden	Explore whether there is a direct correlation between participant choice in needs assessment task and perceived burden
	High perceived burden representation	Within replication, explore the experience of those reporting high levels of perceived burden via interviews and focus groups
	Relationship between needs assessment model use and perceived burden	Explore whether there is a direct correlation between needs assessment model use and perceived burden
PBNAPS Instrument	Factor analysis	Replicate factor analysis with new data sets
	Factor analysis, reliability, and validity	Explore PBNAPS performance with suggested model revisions, item deletions, revisions, and additions
	High perceived burden representation	Replicate research with random sampling procedures to see if that increases the high perceived burden reports within the dataset
	Response options	Examine the PBNAPS performance if altered to include “Not Applicable” and “Not Sure” options.
	Respondent diversity	Beta test and replicate PBNAPS study with a more intentionally linguistically and culturally diverse sample of the target population
Needs Assessment	Intervention diffusion	Explore the needs assessment process itself impact organizational processes, performance, or beliefs before recommendations are yielded from the needs assessment
	Model use in novice practitioners	Explore how novice practitioners leveraged existing models.
	Plain language use	Explore participation rates with plain language vs. jargon when recruiting participants

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APPENDICES

**I. 2019 Version of the Perceived Burden in Needs Assessment Participants Scale
(PBNAPS)**

Construct Component	Item ID	Item Description
Lack of Humanism	PBS1	My participation in this survey has been positive.
	PBS2	My interaction with the investigator(s) have been positive.
	PBS3	I feel like a valued partner in this needs assessment effort.
Problem Mindset	PBS1	My participation in this survey has been positive.
	PBS4	The items in this survey were negatively worded.
	PBS5	Participating in this needs assessment will be beneficial to the [name] organization.
	PBS5_psr ^a	Participating in this needs assessment will be beneficial to me.
Inconvenience of Involvement	PBS6_c ^b	I am anxious about the results of this needs assessment.
	PBS1	My participation in this survey has been positive.
	PBS2	My interaction with the investigator(s) have been positive.
	PBS5_psr	Participating in this needs assessment will be beneficial to me.
	PBS7	Participating in this portion of the needs assessment was an inconvenience.
Implementation of Recommendations	PBS8	Participating in this portion of the needs assessment was an inconvenience.
	PBS5	Participating in this needs assessment will be beneficial to the [name] organization.
	PBS6_c	I am anxious about the results of this needs assessment.
	PBS6_c2	I am willing to do my part to address any recommendations that will come as a result of this needs
	PBS6_psr_s	I am interested in hearing the results of this needs assessment.

^a_psr refers to the version of the survey given to Primary Service Recipients.

^b_c refers to the version of the survey given to Clients.

II. Sample Communications for Needs Assessment Participants

Sample #1: Flyer



Sample #2: Letter

Needs Assessment Research Notification to *[insert name of organization]* Constituents

Introduction:

Thank you for your willingness to provide feedback on your experience in a recent needs assessment. Ms. Kim Pinckney-Lewis, a PhD student at Old Dominion University, is conducting research on needs assessment participation and reactions. She would greatly appreciate your input. The following information explains the study and provides you with the voluntary opportunity to participate! For further information, please contact her at kpinckn1@hotmail.com or 856-905-7498 (cell).

What you will be asked to do:

First, you will be asked to review and sign an Informed Consent Document, which explains the purpose of the research and your rights as a participant. If you say YES, you will be asked to participate in at least one of the following:

- One (1) survey (not to exceed 10 minutes)
- One (1) interview or focus group (not to exceed one hour)

Informed Consent Document:

To learn more about this research and/or to provide your consent to participate, please access the Informed Consent Document here:

[insert link here]

I would appreciate your review of the Informed Consent Document and/or signature affirming your willingness to participate by no later than *[insert date 2 weeks from time of sending the notification]*. Once Ms. Pinckney-Lewis receives your signed Consent Document, you will receive survey access as well as the schedule for interviews/focus groups.

Sample #3: Social Media Posts



Kim Pinckney-Lewis (she/her/hers)

Instructional Design & Technology PhD Candidate | Performance Improv...
5mo • 🌐

COVID-19 has made dissertation data collection quite a challenge. I need your help!

I'm studying the participant experience in needs assessment. Even if you haven't done/participate in a formal needs assessment, you can take this survey if you have ever served in one of these roles/examples:

- Data Providers:

- o Responded to an end-of-course feedback survey
- o Answered medical questionnaires on behalf of a child/dependent or yourself at a doctor's office
- o Contributed to a student IEP, 504, or higher ed accommodations plan
- o Responded to an organizational climate survey
- o Contributed to any other needs assessment type (i.e., training needs assessment, strategic needs assessment)

- Clients: requested or received data from the needs assessment examples listed above.

- Stakeholders: Had a vested interest in the data/outcomes from the needs assessment examples listed above.

If any of these statements apply to you, you have participated in what I call a needs assessment and you're eligible for my survey. Please help me out via this link: <https://lnkd.in/eQAYFJj>

If you come across any question that does not apply to you, please select "Neither Agree nor Disagree" or "Not Applicable".

Thanks so much!

[#needsassessment](#) [#survey](#)

Online Survey Software | Qualtrics Survey Solutions

odu.co1.qualtrics.com • 1 min read

Qualtrics sophisticated online survey software solutions make creating online surveys...



Kim PL

June 19 • 🌐

Hi Everyone,
COVID-19 has made dissertation data collection quite a challenge. I need your help!
I need at least 20 more people to complete my super short survey to hit my response rate. You can take this survey if you have ever served in one of these roles/examples:

- Data Providers:

- o Responded to an end-of-course feedback survey
- o Answered medical questionnaires on behalf of a child/dependent or yourself at a doctor's office
- o Contributed to a student IEP, 504, or higher ed accommodations plan
- o Responded to an organizational climate survey
- o Took time to think about your own needs (as a student, parent, partner, etc.)
- o Contributed to any other needs assessment type

- Clients:

- o Received end-of-course feedback survey results
- o Requested a student IEP, 504, or higher ed accommodations plan
- o Requested any medical diagnostic information or questionnaires to be completed
- o Received organizational climate survey data
- o Requested any other needs assessment type
- o Oversaw any other needs assessment type

- Stakeholders:

- o Had a vested interest in end-of-course survey feedback data
- o Had a vested interest in a child/dependent or your own medical diagnosis process

- o Had a vested interest in a student IEP, 504, or higher ed accommodations plan
- o Had a vested interest in an organizational climate survey
- o Had a vested interest in any other needs assessment type

If any of these statements apply to you, you have participated in what I call a needs assessment and you're eligible for my survey. Please help me out via this link or the QR code: https://odu.co1.qualtrics.com/jfe/form/SV_b8H7hGMSculnwt

If you come across any question that does not apply to you, please select "Neither Agree nor Disagree" or "Not Applicable".

Thanks so much!



III. Draft Revised Perceived Burden in Needs Assessment Participants Scale (PBNAPS)

Revised Construct Component	Item ID	Item Description	Creation Notes
Perceptions of duty, obligation, and responsibility	PDOR1	This needs assessment demanded too much of my time.	Modified from Flake (2015) TE1 & TE3
	PDOR2	I participated in this needs assessment because I wanted to.	Modified from Pinckney-Lewis (2019) RR_PBS6_C2
	PDOR3	The tasks I was asked to complete were reasonable given my affiliation with the organization.	New Item
	PDOR4	I had too many responsibilities within the needs assessment.	Modified from Flake (2015) TE4 & TE5
	PDOR5	I only took part in the needs assessment because I was obligated to.	New Item
	PDOR6	I would be willing to take on more duties related to a needs assessment in the future.	Modified from Pinckney-Lewis (2019) RR_PBS8
	PDOR7	I am willing to do my part to address recommendations from this needs assessment.	Modified from Pinckney-Lewis (2019) RR_CIF8
Perceptions of cost	POC1	I did not have to sacrifice my other commitments to participate in this needs assessment.	Modified from Flake (2015) OE1 and L2
	POC2	Because of all the other demands of my time, I did not have enough time for this needs assessment.	Modified from Flake (2015) OE2
	POC3	My other responsibilities did not impede me from participating in this needs assessment.	Modified from Flake (2015) OE3
	POC4	This needs assessment required me to give up too many activities I value.	Modified from Flake (2015) L2

Revised Construct Component	Item ID	Item Description	Creation Notes
Perceptions of practitioner skills	POC5	While participating in this needs assessment, I was still able to complete other tasks required of me.	New Item
	POC6	The sacrifices I made to participate in the needs assessment are worth the benefits the organization will gain.	Modified from Pinckney-Lewis (2019) RR_PBS5, RR_PBS5_PSR
	PPS1	The needs assessment facilitator was a good listener.	New Item
	PPS2	When interacting with the needs assessment facilitator, I did not feel understood.	Modified from Pinckney-Lewis (2019) RR_PBS3, RR_PBIF1
	PPS3	The needs assessment facilitator(s) explained their process in terms that I did not understand.	New Item
	PPS4	The needs assessment facilitator(s) interacted well with me.	Modified from Pinckney-Lewis (2019) RR_PBS2
	PPS5	I trusted the needs assessment facilitator(s) to carry out the needs assessment appropriately.	New Item
	PPS6	The needs assessment facilitator(s) made the needs assessment process feel seamless.	New Item
	PBS7	Based on my experience, the needs assessment process could have been more skillfully executed.	New Item
	PSSP1	Regardless of my stature with the organization, the needs assessment facilitator(s) valued my contributions to this needs assessment.	Modified from Pinckney-Lewis (2019) RR_PBS3
Perceived systemic sensitivity of the practitioner	PSSP2	The needs assessment facilitator(s) had a good grasp on how the organization functions.	New Item

Revised Construct Component	Item ID	Item Description	Creation Notes
	PSSP3	The needs assessment facilitator(s) had some difficulty navigating the organizational dynamics.	New Item
	PSSP4	The needs assessment facilitator(s)' interests seemed to overshadow my interests.	New Item
	PSSP5	The needs assessment facilitator(s) understood the culture of the organization.	New Item
	PSSP6	The needs assessment facilitator(s) contributions made a positive impact on the organization.	New Item
	PSSP7	The needs assessment facilitator(s) presence disrupted organizational functionality.	New Item
	PSSP8	The needs assessment facilitator(s) had very little influence on organizational stakeholders.	New Item
	OB1	Overall, considering my role/responsibilities in the needs assessment and anything I had to give up to participate, I would participate in a similar needs assessment in the future.	Modified from Pinckney-Lewis (2019) RR_PBS8
	OB2	Overall, considering my role/responsibilities in the needs assessment and anything I had to give up to participate, my participation was not worthwhile.	New Item

IV. 2020 PBNAPS as Deployed via Qualtrics

Perceptions of Burden in Needs Assessment Participant Survey (PBNAPS)

Start of Block: Background

Q1

Perceived Burden for Needs Assessment Participants Survey (PBNAPS)**BACKGROUND:**

Ms. Kim Pinckney-Lewis (PhD Candidate at Old Dominion University) is conducting dissertation research on the participant experience in needs assessment: the data-driven search for opportunities to maximize individual, team, or organizational performance by contributing to the effectiveness, efficiency, and/or ease of supporting organizational goals. Ms. Pinckney-Lewis will be exploring your experiences and feedback upon participating in a recent needs assessment. If you have any questions about this research, please contact her at kpinckn1@hotmail.com or 856-905-7498 (cell).

DIRECTIONS:

First, complete and sign the Informed Consent section where you will have the option to download the full details of the project. In the survey sections that follow, please either select or fill in the appropriate response(s) for each item. Answer honestly to provide the most accurate data. Your participation is greatly appreciated!

Upon survey completion, you may be entered into a lottery for the chance to win one of five \$25

gift cards. To be entered in this lottery, you will need to provide your email address in a space provided at the end of the survey.

End of Block: Background

Start of Block: Informed Consent

Q2 INFORMED CONSENT FOR PARTICIPATION

Respond to the prompts below as a confirmation of your consent to participate in the research as described here: <https://drive.google.com/file/d/1nE7QrkdQH77znTh8tT10V9xy71md-bVy/view?usp=sharing>.

You may download a copy of the research details to keep.

Providing your initials and date below will serve as your signature. By signing in this way, you are telling the researchers YES , that you agree to participate in the study as described in the hyperlinked document.

Q3 I voluntarily consent to participate in this research as described in the hyperlinked document.

☐ Yes (1)

☐ No (2)

Q36 Please enter your initials and today's date below. (Note: Your initials will not be stored in association with your survey data.)

☐ Initials (1) _____

☐ Date (2) _____

End of Block: Informed Consent

Start of Block: PDOR

Q5 You recently participated in a needs assessment. Please keep that needs assessment in mind as you complete this survey. For each of the statements that follow, indicate how well you agree by selecting the appropriate button.

Q6 I had few responsibilities in the needs assessment.

☐ Strongly Agree (77)

☐ (78)

☐ (79)

☐ Neither Agree nor Disagree (80)

☐ (81)

☐ (82)

☐ Strongly Disagree (83)

Q7 I volunteered to participate in the needs assessment.

- ☐ Strongly Agree (8)
 - ☐ (9)
 - ☐ (10)
 - ☐ Neither Agree nor Disagree (11)
 - ☐ (12)
 - ☐ (13)
 - ☐ Strongly Disagree (14)
-

Q8 The tasks I was asked to complete were reasonable given the scope of my responsibilities within the organization.

- ☐ Strongly Agree (8)
 - ☐ (9)
 - ☐ (10)
 - ☐ Neither Agree nor Disagree (11)
 - ☐ (12)
 - ☐ (13)
 - ☐ Strongly Disagree (14)
-

Q9 I had too many responsibilities within the needs assessment.

- ☐ Strongly Agree (8)
 - ☐ (9)
 - ☐ (10)
 - ☐ Neither Agree nor Disagree (11)
 - ☐ (12)
 - ☐ (13)
 - ☐ Strongly Disagree (14)
-

Q10 I was obligated by my organization to participate in the needs assessment.

- ☐ Strongly Agree (8)
 - ☐ (9)
 - ☐ (10)
 - ☐ Neither Agree nor Disagree (11)
 - ☐ (12)
 - ☐ (13)
 - ☐ Strongly Disagree (14)
-

Q12 I should not be tasked with addressing any recommendations from the needs assessment.

- ☐ Strongly Agree (21)
- ☐ (22)
- ☐ (23)
- ☐ Neither Agree nor Disagree (24)
- ☐ (25)
- ☐ (26)
- ☐ Strongly Disagree (27)

End of Block: PDOR

Start of Block: POC

Q13 I had to give up other commitments to participate in the needs assessment.

- ☐ Strongly Agree (15)
 - ☐ (16)
 - ☐ (17)
 - ☐ Neither Agree nor Disagree (18)
 - ☐ (19)
 - ☐ (20)
 - ☐ Strongly Disagree (21)
-

Q14 I have so many other commitments that I could not put forth the effort required for the needs assessment.

- ☐ Strongly Agree (15)
 - ☐ (16)
 - ☐ (17)
 - ☐ Neither Agree nor Disagree (18)
 - ☐ (19)
 - ☐ (20)
 - ☐ Strongly Disagree (21)
-

Q15 I have put too much energy into this needs assessment.

- ☐ Strongly Agree (21)
 - ☐ (22)
 - ☐ (23)
 - ☐ Neither Agree nor Disagree (24)
 - ☐ (25)
 - ☐ (26)
 - ☐ Strongly Disagree (27)
-

Q16 The needs assessment required a reasonable amount of effort.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q17 I was still able to complete other tasks required of me while participating in the needs assessment.

- ☐ Strongly Agree (36)
 - ☐ (37)
 - ☐ (38)
 - ☐ Neither Agree nor Disagree (39)
 - ☐ (40)
 - ☐ (41)
 - ☐ Strongly Disagree (42)
-

Q18 The efforts I made to participate in the needs assessment are worth the benefits the organization will gain.

- ☐ Strongly Agree (36)
- ☐ (37)
- ☐ (38)
- ☐ Neither Agree nor Disagree (39)
- ☐ (40)
- ☐ (41)
- ☐ Strongly Disagree (42)

End of Block: POC

Start of Block: PPS & PSSP-1

Q51 For this section, please respond with the MAIN (1) needs assessment facilitator in mind. (Note: Facilitators are those individuals responsible for carrying out the needs assessment. If there was more than one needs assessment facilitator, you will be able to respond with them in mind. If there was no known facilitator, please select "Neither Agree nor Disagree").

Q19 The needs assessment facilitator was a good listener.

- ☐ Strongly Agree (43)
 - ☐ (44)
 - ☐ (45)
 - ☐ Neither Agree nor Disagree (46)
 - ☐ (47)
 - ☐ (48)
 - ☐ Strongly Disagree (49)
-

Q20 I did not feel understood when interacting with the needs assessment facilitator.

- ☐ Strongly Agree (57)
 - ☐ (58)
 - ☐ (59)
 - ☐ Neither Agree nor Disagree (60)
 - ☐ (61)
 - ☐ (62)
 - ☐ Strongly Disagree (63)
-

Q21 The needs assessment facilitator explained their process in terms that I did NOT understand.

- ☐ Strongly Agree (43)
 - ☐ (44)
 - ☐ (45)
 - ☐ Neither Agree nor Disagree (46)
 - ☐ (47)
 - ☐ (48)
 - ☐ Strongly Disagree (49)
-

Q23 I trusted the needs assessment facilitator to carry out the needs assessment with the appropriate level of rigor.

- ☐ Strongly Agree (57)
 - ☐ (58)
 - ☐ (59)
 - ☐ Neither Agree nor Disagree (60)
 - ☐ (61)
 - ☐ (62)
 - ☐ Strongly Disagree (63)
-

Q24 The needs assessment facilitator worked around my schedule.

- ☐ Strongly Agree (43)
 - ☐ (44)
 - ☐ (45)
 - ☐ Neither Agree nor Disagree (46)
 - ☐ (47)
 - ☐ (48)
 - ☐ Strongly Disagree (49)
-

Q25 I was NOT confident in the needs assessment facilitator's skills.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q56 The needs assessment facilitator valued my contributions to the needs assessment.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q57 The needs assessment facilitator had a solid understanding of how the organization functions.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q58 The needs assessment facilitator had difficulty navigating the organizational dynamics.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q59 The interests of the needs assessment facilitator overshadowed my own interests.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q60 The needs assessment facilitator understood the culture of the organization.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q61 The presence of the needs assessment facilitator disrupted organizational productivity.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q62 The needs assessment facilitator had very little influence on the organization's decision making.

- ☐ Strongly Agree (50)
- ☐ (51)
- ☐ (52)
- ☐ Neither Agree nor Disagree (53)
- ☐ (54)
- ☐ (55)
- ☐ Strongly Disagree (56)

End of Block: PPS & PSSP-1

Start of Block: PPS & PSSP-2

Q77 For this question, please indicate whether or not there was a second needs assessment facilitator other than the main needs assessment facilitator. (Note: Facilitators are those individuals responsible for carrying out the needs assessment.)

- ☐ Yes (1)
 - ☐ No (2)
 - ☐ Not Sure (3)
-

Q91 For this section, please respond with the second needs assessment facilitator in mind.

Q92 The needs assessment facilitator was a good listener.

- ☐ Strongly Agree (43)
 - ☐ (44)
 - ☐ (45)
 - ☐ Neither Agree nor Disagree (46)
 - ☐ (47)
 - ☐ (48)
 - ☐ Strongly Disagree (49)
-

Q93 I did not feel understood when interacting with the needs assessment facilitator.

- ☐ Strongly Agree (57)
 - ☐ (58)
 - ☐ (59)
 - ☐ Neither Agree nor Disagree (60)
 - ☐ (61)
 - ☐ (62)
 - ☐ Strongly Disagree (63)
-

Q94 The needs assessment facilitator explained their process in terms that I did NOT understand.

- ☐ Strongly Agree (43)
 - ☐ (44)
 - ☐ (45)
 - ☐ Neither Agree nor Disagree (46)
 - ☐ (47)
 - ☐ (48)
 - ☐ Strongly Disagree (49)
-

Q95 I trusted the needs assessment facilitator to carry out the needs assessment with the appropriate level of rigor.

- ☐ Strongly Agree (57)
 - ☐ (58)
 - ☐ (59)
 - ☐ Neither Agree nor Disagree (60)
 - ☐ (61)
 - ☐ (62)
 - ☐ Strongly Disagree (63)
-

Q96 The needs assessment facilitator worked around my schedule.

- ☐ Strongly Agree (43)
 - ☐ (44)
 - ☐ (45)
 - ☐ Neither Agree nor Disagree (46)
 - ☐ (47)
 - ☐ (48)
 - ☐ Strongly Disagree (49)
-

Q97 I was NOT confident in the needs assessment facilitator's skills.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q98 The needs assessment facilitator valued my contributions to the needs assessment.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q99 The needs assessment facilitator had a solid understanding of how the organization functions.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q100 The needs assessment facilitator had difficulty navigating the organizational dynamics.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q101 The interests of the needs assessment facilitator overshadowed my own interests.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q102 The needs assessment facilitator understood the culture of the organization.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q103 The presence of the needs assessment facilitator disrupted organizational productivity.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q104 The needs assessment facilitator had very little influence on the organization's decision making.

- ☐ Strongly Agree (50)
 - ☐ (51)
 - ☐ (52)
 - ☐ Neither Agree nor Disagree (53)
 - ☐ (54)
 - ☐ (55)
 - ☐ Strongly Disagree (56)
-

Q79 For this question, please indicate whether or not there were any additional needs assessment facilitators, other than those for which you have already provided responses.

- ☐ Yes (1)
- ☐ No (2)
- ☐ Not Sure (3)

End of Block: PPS & PSSP-2

Start of Block: Open Ended

Q78 OPEN ENDED

Q80 Is there anything else you would like to share about the needs assessment? Please use the space provided below.

End of Block: Open Ended

Start of Block: Demographic Information

Q37 DEMOGRAPHIC INFORMATION

For this section, please respond to each question.

Q38 Which of the following descriptions applies to the organization served within the needs assessment project for which you were a participant? (Check all that apply.)

- ☐ The organization is a non-profit. (1)
- ☐ The organization is a for-profit organization. (2)
- ☐ The organization is a government entity (i.e. county, state, or federal level). (3)
- ☐ Other (4)

Q39 If you selected "Other" above, please describe the organization in your own words here.

Q40 Which of the following descriptions applies to your affiliation with the organization served within the needs assessment project for which you were a participant? (Check all that apply.)

- ☐ I am an Owner of the organization. (1)
- ☐ I am an Executive-level Leader within the organization. (2)
- ☐ I am a Manager/Supervisor within the organization. (3)
- ☐ I am an Employee within the organization. (4)
- ☐ I am a Volunteer within the organization. (5)
- ☐ I am a Customer or Client of the organization (i.e., I receive the products or services offered by the organization.) (6)
- ☐ I am a Partner of the organization (i.e., I am NOT an employee, but work with the organization to help them achieve their mission.) (7)
- ☐ Other (8)

Q41 If you selected "Other" above, please describe your affiliation with the organization in your own words here.

Q81 How long have you been affiliated with the organization?

- ☐ < 1 year (1)
- ☐ 1 - 3 years (2)
- ☐ 4 - 6 years (3)
- ☐ 7 - 10 years (4)
- ☐ 11+ years (5)

End of Block: Demographic Information

Start of Block: Gift Card Lottery

Q42 GIFT CARD LOTTERY ENTRY

Q43 To be entered in the lottery for the chance to win one of five \$25 gift cards, you will need to provide your email address in the space below. Your email address will not be stored with your survey responses. By not providing an email address, you will forfeit entry into that lottery.

End of Block: Gift Card Lottery

V. Semi-structured Interview/Focus Group Protocol for Participants

Opening Script: Thank you for your participation in today's interview/focus group. I am completing an investigation on needs assessment participant experiences. Throughout this process, I would like to better understand your perceptions and reactions to the recent needs assessment in which you participated.

The interview/focus group will follow this Agenda:

- Review and signing of Informed Consent Form, if appropriate
- Researcher-driven questions/prompts
- Participant-driven questions

Do you have any questions at this time? [If yes, address the questions.]

Please review the Consent Form at this time.

So that I may be fully present during our discussion, I would like to record this interview/focus group for later data analysis. May I have your permission to record?

1. Please describe your experience participating in the needs assessment. (Consider both positive and negative reactions.)
2. What motivated you to participate in the needs assessment? Did you feel any sense of:
 - a. Duty
 - b. Obligation
 - c. Responsibility?
3. Did you sacrifice or give up anything to participate in the needs assessment? Please explain. (Consider time, other/preferred activities, cost, etc.)
4. How would you describe the practitioner's skills?
 - a. Technical skills
 - b. People skills
5. If you were able to observe the practitioner interact with other stakeholders within the needs assessment, how well did the practitioner:
 - a. Treat organizational power dynamics?
 - b. Navigate competing interests?
 - c. Leverage negotiation skills?
 - d. Assume personal responsibility for the effort?
6. Overall, how much did you feel burdened in the process?
7. Do you have any questions for me?

Closing Script: This concludes the interview/focus group. Thanks again for your participation! Once all data are collected, they will be coded, analyzed, and presented to the organizational leadership. As a reminder, no personally identifiable information about you will be released as a result of your participation in today's interview. Should you have any questions about the needs assessment or wish to withdraw your participation at any time, feel free to reach me at kpinkn1@hotmail.com. Thanks again!

VI. Semi-structured Interview/Focus Group Protocol for Practitioners

Opening Script: Thank you for your participation in today's interview/focus group. I am completing an investigation on needs assessment participant and practitioner experiences. Throughout this process, I would like to better understand your perceptions and reactions to the recent needs assessment you conducted. The interview/focus group will follow this Agenda:

- Review and signing of Informed Consent Form, if appropriate
- Researcher-driven questions/prompts
- Participant-driven questions

Do you have any questions at this time? [If yes, address the questions.]

Please review the Consent Form at this time.

So that I may be fully present during our discussion, I would like to record this interview/focus group for later data analysis. May I have your permission to record?

1. Please describe your experience conducting in the needs assessment. (Consider both positive and negative reactions.)
2. Please describe how you perceived the participants' experience. (Consider both positive and negative reactions.)
 - a. What do you believe motivated them to participate in the needs assessment?
 - i. Consider:
 1. Duty
 2. Obligation
 3. Responsibility
 - b. To the best of your knowledge, what sacrifices do you believe participants made in order to participate? (Consider time, other/preferred activities, cost, etc.)
3. What, if anything, did you do to ease the participant experience?
4. Within your needs assessment, how well do you feel you:
 - a. Exhibited technical skills?
 - b. Exhibited people skills?
 - c. Treated organizational power dynamics?
 - d. Navigated competing interests?
 - e. Leveraged negotiation skills?
 - f. Assumed personal responsibility for the effort?
5. Overall, how much do you feel your needs assessment participants were burdened in the process?
6. In general, what does perceived practitioner burden mean to you in the context of needs assessment?
7. What can practitioners do to mitigate participant burden?
8. Do you have any questions for me?

Closing Script: This concludes the interview/focus group. Thanks again for your participation! Once all data are collected, they will be coded, analyzed, and presented to the organizational leadership. As a reminder, no personally identifiable information about you will be released as a result of your participation in today's interview. Should you have any questions about the needs assessment or wish to withdraw your participation at any time, feel free to reach me at kpinkn1@hotmail.com. Thanks again!

VITA

Kim N. Pinckney-Lewis

STEM Education and Professional Studies
 Department Darden College of Education
 Old Dominion University, Norfolk, VA 23529

BIO

Kim Pinckney-Lewis is currently a Human Resources Strategist and Adjunct Instructor at the National Security Agency (NSA). She has served as a Talent Director, Program Director, and Team Lead for Training and Certification programs. With over 20 years of experience in the training and education fields, she has served as an instructional design consultant for various entities within the intelligence community; conducted numerous front-end analyses, training needs assessments, and job-task analyses; developed print-based instruction, micro- videos, and other asynchronous eLearning solutions; designed high-stakes certification and credential programs; and implemented program assessments and evaluations. Thus far, she has created and established over 20 hire-to-retire workforce development, training, and credential paths for the NSA workforce. Pinckney-Lewis holds an MA in second language acquisition and a PhD in instructional design & technology from Old Dominion University. Her research interests include exploring the intersections between adult learning theories, special populations, digital-age technology demands, assessment and evaluation best practices, and maximizing knowledge transfer.

EDUCATION

Ph.D. Candidate, Instructional Design and Technology; Old Dominion University, Norfolk, VA (Dissertation defense November 2020)

M.A. Second Language Acquisition & Application -Spanish, June 2006; University of Maryland, College Park, MD

B.A. Spanish Language & Literature & K-12 Education, May 2002; Swarthmore College, Swarthmore, PA

PROFESSIONAL EXPERIENCE

Instructional Systems Designer/Performance Improvement Consultant, NSA, 05/2012 – Present, Fort Meade, MD

Instructional Design Consultant and Researcher, ICF, International LLC, 9/2010 – 5/2012, McLean, VA

PUBLICATIONS

DeTuncq, T., & Pinckney-Lewis, K. (2017). Measuring the impact of mission critical certification at the National Security Agency (NSA). *Human Capital Analytics @ Work*, 2, 40 - 54.

Hostettler, K., & Pinckney-Lewis, K. (2020). "But I Know How to Google": Motivating Volunteers in an Information Literacy Module. In J. Stefaniak (Ed.), *Cases on Learning Design and Human Performance Technology* (pp. 305 - 333). Hershey, PA: IGI Global.

Nielson, K., Gonzalez-Lloret, M., & Pinckney, K. (2008). *Learning foreign languages at a distance: Characteristics of effective online courses*. Retrieved from College Park, MD: http://www.casl.umd.edu/sites/default/files/Nielson09_LearningForeignLang_0.pdf

Pinckney-Lewis, K., & Baaki, J. (2020). Insider effects: Empathy in needs assessment practice. In J. Stefaniak (Ed.), *Cases on Learning Design and Human Performance Technology* (pp. 142 - 162). Hershey, PA: IGI Global.

CONFERENCE PRESENTATIONS

"Best Practices in Certification Program Development," Information Assurance Symposium, Washington, DC, 2015

"Empathy and Systems Thinking: Keys to the Future of Assessing Needs," International Society for Performance Improvement Conference, Online, 2020

"Impact of Mission Critical Certification," Information Assurance Symposium, Washington, DC, 2016

"Measuring the Impact of Training at NSA," Center for Talent Reporting Conference, Dallas, TX, 2017