Via email: comments@pcaobus.org

May 29, 2023

Office of the Secretary
PCAOB
1666 K Street NW
Washington, DC 20006-2803

Re: Release No. 2023-001, Proposed Auditing Standard – General Responsibilities of the Auditor in Conducting an Audit and Proposed Amendments to PCAOB Standards

Dear Secretary Brown and Members of the Public Company Accounting Oversight Board (PCAOB):

The PCAOB's proposed changes to AS 1000 update verbiage throughout the standard, but the updates will be largely inconsequential to practice regarding professional skepticism (PS). Our view is that this proposal is a missed opportunity to critically assess the conceptualization of PS and PS expectations. We are concerned that since this standard has not been revised in 20 years, another 20 years may pass without improvement in auditor PS before the PCAOB examines this issue again.

As we discuss in detail below, skeptical judgments and skeptical actions are irrational and counterdispositional for nearly all people, including auditors. The trade-off between the costs of exercising PS for most people versus the ease of avoiding PS, particularly when the risk of material misstatement is perceived as low, presents immense challenges to achieving the depth of PS that the PCAOB appears to expect from auditors.

We are concerned that the depth of insight into PS among accountants remains mired in a simplistic conceptualization as an attitude or mindset, which is at best, lacking. Heretofore, the underlying assumption in both theory and practice is that all auditors have the ability to exercise PS consistently for the duration of the audit. Not only do we find no evidence from other disciplines to support this assumption, but the evidence strongly refutes it. In this comment letter, we highlight theories, advancements in medical diagnosis and treatment, and empirical results from multiple disciplines that challenge the simplicity of current PS views in accounting theory and practice.

Given the serious PS deficiencies that have been noted for decades,[1] PS demands immediate attention in AS 1000. To help affect meaningful progress on audit quality, we call upon the PCAOB to model PS by critically assessing research from diverse disciplines while avoiding confirmation biases and other judgment heuristics, suspending judgment until sufficient evidence is gathered, and providing a critical discussion of a broader perspective.

[1] See, Beasley, M. S., Carcello, J. V., & Hermanson, D. R. (2001). Top 10 audit deficiencies: Lessons from fraud-related SEC cases. *Journal of Accountancy, 191*(4), 63–66.

Overall, this letter assists in providing an understanding of why existing views of PS are rudimentary and how the conceptualization of PS in AS 1000 is critically insufficient. We believe that a PS reconceptualization along the theoretical dimensions that we discuss is an important first step in making improvements to auditor PS and thereby improving overall audit quality.

Widespread Deficiencies in PS Persist Despite Extensive Emphasis during the PCAOB Era

The origins of PS date back to at least 1940 when the SEC implored auditors to engage in "copious skepticism" when conducting audits.[2] The Cohen Commission (1978)[3] used the term "professional skepticism" in its report, which accelerated its use thereafter. Though the definition of PS has slightly evolved over the years, the underlying requirements (e.g., suspend judgment, gather sufficient evidence) remain unchanged for 45 years as well as the requirement that all auditors exercise PS throughout the duration of the audit.

The frauds of the early 2000s were blamed, in part, on a lack of PS exercised by the auditor.[4] These frauds led to the passage of the Sarbanes-Oxley Act (SOX) in 2002 followed by the formation of the PCAOB, which ushered in a new era of regulation including a renewed emphasis on PS. The profession enacted new auditing standards to try to detect fraud and increase PS.[5] Academics put forth models of PS,[6] developed a scale to measure PS traits,[7] and suggested interventions to help increase auditor PS.[8] Furthermore, there is no question that the PCAOB emphasized PS since its inception.[9]

---

[2] See, "A Journal Roundtable Discussion: Frank Talk from Former SEC Chief Accountants." *Journal of Accountancy*, 1988, December: 76–84.

[3] See, Cohen Commission, "The Commission on Auditors' Responsibilities: Report, Conclusions, and Recommendations." Available at http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45.r81.cf1.rackcdn.com/collection/papers/1970/1978_0101_CohenAuditors.pdf

[4] See, *Securities and Exchange Commission* v. *David B. Duncan*, United States District Court, Southern District of Texas, Case 4:08-cv-00314, 2008. Available at https://www.sec.gov/litigation/complaints/2008/comp20441.pdf.

[5] See, Statement on Auditing Standards (SAS) No. 99, "Consideration of Fraud in a Financial Statement Audit."

[6] See, Nelson, M. W. (2009). A model and literature review of professional skepticism in auditing. *Auditing: A Journal of Practice and Theory*, 28(2), 1–34.

[7] See, Hurtt, R. K., (2010). Development of a scale to measure professional skepticism. *Auditing: A Journal of Practice and Theory*, 29(1): 149–171.

[8] See, Cross, J. M., Moroney, R., and Phang, S-Y. (2023). Is it all in the mind(fulness)? An exploratory study in assessing the impact of mindfulness on professional skepticism. *Accounting Horizons* 37(1): 25–41.

[9] For example, see Gillam, K. J., "Unconscious Human Nature Affecting Professional Skepticism," Jan. 23, 2007, https://pcaobus.org/news-events/speeches/speech-detail/unconscious-human-nature-affecting-professional-skepticism-_37

Despite 20 years of substantial resources devoted to increasing auditor PS, insufficient PS remains a significant concern just as it was 25 years ago (Carcello et al. 1998). Examples of corporate frauds or financial distress in recent years are abundant: FTX, Wirecard, SVB, Credit Suisse, etc. Inevitably, the auditors' actions are criticized when such failures occur, and a lack of PS is among the most frequent explicit or implicit criticisms. Every large audit failure jeopardizes the stability of the financial system and undermines the credibility of auditors and regulators, including the PCAOB. Thus, we assert that PS deficiencies need to be addressed by the PCAOB in a manner that dramatically exceeds minor tweaks to the wording in AS 1000.

PS Assumptions by Regulators, the Accounting Profession, and Academics are Fundamentally Flawed

The PCAOB has reiterated in the proposal that the auditor must "exercise professional skepticism throughout the audit" (p.10), and this requirement is repeated throughout the Auditing Standards.[10] There are no caveats or exceptions. Stated differently, the standards require *all* auditors to exercise PS throughout the *entire* audit. Given this expectation, there is an implicit assumption that all auditors have the *capability* to exercise PS throughout the duration of the audit without exception or limitation. This assumption is fundamentally flawed. There has never been research to support this assumption, yet this assumption has been blindly accepted by auditors, academics, and regulators since the 1970s.

Not only is there no evidence to support the assumption that auditors *can* and *will* exercise PS following the standards, but there is also pervasive evidence that indicates that this assumption does not reflect reality. Though PS is an important requirement for auditors, the totality of scientific evidence related to skepticism does not reside within accounting. Human evolution, psychology, and physiology provide critical insights related to skepticism that have gone largely unnoticed by accounting regulators, academics, and professionals.

Psychologists View Skepticism as a Subclinical Personality Trait of Paranoia

Psychology has long viewed skepticism and related behaviors (e.g., suspicion, curiosity) as stable personality traits that constitute pervasive predispositions and predict human behavior.[11,12] The view that skepticism is a trait dates to at least 1748 with the work of philosopher David Hume.[13]

---

[10] For example, see AS 1015: Due Professional Care in the Performance of Work (as amended).

[11] In other contexts, such as morality (moral skepticism) or religion (religious skepticism, such as the belief in the divine), skepticism is characterized as a belief, attitude, or doubt related to putative knowledge or beliefs.

[12] See, Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*. *48*(1), 26–34; Tupes, E. C., & Christal, R. E. (1961). *Recurrent Personality Factors Based on Trait Ratings. Technical Report ASD-TR-61-97*, Lackland Air Force Base, TX: Personnel Laboratory, United States Air Force Systems Command.

[13] Hume, D. (1748). *An Enquiry Concerning Human Understanding*. Available at http://www.earlymoderntexts.com/assets/pdfs/hume1748.pdf

Skepticism is *not* an isolated trait. Rather, skepticism is a component of a broad personality trait with pervasive trust and clinical paranoia at opposing ends of a spectrum.[14] Just as introversion and extroversion are aspects of a common personality trait, trust, skepticism, and paranoia are likewise aspects of a common personality trait. Thus, discussions of introversion require the contrasting trait of extraversion, and likewise, skepticism requires the contrast of trust and paranoia to provide meaning.

Psychologists view skepticism as a subclinical, *dark* characteristic with attributes related to paranoia in that "high-skeptical individuals display behavior patterns that are similar to Paranoids but not at the level so debilitating to necessitate clinical intervention."[15] Researchers have specifically investigated whether skepticism is a unique trait or part of the same trait and trust and paranoia. In a study of 2,874 participants including representation from the general, at-risk, and clinically diagnosed populations, researchers conclude that paranoia, subclinical paranoia, and non-clinical traits (i.e., trust) comprise the same symptom spectrum.[16]

Understanding personality traits is important because traits predict human behavior. Every person has a homeostasis (default position) on any given personality trait, including the trust-skepticism-paranoia (TSP) trait. While people can deviate from their homeostatic condition, such deviations are minimal and temporary, and individuals tend to quickly return to their homeostasis.[17]

What is the homeostasis for most people, including auditors, as it relates to the TSP trait? How come exercising PS throughout the duration of an audit is impossible for most auditors? We turn to the fields of human evolution, psychology, and physiology for these important answers.

---

[14] See, Bebbington, P. E., McBride, O., Steel, C., Kuipers, E., Radovanovic, M., Brughax, T. Jenkins, R., Meltzer, H.I., & Freeman, D. (2013). The structure of paranoia in the general population. *British Journal of Psychiatry, 202*(6), 419–427; Freeman, D., Garety, P. A., Bebbington, P. E., Smith, B., Rollinson, R., Fowler, D., Kuipers, E., Ray, K., & Dunn, G. (2005). Psychological investigation of the structure of paranoia in a non-clinical population. *British Journal of Psychiatry, 186*(5), 427–435.

[15] See, Spain, S. M., Harms, P., & Lebreton, J. M. (2014). The dark side of personality at work. *Journal of Organizational Behavior, 35*(S1), S41–S60.

[16] See, Elahi, A., Perez Algorta, G., Varese, F., McIntyrre, J. C., & Bentall, R. P. (2017). Do paranoid delusions exist on a continuum with subclinical paranoia? A multi-method taxometric study. *Schizophrenia Research, 190*(December), 77–81.

[17] See, Little, B. R., & Joseph, M. F. (2007). Personal projects and free traits: Mutable selves and well beings. In B. R. Little, K. Salmela-Aro, & S. D. Phillips (Eds.), *Personal project pursuit: Goals, action, and human flourishing* (pp. 375–400) Mahwah, NJ, Lawrence Erlbaum Associates Publishers; Zelenski, J. M., Santoro, M. S., & Whelan, D. C. (2012). Would introverts be better off if they acted more like extraverts? Exploring emotional and cognitive consequences of counterdispositional behavior. *Emotion, 12*(2), 290–303.

Evolutionary Barriers to PS

The science of human evolution provides critical insights into the TSP trait. As humans evolved, most individuals developed a trait to trust for three primary reasons.

First, people inherently trust their initial judgments rather than suspend judgment. Research shows that *snap* decisions made during initial interactions between people, formed in milliseconds in the brain's emotion-processing center, the amygdala, are used to evaluate the trustworthiness of a stranger.[18] Hume notes that humans trust their own senses and that most people have a strong disposition to follow this type of "powerful instinct" out of a sense of survival.[19]

Second, trust is an evolutionarily beneficial trait. As noted by evolutionary researchers,[20] "Trust and trustworthiness are essential characteristics of successful human societies."[21] Prehistorically and contemporarily, trust provides societal benefits such as increased security and economic benefits.[22]

Third, humans have limited cognitive abilities and difficulty updating prior evaluations, especially if those evaluations include providing irrelevant or inaccurate information,[23] solving complex problems, or reasoning through complicated situations due to cognitive exhaustion.[24] When confronted with a social interaction, most individuals manage cognitive loads by defaulting to trust. Researchers note that trust provides individuals with a significant cognitive advantage while skepticism or distrust of another person requires "an enormous amount of time

[18] See, Todorov, A. (2017). *Face value: The irresistible influence of first impressions.* Princeton, NJ., Princeton University Press.

[19] See, Hume (1748).

[20] See, Manapat, M. L., Nowak, M. A., & Rand, D. G. (2013, p.1). Information, irrationality, and the evolution of trust. *Journal of Economic and Behavior & Organization, 90*(Supplement): S57–S75.

[21] The evolutionary predisposition to trust manifests itself in social contexts and communal activities designed to achieve a specific outcome. The social interactions associated with the audit (Guenin-Paracini, Malsch, & Tremblay, 2014), along with the objective to achieve a desired outcome (i.e., finish the audit) are consistent with the evolutionary predisposition to trust. See, Guenin-Paracini, H., Malsch, B., & Tremblay, M. S. (2014). On the operational reality of auditors' independence: Lessons from the field. *Auditing: A Journal of Practice & Theory*, *34*(2), 201–236. One exception to the evolutionary predisposition to trust occurs in situations of potential physical harm, which is not applicable in an auditing context. See, Markova, I., Linell, P., & Gillespie, A. (2007). Trust and distrust in society, in I. Markova and A. Gillespie (Eds.), *Trust and Distrust: Sociocultural Perspectives*. Charlotte, NC, Information Age Publishing.

[22] See Markova et al. (2007).

[23] See, Shelton, S. W. (1999). The effect of experience on the use of irrelevant evidence in auditor judgment. *The Accounting Review*, *74*(2), 217–224.

[24] See, Devine, D. J., & Philips, J. L. (2001). Do smarter teams do better: A meta-analysis of cognitive ability and team performance. *Small Group Research, 32*(5): 507–532.

and energy…in discovering the true nature of the other's value system."[25] Thus, evidence shows that humans have a strong evolutionary predisposition to trust, and trust yields many individual and societal benefits.

Physiological Barriers to PS

Trust also produces physiological benefits associated with the release of the neuropeptide oxytocin, which results in a positive, *feel good* reaction in the body,[26] whereas skepticism does not yield that response. In an effort to maintain a polite society, people actively work to reciprocate trust and positive feelings when they interact. Conversely, distrust is associated with conflict and has the physiological effect of increasing dihydrotestosterone in men, which increases agitation, confrontation, and aggression.[27] Together, interactions between individuals (such as an auditor and client) can alter the brain chemistry in a positive manner via mutual trust or in a negative manner via distrust or skepticism.

Social, Professional, and Personal Barriers to PS

Social, professional, and personal costs are also barriers to PS in auditor-client interactions. For example, requesting more audit evidence may result in the labeling of the skeptical auditor as confrontational, difficult, or unprofessional, along with implications of excessive work, excessive fees, and an adversarial relationship with the client.[28] Confronting a client is also uncomfortable for most auditors and socially costly. Research shows that exercising PS without finding a misstatement leads to lower performance evaluations from a supervisor.[29] Additionally, exercising PS includes costs to the auditor, such as reduced personal time and longer work hours. Recent research confirms that audit partner PS—in the form or issuing an adverse internal control opinion—increases the likelihood that the partner will be removed from that engagement.[30]

---

[25] See, Jones, G. R., & George, J. M. (1998, p. 535). The experience and evolution of trust: Implications for cooperation and teamwork. *The Academy of Management Review, 23*(3), 531–546.

[26] See, Kosfeld, M., Heinrichs, M., Zak, P. J., Fischbacher, U., & Fehr, E. (2005). Oxytocin increases trust in humans. *Nature, 435*(2005), 673–676.

[27] See, Zak, P. J. (2008). The neurobiology of trust. *Scientific American, 298*(6), 88–93.

[28] See, Dodgson, M. K., Agoglia, C. P., & Bennett, G. B. (2019). The influence of "relationship" partners on client managers' negotiation positions. *Working paper,* Northeastern University and University of Massachusetts, Amherst.

[29] See, Brazel, J. F., Jackson, S. B., Schaefer, T. J., & Stewart, B. W. (2016). The outcome effect and professional skepticism. *The Accounting Review, 91*(6), 1577–1599.

[30] See, Bakke, A., Cowle, E. N., Rowe, S. P., and Wilkins, M. S. (2023). How do audit firms treat partners who issue adverse internal control opinions? Working paper. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4383557

To prevent these cognitive, emotional, and professional costs, auditors may avoid confrontation and skeptical actions, especially if they perceive the risk of material misstatement as reasonably low. Auditors could also manage potential dissonance through motivated reasoning by seeking confirmatory information that allows the auditor to justify the avoidance of skeptical behavior.[31] Thus, social costs and professional costs provide significant disincentives and barriers for auditors to exercise PS.

Counterdispositional Actions

Individuals, including auditors, *can* engage in actions inconsistent with their personalities. For example, introverts can act outgoing at times. Such trait-inconsistent actions are termed *counterdispositional*. Research involving counterdispositional behaviors further highlights the difficulty in enhancing consistent PS. Counterdispositional actions are cognitively exhausting, and people must then recuperate by experiencing "restorative niches."[32] Research clearly shows that counterdispositional thoughts and actions *cannot* persist for extended periods of time.

Professional standards requiring the persistent exercise of PS are unrealistic for most auditors. Interventions to encourage the *normal*, trusting person to consistently act skeptically are counterdispositional, cognitively intensive, unsustainable, socially maladaptive, and generally ineffective.[33] Such interventions are akin to asking a quiet person to consistently act excitable or an introvert to consistently act as an extrovert.[34]

A professional standard mandating socially undesirable traits that are counterdispositional to most people—such as neuroticism, psychopathy, or Machiavellianism—seems absurd, yet the auditing profession mandates PS, which has many socially undesirable personality characteristics. In other words, a PS mandate is akin to an audit requirement to exercise "professional neuroticism" or "professional Machiavellianism." Furthermore, psychological and

[31] See, Hatfield, R. C., Jackson, S. B., & Vandervelde, S. D. (2011). The effects of prior auditor involvement and client pressure on proposed audit adjustments. *Behavioral Research in Accounting, 23*(2), 117–130.

[32] See, Little & Joseph (2007); Zelenski et al. (2012).

[33] Cognition and neuroscience research indicates the ineffectiveness in training to enhance overall general cognitive ability. See, Sala, G., & Gobet, F. (2019). Cognitive training does not enhance general cognition. *Trends in Cognitive Science, 23*(1), 9–20. Accounting research has examined adjustments to audit planning in response to fraud cues related to auditor experience and expertise (e.g., Bedard, 1989) and specific interventions (e.g., Hoffman & Zimbelman, 2009). See, Bedard, J. C. (1989). Archival investigation of audit program planning. *Auditing: A Journal of Practice & Theory, 8*(Fall), 57–71; Hoffman, V. B., & Zimbelman, M. (2009). Do Strategic Reasoning and Brainstorming Help Auditors Change Their Standard Audit Procedures in Response to Fraud Risk? *The Accounting Review, 84*(3), 811–837. Together, this research on the effectiveness of experience, expertise, and intentional interventions yields limited success in achieving expected PS outcomes within the general population of auditors.

[34] These analogies underestimate the difficulties for the non-clinical population to act counterdispositionally. Introverts receive social approval for behaving like an extrovert (see, Zelenski et al. 2012), but skepticism does not often produce social rewards, especially in light of outcome effects (e.g., see Brazel et al. 2016).

psychiatric treatments help individuals develop more socially acceptable attributes,[35] yet PS mandates are maladaptive for most people.

Consistent with introversion-extroversion behaviors,[36] counterdispositional behaviors are also asymmetrical; it is much easier for a homeostatic (natural) skeptic to respond to instructions to reduce skepticism and exhibit more trust than it is for a trusting individual to enhance skepticism. The social and cognitive costs of deviating toward trust are simply less intense than opposing deviations toward skepticism and paranoia.

Asking a *normal* auditor to switch to a skeptical mindset is counterdispositional, and except for audit tasks already labeled as high risk, asking auditors to switch mindsets likely has more costs than benefits. Researchers note that "mindset switching can be costly for subsequent decisions," and "there are psychic costs to switching mindsets"[37] that result in depleted cognitive resources. In a series of five experiments, researchers find that mindset switching results in harmful effects for a variety of activities.[38] Thus, interventions designed to invoke a skeptical mindset pose the challenges of counterdispositional behaviors and mindset switching stated in prior research.

Can Interventions Facilitate Counterdispositional Actions Such as PS?

Prior research suggests that behavioral interventions are *not* viable solutions toward consistent counterdispositional change as evident by the continued influence effect (CIE). CIE is a well-documented psychological phenomenon that highlights the insufficiency of behavioral interventions to change counterdispositional behaviors. CIE occurs when individuals are told that certain information is invalid or outdated, yet they still use that information in their decision making across various situations.[39] CIE is similar to other cognitive heuristics, such as anchoring and confirmation bias.

---

[35] See, Zelenski et al. (2012).

[36] Whelan, D. C. (2014). *Extraversion and counter-dispositional behavior: Exploring consequences and the impact of situation-behaviour congruence.* Ottawa, Canada, Carlton University Press. https://pdfs.semanticscholar.org/16da/553c8d8e9cc94a8d5db851ca5254446bb144.pdf

[37] Hamilton, R., Vohs, K. D., Sellier, A-L., & Meyvis, T. (2011, p.13). Being of two minds: Switching mindsets exhausts self-regulatory resources. *Organizational Behavior and Human Decision Processes, 115*(1), 13–24.

[38] Ibid.

[39] See, Johnson, H. M., & Seifert, C. M. (1994). Sources of the continued influence effect: When misinformation affects later inferences. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 20*(6), 1420–1436; Coronel, J. C., Poulsen, S., & Sweitzer, M. D. (2020). Investigating the generation and spread of numerical misinformation: A combined eye movement monitoring and social transmission approach. *Human Communication Research, 46*(1), 25–54; Wilkes, A. L., & Reynolds, D. J. (1999). On certain limitations accompanying readers' interpretations of corrections in episodic text. *Quarterly Journal of Experimental Psychology, 52*(A), 165–183.

Researchers note numerous unsuccessful interventions aimed at helping individuals exclude false information and the effects of CIE.[40] Unsuccessful interventions include: 1) a direct, clear wording of the retraction;[41] 2) repetition of the retraction;[42] 3) explanations that accompany the retraction that describe the misinformation in more detail;[43] 4) instructions to carefully read the materials, including the retraction;[44] and 5) an immediate retraction following the misinformation.[45]

We note the significant parallels between facing outdated false information and information with unknown reliability. In fact, if individuals have difficulty ignoring information that they *know* is inaccurate (i.e., the CIE effect), then actively questioning information with *unknown* reliability (i.e., PS) is an even more monumental task for nearly all auditors.

How Common is the Skepticism Personality Trait Among Auditors?

The most widely cited professional skepticism scale in accounting, the Hurtt Scale,[46] uses categorical classifications with six constructs that are *not* collectively consistent with attributes of subclinical paranoia along a dimensional spectrum. In fact, some items on the Hurtt Scale, such as self-esteem, may predict individuals who are trusting rather than skeptical.[47]

Because existing skepticism scales were not designed to identify traits from a broader spectrum, we note the frequency of other subclinical traits to provide preliminary insights into a possible range regarding the prevalence of homeostatic skeptics.[48] In a review of multiple studies,

---

[40] See, Ecker, U. K. H., Lewandowsky, S., & Wang, D. T. W. (2010). Explicit warnings reduce but do not eliminate the continued influence of misinformation. *Memory & Cognition, 38*(8), 1087–1100.

[41] See, Johnson & Seifert (1994).

[42] See, van Oostendorp, H., & Bonebakker, C. (1999). Difficulties in updating mental representations during reading news reports. In H. van Oostendorp and S. R. Golden (Eds), *The Construction of Mental Representations during Reading.* West Chester, PA, Hillsdale.

[43] See, Bush, J. G., Johnson, H. M., & Seifert, C. M. (1994). The implications of corrections: Then why did you mention it? In A. Ram and K. Eiselt (Eds.), *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society,* 112–117. Hillsdale, NJ: Erlbaum.

[44] See, van Oostendorp, H. (1996). Updating situation models derived from newspaper articles, *Medienpsychologie,* 8, 21–33.

[45] See, Wilkes & Reynolds (1999).

[46] See, Hurtt, R. K. (2010). Development of a scale to measure professional skepticism. *Auditing: A Journal of Practice & Theory, 29*(1), 149–171.

[47] See, Combs, D. R., & Penn, D. L. (2004). The role of subclinical paranoia on social perception of behavior. *Schizophrenia Research*, *69*(1), 93–104.

[48] Researchers have examined the reliability of both the Hurtt Professional Skepticism Scale and Rotter Interpersonal Trust Scale in the context of audit experimental research. See, Boritz, J., Patterson, K. E.,

research finds that the prevalence of the paranoid clinical personality disorder varies between 0 percent and 4.4 percent of the population with a median estimate of 1.7 percent.[49] As a corollary, subclinical hoarding occurs at a rate of 1.6 times the clinical rate of hoarding.[50] Extrapolating these results to the TSP spectrum provides an estimated subclinical paranoia rate of 2.7 percent of the general population. Two other subclinical diagnoses that fall along established continua are subclinical depression and subclinical psychosis. The prevalence of subclinical psychosis is estimated at 7.2 percent of the population,[51] and based on a study released by the Centers for Disease Control and Prevention, the estimated rate of subclinical depression is 5 percent in the United States.[52]

To the extent that homeostatic skepticism is consistent with related examples of subclinical diagnoses, the prevalence of homeostatic skepticism among the general population likely falls in the range of 2.7 percent to 7.2 percent. We suspect that the prevalence of the skepticism trait among auditors falls within this range as well.

Implications for Regulators and the Accounting Profession

PS challenges will persist indefinitely—just as they have for decades—until there is a more accurate understanding of PS among regulators, academics, and auditors. The implicit assumption that all auditors can exercise PS, in both judgments and actions, throughout the duration of the audit is unsustainable based upon substantial research in other disciplines.

We do not claim to have all the answers to improve auditor PS, but we do assert that there is overwhelming evidence that the current views of PS are grossly inaccurate and incomplete. We note the irony that there has been seemingly little skepticism among those in our profession about PS for decades.

We invite the PCAOB, academics, and auditors to think skeptically about their current views of PS. In other words, we invite all to exercise professional skepticism about professional skepticism. The PCAOB and other interested parties should "suspend judgment" and gather "sufficient evidence" while carefully avoiding confirmation bias and other heuristics.

Rotaru, K., & Wilkin, C. L. (2018). How reliable are the Hurtt Professional Skepticism Scale and the Rotter Interpersonal Trust Scale for audit experimental research? *Working Paper*, University of Waterloo.

[49] See, Torgersen, S. (2009). The nature (and nurture) of personality disorders. *Scandinavian Journal of Psychology*, 50: 624–632.

[50] See, Spittlehouse, J. K., Vierck, E., Pearson, J. F., & Joyce, P. R. (2016). Personality, mental health and demographic correlates of hoarding behaviours in a midlife sample. *PeerJ, 4*(2826), 1–21.

[51] See, DeRosse, P., & Karlsgodt, K. H. (2015). Examining the psychosis continuum. *Current Behavioral Neuroscience Reports, 2*(2): 80–89.

[52] See, Prince, J., & Carson, S. (2013). *Almost depressed: Is my (or my loved one's) unhappiness a problem?* Center City, NJ. Hazelden.

Overall, we recommend that the PCAOB take a proactive approach while crafting AS 1000 to meaningfully address PS concerns, which includes acknowledging the vast research beyond accounting that directly relates to this issue. This is an opportunity for the PCAOB to increase its relevance and provide meaningful direction to firms. Absent action by the PCAOB, we predict that PS challenges will remain an ongoing concern and point of contention.

Below our signatures, we respond to various potential counterpoints. We are willing to be part of the solution to improving PS, and we welcome the opportunity to answer questions and discuss our views with any interested parties.

Respectfully,

Rick C. Warne, PhD, CPA, CFE
Professor
University of San Diego

Robert M. Cornell, PhD, CMA
Associate Professor
University of Nevada, Las Vegas

Counterpoint 1: *Mindset literature suggests that auditors can utilize a skeptical mindset, and the mindset is more important than a personality trait.*

Mindsets allow people to view a situation from a different lens. For example, a person has a different mindset regarding the price of a hotdog at a professional sporting event compared to the grocery store. Likewise, auditors in a high-risk situation certainly *can* engage in a skeptical mindset and act counterdispositionally. However, we believe that viewing sustainable PS as a mindset is a mistake for the following reasons:

a. The psychology literature is clear: personality traits are more explanatory of behavior than mindsets.[53] Fixed personality traits predict human behavior much more frequently than mindsets.
b. A counterdispostional mindset is always a temporary state of mind.[54]
c. Mindsets that lead to counterdispositional behaviors are subject to the same challenges described above (short-lived, exhausting, etc.).

[53] For example, the DSM-5-TR defines personality traits as "enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts." See, American Psychiatric Association. (2022, p. 735). *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition – Text Revision (DSM-5-TR).* Arlington, VA.

[54] See, Little & Joseph (2007); Zelenski et al. (2012).

Counterpoint 2: *Even if auditors have difficulty exercising PS, they are smart enough and professional enough to invoke appropriate levels of PS in high-risk situations.*

We note the following in response to this counterpoint:

a. Any inability to exercise PS is *not* a reflection of an auditor's intelligence just as the inability for an introvert to consistently act like an extrovert does not relate to intelligence.
b. We surmise that auditors exercise PS in obvious high-risk situations. When faced with a situation where there is a high likelihood of a material misstatement, auditors usually exercise appropriate PS. The problem with insufficient PS is *not* the obvious situations. In non-obvious situations, auditors have no way of knowing if a material misstatement exists, which is why the Auditing Standards call for PS throughout the audit. Thus, the suggestion that auditors can turn on and off PS depending on the risk is both illogical and inconsistent with professional standards.
c. There are two possible reasons that cause insufficient auditor PS: either auditors are *unwilling* to exercise appropriate PS, or they are *unable* to do so. Given widespread agreement that insufficient PS is a problem, are auditors willfully neglecting their professional responsibilities, or are they unable to constantly exercise PS as expected by the PCAOB? We refuse to believe that widespread PS failures are due to auditors willfully abdicating their professional responsibilities. Thus, we take the position that the requirement that all auditors exercise sufficient PS for the duration of the audit is unobtainable and that other avenues to meet expectations should be considered.

Counterpoint 3: *The PCAOB and other regulators must require all auditors to exercise PS for the duration of the audit even if such a standard is unobtainable in order to protect the capital markets.*

The PCAOB has a history of acknowledging human limitations associated with auditors' professional duties, such as confirmation bias.[55] Understanding judgment biases and heuristics is necessary to mitigate the associated consequences and risk to the audit. Ignoring human limitations prevents solutions to address those limitations. Thus, acknowledging that current views of PS are grossly inaccurate and that the current PS expectations are unattainable does not give auditors a *free pass* regarding PS. Rather, such acknowledgements are a critical step in mitigating the shortcomings of immutable personality characteristics for most auditors.

Counterpoint 4: *Most accounting academics have not embraced this view of PS.*

We readily acknowledge that our views of skepticism conflict with conventional wisdom held by accounting academics and professionals. However, history is replete with examples of fundamental paradigm shifts after widespread dismissal by those who subscribed to the

[55] For example, see PCAOB Release No. 2018-005, Auditing Accounting Estimates, Including Fair Value Measurements and Amendments to PCAOB Auditing Standards (2018).

conventional wisdom at the time.[56] Accounting professionals, regulators, and academics are not known for change, especially proactive changes. It took multiple frauds to occur before the accounting profession accepted some of the commonsense reforms required by SOX. The auditor's report was the same for many decades before recent changes,[57] such as the addition of critical audit matters. The acknowledgement by the PCAOB that many of its standards must be modernized is further evidence of the slowness of the profession to adapt to changing conditions. We remind the PCAOB and others that the lack of consensus has no bearing on the true state of the world, particularly on this intensely critical dimension of audit success.

[56] See, "Mavericks and Heretics: Ideas Rejected, Later Proven Correct." https://www.informationisbeautiful.net/visualizations/mavericks-and-heretics/. Our intent is not to compare ourselves to the researchers on this list, but rather, to provide dozens of examples where new views were rejected and ridiculed before ultimately shown to be correct.

[57] See, Mock, T. J., Bedard, J., Coram, P. J., Davis, S.M., Espahbodi, R., and Warne, R. C. (2013). The Audit Reporting Model: Current Research Synthesis and Implications. *Auditing: A Journal of Practice and Theory, 32 (Supplement 1): 323–351*.