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RESEARCH

Organizational Culture as a Need-Fulfillment System: Implications for Theory, Methods, and Practice

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Abstract
At the time of this writing, the business concept most vigorously championed by management consultants is the construct of *organizational culture*. Despite the tremendous attention focused on organizational culture, the concept lacks theoretical consensus among its proponents. Like the concepts of employee engagement and employee well-being, this field cries out for clearly stated definitions that embed the concept within a theoretical framework, allowing theory and measurement to productively develop. This paper argues for a more grounded approach to the concept of organizational culture, setting it within the psychological literature on human motivation. We review the leading definitions of organizational culture in the literature and find that they are reducible to a core set of human motives, each backed by full research traditions of their own, which populate a comprehensive model of twelve human motivations. We propose that there is substantial value in adopting a comprehensive motivational taxonomy over current approaches, which have the effect of "snowballing" ever more dimensions and elements. We consider the impact of setting the concepts of organizational culture within existing motivational constructs for each of the following: (a) theory, especially the development of culture frameworks and, particularly, how the concept of culture relates to the concepts of employee engagement and employee well-being; (b) methods, including the value of applying a comprehensive, structural approach; and (c) practice, where we emphasize the practical advantages of clear operational definitions.

Keywords Organizational culture · Culture · Healthy culture · Toxic culture · Employee engagement · Employee Well-being · Motivation · Emotion · Happiness

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Introduction

The concept of organizational culture has become a primary focus of leaders in both the private and public sectors and has been vigorously championed by leading management consultancies including McKinsey, Bain, BCG, Deloitte, Accenture, and others. The reason for this surge of interest can be traced to the convergence over the past 5 years of multiple societal issues, each of which has pointed a finger of blame at organizational cultures[1]. In the aftermath of the beating death of Tyre Nichols by the Memphis Police, a chorus of elected officials and commentators has again called for a fundamental change to the organizational cultures of local police departments. The question of organizational culture has also become prominent in healthcare, focusing on the ways that culture affects the safety of vulnerable populations such as hospitalized patients. What began as distinct lines of research in anthropology, sociology, psychology, management studies, and health care has coalesced into an area of intense general interest. Strong and growing recent interest in this concept is confirmed by Google Trends, which shows a steady upward trend in Google searches involving the phrase "organizational culture" from a low index of 23 in December 2018, increasing to an index of 100 by April 2022, indicating the strongest search volume to date. Perhaps, because of the surge in interest, a torrent of theoretical concepts and measures has flooded the scene, conceptualizing organizational cultures using dimensions or typologies, with little attention paid to differentiating psychological variables from environmental variables, or causes from effects. This paper argues for a more grounded approach to the concept of organizational culture, setting it in the broad psychological literature on human motivation.

The Current State of Theory

The term organizational culture was coined in 1951 by the Canadian psychologist and management consultant Elliot Jaques who served in the military during the Second World War alongside Harvard's Henry Murray, eventually conducting research for the US Army Research Institute for the Behavioral and Social Sciences. Jaques defined organizational culture as the "customary and traditional way of thinking and doing of things, which is shared to a greater or lesser degree by all its members, and which new members must learn, and at least partially accept, in order to be accepted into service in the firm…." (Jaques, 1951, p. 251). Jaques' definition points to a key characteristic of culture as a fundamental set of assumptions that underlie the very fabric of thinking and doing; as such, organizational culture operates in a manner that is automatic, habitual, and subconscious.

The list of seminal papers in the field of organizational culture invariably includes the cultural frameworks of Hofstede (1984), Cooke and Rousseau (1988), Schein (1990), Denison (1990), Denison and Spreitzer (1991), Cameron and Quinn (1999), Sackmann (2011), and Schneider et al. (2013), all of whom hail from organizational psychology or management programs in business schools and their consulting arms. Unsurprisingly, the culture frameworks coming out of business schools have a notable tendency to be expressed as two-by-two matrices,

[1] These include, but are not limited to, ethical issues related to the COVID-19 pandemic, cheating of customers, financial misconduct, police brutality toward civilians, sexual harassment (e.g., in the military and entertainment industry), racism, and deteriorating employee mental health.

resulting in sets of (usually four) "types" of cultures derived from the pairs of axes, which have included Jungian archetypes, rigidity vs. flexibility, internal vs. external focus, task vs. process focus, collaboration vs. individualism, and hierarchy vs. communalism (Jung et al., 2009).

A separate theoretical stream has emerged within healthcare programs such as public health, nursing, and medicine; these frameworks have tended to be more focused on a single purpose, namely, to instill cultures supportive of patient safety. In this camp, the seminal articles include the work of Glisson and colleagues focused on Organizational Social Context (Glisson, 2007; Glisson et al., 2006, 2008) as well as the research tradition focused on trauma-informed culture (Baker et al., 2021; Hales, Green et al., 2019; Hales, Kusmaul et al., 2019). A closely related workstream focuses on supporting safety cultures in occupations subject to substantial risks like transportation, mining, and nuclear energy (Zohar & Hofmann, 2012; Zohar & Luria, 2005).

Culture vs. Climate

The major distinction made in this field differentiates between *culture* and *climate*. Culture refers to *implicit beliefs and assumptions* held about organizational values, whereas climate refers to emblematic *organizational experiences such as policies*, *practices*, *and procedures* (Schneider et al., 2013). A close, recursive relationship must exist between the meanings attached to specific practices and broader assumptions and beliefs that provide the context for those meanings. As suggested by Schneider et al. (2013), the popularity of these two concepts has seesawed back and forth across the decades with the climate being favored in the 1970s, overtaken by culture in the 1980s, then tilting back to the climate in the 1990s through the 2000s and early 2010s.

The lack of clear distinctions between climate and culture has been a continuing source of confusion:

> When culture and climate were first discussed together in the 1990s, a great deal of confusion was generated about their differences and similarities. Some organizational experts still see the two constructs as similar and use the terms interchangeably. Some argue that one construct encompasses the other. Others argue they are distinct and separate. A literature review in the late 1990s found more than 50 definitions of culture and more than 30 definitions of climate. (Glisson, 2007, p. 739)

Thanks to a framework provided by Edgar Schein (2010), there may be a general agreement about the distinction between culture and climate, which boils down to the difference between things that are implicit and general on the one hand or explicit and specific on the other. Schein's framework is simple: culture manifests itself at three levels of abstraction, artifacts, values, and implicit assumptions:

- Artifacts, the most observable and least abstract, show up in behaviors and environmental factors that shape and guide behavior. These include office design, quality, and style; manner of dress; how clean the bathrooms are kept; stories, legends, and sayings; and socialization processes. Policies, practices, and procedures, the stuff of climate, are all artifacts of culture to the extent that manifestations *imply something about the values of the organization*. This is the evidence that bespeaks a value. For example, an organization that gives their employees every Friday off in the summer is tacitly com-

municating that they value work/life harmony. An organization that terminates people who have taken time off for mental health is communicating a different value.

- At the next step toward greater abstraction comes espoused *values*, the organization's core values and norms. You cannot see values, but you can detect their presence based on a group's behavior: things that are rewarded, celebrated, and promoted are valued; the things that are shunned, demoted, or terminated are not. The key point is that the actual values governing behavior in an organization may or may not be consistent with officially espoused values.
- At the most abstract level are the core implicit assumptions held by individuals in the organization about its reason for existence and purpose. As Schneider et al. (2013) point out, these assumptions "are frequently so ingrained that they cannot necessarily be easily articulated, requiring in-depth interviewing to illuminate them."

A breakthrough in climate research came when it was realized that most early climate research had implicitly assumed that achieving a climate of *employee well-being* was the presumed goal of organizations. A variety of other organizational goals[2] have since been articulated including achieving climates of *safety*, *fairness/justice*, *attachment/affiliation/cooperation*, *diversity/inclusivity*, *benevolence/support/trust*, *empowerment/initiative/self-direction*, *growth*, *respect/recognition*, *stimulation/variety*, *authenticity/voice/conformity*, *innovation/creativity*, and *ethics/service*. By first articulating the overarching organizational goal, researchers, and consultants have found it much easier to identify key processes, policies, and practices that support or detract from this goal, as well as the most relevant outcomes to measure over time (Schneider et al., 2013). For example, an organization primarily focused on employee well-being might choose to monitor emotional well-being as a key metric; one focused on social relations might monitor leader–member exchange; one focused on inclusivity might choose to monitor the demographic characteristics associated with hiring, advancement, and retention; one focused on service might monitor customer satisfaction and loyalty scores; and one focused on achievement might monitor financial performance most closely. This new emphasis on goals is central to the thesis of this paper, to which we will return shortly.

Level of Analysis

There has been an ongoing debate in the literature about whether organizational culture exists as an individual-level, psychological phenomenon or as a group-level, and sociological phenomenon. The insistence on maintaining the group level as the appropriate unit of analysis, at least in climate research, has necessitated unusual measurement approaches such as referent-shift consensus ratings (i.e., one's notion about group-level characteristics), which are analyzed using interrater reliabilities as a prerequisite to aggregation to form group level scores. The focus on characterizing groups has introduced complications related to the level of analysis, which in large organizations can get extraordinarily complex as employees may work in any of multiple potential groupings simultaneously such as

[2] Considered more broadly, we would argue that *instead* of these goals existing as alternative goals to well-being, they represent the essential *components of* well-being (Pincus, 2023c), an argument that we will detail later in this paper.

project teams, functional units, or divisions. We will argue that there are significant advantages to returning concepts of culture to the individual level.

The field seems to have unwittingly reentered the classic debate between early social psychologists and sociologists, exemplified by the arguments of Floyd and Gordon Allport against the immaterial "group mind" proposed by Gustave Le Bon, Emile Durkheim, and William McDougall. The scientific resolution to that debate involved the recognition that although culture is a real phenomenon, one that can even shape gene expression epigenetically, its effects must be observable at the *individual* level if they are to have any real impact on behavior. As vivid examples, cultural effects, brought about through socialization processes, are readily evident in individual-level biases revealed by the implicit association test and in priming studies. This is a key point for determining the measurement approach, both in terms of the level of data collection and the level of analysis. In the interests of clarity and parsimony, we argue that group-level effects of organizational culture are simply aggregations of individual results.

States vs. Traits

Considering the strong emphasis in the field on organizational culture *change*, it is surprising that theorists have tended to describe organizational culture as a *trait* of the organization rather than a *state*. Traits are unchangeable whereas states must change. We suspect that this ambiguity is a byproduct of the level of analysis issue; if we think of culture as a characteristic of groups rather than people, we are more likely to think of culture as enduring and stable over time. Instead, we have argued that the appropriate level of analysis is the individual, and as a "borrowed" characteristic that is temporarily "lent" by the organization to the individual, cultural effects should be viewed as highly malleable *states*.

Dimensions vs. Types

As noted above, a primary debate in the field of organizational culture relates to whether cultures should be described in terms of their position on a variety of continuous dimensions, considered as types, or some combination of both approaches. For our purposes, we point to the unfortunate tendency of some theoretical systems to adopt zero-sum assumptions about dimensions and typologies, that is, if a given organization is high on X attribute, it must be low on Y attribute. A particularly popular system is the Competing Values Framework, the name of which strongly implies that culture is a zero-sum game. If we assume that values necessarily compete, leaning more on one means leaning less on another, usually the one at the opposite pole of the same dimension. When studied empirically, however, Hartnell et al. (2011) found that performance on the dimension is not zero-sum; in fact, it is possible for organizations to perform well (or poorly) on the four endpoints proposed in this model, and that performance on all four simultaneously was significantly linked with a variety of business outcomes.

> Culture types in opposite quadrants are not competing or paradoxical. Instead, they coexist and work together. . . [leading to the conclusion that] competing values may be more complementary than contradictory… In short, organizations that do many things well are more generally more effective… (Hartnell et al., 2011, p. 687)

We argue that these "things organizations do well" are not arbitrary but instead represent the fulfillment of a core set of human needs, and as a series of discrete needs, it makes more sense to conceptualize needs as additive rather than zero-sum.

A Clarion Call for Clarity

Helpfully, comprehensive reviews of the organizational culture literature have appeared every few years providing overviews of commonly used definitions, dimensions, and subcomponents (Ilies & Metz, 2017; Kalaiarasi & Sethuram, 2017; Nanayakkara & Wilkinson, 2021; Pathiranage et al., 2020; Schneider et al., 2013).

These literature reviews testify to a bewildering muddle of concepts, dimensions, and elements:

> Early research on organizational climate was characterized by little agreement on the definition of it (and) almost no conceptual orientation to the early measures designed to assess it... There was confusion between the level of the theory and the level of data and analysis. (Schneider et al., 2013, p. 363–364)

> (The) complexity (of culture) scared neither culture scholars nor practitioners, the former group feeling liberated by the ambiguity the definition(s) presented, permitting them to explore culture as they saw fit. (Schneider et al., 2013, p. 370)

> Despite the importance to researchers, managers, and policy makers of how organization culture contributes to organization variables, there is uncertainty and debate about what we know and don't know. A review of the literature reveals that studies examining the association between organization culture and organization variables are divergent in how they conceptualize key constructs and their interrelationships. (Kalaiarasi & Sethuram, 2017, p. 9)

It is important to note that these reviews have focused on peer-reviewed theoretical and empirical academic publications. As might be expected with popular emerging topics, practitioners have introduced a slew of models and concepts compounding the conceptual confusion.

Analysis of the Jung et al. (2009) and van der Post et al. (1997) Literature Reviews

Fortunately, the literature on organizational culture theory, dimensions, and assessment items has been extensively reviewed. The two most comprehensive reviews are those of Jung et al. (2009) and Van Der Post et al. (1997). Jung et al. (2009) covered 70 models representing 186 distinct components of organizational culture. Van Der Post et al. (1997) covered 31 models representing 114 distinct cultural components. These authors have aptly summarized the state of theory in this domain as riddled with category errors:

> There is no shortage of definitions of organizational culture… It is evident that various researchers have applied a large number of dimensions of organization culture that cannot be neatly categorized in terms of an overall organizational culture theory. (Van der Post et al., 1997, p. 147)
>
> The multi-layered nature of the dimensions put forward further complicates the issue… Dimensions span abstract ideas, such as 'warmth,' 'satisfaction,' or 'esprit de

corps' on the one hand and observable phenomena like 'rituals' and 'structures' on the other. (Jung et al., 2009, p. 42)

These authors' work provides a starting point for researchers interested in describing the structure and taxonomy of the many concepts of organizational culture. Our analysis of their work lends additional support to the conclusion that organizational culture theory is thoroughly muddled[3]:

- Of the components identified, 95% were associated with only a *single* theory.
- The most cited component, *teamwork*, appeared in only 7% of theoretical frameworks (5).

These results suggest a severe problem of definitional consistency. As expected, the resulting elements range widely across multiple conceptual categories from holistic cultural outcomes (e.g., strength of culture) to the higher-order processes that deliver these outcomes (e.g., system focus) and to the lower-order structures and artifacts that underlie these processes (e.g., symbols).

At the most abstract level, we encounter what we will call *general descriptions of cultural outcomes.* These include:

- *Strength of culture (overall).*
- *Constructive culture.*
- *Job-oriented culture.*
- *Employee-oriented culture.*
- *Resident-centered culture.*

At the next level of abstraction down, a split occurs between individual-level psychological concepts and external environmental concepts. Interestingly, the psychological constructs identified tend to be highly rational and cognitive as opposed to emotional or affective:

- *Beliefs.*
- *Philosophies* (e.g., *medication philosophy* and *nursing foundations for quality of care*).
- *Psychological characteristics related to work.*

We will argue that behind these vague psychological constructs lie the operations of a set of fundamental human needs as described by a recent unified model of human motivation (Pincus, 2022a, b). Supporting this contention, we find that fully 93% of the concepts identified by Jung et al. (2009) and Van Der Post et al. (1997) can be seen as reflecting discrete human needs, from feeling secure in the organization to having a long-term mission and vision. These concepts address the domain of the self (e.g., safety, authenticity, and potential), the material domain (e.g., autonomy, immersion, and success), the social domain (e.g., inclusion, caring, and recognition), and the spiritual domain (e.g., justice, ethics, transcendent purpose). Applying a structured model of human motivation to these needs is the primary focus of this paper.

On the other side of this divide, we encounter what we will call *general environmental conditions*, which exist at two broad levels as follows: higher-order organizational

[3] This is partly due to inconsistencies in definitions of culture itself (Kroeber & Kluckhohn, 1963) and partly due to the desire of academic-based consultants to differentiate their offerings (Jung et al., 2009).

consequences (e.g., *cost-effectiveness* and *quality*) and lower-order structural characteristics of organizations (e.g., *organizational structure* and *organization of work*). Some of the higher-order organizational outcomes or consequences have an implicit evaluative component, e.g., the desirability of *quality* and *cost-effectiveness* vs. the undesirability of *conflicts* and *burdens*.

- Higher-order process states: *integration*, *system focus*, *organizational focus*, *organizational support*, *organizational commitment*, *organizational reach*, *organizational clarity*, and *organizational vitality.*
- Positive higher-order process states: *cost-effectiveness*, *quality at the same cost*, and *professionalism.*
- Negative higher-order process states: *conflict*, *confrontation*, *opposition*, and *perceived burdens.*

A great deal of concept proliferation within organizational culture theory has occurred at the next lower level of abstraction, the level of specific environmental processes, structures, and artifacts, which have the potential to fulfill fundamental human needs. These environmental resources interact with need states in a one-to-many relationship; that is, a single resource (e.g., management style) can help someone meet a variety of needs; similarly, we should expect multiple recursive interactions between environmental resources and any given need. These are the systems that produce higher-order outcomes for the organization.

Accordingly, there are lower-order environmental concepts that range from the general to the specific:

- Lower-order processes: *control process*, *information flow*, *communication (process*, *patterns)*, *leadership process*, *management style*, *supervision*, *teacher involvement*, *program development*, and *human resource development.*
- Lower-order structures: *environment (physical*, *work)*, *work environment*, *organization of work*, *organizational structure*, *temporal boundaries* and *polychronicity*, and *people integrated with technology.*
- Lower-order artifacts: *symbols*, *policies*, and *procedures.*

Calls have been made for theorists to identify a larger framework for organizational culture that can integrate the disparate and growing collection of constructs. In service of this goal, we argue that certain characteristics of culture must be clarified. To this end, we propose a theoretical hierarchy for conceptualizing the dimensions of organizational culture (Fig. 1).

Integrating Concepts of Culture, Values, Well-being, and Engagement

As we have argued, the most fundamental distinction concerns the difference between endogenous psychological variables and exogenous environmental variables. This distinction concerns *what we want* versus *what we have available to us. What we have* variables are environmental and exogenous, occurring outside the organism, whereas *what we want* variables are psychological and endogenous, occurring within the organism. The S–O-R assumption used throughout the history of contemporary psychology is that exogenous factors (*what we are offered by the organization*) behave as stimuli, which influence the organism's psychological state (*through a process of comparison against what we want or need*), creating drives that motivate behavior. We will argue that most

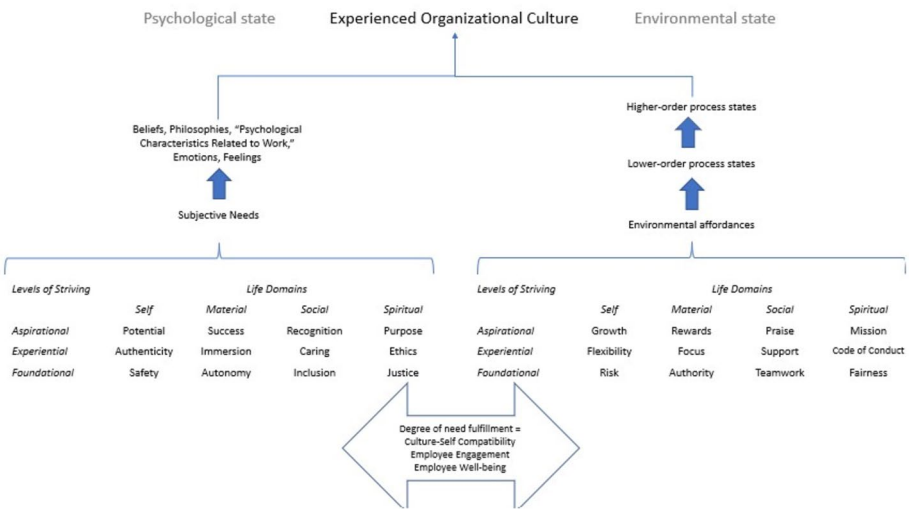

Fig. 1 A hierarchy of organizational culture concepts

organizational culture constructs should be thought of as points of juxtaposition (or comparison) between the psychological needs of individuals and the resources provided by the organization resulting in variable levels of need fulfillment. The core concept at play here is *motivation*. Motivations represent pent-up energies caused by unmet needs (Pincus, 2004), which direct organisms to seek fulfilled, balanced states.

The application of the motivation construct provides an opportunity for further theory integration for a series of related concepts: values (Pincus, 2024), subjective well-being (Pincus, 2023c), and employee engagement (Pincus, 2022b). An individual's *subjective well-being* is primarily the product of the comparison of environmental affordances against psychological goals. To the extent that goals are met, a *healthy* culture will be inferred; to the extent that needs go unmet, the culture will be considered *toxic*. Those employees who experience healthy cultures marked by the fulfillment of their psychological needs (states of *well-being*) can be described as highly *engaged*; those laboring in toxic cultures defined by a lack of need fulfillment (states of *ill-being*) can be described as actively *disengaged*. In this model, organizational culture provides environmental conditions that bespeak its *values*; an organization's values are the relative level of priority it places on satisfying discrete needs, producing relative states of well-being, which translates to various levels of employee engagement.

Organizational culture theorists are fond of using the metaphor of DNA in describing the transmission of culture (Boncheck, 2016; Culture Amp, 2023; Accenture Strategy, 2023). Staying with this metaphor, the building blocks of DNA are adenine, guanine, cytosine, and thymine (AGCT), which encode specific proteins. If culture is the DNA strand, then actuated values are analogous to the RNA strand, which transcribes the instructions for building culture-inspired conditions. But there are deeper points of correspondence to this metaphor (Fig. 2).

- We would argue that the essential building blocks of culture are the twelve emotional needs of our matrix, with any culture defined by the relative weight assigned to each emotional need; these relative weights represent the organization's *values.*

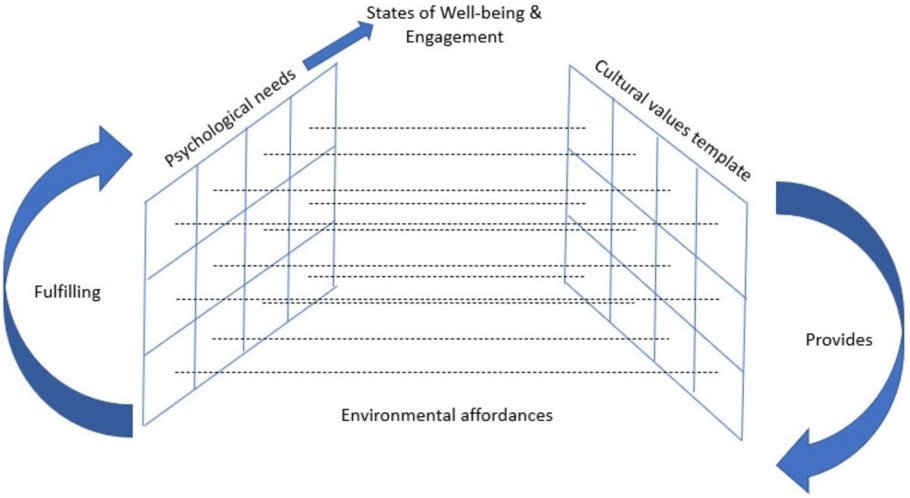

Fig. 2 Culture provides environmental affordances that fulfill psychological needs resulting in relative states of well-being and engagement

- There are predetermined complementarities in base pairs: adenine always pairs with thymine (A-T), and guanine always pairs with cytosine (G-C). This is exactly equivalent to our model wherein the domain of the self is polar with the social domain, and the material domain is polar with the spiritual domain.
- When DNA is transcribed into RNA, guanine continues to pair with cytosine, but now, adenine pairs with uracil (A–U), representing a slight change in chemical composition. This is analogous to the continuous adaptation required as old cultural templates are applied to ever-changing conditions.

Emergent Points of Consensus

A set of commonalities in conceptualizations of organizational culture have emerged from literature reviews. We will use these points of consensus as a starting point for our main contention, that is, organizational culture and values are best conceived as a product of the relative fulfillment of human needs, and that the wide variety of constructs proposed in this literature fit neatly into a structured taxonomy of human motivations.

Across the papers reviewed, several points of consensus emerge (Table 1; Schein, 2010; Jung et al., 2009; Van Der Post et al., 1997; Nanayakkara & Wilkinson, 2021; Cooke & Szumal, 1993, 2000; Hales, Kusmaul et al., 2019; Teehankee, 1994; Hofstede & Hofstede, 2001):

1. Organizational culture is a *multi-dimensional* construct (Nanayakkara & Wilkinson, 2021; Jung et al., 2009; Van Der Post et al., 1997).
2. Organizational culture constructs represent invisible *latent* variables and therefore can be estimated but never directly observed (Cooke & Szumal, 1993; Hales, Kusmaul et al., 2019; Teehankee, 1994).

Table 1 Definitional characteristics of organizational culture and motivation

Consensus definition	Organizational culture	Motivation
Organizational culture is a *multi-dimensional* construct	•	•
Organizational culture constructs represent *latent* variables that are not directly observable	•	•
Organizational culture has a *holistic* quality that is socially constructed and historically determined	•	•
Organizational culture is deeply ingrained and operates largely *implicitly and subconsciously*	•	•
Organizational culture is inherently *evaluative* in defining what has *value* and what does not	•	•
Organizational culture is ultimately rooted in fundamental human *motivations*	•	•

3. Organizational culture is a holistic quality that is socially constructed and historically determined (Jung et al., 2009)[4].
4. Organizational culture is deeply ingrained and operates *implicitly* and *subconsciously* (Schneider et al., 2013; Cooke & Szumal, 2000; Jung et al., 2009; Hofstede & Hofstede, 2001).
5. Organizational culture is inherently *evaluative* in defining what has value and what does not (Schneider et al., 2013; Hemmelgarn, et al., 2006).
6. Organizational culture is rooted in fundamental human *motivations* (Jung et al., 2009; Pearson & Hammer, 2004; Hawkins, 1997; Cooke & Lafferty, 1994).

Why Motivation?

The essential characteristics of organizational culture are well-aligned with the concept of motivation, defined by Pincus (2004) as *an unobservable state of emotion or desire operating on the will, causing it to act*. Both tend to operate implicitly and subconsciously, latently, holistically, and evaluatively. We believe that this alignment is rooted in the culture's need-fulfillment function, which interacts with endogenous motivational states. The goal of this paper is to suggest that a meta-theory of human motivation can accommodate all the varied dimensions of organizational culture.

The leading theory of motivation is Ross Buck's (1985) PRIME Theory, an acronym for Primary Motivational and Emotional Systems. Buck's notion is that motivation is a condition of pent-up energy potential that, when released, becomes actualized through three brain–body channels: cognitive, emotional, and behavioral. The three readouts serve different purposes: syncretic cognition supports the ability to self-regulate; emotional expression assists with social coordination; and physiological responses prepare the body for corresponding adaptive behavior. The effects of culture involve the same pattern of cognition (e.g., identification with the organization), emotion (e.g., positive feelings about the organization), and behavior (e.g., organizational citizenship behaviors).

In the views of both Buck (1985) and Damasio (2012), human motivational processes are rooted in homeostatic processes that regulate bodily conditions like temperature, levels of acidity vs. alkalinity, calcium, potassium, and blood sugar to maintain a stable and healthy internal milieu. These processes operate automatically and unconsciously, and, evolutionarily, long pre-date the advent of consciousness. Damasio has speculated that the very existence of consciousness is the result of the need to respond flexibly to imbalanced conditions. In this view, higher-order psychological needs like the need to be one's true self, to live up to one's full potential, or to behave ethically are all adaptations and extensions of biological systems regulating homeostasis. It is important to note that, although grounded in evolutionary biology, the more abstract the psychological needs become, the further they venture from their biological bases, and the more they are determined by culture[5].

[4] Cultural psychologists have emphasized that cultural values are co-created through a continuous interplay or negotiation process, not "given" or "received".

[5] As suggested by Vygotsky and Cole (1978) and Leont'ev (1978), the development of one's self-concept, as a summary of one's needs, is primarily determined by social environments defined by one's culture.

Applying a Taxonomy of Human Motivation to Organizational Culture Constructs

The idea that cultures are systems of need fulfillment begs the question, *which needs?* The purpose of this paper is to apply a taxonomy of human motivation based on first principles with the goal of defining a complete set of higher-order human needs, goals, and values (Pincus, 2022a). Accordingly, our analysis is focused on endogenous psychological needs, goals, and values, which can be fulfilled to different extents by environmental and cultural affordances.

A comprehensive taxonomy of human motivations was recently introduced by Pincus (2022a). Despite an abundance of mini theories of motivation proposed within the psychological literature, no comprehensive taxonomy based on first principles yet existed to categorize motivations like the needs for achievement, competence, relatedness, immersion, justice, ethics, purpose, or autonomy. Maslow's (1970) need hierarchy, which is often referenced in the organizational culture literature (Teehankee, 1994; Cooke & Szumal, 1993; Cooke & Rousseau, 1988) provides some guidance, yet, Maslow's concern with atypical self-actualized subjects had the unfortunate consequence of ignoring a wide spectrum of now-recognized basic motives including the need for caring identified by John Bowlby and Mary Ainsworth, the needs for material power and achievement proposed by David McClelland and David Winter, the need for experiential immersion (*flow*) proposed by Mihaly Csikszentmihalyi, the need to form and express one's unique identity proposed by Erik Erikson, the need for justice described by Paul Bloom and Michael Lerner, and the need for a moral code described by Lawrence Kohlberg, Jonathan Haidt, and Joshua Greene.

Our taxonomy is designed based on first principles. Because motivation always involves a change of state, the taxonomy asks the following two questions:

1. First, *in what part of your life do you seek change?* The answer to this question is found in one of four life domains: the domain of the *self*, the *material* domain, the *social* domain, and the *spiritual* domain. Note that these represent pairs of opposites—self vs. social, and material vs. spiritual. These four domains of human life have been previously proposed in a variety of fields, including philosophy, psychology, and each of the five major world religions (Pincus, 2022a).
2. The second question is *what level of change do you seek*? To answer this question, we employ Aristotle's (1933) three states of existence, the foundational level of potential (*being*), an intermediate level of potentiality-as-such (*doing*), and a higher level of actuality (*having*)[6].

When the three modes of existence are crossed by the four life domains, the result is a comprehensive matrix of twelve cells since there are no other domains of life or modes of existence. In our earlier review of the motivation literature (Pincus, 2022a), we identified more than 100 distinct motivational constructs; all found homes within one of the twelve

[6] Aristotle held that there are three states of existence: potentiality, potentiality-as-such (action that moves potential toward actuality), and actuality (the product), for which he used the example of building a house. The materials could be used to build a house, or something else; this is their state of potentiality, what he called "the buildable". The action of building transforms the materials toward the goal of actualization; this is potentiality-as-such. When the product is finished, the materials are in a state of actuality.

Table 2 A unified pyramid of human motivation (Pincus, 2022a)

Three levels of striving	Four life domains			
	Self	Material	Social	Spiritual
Aspirational	Fulfilling potential and limitation	Success and failure	Recognition and scorn	Higher purpose and materialism
Experiential	Authenticity and conformity	Immersion and stagnation	Caring and uncaring	Ethics and wrongdoing
Foundational	Safety and insecurity	Autonomy and disempowerment	Inclusion and exclusion	Justice and injustice

matrix categories of motivation, supporting the assertion that it is comprehensive. The matrix of human motivations appears in Table 2. As noted, the matrix columns represent the four domains of human activity (i.e., self, material, social, and spiritual), and the rows represent the level of change desired (i.e., being, doing, and having).

The matrix appears as a two-dimensional table in Table 2 for publication purposes, but can be more accurately represented as a three-dimensional, four-sided pyramid (Fig. 3). The four faces of the pyramid represent the life domains. The narrowing from the base to the peak of each side is intended to reinforce the idea that we begin the climb at the foundational level of each domain before we can progress toward higher needs. As Maslow suggested, progressively fewer individuals can reach the higher levels, reducing their relative size toward the apex. The choice of a four-sided pyramid is also intended to reinforce the point that the domains represent pairs of opposites, with the self-domain antipodal to the social domain, and the material domain antipodal to the spiritual domain; this proposition has implications for hypothesis generation, to which we will return at the end of this paper.

There are two additional features of the matrix with implications for organizational culture. These relate to need hierarchies within each life domain and the "pull" and "push" of motivational energy:

- Applying the principles of both Aristotle and Maslow, our model posits a hierarchical, temporal sequence. Progressing "upward" from foundational to experiential needs, or from experiential to aspirational needs, requires at least partial satisfaction of more basic needs. The satisfaction of lower needs allows higher needs to become salient.
- Each of the 12 needs can operate as either a promotional need (the desire for more of the good) and/or a prevention need (the desire for less of the bad). This polarity is reflected in common language descriptions of people being motivated either by a "pull" or a "push"[7].

Categorization of Dimensions

In all, 223 of the 238 concepts (93.7%) identified by Jung et al. (2009) and Van Der Post et al. (1997) correspond to motivations in our matrix.

[7] Individuals can be motivated by both positive aspirations or avoidance of negatives frustration of the same motivation, by either, or neither. Because these forces work together in a complementary manner, we have not made different predictions about the operations of positive and negative strivings.

- Seven of the remaining 15 concepts consist of generic descriptors of process states, e.g., leadership process, and communication flow. These were excluded on the basis that they represent generic process states with no evaluative component.
- The remaining eight concepts were excluded because they specifically address outcomes of a different construct, employee engagement. Examples include job satisfaction, loyalty, commitment, and intention to stay or leave employment.

Table 3 displays the matrix again with the distribution of dimensions taken from the census of culture dimensions assembled by Jung et al. (2009) and Van Der Post et al. (1997), along with a review of six commonly used, publicly available organizational culture assessments, those of Limeade (2021), Hales, Kusmaul et al. (2019), Denison Consulting (2023), Sashkin and Rosenbach (2013), Cameron and Quinn (1999), and O'Reilly et al. (1991); additionally, we categorized the content associated with Glisson et al. (2008), displayed in Table 4[8]. The dimensions and items are categorized into the twelve emotional needs in Table 5 and 6, respectively (see "Appendix").

- In terms of organizational culture dimensions, there is even distribution across 10 of the 12 cells; two core human needs, however, receive scant mentions, underscoring the value of a comprehensive theoretical framework. The relative absence of the need for Justice and Recognition and the heavy emphasis on self-domain motives (Authenticity, Potential) and material-domain motives (autonomy and success) suggest that organizational culture theorists have tended to focus on issues of the self and the material.
- In terms of assessment items, again, we see concentrations in some of the same areas as authenticity, autonomy, and success; however, we also see a heavy emphasis on inclusion and an even heavier weight on ethics, which alone accounts for 18% of items.

In the following section, we provide a brief introduction to the twelve emotional needs and the corresponding dimensions of organizational culture.

Motives of the Self

Safety and Insecurity

The need for safety is the most fundamental need in most models of motivation. When safety needs are salient, there are strivings for security, reassurance, and inner harmony. Twelve major motivational systems list the need for safety as a fundamental need (Pincus, 2022a). Reflecting the essential role of safety needs in Glisson's Organizational Social Context Model, which is primarily applied to health care settings focused on promoting a culture of safety; safety-related items represent 18.6% of total items, the largest share of any motive. Outside the healthcare context, safety needs are still well-represented but at a much lower level of 6 to 7% of items and dimensions. These include the concepts of *psychological safety*, *security*, *job security*, and *stability*.

[8] The Glisson team at The University of Tennessee generously provided their proprietary Organizational Social Context (OSC) assessment. To preserve confidentiality, we have not reproduced any of the specific (OSC) items but have instead summarized the distribution of content by the cells of our matrix (Table 4).

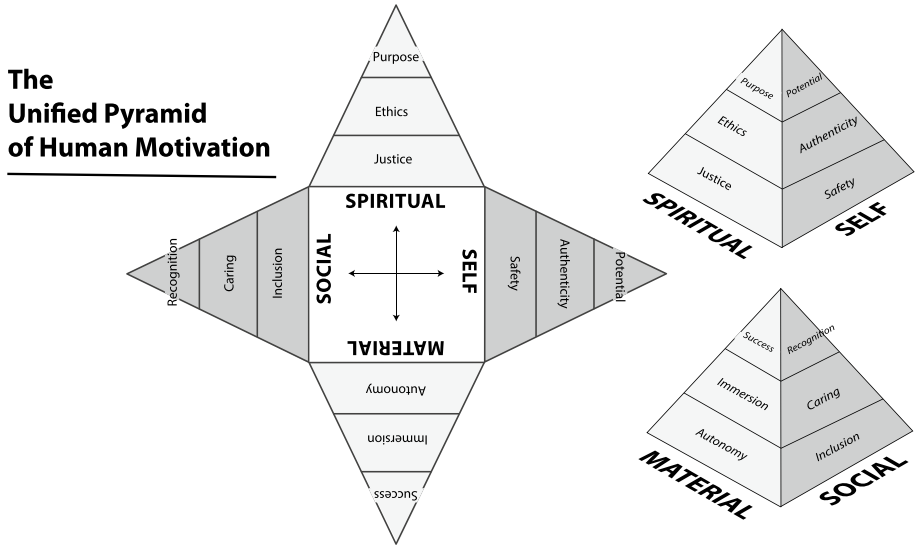

Fig. 3 A three-dimensional representation of the unified pyramid of human motivations. https://vimeo.com/manage/videos/743462206

Authenticity and Conformity

At the next, experiential level of the self-domain is the need to be one's authentic self despite conformity pressures; this is the desire to view oneself as being different from others in a good way. Nine major motivational systems include the need for a unique identity as a fundamental need (Pincus, 2022a). This need is reflected in 6 to 13% of dimensions and 9 to 10% of items. Among the dimensions reviewed by Van Der Post et al. (1997) and Jung et al. (2009), mentions of the need for authenticity appear as *individualism*, *identity*, *adaptability*, *innovation*, *absence of bureaucracy*, *personality*, and *personal life*. Items that speak to this need refer to *adaptability*, *distinctiveness*, *curiosity*, *flexibility*, and *willingness to experiment*.

Fulfilling Potential and Limitation

The culminating level of self-domain strivings is represented by the need for personal growth and development, to actualize oneself to fulfill one's potential. Eleven major motivational systems include personal growth or actualization as a fundamental need (Pincus, 2022a). Margulies (1969) has argued that organizational culture creates conditions and incentives that support self-actualization. This need appears in 5 to 13% of dimensions reviewed and in 8 to 9% of items. Among the corresponding dimensions reviewed are *emphasis on growth*, *development*, *capacity development*, *educational opportunities*, *continuous personal improvement*, *training*, *staff development*, *learning culture*, and *manager knowledge*. Among the items reflecting this need are notions of *opportunities for personal and professional growth*, *learning orientation*, *capabilities of people*, and *investing in people*.

Table 3 Distributions of organizational culture dimensions identified by Jung et al. (2009), van der Post et al. (1997), and several commonly used organizational culture assessment instruments by the twelve cells of the unified pyramid of human motivation

Three levels of striving	Four life domains			
	Self	Material	Social	Spiritual
Aspirational	Fulfilling potential and limitation	Success and failure	Recognition and scorn	Higher purpose and materialism
Percentage of qualifying constructs; Jung et al. (2009)	12.9%	9.3%	1.4%	7.1%
Percentage of qualifying constructs; van der Post et al. (1997)	4.8%	8.4%	0.0%	8.4%
Percentage of items	8.6%	11.4%	1.2%	7.3%
Experiential	Authenticity and conformity	Immersion and stagnation	Caring and uncaring	Ethics and wrongdoing
Percentage of qualifying constructs; Jung et al. (2009)	12.9%	7.9%	7.9%	9.3%
Percentage of qualifying constructs; van der Post et al. (1997)	6.0%	15.7%	8.4%	8.4%
Percentage of items	9.8%	9.0%	4.9%	17.6%
Foundational	Safety and insecurity	Autonomy and disempowerment	Inclusion and exclusion	Justice and injustice
Percentage of qualifying constructs; Jung et al. (2009)	5.7%	13.6%	8.6%	3.6%
Percentage of qualifying constructs; van der Post et al. (1997)	7.2%	19.3%	10.8%	2.4%
Percentage of items	6.9%	9.8%	10.6%	2.9%

Table 4 Distributions of organizational culture dimensions from The University of Tennessee's Organizational Social Context culture assessment instrument by the twelve cells of the unified pyramid of human motivation

Three levels of striving	Four life domains			
	Self	Material	Social	Spiritual
Aspirational	Fulfilling potential and limitation	Success and failure	Recognition and scorn	Higher purpose and materialism
Percentage of items	7.8%	7.8%	5.9%	2.9%
Experiential	Authenticity and conformity	Immersion and stagnation	Caring and uncaring	Ethics and wrongdoing
Percentage of items	8.8%	5.9%	7.8%	14.7%
Foundational	Safety and insecurity	Autonomy and disempowerment	Inclusion and exclusion	Justice and injustice
Percentage of items	18.6%	15.7%	3.9%	0.0%

Motives of the Material Domain

Autonomy and Disempowerment

The foundational need within the material domain is the striving for autonomy, to feel able and authorized to take positive action. Seven major motivational systems feature the need for autonomy, whether labeled empowerment, self-efficacy, or self-determination (Pincus, 2022a). Because the material domain is typically associated with the world of work and play, it is not surprising to see a strong representation of these concepts. Among the reviewed dimensions, we see 14 to 19% of total concepts and 10 to 16% of items. The related concepts include *action orientation, assertiveness, autonomy, decision-making, control, delegation, empowerment, influence, authority, freedom, power distance, self-governance,* and *use of resources*.

Immersion and Stagnation

At the next level of the material domain is the need for immersion, the striving to feel totally absorbed in the moment, often described as a state of *flow*. Thirteen major motivational systems include this motive (Pincus, 2022a). Among the dimensions reviewed fall 8 to 16% of total concepts, and 6 to 9% of items. Among the immersion-related concepts are *attention*, *commitment*, *participation*, *involvement*, *challenge*, *facilitation*, *performance*, and *productivity.* Among immersion-related items are terms like *energy*, *enthusiasm*, and *intensity*.

Success and Failure

The material domain's highest level of aspiration is the need for material success as the fruit of one's labor. Seven major motivational systems include this motive (Pincus, 2022a). The need for achievement is represented by 8 to 9% of organizational culture dimensions and by 8 to 11% of items. These dimensions include *accomplishment*, *achievement*, *rewards emphasis*, *goals*, *outcomes*, and *results orientation.* These items include notions of *ambition*, *competitiveness*, *exceeding expectations*, and *performing higher than standards*.

Motives of the Social Domain

Inclusion and Exclusion

The most basic, foundational level of the social domain is the need for social connection which is the gateway to close relationships and social admiration. Nine major motivational systems include the need for affiliation, connection, or belonging (Pincus, 2022a). Among dimensions of organizational culture, affiliation-related concepts range from 9 to 11% of constructs and 4 to 11% of items. Dimensions include *affiliation*, *cohesiveness*,

collaborative culture, *collegiality*, *coordination*, *group functioning*, *interpersonal relationships*, *peer support*, *peer team building*, *social relationships*, *team culture*, and *teamwork*. Items include terms like *inclusion*, *fitting in*, *developing friendships*, and *cooperation*.

Caring and Uncaring

The next level of the social domain is the need for mutually caring, intimate relationships. Eight major theories of motivation include the need for attachment, intimacy, or nurturance (Pincus, 2022a). Among dimensions of organizational culture, caring-related concepts account for 8% of total dimensions in both the Van Der Post and Jung reviews, as well as the OSC assessment; among other assessments, this theme accounts for 5% of items. Dimensions include *concern for people*, *empathy*, *humane*, *supportive climate*, *warmth*, and a *humanistic workplace.* Items include terms like *being supportive*, *caring*, *aggressiveness* (*reverse*), *understanding*, and *listening openly and attentively*.

Recognition and Scorn

The highest level of the social domain is the striving for social esteem and admiration. Eight major motivational systems include the need for admiration, honor, or esteem (Pincus, 2022a). The organizational culture literature is surprisingly light in its coverage of this fundamental need, with only 1% of the Jung review's concepts and 1% of the items in the six assessments reviewed, and no representation whatsoever among the dimensions reviewed by Van Der Post et al. Interestingly, the OSC stands apart on this dimension with 6% of items dedicated to issues of recognition. The only concepts are *recognition* and *approval*, and the only items are *having a good reputation* and *offering praise for good performance*, both contributed by the scale of O'Reilly et al. (1991). The near-total absence of this fundamental human need underscores the value of beginning with a structured model to hold the concepts in question.

Motives of the Spiritual Domain

Justice and Injustice

The spiritual domain represents the opposite of the material domain. If the material domain is fundamentally about visible and tangible reality, the spiritual domain concerns the world of ideas and ideals. The foundational level of the spiritual domain is the need for fairness and justice, the idea that good is rewarded and bad is punished. At least five major motivational systems include the justice motive, especially those addressing moral development (e.g., those of Jean Piaget, Lawrence Kohlberg, Michael Lerner, Paul Bloom, Jonathan Haidt, Joshua Greene; Pincus, 2022a). Colquitt et al. (2001) have reviewed the extensive literature on organizational justice research, which has emerged as a separate subdiscipline. Surprisingly, in the wake of a host of front-page news concerning social justice, the need for justice receives consistently few mentions in the organizational culture literature, 2 to 4% of dimensions and 0 to 3% of items. Among the justice-related dimensions are *collectivism*, *fairness of compensation*, *gender egalitarianism*, and *rewards and punishments.*

Justice-related items include *fairness*, *I can trust my supervisor to be fair in dealing with all staff*, *respect for the individual's rights*, *rule orientation*, *there is clear agreement about the right way and the wrong way to do things*, and *tolerance*.

Ethics and Wrongdoing

The next level of the spiritual domain is the need for ethical conduct, striving for behavior to be consistent with normative moral values, which are built on a scaffold of basic justice. At least five major motivational systems include this need and tend to be those focused on moral development (e.g., those of Lawrence Kohlberg, C. Daniel Batson, Erving Staub, Jonathan Haidt, and Immanuel Kant; Pincus, 2022a). In sharp contrast to the need for justice, the need for ethics is well-populated by both organizational culture dimensions and items. This need is represented by 8 to 9% of dimensions and 15 to 18% of items. Among ethics-related dimensions are *customer-focus (vs. self-interest), open communication, practicing what is preached, standards and values, taking responsibility, trust, valuing ethics and honesty,* and *work ethic*. Among ethics-related items are notions of *accountability*, *honesty*, *integrity*, *shared values successful problem resolution*, *transparency*, *trust*, *and willingness to share information*.

Higher Purpose and Materialism

The peak of the spiritual domain is represented by the highest and most noble striving, the need to serve a higher mission or purpose. The need for a transcendent higher purpose is featured in at least five major motivational-developmental systems, a list that includes the work of Baruch Spinoza, Immanuel Kant, William James, Viktor Frankl, Abraham Maslow, and Lawrence Kohlberg (Pincus, 2022a). In terms of the amount of representation, this need falls in between the need for justice and the need for ethics. Seven to 8% of organizational culture dimensions speak to this need, and 7% of the six reviewed assessments; here, the OSC is the outlier with only 3% of items. Dimensions include *shared sense of purpose*, *clarity of direction*, *long-term focus*, *future orientation*, *goal integration*, *mission*, *shared vision*, and *transformational*. Items include *a clear guiding philosophy*, *a clear mission that gives meaning and direction to our work*, and *I capture the imagination and emotional commitment of others when I talk about my vision of the future*.

Implications for Theory

The problem of clearly defining and operationalizing the concept of organizational culture is well-documented (Glisson, 2007; Jung et al., 2009; Kalaiarasi & Sethuram, 2017; Schneider et al., 2013; Van Der Post et al., 1997). As reported by Schneider et al. (2013), part of the reason for the failure to clearly articulate this construct may be the latitude and flexibility; a loose definition affords the potential culture consultant, who is free to stretch or trim the concept as they see fit. We argue that whatever the benefit to practitioners to operate without boundaries, the costs of unclear definitions far outweigh the gains. By neglecting to ground organizational culture concepts within an overarching theory, the field has experienced concept proliferation as suggested by the 186 concepts identified by Jung et al. (2009) and the 114 identified by Van Der Post et al. (1997), with

almost no consistency among the various models. Such conceptual "whiteout conditions" make it impossible to find one's way amidst the blizzard of overlapping concepts and represent a failure to address the essential nature of organizational culture. Organizational culture acts as a kind of values template that comes into being upon the founding of an organization and continues to be modified over time goes on; as the organization makes its values clear through its statements, branding, actions, policies, and procedures. If culture is the DNA template, its expression in values acts as the RNA transcript which guides management toward valuing and investing in certain things while avoiding others, leading to a set of things the organization does well and is known for. These *things it does well* are environmental affordances that, to different degrees, satisfy the needs of its employees, customers, and humanity at large. It is at this intersection of need fulfillment that the real action takes place, in the relative fulfillment of the twelve emotional needs.

The most significant contribution of the application of the matrix is its ability to clean up and organize the endless parade of concepts. We have hopefully accomplished that goal and gone further by clearly distinguishing between exogenous, environmental variables and endogenous, psychological variables, as well as their different degrees of abstraction. It is our hope that we have provided a comprehensive, structured framework for thinking about organizational culture that may slow the pace of concept proliferation as new constructs can be categorized among similar constructs in shared cells of the matrix.

A secondary advantage accruing from the application of the matrix is the ability to judge the degree that each of the twelve needs are covered in theory (i.e., in terms of dimensions) and in measurement (i.e., in terms of assessment items). As suggested, surprisingly little attention has been paid to the need for recognition and justice. These important underrepresented themes can now be easily identified and added to future theory and measurement development.

The emotional needs matrix further postulates that every need can operate as either a promotion or prevention need. Theory development has tended to stumble over this distinction, with certain needs well-covered by negatives (i.e., conflict as the opposite of safety, lacking authority as the opposite of autonomy; and aggression as the opposite of caring), while others are assessed only in their positive expression. Because they are experienced differently and demand different treatments, it is our hope that future theory and measurement will formally distinguish between promotion and prevention needs.

We hope that this paper can assist theory development through the definition of a general theory of individual well-being that is comprised of every higher-order human need (Pincus, 2022a). Our model of emotional needs is represented by a pyramid, with the life domains on its four faces, arranged as pairs of opposites—self–social and material–spiritual. Using a metaphor of distance, our model predicts that there will be stronger associations among adjacent domains (e.g., self–material–social) and weaker associations for antipodal domains (self–social and material–spiritual), a proposition garnering substantial strong theoretical and empirical support (Kohlberg & Power, 1981; Mahoney et al., 2005; Pincus, 2023b).

It is worth noting that past research on cultural effects has identified the following two recurring polarities:

- The first polarity addresses culture's emphasis on the needs of the self vs. communal needs. A great deal of research has demonstrated that the fulfillment of communal needs is associated with well-being in communalistic societies, whereas the fulfillment of one's own needs is associated with well-being in individualistic societies (Kitayama & Markus, 2000; Kitayama et al., 2000; Markus & Kitayama, 1991; Oishi & Diener, 2009).

- The second polarity addresses the culture's emphasis on materialism vs. idealism as values. This polarity is associated with the degree of industrialization of societies such that industrialized societies tend to value materialism, whereas less traditional societies place greater value on idealism (Oishi, 2000; Sheldon & Elliot, 1999; Chirkov et al., 2003).

Across the many reviews of the culture literature, these two polarities are the most often cited distinctions (Tov & Diener, 2009). Our model of emotional needs suggests that these polarities are not arbitrary but instead reflect the fundamental axes that define all higher-order human needs. As such, they are the essential tradeoffs of human existence: the extent to which we focus on our own needs vs. the needs of others and the degree to which we focus on here-and-now materialism vs. abstract ideals.

A goal for future research will be to describe the way that emotional needs interact with relative degrees of fulfillment by organizations to promote important outcomes such as increasing perceptions that the culture is *healthy*, as well as improved employee well-being and engagement. Our model posits that this kind of progress necessarily moves in a process of de-centering from the individual's focus on themselves to the external world to the social world to the world of principles. As needs are met, further progression involves transcending the definitions of each need as all twelve needs begin to fuse together, i.e., what brings a feeling of achievement also provides an example of ethical behavior, and what brings a sense of security also provides justice for others; what provides a feeling of authenticity also provides respect.

Implications for Methods

Mirroring the measurement woes of the subjective well-being field, research in organizational culture has struggled to develop measurement approaches that circumvent the limitations presented by reliance on written statements with numerical rating scales. Because of its affective, nonverbal nature, like the concepts of well-being, engagement, and motivation, we believe there is much promise in the use of images rather than words to measure cultural states and effects. Image-based emotional measurement has a long history stretching back to the Rorschach and Thematic Apperception Test (Pincus, 2023a).

Because of the sensitive nature of employee ratings of organizational culture, there is also the significant problem of "fake-ability" of response, particularly among employees who fear that their responses could be identified and among managers who may not wish to make radical changes to current practices. Ideally, organizational culture conditions and effects would be measurable using approaches that limit the ability to filter, control, and fake responses. One research tradition seeking this goal involves tests of implicit associations that measure the response latency of different pairings to reveal implicit mental associations. At the other end of the continuum are biological markers of well-being and brain activity. We argue that these kinds of measures may be useful for measuring the ultimate *consequences* of organizational culture but do not measure its *causes* or the *state* of culturally influenced well-being or engagement itself.

We argue that a fundamental reorientation to measuring states and effects of organizational culture is needed. Assuming that the effect of organizational culture is felt in need fulfillment, a *motivational–emotional* process, then reliance on numerically rated verbal

statements is inherently flawed because these approaches necessitate rational, analytical thinking, not emotions or feelings. Fortunately, alternative approaches, collectively referred to as "System 1" approaches, are constructed to circumvent cognitive filters, permitting direct measurement of motivational–emotional processes. System 1 technique includes brain imaging (e.g., fMRI and EEG), psychophysiological measures (e.g., facial coding, galvanic skin response, eye tracking, cardiac functioning, and respiration), and scalable indirect measures of motivational-emotional meaning (e.g., time-constrained, image-based elicitation; Pincus, 2023a). Because organizational culture effects and conditions are experienced primarily through emotional channels, measuring these effects necessitates methods that mirror its affective nature.

Implications for Practice

We argue that the conspicuous absence of a meta-theoretical framework has limited both organizational culture theory development and measurement. By organizing the hundreds of items and dimensions that have been offered within a single unified framework, we hope this will be of value, not just to theorists, but also to practitioners, who need to describe their frameworks and measures to clients.

As an example of the benefits of starting with a clear meta-theory, we review the case of a particularly influential model of organizational culture, the first ever described, by Jaques (1951). Jaques listed seven principles (p. 127), to which we have added the corresponding emotional needs in our model (in parentheses):

1. Work for everyone at a level consistent with their working capacity (*immersion*), values (*ethics*), and interests (*authenticity*).
2. Opportunity for everyone to progress as his or her capability matures, within the opportunities available (*potential*).
3. Fair and just treatment for everyone (*justice*), including fair pay based on equitable pay differentials (*justice*) and merit recognition (*recognition*) related to personal effectiveness appraisal (*success*).
4. Leadership interaction between managers and subordinates (*inclusion, caring*).
5. Clear articulation of accountability and authority (*autonomy*).
6. Articulation of long-term organizational vision through direct communication from the top (*purpose*).
7. Opportunity for everyone individually or through representatives to participate in policy development (*safety* and *inclusion)*.

Astoundingly, this, the very first formal description of organizational culture, references all 12 needs in the matrix. It could be argued that all the critical dimensions have been hiding in plain sight for over 70 years.

We believe there are substantial benefits derived from the structure of our model. It categorizes needs by life domains and levels of striving, presenting needs in a hierarchical order. It suggests which need fulfillments support progression in each domain, and those that can be expected to naturally co-occur, as opposed to those that have the potential to act in potential opposition to each other. Because of its structural assumptions, it can be used to generate testable hypotheses, to help understand the impact of interventions on sets of needs. Beginning with a holistic

meta-theory based on first principles can make life easier for theorists, researchers, and practitioners by providing a common framework that ensures that all fundamental concepts are equally represented.

Limitations and Recommendations

The primary limitation of this study pertains to the scope of the analysis, which focused on mainstream, positivistic conceptualizations of organizational culture. There are alternative theoretical traditions stemming primarily from work in cultural psychology, which tend to emphasize the importance of the interplay between individual psychology and the social environment in co-creating cultures[9]. We see no conflict between our categorical approach to understanding the human needs that are served (or fail to be served) by culture and the alternative tradition focusing on the interactionist ontogeny of culture. Regardless of the processes by which cultural values are formed, maintained, and evolved, the set of higher-order human needs they can serve remain unchanged. The dynamic forces that co-create culture will always require tradeoffs between intra-individual needs (e.g., the need for security vs. taking the risks required for growth), as well as tradeoffs between the needs of different individuals (e.g., a worker's need for purpose and a manager's need to show profit), and between individuals and the needs of the organization (e.g., the individual's need for autonomy and authenticity vs. the organization's need for standardization and singularity of focus).

Another limitation concerns our desire to link environmental affordances with the needs they can fulfill. Unquestionably, needs cannot be linked to environmental affordances in a rigid one-to-one manner because both exist in many-to-many relationships, i.e., any particular affordance can potentially meet multiple needs and any particular need can potentially be met by multiple affordances. Although such a matrix linking needs to affordances would be complex, we believe such an endeavor is possible and would be worthwhile as it could connect individual needs to sets of relevant supports. An important consideration in drawing such linkages is the fact that environmental affordances come into being as a result of perceived needs. The set of supports provided by a given culture *should* come into being through a process of co-creation between workers and management, whereby needs are identified and prioritized for fulfillment. This is what *ought* to occur; however, we have seen little evidence of systematic assessment of higher-order emotional needs in organizations to date.

Our recommendations flow directly from this observation. Organizations tend to presume that they understand the needs of the individuals that together make up the organization, yet they can provide little to no evidence of such understanding. What is clear is that organizational culture has become a hot-button issue because of the failure of organizations to properly understand the needs of their constituents and customers, as evidenced by scandals and low, single-digit utilization of the kinds of support organizations tend to offer (e.g., Employee Assistance Programs). We urge policymakers to use our framework as a basis for measuring the needs of individuals and for identifying the support needed to meet these needs.

[9] Cultural supports or barriers are co-created through the continuous interplay of social actors and institutional systems in any social system. The co-constructivist perspective has been convincingly argued within Cultural Psychology by Jann Valsiner, Svend Brinkmann, Angelo Branco, Elena Paolicchi, Michael Cole, Richard Shweder, Patricia Greenfield, and Joseph Henrich, among others. Despite the mainstream psychological position that values (as expressed in organizational culture) must be enduring, we believe that values are highly susceptible to social influence and are as changeable and dynamic as the needs they reflect.

Conclusion

This paper responds to the need for integration of the vast array of dimensions and concepts springing up in the organizational culture literature. A meta-theory is proposed that can encompass the constantly growing list of organizational culture constructs based on a core set of 12 human emotional needs. There is a critical need for a solid theory in this area because substantial resources are being diverted to address serious life and death issues traced to failures of organizational culture, and without a sensible comprehensive framework, there is a significant risk that measurement approaches and interventions will be inconsistent and "hit-or-miss."

Appendix

Table 5 Organizational culture dimensions by emotional need category

Need category	Organizational culture construct	Source
Safety (A1)	Availability of trustworthy person at work	Jung et al. (2009)
Safety (A1)	Conflict	Jung et al. (2009); van der Post et al. (1997)
Safety (A1)	Conflict resolution	van der Post et al. (1997)
Safety (A1)	Conflict tolerance	van der Post et al. (1997)
Safety (A1)	Confrontation	Jung et al. (2009); van der Post et al. (1997)
Safety (A1)	Job security	Jung et al. (2009)
Safety (A1)	Quality of work–life	Jung et al. (2009)
Safety (A1)	Risk	Jung et al. (2009); van der Post et al. (1997)
Safety (A1)	Risk tolerance	van der Post et al. (1997)
Safety (A1)	Security (need for)	Jung et al. (2009)
Safety (A1)	Strain	Jung et al. (2009)
Authenticity (A2)	Absence of bureaucracy	van der Post et al. (1997)
Authenticity (A2)	Adaptability	Jung et al. (2009)
Authenticity (A2)	Attitude toward change	van der Post et al. (1997)
Authenticity (A2)	Bureaucratic	Jung et al. (2009)
Authenticity (A2)	Bureaucratic rationality	Jung et al. (2009)
Authenticity (A2)	Change	Jung et al. (2009)
Authenticity (A2)	Change (creating)	Jung et al. (2009)
Authenticity (A2)	Disposition toward change	Jung et al. (2009)
Authenticity (A2)	Formality	Jung et al. (2009)
Authenticity (A2)	Identity (degree)	van der Post et al. (1997)
Authenticity (A2)	Identity (feeling)	van der Post et al. (1997)
Authenticity (A2)	Individual culture	Jung et al. (2009)
Authenticity (A2)	Individualism	Jung et al. (2009)
Authenticity (A2)	Innovation	Jung et al. (2009)
Authenticity (A2)	Innovation and risk-taking	Jung et al. (2009)
Authenticity (A2)	Innovativeness	Jung et al. (2009)

Table 5 (continued)

Need category	Organizational culture construct	Source
Authenticity (A2)	Organizational identity	Jung et al. (2009)
Authenticity (A2)	Parochial culture vs. professional culture	Jung et al. (2009)
Authenticity (A2)	Personality	Jung et al. (2009)
Authenticity (A2)	Physician individuality	Jung et al. (2009)
Authenticity (A2)	Role	Jung et al. (2009)
Authenticity (A2)	Task innovation	van der Post et al. (1997)
Authenticity (A2)	Work and family/personal life	Jung et al. (2009)
Potential (A3)	Capability development	Jung et al. (2009)
Potential (A3)	Development (capability)	Jung et al. (2009)
Potential (A3)	Development (employee)	Jung et al. (2009)
Potential (A3)	Educational opportunities	Jung et al. (2009)
Potential (A3)	Emphasis on growth	Jung et al. (2009)
Potential (A3)	Encouragement of individual initiative	van der Post et al. (1997)
Potential (A3)	Growth (emphasis on)	Jung et al. (2009)
Potential (A3)	Human resource development (individual focus)	van der Post et al. (1997)
Potential (A3)	Improvement (continuous)	Jung et al. (2009)
Potential (A3)	Individual initiative	van der Post et al. (1997)
Potential (A3)	Knowledge (managerial)	Jung et al. (2009)
Potential (A3)	Leadership	Jung et al. (2009)
Potential (A3)	Leadership (ward)	Jung et al. (2009)
Potential (A3)	Learning	Jung et al. (2009)
Potential (A3)	Learning culture	Jung et al. (2009)
Potential (A3)	Manager knowledge	Jung et al. (2009)
Potential (A3)	Nurse manager ability	Jung et al. (2009)
Potential (A3)	Personal outcomes	Jung et al. (2009)
Potential (A3)	Staff development	Jung et al. (2009)
Potential (A3)	Training	Jung et al. (2009); van der Post et al. (1997)
Potential (A3)	Ward leadership	Jung et al. (2009)
Autonomy (B1)	A bias for action	van der Post et al. (1997)
Autonomy (B1)	Action orientation	van der Post et al. (1997)
Autonomy (B1)	Assertiveness	Jung et al. (2009)
Autonomy (B1)	Authority (locus of)	Jung et al. (2009)
Autonomy (B1)	Autonomy	Jung et al. (2009)
Autonomy (B1)	Autonomy and entrepreneurship	van der Post et al. (1997)
Autonomy (B1)	Awareness of using time as a resource	Jung et al. (2009)
Autonomy (B1)	Centralization of decision-making	Jung et al. (2009)
Autonomy (B1)	Control	Jung et al. (2009); van der Post et al. (1997)
Autonomy (B1)	Control over the work environment	Jung et al. (2009)
Autonomy (B1)	Decentralized authority	van der Post et al. (1997)
Autonomy (B1)	Decision-making (centralization of)	Jung et al. (2009)
Autonomy (B1)	Decision-making	van der Post et al. (1997)
Autonomy (B1)	Decision-making (data-based)	Jung et al. (2009)

Table 5 (continued)

Need category	Organizational culture construct	Source
Autonomy (B1)	Decision-making practices	van der Post et al. (1997)
Autonomy (B1)	Decision-making process	van der Post et al. (1997)
Autonomy (B1)	Delegation	van der Post et al. (1997)
Autonomy (B1)	Empowering people	van der Post et al. (1997)
Autonomy (B1)	Empowerment	Jung et al. (2009)
Autonomy (B1)	Influence and control	van der Post et al. (1997)
Autonomy (B1)	Job clarity	van der Post et al. (1997)
Autonomy (B1)	Locus of authority	Jung et al. (2009)
Autonomy (B1)	Need for authority	Jung et al. (2009)
Autonomy (B1)	Personal freedom	van der Post et al. (1997)
Autonomy (B1)	Planning	Jung et al. (2009)
Autonomy (B1)	Power distance	Jung et al. (2009)
Autonomy (B1)	Resources (use of)	Jung et al. (2009)
Autonomy (B1)	Responsibility	van der Post et al. (1997)
Autonomy (B1)	Self-governance	Jung et al. (2009)
Autonomy (B1)	Supervisory support	van der Post et al. (1997)
Autonomy (B1)	Time (autonomy over use of)	Jung et al. (2009)
Autonomy (B1)	Top management contact	van der Post et al. (1997)
Autonomy (B1)	Understanding an organizational task	Jung et al. (2009)
Autonomy (B1)	Use of resources	Jung et al. (2009)
Immersion (B2)	Attention to detail	Jung et al. (2009)
Immersion (B2)	Commitment	van der Post et al. (1997)
Immersion (B2)	Core task	Jung et al. (2009)
Immersion (B2)	Employee participation	Jung et al. (2009)
Immersion (B2)	Excitement, pride, and esprit de corps	van der Post et al. (1997)
Immersion (B2)	Involvement (task)	Jung et al. (2009)
Immersion (B2)	Job challenge	van der Post et al. (1997)
Immersion (B2)	Job involvement	van der Post et al. (1997)
Immersion (B2)	Motivational process	van der Post et al. (1997)
Immersion (B2)	Participation (employee)	Jung et al. (2009)
Immersion (B2)	Peer work facilitation	van der Post et al. (1997)
Immersion (B2)	Perceived routine in the job	Jung et al. (2009)
Immersion (B2)	Performance (job)	Jung et al. (2009)
Immersion (B2)	Performance clarity	van der Post et al. (1997)
Immersion (B2)	Performance emphasis	van der Post et al. (1997)
Immersion (B2)	Performance facilitation	van der Post et al. (1997)
Immersion (B2)	Performance integration	Jung et al. (2009)
Immersion (B2)	Performance orientation	Jung et al. (2009); van der Post et al. (1997)
Immersion (B2)	Productivity through people	van der Post et al. (1997)
Immersion (B2)	Supervisory work facilitation	van der Post et al. (1997)
Immersion (B2)	Task (core task)	Jung et al. (2009)
Immersion (B2)	Task structure	Jung et al. (2009)
Immersion (B2)	Task support	van der Post et al. (1997)

Table 5 (continued)

Need category	Organizational culture construct	Source
Success (B3)	Accomplishment	Jung et al. (2009)
Success (B3)	Achievement	Jung et al. (2009)
Success (B3)	Achievement orientation	Jung et al. (2009)
Success (B3)	Emphasis on rewards	Jung et al. (2009)
Success (B3)	Goal clarity	Jung et al. (2009)
Success (B3)	Goal-setting process	van der Post et al. (1997)
Success (B3)	Goals	Jung et al. (2009)
Success (B3)	Job reward	van der Post et al. (1997)
Success (B3)	Orientation (achievement)	Jung et al. (2009)
Success (B3)	Orientation (goal)	Jung et al. (2009)
Success (B3)	Orientation (reward)	Jung et al. (2009)
Success (B3)	Outcomes (orientation toward)	Jung et al. (2009)
Success (B3)	Peer goal emphasis	van der Post et al. (1997)
Success (B3)	Performance goals	van der Post et al. (1997)
Success (B3)	Result vs. process-oriented culture	Jung et al. (2009)
Success (B3)	Results orientation	Jung et al. (2009)
Success (B3)	Reward	van der Post et al. (1997)
Success (B3)	Reward system	van der Post et al. (1997)
Success (B3)	Rewards	Jung et al. (2009)
Success (B3)	Supervisory goal emphasis	van der Post et al. (1997)
Inclusion (C1)	Affiliation	Jung et al. (2009)
Inclusion (C1)	Cohesiveness	Jung et al. (2009)
Inclusion (C1)	Collaborative culture	Jung et al. (2009)
Inclusion (C1)	Collegiality	Jung et al. (2009)
Inclusion (C1)	Consensus	Jung et al. (2009)
Inclusion (C1)	Coordination	Jung et al. (2009); van der Post et al. (1997)
Inclusion (C1)	Group functioning	van der Post et al. (1997)
Inclusion (C1)	Interaction process	van der Post et al. (1997)
Inclusion (C1)	Interpersonal relationship	Jung et al. (2009)
Inclusion (C1)	Peer support	van der Post et al. (1997)
Inclusion (C1)	Peer team building	van der Post et al. (1997)
Inclusion (C1)	Relations (interdisciplinary)	Jung et al. (2009)
Inclusion (C1)	Relationships (interpersonal)	Jung et al. (2009)
Inclusion (C1)	Relationships with physicians	Jung et al. (2009)
Inclusion (C1)	Social relationships	van der Post et al. (1997)
Inclusion (C1)	Supervisory team building	van der Post et al. (1997)
Inclusion (C1)	Team culture	Jung et al. (2009)
Inclusion (C1)	Team orientation (collaborative)	Jung et al. (2009)
Inclusion (C1)	Teamwork across boundaries	van der Post et al. (1997)
Inclusion (C1)	Teamwork	van der Post et al. (1997)
Caring (C2)	Aggressiveness	Jung et al. (2009)
Caring (C2)	Concern for people	van der Post et al. (1997)
Caring (C2)	Dependent	Jung et al. (2009)

Table 5 (continued)

Need category	Organizational culture construct	Source
Caring (C2)	Empathy	Jung et al. (2009)
Caring (C2)	Emphasis on people	van der Post et al. (1997)
Caring (C2)	Family orientation	Jung et al. (2009)
Caring (C2)	Humane orientation	Jung et al. (2009)
Caring (C2)	Leader-subordinate interaction	van der Post et al. (1997)
Caring (C2)	Leadership and support of nurses	Jung et al. (2009)
Caring (C2)	Management support	van der Post et al. (1997)
Caring (C2)	Organizational support	Jung et al. (2009)
Caring (C2)	People in the practice	Jung et al. (2009)
Caring (C2)	Support	Jung et al. (2009); van der Post et al. (1997)
Caring (C2)	Supportive climate	Jung et al. (2009); van der Post et al. (1997)
Caring (C2)	Warmth	van der Post et al. (1997)
Caring (C2)	Workplace (humanistic)	Jung et al. (2009)
Recognition (C3)	Approval	Jung et al. (2009)
Recognition (C3)	Recognition	Jung et al. (2009)
Justice (D1)	Collectivism	Jung et al. (2009)
Justice (D1)	Compensation	van der Post et al. (1997)
Justice (D1)	Compensation (fairness of)	Jung et al. (2009)
Justice (D1)	Fair compensation	Jung et al. (2009)
Justice (D1)	Gender egalitarianism	Jung et al. (2009)
Justice (D1)	Rewards and punishments	van der Post et al. (1997)
Justice (D1)	Societal collectivism	Jung et al. (2009)
Ethics (D2)	Closeness to customer	van der Post et al. (1997)
Ethics (D2)	Commitment to workforce	Jung et al. (2009)
Ethics (D2)	Communication (openness)	Jung et al. (2009)
Ethics (D2)	Customer focus	Jung et al. (2009)
Ethics (D2)	Customers (valuing of)	Jung et al. (2009)
Ethics (D2)	Ethic (work)	Jung et al. (2009)
Ethics (D2)	Flow (of information)	Jung et al. (2009)
Ethics (D2)	Market and customer orientation	van der Post et al. (1997)
Ethics (D2)	Open communication	Jung et al. (2009)
Ethics (D2)	Openness in communication and supervision	van der Post et al. (1997)
Ethics (D2)	Rituals to support values	van der Post et al. (1997)
Ethics (D2)	Standards	van der Post et al. (1997)
Ethics (D2)	Standards and values	van der Post et al. (1997)
Ethics (D2)	Strong value systems	van der Post et al. (1997)
Ethics (D2)	Trust (organizational)	Jung et al. (2009)
Ethics (D2)	Values (espoused)	Jung et al. (2009)
Ethics (D2)	Valuing ethics and honesty	Jung et al. (2009)
Ethics (D2)	Work ethic	Jung et al. (2009)
Ethics (D2)	Workforce (values)	Jung et al. (2009)
Ethics (D2)	Workforce values (perceived)	Jung et al. (2009)

Table 5 (continued)

Need category	Organizational culture construct	Source
Purpose (D3)	A shared sense of purpose	van der Post et al. (1997)
Purpose (D3)	Clarity of direction	van der Post et al. (1997)
Purpose (D3)	Direction	van der Post et al. (1997)
Purpose (D3)	Focus (long-term)	Jung et al. (2009)
Purpose (D3)	Future orientation	Jung et al. (2009)
Purpose (D3)	Goal integration	van der Post et al. (1997)
Purpose (D3)	Integration	van der Post et al. (1997)
Purpose (D3)	Long-term focus	Jung et al. (2009)
Purpose (D3)	Mission	Jung et al. (2009)
Purpose (D3)	Organization integration	van der Post et al. (1997)
Purpose (D3)	Orientation (of the organization's future)	Jung et al. (2009)
Purpose (D3)	Shared vision	Jung et al. (2009)
Purpose (D3)	Strategic emphasis	Jung et al. (2009)
Purpose (D3)	Strategic organization focus	van der Post et al. (1997)
Purpose (D3)	Transformational	Jung et al. (2009)
Purpose (D3)	Vision (shared)	Jung et al. (2009)
Purpose (D3)	Visions	Jung et al. (2009)
Engagement outcomes	Employee commitment	Jung et al. (2009)
Engagement outcomes	Identification with the organization	Jung et al. (2009)
Engagement outcomes	Job dissatisfaction	Jung et al. (2009)
Engagement outcomes	Job satisfaction	Jung et al. (2009)
Engagement outcomes	Loyalty	Jung et al. (2009)
Engagement outcomes	Satisfaction	van der Post et al. (1997)
Engagement outcomes	Satisfaction culture	Jung et al. (2009)
Engagement outcomes	Thoughts about leaving the job	Jung et al. (2009)
Generic	Communication flow	van der Post et al. (1997)
Generic	Human resource orientation	Jung et al. (2009)
Generic	Leadership process	van der Post et al. (1997)
Generic	Management style	van der Post et al. (1997)
Generic	Organizational clarity	van der Post et al. (1997)
Generic	Organizational vitality	van der Post et al. (1997)
Generic	People integrated with technology	van der Post et al. (1997)

Table 6 Organizational culture assessment items by human-need category

Need category	Organizational culture item	Dimension	Source
Safety (A1)	Being calm	Outcome orientation	O'Reilly et al. (1991)
Safety (A1)	Being careful	Innovation	O'Reilly et al. (1991)
Safety (A1)	Being easy going		O'Reilly et al. (1991)
Safety (A1)	Confronting conflict directly		O'Reilly et al. (1991)
Safety (A1)	Low level of conflict	Decisiveness	O'Reilly et al. (1991)
Safety (A1)	Optimistic		Limeade (2021)
Safety (A1)	Our approach to doing business is very consistent and predictable	Coordination and integration	Denison Consulting (2023)
Safety (A1)	People believe that change happens too quickly and causes too much disruption		Sashkin and Rosenbach (2013)
Safety (A1)	People believe that their concerns and anxieties during periods of change are heard and taken into consideration		Sashkin and Rosenbach (2013)
Safety (A1)	People have a clear idea of why and how to proceed throughout the process of change		Sashkin and Rosenbach (2013)
Safety (A1)	Predictability	Decisiveness	O'Reilly et al. (1991)
Safety (A1)	Relaxed		Limeade (2021)
Safety (A1)	Resilient		Limeade (2021)
Safety (A1)	Security of employment	Innovation	O'Reilly et al. (1991)
Safety (A1)	Stability	Innovation	O'Reilly et al. (1991)
Safety (A1)	When disagreements occur, we work hard to achieve "win–win " solutions	Agreement	Denison Consulting (2023)
Safety (A1)	When I come to work here, I feel emotionally safe	Safety	Hales, Green et al. (2019)
Authenticity (A2)	A willingness to experiment	Innovation	O'Reilly et al. (1991)
Authenticity (A2)	Adaptability		O'Reilly et al. (1991)
Authenticity (A2)	Being distinctively different from others		O'Reilly et al. (1991)
Authenticity (A2)	Being innovative	Innovation	O'Reilly et al. (1991)
Authenticity (A2)	Curious		Limeade (2021)
Authenticity (A2)	Flexibility		O'Reilly et al. (1991)
Authenticity (A2)	Flexible		Limeade (2021)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Authenticity (A2)	Fostering innovation (encouraging others to innovate and generate new ideas)		Cameron and Quinn (1999)
Authenticity (A2)	I create an environment where experimentation and creativity are rewarded and recognized		Cameron and Quinn (1999)
Authenticity (A2)	I encourage others in my unit to generate new ideas and methods		Cameron and Quinn (1999)
Authenticity (A2)	I regularly come up with new, creative ideas regarding processes, products, or procedures for my organization		Cameron and Quinn (1999)
Authenticity (A2)	Informality		O'Reilly et al. (1991)
Authenticity (A2)	Innovation and risk-taking are encouraged and rewarded	Organizational learning	Denison Consulting (2023)
Authenticity (A2)	Innovative		Limeade (2021)
Authenticity (A2)	New and improved ways to do work are continually adopted	Creating change	Denison Consulting (2023)
Authenticity (A2)	Open		Limeade (2021)
Authenticity (A2)	People are flexible and adaptable when changes are necessary		Sashkin and Rosenbach (2013)
Authenticity (A2)	People from different parts of the organization share a common perspective	Coordination and integration	Denison Consulting (2023)
Authenticity (A2)	People value and make use of one another's unique strengths and different abilities		Sashkin and Rosenbach (2013)
Authenticity (A2)	Risk-taking	Innovation	O'Reilly et al. (1991)
Authenticity (A2)	Staff is not supported when they try to find new and better ways to do things	Empowerment	Hales, Kusmaul et al. (2019)
Authenticity (A2)	The way things are done is very flexible and easy to change	Creating change	Denison Consulting (2023)
Authenticity (A2)	Values the whole employee		Limeade (2021)
Authenticity (A2)	When someone comes up with a new idea, I help sponsor them to follow through on it		Cameron and Quinn (1999)
Potential (A3)	Compared to all other managers you have known, how would you rate your own competency as a manager of managers?		Cameron and Quinn (1999)
Potential (A3)	Growth-minded		Limeade (2021)
Potential (A3)	I actively help prepare others to move up in the organization		Cameron and Quinn (1999)
Potential (A3)	I facilitate a work environment where peers as well as subordinates learn from and help develop one another		Cameron and Quinn (1999)
Potential (A3)	I give my subordinates regular feedback about how I think they are doing		Cameron and Quinn (1999)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Potential (A3)	I give others assignments and responsibilities that provide opportunities for their personal growth and development		Cameron and Quinn (1999)
Potential (A3)	I help my employees strive for improvement in all aspects of their lives, not just in job-related activities		Cameron and Quinn (1999)
Potential (A3)	I make sure that others in my unit are provided with opportunities for personal growth and development		Cameron and Quinn (1999)
Potential (A3)	I regularly coach subordinates to improve their management skills so they can achieve higher levels of performance		Cameron and Quinn (1999)
Potential (A3)	individuals and teams participate in defining specific goals		Sashkin and Rosenbach (2013)
Potential (A3)	Invests in the employees		Limeade (2021)
Potential (A3)	Learning is an important objective in our day-to-day work	Organizational learning	Denison Consulting (2023)
Potential (A3)	Learning-oriented		Limeade (2021)
Potential (A3)	Managing the development of others (helping others improve their performance and obtain personal development opportunities)		Cameron and Quinn (1999)
Potential (A3)	Opportunities for professional growth	Emphasis on rewards	O'Reilly et al. (1991)
Potential (A3)	Overall management competency (general level of managerial ability)		Cameron and Quinn (1999)
Potential (A3)	The "bench strength " (capability of people) is constantly improving	Capability development	Denison Consulting (2023)
Potential (A3)	The capabilities of people are viewed as an important source of competitive advantage	Capability development	Denison Consulting (2023)
Potential (A3)	There is continuous investment in the skills of employees	Capability development	Denison Consulting (2023)
Potential (A3)	We view failure as an opportunity for learning and improvement	Organizational learning	Denison Consulting (2023)
Potential (A3)	When giving negative feedback to others, I foster their self-improvement rather than defensiveness or anger		Cameron and Quinn (1999)
Autonomy (B1)	Action orientation		O'Reilly et al. (1991)
Autonomy (B1)	Authority is delegated so that people can act on their own	Capability development	Denison Consulting (2023)
Autonomy (B1)	Autonomous		Limeade (2021)
Autonomy (B1)	Autonomy	Team orientation	O'Reilly et al. (1991)
Autonomy (B1)	Being highly organized	Innovation	O'Reilly et al. (1991)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Autonomy (B1)	Business planning is ongoing and involves everyone in the process to some degree	Empowerment	Denison Consulting (2023)
Autonomy (B1)	By empowering others in my unit, I foster a motivational climate that energizes everyone involved		Cameron and Quinn (1999)
Autonomy (B1)	Courageous		Limeade (2021)
Autonomy (B1)	Decisions are usually made at the level where the best information is available	Empowerment	Denison Consulting (2023)
Autonomy (B1)	Everyone believes that he or she can have a positive impact	Empowerment	Denison Consulting (2023)
Autonomy (B1)	I ensure that regular reports and assessments occur in my unit		Cameron and Quinn (1999)
Autonomy (B1)	I create an environment where involvement and participation in decisions are encouraged and rewarded		Cameron and Quinn (1999)
Autonomy (B1)	I don't have many choices when it comes to doing my job	Choice	Hales, Green et al. (2019)
Autonomy (B1)	I facilitate effective information-sharing and problem-solving in my group		Cameron and Quinn (1999)
Autonomy (B1)	I feel like I have a great deal of control over my job satisfaction	Choice	Hales, Green et al. (2019)
Autonomy (B1)	I foster rational, systematic decision analysis in my unit (e.g., logically analyzing component parts of problems) to reduce the complexity of important issues		Cameron and Quinn (1999)
Autonomy (B1)	I generate, or help others obtain, the resources necessary to implement their innovative ideas		Cameron and Quinn (1999)
Autonomy (B1)	I maintain a formal system for gathering and responding to information that originates in other units outside my own		Cameron and Quinn (1999)
Autonomy (B1)	People believe they can influence and affect their workplace through their ideas and involvement		Sashkin and Rosenbach (2013)
Autonomy (B1)	People feel that most change is the result of pressures imposed from higher up in the organization		Sashkin and Rosenbach (2013)
Autonomy (B1)	Taking initiative		O'Reilly et al. (1991)
Autonomy (B1)	Teams often lack the authority needed to get the job done effectively		Sashkin and Rosenbach (2013)
Autonomy (B1)	The administration here does not share decision-making with the rest of the staff	Collaboration	Hales, Kusmaul et al. (2019)
Autonomy (B1)	This organization does not seem to care whether staff gets what they need to do their jobs well	Empowerment	Hales, Kusmaul et al. (2019)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Immersion (B2)	Managing continuous improvement (fostering an orientation toward continuous improvement among employees in everything they do)		Cameron and Quinn (1999)
Immersion (B2)	Being analytical	Attention to detail	O'Reilly et al. (1991)
Immersion (B2)	Being precise	Attention to detail	O'Reilly et al. (1991)
Immersion (B2)	Being reflective		O'Reilly et al. (1991)
Immersion (B2)	Energetic		Limeade (2021)
Immersion (B2)	Energizing employees (motivating others to put forth extra effort and to work aggressively)		Cameron and Quinn (1999)
Immersion (B2)	Enthusiasm for the job		O'Reilly et al. (1991)
Immersion (B2)	I am always working to improve the processes we use to achieve our desired output		Cameron and Quinn (1999)
Immersion (B2)	I clarify for members of my unit exactly what is expected of them		Cameron and Quinn (1999)
Immersion (B2)	I encourage all employees to make small improvements continuously in the way they do their jobs		Cameron and Quinn (1999)
Immersion (B2)	I encourage everyone in my unit to constantly improve and update everything they do		Cameron and Quinn (1999)
Immersion (B2)	I facilitate a climate of intensity in my unit		Cameron and Quinn (1999)
Immersion (B2)	I facilitate a climate of continuous improvement in my unit		Cameron and Quinn (1999)
Immersion (B2)	I have established a control system that ensures consistency in quality, service, cost, and productivity in my unit		Cameron and Quinn (1999)
Immersion (B2)	I insist on intense hard work and high productivity from my subordinates		Cameron and Quinn (1999)
Immersion (B2)	I keep close track of how my unit is performing		Cameron and Quinn (1999)
Immersion (B2)	I make certain that others have a clear picture of how their job fits with others in the organization		Cameron and Quinn (1999)
Immersion (B2)	I motivate and energize others to do a better job		Cameron and Quinn (1999)
Immersion (B2)	I use a measurement system that consistently monitors both work processes and outcomes		Cameron and Quinn (1999)
Immersion (B2)	Managing the control system (having measurement and monitoring systems in place to keep close track of processes and performance)		Cameron and Quinn (1999)
Immersion (B2)	Paying attention to detail	Attention to detail	O'Reilly et al. (1991)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Immersion (B2)	People know what is expected of them and understand their impact on other people, teams, and functions		Sashkin and Rosenbach (2013)
Success (B3)	I push my unit to achieve world-class competitive performance in service and/or products		Cameron and Quinn (1999)
Success (B3)	Achievement orientation	Outcome orientation	O'Reilly et al. (1991)
Success (B3)	An emphasis on quality		O'Reilly et al. (1991)
Success (B3)	Being competitive	Aggressiveness	O'Reilly et al. (1991)
Success (B3)	Being demanding	Outcome orientation	O'Reilly et al. (1991)
Success (B3)	Being quick to take advantage of opportunities	Aggressiveness	O'Reilly et al. (1991)
Success (B3)	Being results-oriented	Outcome orientation	O'Reilly et al. (1991)
Success (B3)	Decisiveness	Decisiveness	O'Reilly et al. (1991)
Success (B3)	Having high expectations for performance	Outcome orientation	O'Reilly et al. (1991)
Success (B3)	High pay for good performance	Emphasis on rewards	O'Reilly et al. (1991)
Success (B3)	I articulate a clear vision of what can be accomplished in the future		Cameron and Quinn (1999)
Success (B3)	I constantly monitor the strengths and weaknesses of our best competition and provide my unit with information on how we measure up		Cameron and Quinn (1999)
Success (B3)	I create a climate where individuals in my unit want to achieve higher levels of performance than the competition		Cameron and Quinn (1999)
Success (B3)	I establish ambitious goals that challenge subordinates to achieve performance levels above the standard		Cameron and Quinn (1999)
Success (B3)	I foster a sense of competitiveness that helps members of my work group perform at higher levels than members of other units		Cameron and Quinn (1999)
Success (B3)	I increase the competitiveness of my unit by encouraging others to provide services and/or products that surprise and delight customers by exceeding their expectations		Cameron and Quinn (1999)
Success (B3)	Individuals and teams are measured and rewarded according to how well goals are achieved		Sashkin and Rosenbach (2013)
Success (B3)	Individuals, teams, and functional areas often have incompatible goals		Sashkin and Rosenbach (2013)
Success (B3)	Leaders set goals that are ambitious but realistic	Goals and objectives	Denison Consulting (2023)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Success (B3)	Managing competitiveness (fostering an aggressive orientation toward exceeding competitors' performance)		Cameron and Quinn (1999)
Success (B3)	On the basis of your level of management competency, how high in the organization do you expect to go in your career? (check only one)		Cameron and Quinn (1999)
Success (B3)	People and teams are often expected to reach goals which they believe are unattainable		Sashkin and Rosenbach (2013)
Success (B3)	The leadership has clearly stated the objectives we are trying to meet	Goals and objectives	Denison Consulting (2023)
Success (B3)	There is widespread agreement about goals	Goals and objectives	Denison Consulting (2023)
Success (B3)	We constantly stretch our goals to continuously improve		Sashkin and Rosenbach (2013)
Success (B3)	We continuously track our progress against our stated goals	Goals and objectives	Denison Consulting (2023)
Success (B3)	We respond well to competitors and other changes in the business environment	Creating change	Denison Consulting (2023)
Success (B3)	Work is organized so that each person can see the relationship between his or her job and the goals of the organization	Team orientation	Denison Consulting (2023)
Inclusion (C1)	Being team-oriented	Team orientation	O'Reilly et al. (1991)
Inclusion (C1)	Cooperation across different parts of the organization is actively encouraged	Team orientation	Denison Consulting (2023)
Inclusion (C1)	Developing friends at work		O'Reilly et al. (1991)
Inclusion (C1)	Different parts of the organization often cooperate to create change	Creating change	Denison Consulting (2023)
Inclusion (C1)	Fitting in	Emphasis on rewards	O'Reilly et al. (1991)
Inclusion (C1)	I build cohesive, committed teams of people		Cameron and Quinn (1999)
Inclusion (C1)	I coordinate regularly with managers in other units in my organization		Cameron and Quinn (1999)
Inclusion (C1)	I have consistent and frequent personal contact with my internal and external customers		Cameron and Quinn (1999)
Inclusion (C1)	I initiate cross-functional teams or task forces that focus on important organizational issues		Cameron and Quinn (1999)
Inclusion (C1)	I provide experiences for employees that help them become socialized and integrated into the culture of our organization		Cameron and Quinn (1999)
Inclusion (C1)	In groups I lead, I make sure that sufficient attention is given to both task accomplishment and interpersonal relationships		Cameron and Quinn (1999)
Inclusion (C1)	Inclusive		Limeade (2021)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Inclusion (C1)	It is easy to coordinate projects across different parts of the organization	Coordination and integration	Denison Consulting (2023)
Inclusion (C1)	It is easy to reach a consensus, even on difficult issues	Agreement	Denison Consulting (2023)
Inclusion (C1)	Lack of hierarchy		Limeade (2021)
Inclusion (C1)	Managers at all levels work together as a team to achieve results for the organization		Sashkin and Rosenbach (2013)
Inclusion (C1)	Managing coordination (sharing information across functional boundaries and fostering coordination with other units)		Cameron and Quinn (1999)
Inclusion (C1)	Managing teams (building effective, cohesive, smooth-functioning teams)		Cameron and Quinn (1999)
Inclusion (C1)	Participative		Limeade (2021)
Inclusion (C1)	People believe in teamwork, the "what is in it for us " approach rather than "what is in it for me."		Sashkin and Rosenbach (2013)
Inclusion (C1)	People believe in working together collaboratively, preferring cooperation over competition		Sashkin and Rosenbach (2013)
Inclusion (C1)	People lack the interpersonal and technical skills they need to work effectively in teams		Sashkin and Rosenbach (2013)
Inclusion (C1)	People work like they are part of a team	Team orientation	Denison Consulting (2023)
Inclusion (C1)	Teamwork is used to get work done, rather than hierarchy	Team orientation	Denison Consulting (2023)
Inclusion (C1)	When leading a group, I ensure collaboration and positive conflict resolution among group members		Cameron and Quinn (1999)
Inclusion (C1)	Working in collaboration with others	Team orientation	O'Reilly et al. (1991)
Caring (C2)	Being aggressive	Aggressiveness	O'Reilly et al. (1991)
Caring (C2)	Being people-oriented		O'Reilly et al. (1991)
Caring (C2)	Being supportive	Supportiveness	O'Reilly et al. (1991)
Caring (C2)	Caring		Limeade (2021)
Caring (C2)	I communicate in a supportive way when people in my unit share their problems with me		Cameron and Quinn (1999)
Caring (C2)	I facilitate a climate of aggressiveness in my unit		Cameron and Quinn (1999)
Caring (C2)	I foster trust and openness by showing understanding of the point of view of individuals who come to me with problems or concerns		Cameron and Quinn (1999)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Caring (C2)	I listen openly and attentively to others who give me their ideas, even when I disagree		Cameron and Quinn (1999)
Caring (C2)	If I am upset at work, I know that other staff and supervisors will understand	Safety	Hales, Green et al. (2019)
Caring (C2)	Listens		Limeade (2021)
Caring (C2)	Managing interpersonal relationships (listening to and providing supportive feedback to others)		Cameron and Quinn (1999)
Caring (C2)	Supportive		Limeade (2021)
Recognition (C3)	Employees who do the best job of serving customers are more likely than other employees to be recognized or rewarded		Sashkin and Rosenbach (2013)
Recognition (C3)	Having a good reputation		O'Reilly et al. (1991)
Recognition (C3)	Offers praise for good performance	Supportiveness	O'Reilly et al. (1991)
Justice (D1)	Being rule-oriented	Innovation	O'Reilly et al. (1991)
Justice (D1)	Fairness		O'Reilly et al. (1991)
Justice (D1)	I can trust my supervisor to be fair in dealing with all staff	Trust	Hales, Kusmaul et al. (2019)
Justice (D1)	Respect for the individual's right		O'Reilly et al. (1991)
Justice (D1)	There is a clear agreement about the right way and the wrong way to do things	Agreement	Denison Consulting (2023)
Justice (D1)	Tolerance		O'Reilly et al. (1991)
Justice (D1)	Working long hours	Supportiveness	O'Reilly et al. (1991)
Ethics (D2)	All members have a deep understanding of customer wants and needs	Customer focus	Denison Consulting (2023)
Ethics (D2)	Being socially responsible	Aggressiveness	O'Reilly et al. (1991)
Ethics (D2)	Business decisions are most often made on the basis of facts, not just perceptions or assumptions		Sashkin and Rosenbach (2013)
Ethics (D2)	Customer comments and recommendations often lead to changes	Customer focus	Denison Consulting (2023)
Ethics (D2)	Customer input directly influences our decisions	Customer focus	Denison Consulting (2023)
Ethics (D2)	Customer-focused		Limeade (2021)
Ethics (D2)	Emphasizing a single culture throughout the organization		O'Reilly et al. (1991)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Ethics (D2)	Everyone strongly believes in a set of shared values about how people should work together to solve common problems and reach mutual objectives		Sashkin and Rosenbach (2013)
Ethics (D2)	Honest		Limeade (2021)
Ethics (D2)	I ensure that everything we do is focused on better serving our customers		Cameron and Quinn (1999)
Ethics (D2)	I establish ceremonies and rewards in my unit that reinforce the values and culture of our organization		Cameron and Quinn (1999)
Ethics (D2)	I interpret and simplify complex information so that it makes sense to others and can be shared throughout the organization		Cameron and Quinn (1999)
Ethics (D2)	I involve customers in my unit's planning and evaluations		Cameron and Quinn (1999)
Ethics (D2)	I make certain that all employees are clear about our policies, values, and objectives		Cameron and Quinn (1999)
Ethics (D2)	I make sure that my unit continually gathers information on our customers' needs and preferences		Cameron and Quinn (1999)
Ethics (D2)	I make sure that we assess how well we are meeting our customers' expectations		Cameron and Quinn (1999)
Ethics (D2)	I routinely share information across functional boundaries in my organization to facilitate coordination		Cameron and Quinn (1999)
Ethics (D2)	I am not sure who I can trust among my co-workers, supervisors, and administrators	Trust	Hales, Kusmaul et al. (2019)
Ethics (D2)	Information is widely shared so that everyone can get the information he or she needs when it is needed	Empowerment	Denison Consulting (2023)
Ethics (D2)	Managing acculturation (helping others become clear about what is expected of them and about organizational culture and standards)		Cameron and Quinn (1999)
Ethics (D2)	Managing customer service (fostering a focus on service and involvement with customers)		Cameron and Quinn (1999)
Ethics (D2)	Not being constrained by many rules		O'Reilly et al. (1991)
Ethics (D2)	Our policies and procedures help us to provide the service our customers want and need		Sashkin and Rosenbach (2013)
Ethics (D2)	People are always looking for new ways to better serve clients and customers		Sashkin and Rosenbach (2013)
Ethics (D2)	People have access to timely and accurate information about what is really happening in the organization and why		Sashkin and Rosenbach (2013)
Ethics (D2)	People often see customer and client problems as someone else's responsibility		Sashkin and Rosenbach (2013)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Ethics (D2)	People sometimes compromise company policies or principles to reach operational goals		Sashkin and Rosenbach (2013)
Ethics (D2)	Quality focused		Limeade (2021)
Ethics (D2)	Sharing information freely	Supportiveness	O'Reilly et al. (1991)
Ethics (D2)	Taking individual responsibility		O'Reilly et al. (1991)
Ethics (D2)	The leaders and managers "practice what they preach "	Core values	Denison Consulting (2023)
Ethics (D2)	The leadership listens only to their favorite employees	Collaboration	Hales, Green et al. (2019)
Ethics (D2)	There is a clear and consistent set of values that governs the way we do business	Core values	Denison Consulting (2023)
Ethics (D2)	There is a clearly defined culture	Agreement	Denison Consulting (2023)
Ethics (D2)	There is an ethical code that guides our behavior and tells us right from wrong	Core values	Denison Consulting (2023)
Ethics (D2)	Transparent		Limeade (2021)
Ethics (D2)	Trusting (trusts its employees)		Limeade (2021)
Ethics (D2)	Trustworthy (can be trusted)		Limeade (2021)
Ethics (D2)	We encourage direct contact with customers by our people	Customer focus	Denison Consulting (2023)
Ethics (D2)	We give the highest priority and support to meeting the needs of clients and customers and to solving their problems		Sashkin and Rosenbach (2013)
Ethics (D2)	We make certain that everyone is informed about what is going on across the organization	Organizational learning	Denison Consulting (2023)
Ethics (D2)	When customers have problems with the products or services they receive, those problems are almost always resolved to their satisfaction		Sashkin and Rosenbach (2013)
Ethics (D2)	When people ignore our core values, they are held accountable	Core values	Denison Consulting (2023)
Purpose (D3)	Everyone knows and understands our business objectives and priorities		Sashkin and Rosenbach (2013)
Purpose (D3)	Has a long-term focus		Limeade (2021)
Purpose (D3)	Having a clear guiding philosophy		O'Reilly et al. (1991)
Purpose (D3)	I capture the imagination and emotional commitment of others when I talk about my vision of the future		Cameron and Quinn (1999)
Purpose (D3)	I constantly restate and reinforce my vision of the future to members of my unit		Cameron and Quinn (1999)

Table 6 (continued)

Need category	Organizational culture item	Dimension	Source
Purpose (D3)	I have developed a clear strategy for helping my unit successfully accomplish my vision of the future		Cameron and Quinn (1999)
Purpose (D3)	I help others visualize a new kind of future that includes possibilities as well as probabilities		Cameron and Quinn (1999)
Purpose (D3)	Individuals and teams have clearly defined goals that relate to the goals and mission of the business		Sashkin and Rosenbach (2013)
Purpose (D3)	Integrated		Limeade (2021)
Purpose (D3)	Leaders have a long-term viewpoint	Vision	Denison Consulting (2023)
Purpose (D3)	Managing the future (communicating a clear vision of the future and facilitating its accomplishment)		Cameron and Quinn (1999)
Purpose (D3)	Our strategy leads other organizations to change the way they compete in the industry	Strategic direction and intent	Denison Consulting (2023)
Purpose (D3)	Our vision creates excitement and motivation for our employees	Vision	Denison Consulting (2023)
Purpose (D3)	Purposeful		Limeade (2021)
Purpose (D3)	There is a clear mission that gives meaning and direction to our work	Strategic direction and intent	Denison Consulting (2023)
Purpose (D3)	There is a clear strategy for the future	Strategic direction and intent	Denison Consulting (2023)
Purpose (D3)	There is a long-term purpose and direction	Strategic direction and intent	Denison Consulting (2023)
Purpose (D3)	There is a good alignment of goals across levels	Coordination and integration	Denison Consulting (2023)
Purpose (D3)	We are able to meet short-term demands without compromising our long-term vision	Vision	Denison Consulting (2023)
Purpose (D3)	We have a shared vision of what the organization will be like in the future	Vision	Denison Consulting (2023)

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Declarations

Ethics Approval and Consent to Participate No human or animal subjects were used for this research.

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