

PROPOSAL OF AN ASSESSMENT TO CHARACTERIZE WORLDVIEWS AND LEVELS OF CONSCIOUSNESS IN ORGANIZATIONS

Luciana Gabardo¹

Marianne Ales Stacheski²

José Vicente B. de Mello Cordeiro³

ABSTRACT

Assessments of worldviews and levels of consciousness are essentials in organizational interventions guided by an integral approach. Consultants and leaders might have a much easier task on promoting change if they can infer the levels of consciousness that are activated in a certain situation. Nevertheless, most of the assessments currently available present difficulties to effectively identify the process of thinking or the stage of consciousness one is really operating from. Most of them that can be filled within less than half an hour ended up focusing on exposed values, not on how people actually think. Other assessments that indeed grasp the thinking processes are based on hour-long in-person interviews. This work aimed to develop a new assessment capable of identifying respondents' level of consciousness without demanding very qualified interviewers and a long-time process, seeking its internal validation. The final version of the assessment presents two different sections. The first section contains thirty objective questions focusing on five different situations, using a seven-point Likert scale for each question, in order to reduce bias. The second section comprises eighteen subjective sentence completion questions (SCT). The internal validation was performed for the thirty objective questions, presenting a high coefficient on Cronbach's Alpha scale (0,8138),

¹ Aluna do 4º período do curso de Psicologia da FAE Centro Universitário. Bolsista do Programa de Apoio à Iniciação Científica (PAIC 2021-2022). *E-mail:* lugbrd1903@gmail.com

² Aluna do 3º período do curso de Negócios Internacionais da FAE Centro Universitário. Voluntária do Programa de Apoio à Iniciação Científica (PAIC 2021-2022). *E-mail:* marianneales19@gmail.com

³ Orientador da Pesquisa. Doutor em Engenharia de Produção pela Universidade Federal de Santa Catarina. Professor da FAE Centro Universitário. *Email:* josec@fae.edu

considered an excellent score. The analysis of the SCT answers were made manually. Its results were very consistent with the objective questions and enabled the proper identification of deep internalized values and thinking processes, but will require further automation with the help of a Content Analysis Software.

Keywords: Assessment. Worldviews. Levels of Consciousness. Values

INTRODUCTION

We live in a period of crisis in leadership. In the last decades, authors who anticipated such a scenario (BECK; COWAN, 1996; WILBER, 2000) pointed out a recurring imbalance between problems and attempted solutions, in organizations and in humanity itself. The postmodern worldview's emphasis on fighting the problems of the modern worldview has been successful in places where this vision manifested itself more acutely, but it ended up becoming too rigid in proposing egalitarian and more sustainable solutions in contexts on which modernity had not yet caused its problems (environmental, social, and personal crises) nor carried out its solutions (BECK; COWAN, 1996; CORDEIRO et al., 2019; WITT et al., 2016; INGLEHART, 2008). For the same authors, the way out of this crisis is necessarily linked to the emergence of new leaders who have developed or are effectively developing their worldview and consciousness level at the post-post-postmodern or integrative stage, being capable of recognizing and dealing with the different stages of individuals and organizations.

But how to identify those leaders? How to identify leaders' current worldviews and consciousness levels, helping them overcome gaps and gain self-improvement? Assessments are an appropriate first step.

Many tools were developed and have been used not only to assess leadership styles (ANDERSON et. al., 2015; GOLEMAN, 2000) but also adult development, which includes consciousness levels and worldviews (LOEVINGER's WUSCT – Washington University Sentence Completion Test, 1979; KEGAN's SOI – Subject / Objective Interview, 1988; COOKE-GREUTER's SCTi-MAP – The Integral Sentence Completion Test, 1999; BECK; COWAN's SD – Spiral Dynamics Values Test, 1996). However, despite their recognized reliability, validity, and consistency, in the last years some of them have been presenting some unsatisfactory results, generating a theoretical identification of the respondent with a worldview that is not confirmed in his or her daily practice as a leader. In other terms, they are assessing the subjects' shallower layer of values (exposed), which includes the values related to the contents of their thoughts, without having access to their thinking processes, the consciousness level in which their choices and actions are truly rooted. Such a scenario has been recurrently observed by one of the authors of this article (CORDEIRO, 2019) in his many years of teaching and serving as an integral leadership consultant.

Considering the description above, it is important to point out clearly the main research problem, summarised by one question: Which assessment is capable of mapping more precisely the levels of consciousness and worldviews of leaders and their teams in general without demanding too much time to be completed, helping them better acknowledge and improve themselves?

In that regard, this paper aims to describe the development, testing and internal validation of an assessment focused on characterising the respondents' levels of consciousness and worldviews. It will initially consist of a literature review focused on the main approaches to identifying levels of consciousness or thinking processes, such as those by Wilber (2000), Graves (1973), Beck and Cowan (1996), Cook-Greuter (2010), and Kegan (2009), and the major existent worldview assessments related to these approaches, such as all the previously mentioned. Literature review also focuses on psychological tests and assessments such as Cronbach (1997), Domino (2006), Hoffman (2001), and Anastasi (1954). Following it comes a description of the used methods and steps made to build a new tool to assess worldviews and levels of consciousness, which also will be presented in this paper. Finally, the papers present an analysis on the internal validation of the instrument and the further steps required to implement it as a new assessment.

1 LEVELS OF CONSCIOUSNESS AND WORLDVIEWS THEORIES

This chapter is divided into the main theories about levels of consciousness and worldviews. It begins with Ken Wilber's integral theory and its relevance to comprehend one's consciousness and perception of the world and moves on to the origin, development and evolution of the levels of consciousness' theories, such as Graves' "Levels of Existence Theory", Beck and Cowan's "Spiral Dynamics", Cook-Greuter's "Ego Development Theory", and so on.

1.1 THE INTEGRAL APPROACH: THEORY OF EVERYTHING

Born from the Transpersonal approach, the fourth movement of Psychology (alongside Psychoanalysis, Behaviourism, and Humanism), Ken Wilber presented the Integral Theory, which includes as many perspectives, styles, and methodologies as possible about human wisdom, so they can coexist in a coherent and enriching way.

The Integral Theory framework brought by Wilber in the 1970s is a quadrant model known as AQAL Model, which encompasses four quadrants, levels, lines, states, types, and elements that cover its bases.

Table 1 — Ken Wilber's AQAL Model

AQAL-Model - The Four Quadrants	
<p>UPPER LEFT I (experiential phenomena) Intentional (subjective)</p>	<p>UPPER RIGHT It (behavioural phenomena) behavioural (objective)</p>
<p>LOWER LEFT I (experiential phenomena) Cultural (intersubjective)</p>	<p>LOWER RIGHT Its (social & systemic phenomena) Social (interobjective)</p>

SOURCE: The authors (2022), based on Esbjörn-Hargens (2009)

The quadrants are considered the four basic-dimensions of reality: internal, external, individual, and collective. The upper left one represents the individual's internal level of consciousness, a first-person perspective which encompasses the intentional and subjective self, the experiential phenomena. It refers to ego development, individuals' worldviews, levels of consciousness, and the interior growth of self-awareness, including temporary states of consciousness (COOK-GREUTER, 2013). The upper right is also an individual quadrant but it has an objective approach, focusing on individuals' behaviours and their bodies' chemical and biological states. The lower left focuses on culture and other intersubjective phenomena, standing for those second-person and plural perspectives that one shares with the groups they relate to. Finally, the lower right quadrant emphasises social (interobjective) and systemic overviews and corresponds to a third-person perspective, including environmental, political, educational, legal and economic issues, as well as structures, processes and activities within organizations (ESBJÖRN-HARGENS, 2009).

1.2 LEVELS OF CONSCIOUSNESS AND WORLDVIEWS THEORY

Clare W. Graves presented the concept of consciousness levels as systems of values which encompass patterns of thinking processes, applicable to individuals and societies. According to Graves (1970) man's consciousness evolves from one level to another by quantum-like jumps in a progressive and spiral pattern. This evolution happens when humans have to face and overcome new challenges which cannot be addressed by their current stage. Within this process the previous stage remains no longer dominant but integrated to the individual's new consciousness as a lesson well learned. Each level corresponds to a set of tools individuals and societies have to assimilate to cope with external stimuli.

Based on the Gravesian model and its "v-memes" (from value-systems), Don E. Beck and Christopher C. Cowan presented the Spiral Dynamics (SD) theory, a levels of existence classification into eight stages represented by colours divided in two groups that alternate continuously: warm colours (beige, red, orange and yellow) which emphasise individualistic values, and cool colours (purple, blue, green and turquoise) approaching communitarian values. Each colour is also codified with a pair of letters, A to I (life conditions or situations) and N to U (coping means, mind capacities to deal with reality) that can shift from time to time, and not necessarily evolve together (COWAN and TODOROVIC, 2005). The table below summarises the SD levels of existence:

Table 2 — SD levels of existence

Tier	Level of Existence	Popular Name	Privileged Needs	Situation / Life Conditions	Capacities/Coping Means
1st	BEIGE	Survival Sense	Biogenic needs and instinctive urges satisfaction	(A) State of nature; physical world	(N) Natural instincts, reflexes
	PURPLE	Kin Spirits	Protection, group safety, placate spirit realm, honour ancestors	(B) Threatens, mysterious powers	(O) Group traditions, rituals
	RED (despotism)	Power Gods	Dominate and control, sensory pleasure, avoid shame	(C) Jungle or battlefield	(P) Dominance, conquest, egocentrism
	BLUE (traditionalism)	Truth Force	Stability, order, obedience to earn reward, truth (dogmas)	(D) Dogmatic, ruled, controlled	(Q) Obedience, conformism, guilt
	ORANGE (modernism)	Strive Drive	Opportunity, success, autonomy, achievement	(E) Full of resources and opportunities	(R) Pragmatism, focus, strategies
	GREEN (postmodernism)	Human Bond	Harmony, belonging, consciousness, spirituality	(F) Place to thrive, love, and share	(S) Empathy, consensus, sense of community
2nd	YELLOW (integral)	Flex Flow	Independence, self-worth, knowing, sustainable living system	(G) Chaotic and uncertain	(T) Existentialism, flexibility, acceptance
	TURQUOISE	Global View	Global community, understanding life energies	(H) Balanced system	(U) Interconnection, transpersonalism

SOURCE: The authors (2022), based on Cowan and Todorovic (2005) and Reitter (2018)

The SD levels of existence can be related to the hierarchical human needs presented by Abraham Maslow in his humanistic theory (1943). The first-tier levels reflect basic and psychological needs (physiology, safety, belongingness, esteem, respect, love), and the second-tier ones represent the need for self-actualization at the top of the pyramid, or “the desire to become more and more what one is, to become everything that one is capable of becoming” (MASLOW, 2013, p. 16).

Suzanne Cook-Greuter (1999; 2013), inspired by Jane Loevinger’s EDT – Ego Development Theory, presented a description of nine maturity levels which unfold the human potential towards deeper understanding and wisdom. The approach focuses on meaning making based on three interrelated dimensions: operative or doing (objectives), affective or being (emotions), and cognitive or thinking (about oneself and the world). Similarly to SD levels of existence, Cook-Greuter’s stages alternate between integration (stages 3, 4, 5, and 6) and differentiation (stages 2/3, 3/4, 4/5, and 5/6).

The table below summarises Cook-Greuter’s levels of increasing embrace of EDT, excluded the Symbiotic Stage 1, not encompassed by the maturity framework:

Table 3 — The Nine Stages of increasing embrace in Ego Development Theory

Tier	Stage	Name	Self	Others	Main characteristics
Preconventional	2	Impulsive Stage	Rudimentary, physical self-labelling (me, mine)	Objects that exist to fulfil needs on demand	Constant sense of threat, insecurity; governed by impulses; limited understanding of the world
	2/3	Self-Protective or Opportunistic	Single concrete features	Having their own needs and desires: competition	Manipulation; no use of arguments and logic; intimidation; low trust; others are always to blame.
Conventional	3	Conformist or Diplomat	Several external features; rudimentary internal states	Two types: my group (family, tribe, nation) and the out-group	Group-centric thinking, self-identity depends on the group, belonging, group values, shared truths, strong morality (good or bad), traditions.
	3/4	Self-Conscious or Expert	Separated from others; sense of specialness	Separated and different. Need for constant comparison	Beginning of self-understanding; focused energy; need to be different / special; sense of knowing-it-all (superiority).
	4	Conscientious or Achiever	In society; drive for achievements	With similar goals and aspirations	Full awareness of linear time (reflections about past, present, and future); need for broader relational social context; need for achievements; rational and determined.
Postconventional	4/5	Individualist or Pluralist	A participant-observer, fourth person perspective	Equally valid and worthy of consideration	Recognition of multiple perspectives, awareness of the complexity of systems, vivid individualism, all ideas are respected, relativism.
	5	Autonomous or strategist	Embedded in history and multiple cultural contexts	Embraced for what they are	Historical perspective (lifetime), multiple contexts (time and space), well balanced, insightful, integration of conflicting aspects. Meaning making.
Postautonomous	5/6	Magician ou Alchemist	Beyond own lifetime; global-historic perspective	To be served; we all need each other	Inner conflicts about existential paradoxes, accepting paradoxes and ambiguity, committed to serving self and others;
	6	Unitive	Witnessing, not observing	We are all part of oneness. No ego boundaries	Meaning making with compassion; no illusions about permanence; belongingness and separateness without tension.

SOURCE: The authors (2022), based on Cook-Greuter (1999; 2013)

Greatly inspired by Jean Piaget’s constructivism, Robert Kegan presented the Development of Self Theory, his own view of human nature and identity formation and development. Kegan pointed out five developmental stages of the Self with fundamental differences in perspective-taking capacities, based on the ability to reason about circumstances and construct reality in progressively more complex and sophisticated ways: the subject / object distinction, the deep structure of personality.

By the subject / object distinction Kegan refers to a way of understanding what is being experienced through a process of differentiation and integration: the ability to emerge from the embeddedness in something (perceptions, feelings, situations, ideals, values, systems, etc.), taking this something off from our subjectivity and turning it into a new object, something to reason about, understand and integrate. This process “is essentially that of adaptation, a differentiation from that which was the subject of my personal organization and which becomes thereby the object of a new organization” (KEGAN, 2009, pp. 75-76). Kegan’s approach is not so much focused on stages, but much more on the *process*, the developmental dynamic at each and between stages, considering people spend a great portion of their lives in the transitions.

The table below presents a summary about Kegan’s stages:

Table IV — Robert Kegan’s Stages of Development of the Self

Stage	Name	Perspective	Subject	Object
1	Impulsive	Single perspective, can’t take other’s point of view	Immediate perceptions, feelings, and impulses	Actions, sensations, and physical objects
2	Instrumental / Imperial	Can take multiple perspectives, but one at a time	Enduring interests, personal agendas, & role expectations	Immediate perceptions, feelings, and impulses
3	Interpersonal / Socialised	Can take two or more perspectives simultaneously	Shared meaning, mutuality, social ideals & self-consciousness	Enduring interests, personal agendas, & role expectations
4	Institutional / Self-authoring	Own personal perspective on relationships and societal ideals	A self-authored system of values and standards	Shared meaning, mutuality, social ideals & self-consciousness
5	Interindividual / Self-transforming	Recognizes that own perspective on experience is a self-created convenience	Universality, paradox, multiple “selves” as vehicles for connection	A self-authored system of values and standards

SOURCE: The authors (2022), based on Kegan (1982, 2009) and Lewis (2007)

At the impulsive stage (1) the child is fully embedded in immediate perceptions, desires, and impulses (the only perspective), incapable of reasoning about it all. In the imperial stage (2) all of those embedded aspects become the objects and the embeddedness is now on enduring interests, personal agendas, and role expectations.

To Kegan most adults function at the interpersonal or socialized stage (3). Differently from the previous ones, the individuals now take multiple perspectives simultaneously, and understand relationships as shared psychological experiences, with shared expectations and meanings. Stage 3 people subordinate their interests and personal values to social ones, an idealism which co-defines the self (but not defines it, since the person might follow shared social ideals and values but does not operate by them naturally).

In Kegan's stage 4 the person is no longer made up of relationships and social ideals, but just *has* them. There is a true "oneself", self-sufficiency, self-regulation and completeness regardless of intimate relations and the context. Finally at stage 5 there is a self that creates other selves-identities in each context and relationship, and this process becomes the individuals' subject. Their values and patterns are constantly changing since they are not the self anymore, but "clothes" the self chooses to wear and to change according to the context.

It is important to notice some central points all these theories have in common. First, the levels and stages presented do not imply any moral superiority, only a more evolved sense of maturity (REITTER, 2018) or more complex ways of thinking, meaning making and understanding. They do not intend to rank people based on their intellectual or moral virtues, or any kind of valued superiority, but to provide tools to understand the thinking processes one has when facing the world on a daily basis.

Second, all theories consider that human growth occurs in a logical and continuum process which depends on support and challenge from the environment; that it occurs in a widening spiral movement alternating integration and differentiation, "from simple to complex, from static to dynamic, and from ego-centric to socio-centric to world-centric" (COOK-GREUTER, 2013, p. 2).

Third, they all agree that later stages or levels must integrate the earlier ones as a lesson well learned: none of them can be skipped. It is certain that some fixations of previous stages occur: they exist and represent some issues of an early

stage or level that are not adequately resolved. And to completely move from one stage to another those issues must be overcome, so the contents of each stage must be fully understood and integrated – not rejected or skipped.

2 PSYCHOLOGICAL TESTS AND ASSESSMENTS

After studying more than 125 meta-analyses on test validity and 800 samples examining multimethod assessment, in a work group established by APA (American Psychological Association) to evaluate psychological and neuropsychological assessments, Finn et. al (2001) concluded that psychological test validity is strong, compelling, and comparable to medical test validity. For those authors, despite the decrease of its use due mostly to insecure and incompetent administration, there is no doubt about the importance and efficiency of psychological testing.

Anastasi (1954) defined psychological tests as an objective and standardised measure of a sample of behaviour. Domino (2006) adds it is also an experiment, an interview, and a tool which can involve measuring devices, techniques, procedures, and examinations, and can take different forms.

Some authors began to use the word “assessment” as a synonym for test. However, most psychologists consider the distinction between the terms necessary, as they convey different meanings and functions. Cronbach (1990) considers assessments broader than tests: the former involve integrating and evaluating information obtained through the latter, and sometimes more: for example, in an assessment of an individual the tests must be considered along with a case history and an interview.

Urbina (2014) presents a wide and clear comparison. Psychological tests are simpler, shorter, involve one uniform procedure, frequently unidimensional, and are highly structured; they require objectivity, quantification, and focus on one person or group to provide comparison, and to obtain data. Assessments are more complex and longer, involve different procedures, entail both structured and unstructured aspects, and focus on the uniqueness of the subject to provide development or solutions.

It is important to notice that the psychological assessment is a judgmental process (DOMINO, 2006), and as so some steps must be observed carefully: clear and objective identification of its goals; appropriate selection and administration

of instruments to gather data; scoring and interpretation; inferences from a judicious use of the collected data; a verbal or written report with the conclusion (URBINA, 2014). Although making inferences is considered the most important step, the professional conducting the assessment must employ full expertise into all the process.

2.1 TESTING AND ASSESSMENT CONSTRUCTION

Psychodynamic functioning and personality tests and assessments (also called impressionistic tests) usually have a tied procedure but a great space for judgmental scoring. In those cases, psychometric testing is not enough: this format presents easier scoring but offers a less rich behaviour or individualised description. Impressionistic tests involve not only data obtained through psychometric procedures, but also many other means (interviews, observation, essays) to *characterise* the individual by an integrated interpretation (CRONBACH, 1990).

An assessment which aims to assess levels of consciousness and worldviews cannot be based on the result of a single psychometric test, no matter how detailed and complete it is. That is why many authors defend the combination of psychometric and impressionistic tests in a battery, in a continuum from objective to subjective, whenever the goal is to identify, characterise and understand some deep and personal aspects of a subject (DOMINO, 2006).

That being said, it is important to understand the techniques used to build tests and assessments. Some steps, according to Domino (2006) must be observed: 1) to identify a need which can be fulfilled by a test; 2) choose the theoretical framework which will influence and guide the test construction; 3) initial practical choices (audience; objectives, format of the items, items stimuli and responses; method of administration; time limits; scoring procedures, and so on); 4) develop a pool with as many items as possible, choosing the test divisions, subtopics, categories; 5) refine the pool of items, eliminating those that are duplicated, unclear, inefficient, inadequate or problematic; 6) confirm and demonstrate the reliability (score consistency) and the validity (effectiveness) of the test, by its administration to a sample of individuals that shall represent the audience first aimed; 7) after getting a reliable and valid test, it is necessary to expressly standardise the test instrument and norms, mostly refining and deepening the practical choices made early in the process (the third step); 8) further refinements. Once a new test (or a new version

of an existing one) is available, regular revision is both important and necessary to keep up with new scientific knowledge and societal changes.

Observations about test items are also necessary, considering “that the overall quality of a test depends primarily on the quality of the items that make it up”, but also on their number and sequencing (URBINA, 2014, p. 250). Four criteria are used to evaluate items quality: (a) their appropriateness (content and format) to the test purpose; (b) clarity; (c) grammatical correctness; and (d) obedience to some basic rules of writing test items. About these basic rules, it is important to mention the accuracy (items cannot be susceptible to various interpretations), sensibility and balance of their content (they cannot be ludicrous or unreal) (URBINA, 2014).

3 EXISTING WORLDVIEWS AND LEVELS OF CONSCIOUSNESS ASSESSMENTS

The different approaches for worldviews and levels of consciousness presented in the preceding chapter gave birth to different assessments.

Jane Loevinger’s WUSCT – Washington University Sentence Completion Test aims to measure ego development according to the stages presented by the author. It consists of 36 item stems, or incomplete sentences, which must be freely completed by the subject. It is a projective test, considering the responses as a reflection of internal processes, conscious and unconscious.

In Suzanne Cook-Greuter’s sentence completion test (known as SCTi-MAP, or the Leadership Development Profile), each sentence receives a score related to one of the nine meaning-making stages, pointing “at where one’s overall sense of self is” (TASSET, 2010, p. 100). The sentences’ responses are quite hard to categorise and classify for many respondents.

Robert Kegan’s SOI – Subject / Object Interview is based on the Development of Self Theory, and it was designed to explore and identify the complexity of the subject’s meaning-making and status on his own evolutionary journey. The interviewer must listen carefully to the subject to understand the meaning-making processes behind stories and narratives, getting as much as possible in the subject’s own experience of the world, and distinguishing horizontal growth (skillset, inside one stage) and vertical growth (mindset, one stage to the next). Main criticism of the

test is that it requires extensive knowledge from the interviewer, being impossible to be administered and evaluated in a reasonable period (TORBERT, 2017).

The Spiral Dynamic (SD) Assessment consists of ten statement clusters used both as landmarks for acceptance and rejection. The assessment aims to evaluate levels of consciousness (or existence, as so called by Graves) and worldviews. The result is shown through fourteen scales (seven of acceptance and seven of rejection), indicating in each level the centre of the subject's self is.

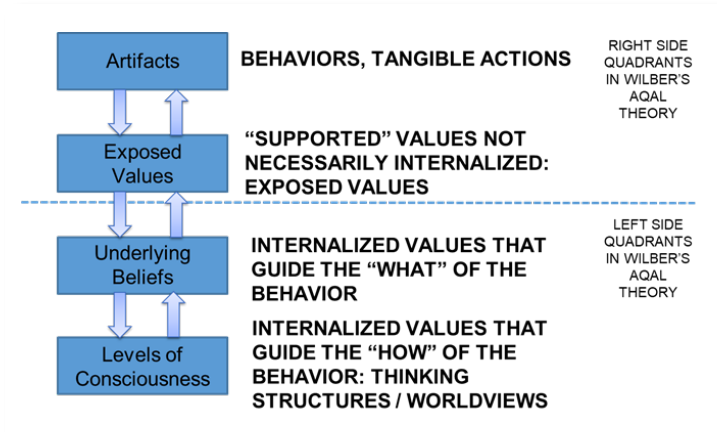
Richard Barrett came with his own test, the Personal Values Assessment. Very similar to Graves' and Beck and Cowan's works in the colours' representations, what becomes more obvious in Barrett's proposal is the evidence given to the exposed values. Even though Beck and Cowan's assessment clearly ends up reflecting mainly exposed values' results, Barrett' assessment has the identification of respondent's exposed values as its only aim.

Annick de Witt and Nicholas Hedlung introduced a different perspective in their assessment, when it comes to worldviews. In their framework, they explore a relation between the major worldviews (traditional, modern, postmodern and integrative) with climate change. Hedlung and Witt's Integrative Worldview Framework (IWF) is divided into five major categories: ontology, epistemology, axiology, anthropology, and societal vision. Authors also point out that the less self-reflection and self-awareness based on raised values and cultures the less abilities to articulate their worldviews assumptions in a "pure form", which is not expected to exist in social reality.

3.1 ANALYSIS OF AVAILABLE ASSESSMENTS

Considering the aim of this work, two dimensions assume a core importance regarding the analysis of the currently available assessments: i) the degree of internalization of the values systems each one is capable of assessing; ii) the practicality of obtaining the results, which includes time, resources and other issues related to the convenience of the assesseees. So, it can be noticed that Barrett's assessment, by asking assesseees to choose their core values among different lists of them, focus solely on what Schein (2009) defined as being exposed values and Cordeiro et al. consolidated in Figure I, that is, those values that one can tangibly articulate as important for them in relative terms. It's one's answer for the question: "What's important for me?".

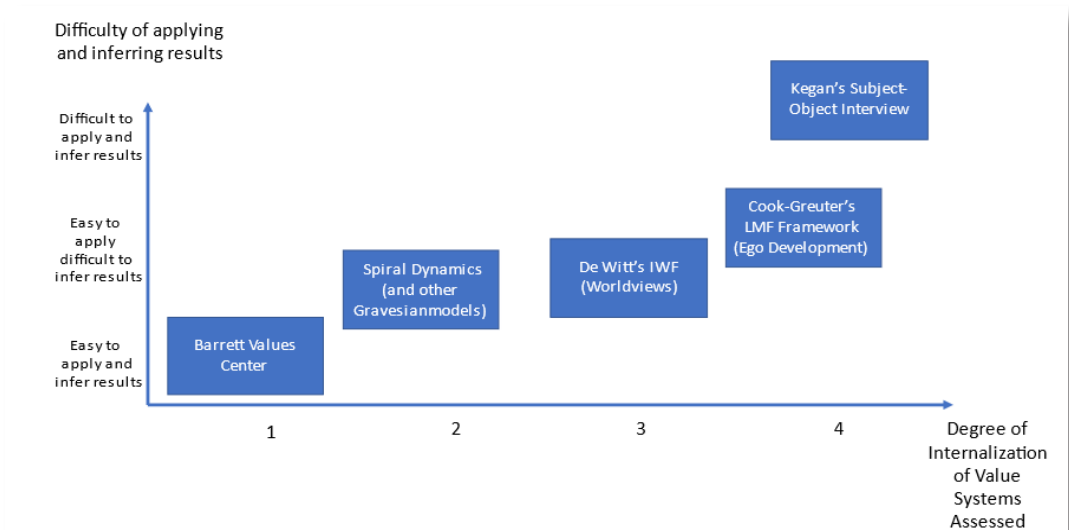
Figure 1 — Four levels of values



SOURCE: Cordeiro et al. (2019, p. 85)

So, as it can be seen in Figure II, Barrett's system (and his assessment) refers to the most superficial level of values among all approaches considered in this research. This is the Level 1 of Internalization for a set of values. On the flip side, Barrett's assessment is very easy to apply and infer results from its appliance in order to use in Leadership Development efforts.

Figure 2 — Classification of Value Systems' approaches according to their degree of internalization and the difficulty of applying and inferring results



SOURCE: The authors (2022)

The difference between Beck & Cowan's (2) and Barrett's (1) assessments is that the former presents all values among complex existential and work-related sentences focused on life-situations that tend to minimise the selection of a non-internalized value when compared to Barrett's. Nevertheless, it's very important to mention that SD Assessment still allows respondents to identify with some values they only appreciate

and are far from internalized. It is still possible that respondents select values related to the way they would like to be, and not the way they currently are, or in a manner they think they should to be viewed favourably by others. On the flip side, the rejection sentences available in SD assessment allow an experienced coach, analyst or facilitator to identify those non-internalized values by finding incongruences between those value levels with which one identified with and the others with which one rejected. Spiral Dynamics' assessment and all those based on the same Gravesian principles are almost as easy to apply and a bit more difficult to infer results when compared to Barrett's.

Inglehart's Worldview concept, especially as operationalized by Witt et al. (2016) with their IWF Survey characterises the Level 3 of a Value System in terms of internalization. On this level, the person not only tends to act out of the value system with which they identify most of the time, but also "read" the world through their lenses. This is possible because Witt's assessment questions are divided into the five categories and the respondents are asked to select both the item they most agree with and the item they least agree with, characterising the "best-worth scaling approach", which tends to be more effective and assertive than Beck & Cowan's "15 point-distribution approach" to positive and negative sentences in regard to prevent "the way I'd like to be" answers.

Finally, as can be seen in Figure II (above), both Cook-Greuter and Kegan's (4) approaches tend to capture the deepest possible degrees of internalization of a set of values. Their assessments seem to be able to identify the thinking structures from which one makes sense of the world, including both the will to action, the external "reading" processes and the internal thinking ones. Nevertheless, as it had already been mentioned previously in this work, their assessments have some difficulties regarding its application to a greater number of respondents, like all the members of a department or the whole workforce of a company. As earlier said, Kegan's assessment requires a 1 to 1,5-hour subject-object interview with the assessees (and also a very experienced and qualified interviewer) and Cook-Greuter's demands free sentence completions that take a long time to categorise and classify.

4 PROPOSAL OF A NEW ASSESSMENT

The steps suggested by Domino (2006) and Urbina (2014) to create an assessment were taken by the authors. First, the present work was born from the identification of the need for an adequate assessment of levels of consciousness and worldviews. As exposed before, the existing ones have access only to more shallow, exposed values or demand much effort to be applied, specially in large groups. Secondly, through a

literature review the authors gathered the combining and convergent elements of the main approaches about levels of consciousness and worldviews, focusing especially on Beck and Cowan (1996), Cook-Greuter (2010), and Kegan (2009), as seen in Tables II to IV.

After the literature review on psychological tests and the analysis of the existing levels of consciousness' tests structures and results, the authors decide to develop and propose an assessment which encompasses two tests combined: first, an objective or psychometric test (select-response) followed by a subjective one (free-response). The idea was that the objective test's results could provide initial references about the subject's level of consciousness, which could be deepened and confirmed (or not) by the subjective test's responses.

To construct the first part of the assessment (the objective test), the authors were inspired on the five categories or topics presented in the upper-left quadrant (interior / individual) of Beck and Cowan's Spiral Dynamics Map (1996): "trust", "fear", "attitude during contact", "inner motive, drive for manifestation" and "consciousness of self". For each category the authors developed sentences (or pool of items) for all the SD levels of existence (Table II), except for the Beige and the Purple (the most primitive, less complex stages). And from that pool of items, the authors chose one sentence for each level and category, selecting the sentences that fit not only in the SD levels of existence (Table II), but also in the corresponding stages in Cook-Greuter's Ego Development Theory (Table III) and in Kegan's Stages of Development of the Self. It ended with 30 sentences reflecting 6 levels or stages in 5 categories or topics.

After the items definition, the authors decided to use a 7-point Likert scale (1932): (i) strongly disagree; (ii) disagree; (iii) disagree, but sometimes I am like this; (iv) neither disagree nor agree; (v) agree, but sometimes I am not like this; (vi) agree; (vii) strongly agree. The Likert scale was chosen for being one of the most common ways of assessing attitudes and stimuli psychologically. The option for a 7-point scale considered that more options usually get more accurate results when compared to the usual 5-option Likert scale (URBINA, 2014). Furthermore, the authors considered that the options "iii" ("disagree, but sometimes I act like this") and "v" ("agree, but sometimes I don't act like this") could encourage and help the subjects to make deeper reflections and distinguish their values and idealizations ("what I would like to be") from their processes of thinking ("what I really am").

Most inspired by Suzanne Cook-Greuter's sentence completion test (known as SCTi-MAP, or the Leadership Development Profile), the authors chose to develop a sentence completion test (SCT) as the subjective part of the assessment, with 18 items also selected from an initial pool of random items. The main idea was providing

ways to obtain elements from the subject which could deepen and prove (or not) the objective results.

Items 1-8 aim to show language clues given by the subject in general, relevant and complex psychological matters: (1) I am...; (2) Other people are...; (3) Time is...; (4) I trust in...; (5) I value...; (6) I reject...; (7) I feel depressed when...; (8) I worry about... Not only isolated words are analysed in search of language clues (vocabulary; positive and negative terms) but also the complexity of the sentences completed by the subject, which can be a stage or level of consciousness evidence (COOK-GREUTER, 1999).

Items 9-18 not only aim to show language clues as the first ones, but also and especially aim to unveil identification or rejection to the stages and levels by SD, Ego Development and Development of Self theories, referring directly to stages and levels' main aspects: (9) and (10), rules and family (Conformist or Diplomat; Blue; Socialized); (11) and (12), competition and success (Expert / Achiever; Orange; Socialized / Self-Authoring); (13) and (14), bigger causes and society (Individualist - Pluralist; Green; Self-Authoring / Self-Transforming); (15) and (16), stability and being (Strategist; Yellow; Self-Transforming); (17) and (18), transcendence and energies (Magician; Turquoise; Self-Transforming).

5 METHODOLOGY

This research is predominantly a qualitative one, for the whole process of developing a new assessment demands the employment of all sorts of qualitative methods, such as bibliographic research and systematic literature review, as exposed above. Deep analysis of stages and levels of consciousness contents were required not only to develop the pool of items necessary to the assessment's tests (objective and subjective) and in choosing the best ones, but also in confronting the results from both tests, and especially in analysing the SCT results. Nevertheless, it also contains quantitative elements, especially those related to the internal validation of the assessment, which is considered a survey for methodological purposes.

Data was obtained from journal articles and available assessments on the qualitative part of the research and from the results of the application of the questionnaire in the quantitative part of it.

For the confiability and internal consistency validation of the new assessment it was adopted the Cronbach's Alpha Coefficient. Although this research is majorly qualitative, its product is a questionnaire which is in part a quantitative instrument,

since it measures the quality of the whole process with statistical conclusions (MATTHIENSEN, 2011).

The Cronbach Alpha technique is one of the most useful and important tools when it comes to internal validation (SHAVELSON, 2019). Its use provides a reasonable result in only one test, not being necessary to apply it many times to achieve the desired consistency. Cronbach's formula allows the application to multiple-choice questions and it can be calculated by basic statistical principles.

Figure 3 – Cronbach's Alpha formula using the variance factor

$$\alpha = \frac{k}{k-1} \left[\frac{\sigma_t^2 - \sum_{i=1}^k \sigma_i^2}{\sigma_t^2} \right]$$

SOURCE: Gaspar & Shimoya (p. 2, 2018)

Alpha's consistency varies between 0 and 1. However, for an internal validation, the minimum acceptable value is 0,70 and the maximum is 0,90. Cronbach's Alpha classification follows some suggested limits (FREITAS; RODRIGUES, 2005):

- A. $\alpha \leq 0,30$ – Very low
- B. $0,30 < \alpha \leq 0,60$ - Low
- C. $0,60 < \alpha \leq 0,75$ - Moderate
- D. $0,75 < \alpha \leq 0,90$ - High
- E. $\alpha > 0,90$ – Very high

For the objective questions it was used the Likert scale (1932) with a 7-point scale. As said before, this scale usually gets more accurate results (URBINA, 2014), when compared to the usual 5-option Likert Scale.

The qualitative questions of the SCT were used to enable a more accurate assessment of the results obtained with the quantitative questions. To ensure this greater accuracy, in-depth interviews were conducted with 15 subjects who responded to the SCT questions, in order to attest to the effectiveness of the SCT in identifying the respondents' levels of consciousness.

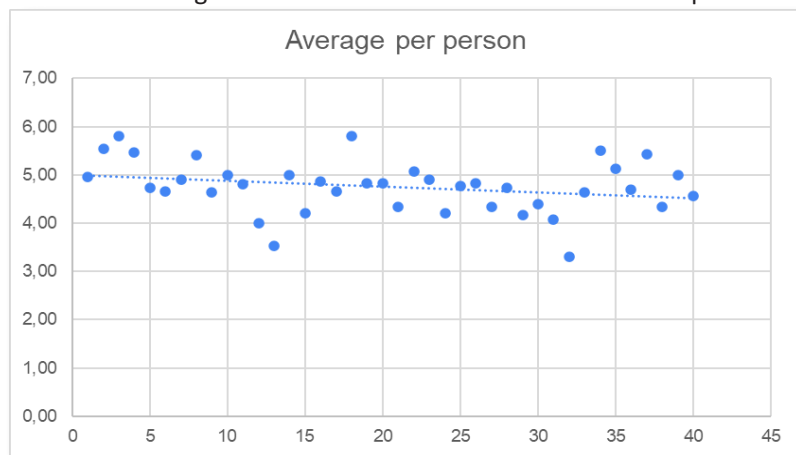
6 RESULTS

Considering the aim and structure of this research, it can be referred to as a pilot study with an internal validation. To this type of study, the minimum size of the sample is 25 respondents (VIEIRA, 2016). The proposed assessment was tested with 40 undergraduate and graduate students from different Programs and areas at FAE Centro Universitário. However, most of them were attending the Integral Leadership Course at FAE Business School Graduate Programs.

According to Freitas and Rodrigues' (2005) parameters, the value found of Cronbach's Alpha to the whole assessment was high, with a 0,8138 coefficient. Therefore, based on the data analyses, it is possible to confirm an internal validity and consistency to this pilot study.

This sample presented an average line on the "Agree, but sometimes I am not like this" (5), which aims to identify values and idealizations (usually a later stage of development), with a tendency to "Neither disagree nor agree" (4). This result shows an acquiescence bias phenomenon, when people tend to agree with the statements proposed and at the same time it shows a normal distribution, when people tend to be in the middle, neither agreeing or disagreeing.

Chart 1 — Average of the Likert Scale's answers from the respondents



SOURCE: The Authors (2022)

The results observed classify this sample as operating in a more orange level. By taking a sample from the 40 respondents composed of the three higher and the three lower averages as well as the five averages located in the tendency line, it is possible to see the rejection and non-incorporation ("Agree, but sometimes I don't act like this"). It gets even more clear when analysing the Sentence Completion

Test, which can be pointed as a relevant part of this research to get a more assertive analyse. The words which were more repeated refer to stability and security as well as the importance of the rules, the individual's circles (family) and how success is a hard work achievement. It is also important to highlight a curious paradox, at the same time the most valued issue is related to people, the most rejected is also people-related. The results show a sample composed of more rational people who desire to be better and worry if they will have enough time to do it right in the future. They are aware that what they agree with are the things they haven't really integrated yet.

Regarding the SCT results, as initially planned, they were used to deepen the analysis of the objective, making possible more accurate final conclusions. In order to ensure the reliability of the process, 15 subjects were interviewed at length to map their levels of consciousness, which ended up corresponding and being confirmed by the final conclusions obtained by the combined tests.

FINAL REMARKS

Throughout this research it was possible to identify the factors which makes it difficult to get the actual level or the actual process of thought one has or hasn't integrated through an assessment. Not only to identify it but also makes it difficult to dodge these factors. By proposing five questions based on the categories of Ken Wilber's upper-left quadrant for each level of consciousness, developed by the main authors on worldviews, levels of consciousness, integral theory, development of self, process of thought and so on, it becomes more evident that it is not a simple task.

An assessment composed of a Likert scale with 7-points made available some space for honesty with possibilities like "disagree, but sometimes I act like this", making it possible to identify patterns of deep thinking the subject do not like to admit (usually the actual stage of development). On the other hand, it was possible to identify that the option "agree, but sometimes I don't act like this"), which was the one that got the higher number of answers in this sample, gave space for another test distortion, giving the subjects the opportunity to manifest sympathy and appreciation for different and not internalized values and patterns.

The Sentence Completion Test wasn't fully developed on this specific research, since its content analysis was made individually and demands the use of a content analysis software in order to be automated. However, it played a crucial role in the analysis of the objective answers, making it more possible to filter the "who one desires to be" part and the values behind each word. In fact, the SCT results were efficient either to point out the distortions of the objective part and to clarify the centre of the subjects' levels of consciousness, fulfilling the objective for which was initially thought and chosen.

The internal validation was successful: the objective test presented a high coefficient on Cronbach's Alpha scale (0,8138), and the final conclusions obtained through the confrontation with the SCT results were confirmed by personal interviews with 15 subjects. As a suggestion for future work, the next natural step is to deepen the process of structuring the assessment, submitting it to an external validation. This continuity will also have to address some possible misunderstandings of the current version of the objective questions on the questionnaire, that were revealed by contrasting the results from the objective questions with the sentence completion ones.

REFERENCES

- ABAD, G. L. Coeficiente de Confiabilidade Alfa de Cronbach Para escalas likert Psicometria. 33 min. 59s. **YouTube**, 21 Oct. 2020. Available on: <https://www.youtube.com/watch?v=Cyxx7Chq0Rg>. Accessed on: 18th July 2022.
- ACEVEDO, A. A Personalistic Appraisal of Maslow's Needs Theory of Motivation: From "Humanistic" Psychology to Integral Humanism. **Journal of Business Ethics**, New York, v. 148, n. 4, p. 741-763, Apr. 2018. DOI 10.1007/s10551-015-2970-0.
- ANASTASI, A. **Psychological Testing**. New York: The Macmillan Company, 1954.
- ANDERSON, R. J.; ADAMS, W. A. **Mastering Leadership**: an integrated framework for breakthrough performance and extraordinary business results. New York: Wiley, 2015.
- BECK, D.; COWAN, C. **Spiral Dynamics**: mastering values, leadership and change. London: Blackwell Publishing, 1996.
- BIDWELL, D. Ken Wilber's Transpersonal Psychology: An Introduction and Preliminary Critique. **Pastoral Psychology**, New York, v. 4, n. 2, p. 81-90, Nov. 1999.
- BOREE, C. G. **Personality Theories**: From Freud to Frankl. Shippensburg: Create Space Independent Publishing Plataform, 2017.
- CATTELL, R. B. **The Scientific Analysis of Personality**. 2. ed. New York: Routledge, 2017.
- CLAVIJO, A. The psyche as behavior. **Revista Colombiana de Psicologia**, Bogotá, v. 22, n. 2, p. 377-387, July 2013.
- COOK-GREUTER, S. [2013]. **Nine Levels of Increasing Embrace in Ego Development**: A Full Spectrum Theory of Vertical Growth and Meaning. 2021. Preprint. Available on: https://www.researchgate.net/publication/356357233_Ego_Development_A_Full-Spectrum_Theory_Of_Vertical_Growth_And_Meaning_Making. Accessed on July 3rd 2022.
- COOK-GREUTER, S. **Postautonomous ego development**: Its nature and measurement. Cambridge, MA: Harvard Graduate School of Education, 1999.
- CORDEIRO, J. V. B. M.; CRUZ FILHO, P. R. A.; LAMOGLIA, L. B. **Liderança Integral**: a evolução do ser humano e das organizações. Petrópolis: Vozes, 2019.
- CRONBACH, L. J. **Essentials of Psychological Testing**. 5. ed. New York: Harper & Row, 1990.
- DAVIS, J. An Overview of Transpersonal Psychology. **The Humanistic Psychologist**, Washington, v. 31, n. 2-3, p. 6-21, Apr. 2003.
- DECARVALHO, R. J. A history of the "third force" in psychology. **Journal of Humanistic Psychology**, Thousand Oaks, v. 30, n. 4, p. 22-44, Aug. 1990.
- DOMINO, G.; DOMINO, M. L. **Psychological Testing**: an introduction. 2. ed. Cambridge: Cambridge University, 2006.
- ESBJÖRN-HARGENS, S. An Overview of Integral Theory: an All-Inclusive Framework for the 21st Century. In: ESBJÖRN-HARGENS, Sean (Ed.). **Integral Theory in Action**: Applied, theoretical, and constructive perspectives on the AQAL model. New York: State University of New York, 2010. p. 33-61.

- FIGUEIREDO, L. C. M.; SANTIM, P. L. R. **Psicologia, uma (nova) introdução**: uma visão histórica da psicologia como ciência. São Paulo: EDUC; PUC-SP, 2008.
- FINN, S. E. et al. Psychological testing and psychological assessment: A review of evidence and issues. **American Psychologist**, Washington, v. 56, n. 2, p. 128-165, Mar. 2001. DOI: 10.1037/0003-066x.56.2.128
- FREUD, S. [1923]. **The Ego and the Id**. New York: Dover, 2018.
- GASPAR, I.; SHIMOYA, A. Avaliação da confiabilidade de uma pesquisa utilizando o coeficiente alfa de cronbach. In: SIMPÓSIO DE ENGENHARIA DE PRODUÇÃO, 2018. **Anais...** Catalão: UFG, 2018. p. 1-7.
- GOLEMAN, D. Leadership That Gets Results. **Harvard Business Review**, Cambridge, Mar. 2000. Preprint.
- GRAVES, C. W. **Levels of Existence**: an Open System Theory of Values. New York: Union College, Schenectady, 1970.
- GUEST, H. The Origins of Transpersonal Psychology. **British Journal of Psychology**, Oxford, v. 6, n. 1, p. 62-69, Nov. 1989.
- HOFFMAN, E. **Psychological testing at work**. New York: McGraw-Hill, 2002.
- HOUNKPATIN, H. O. et al. An Existential-Humanistic View of Personality Change: Co-Occurring Changes with Psychological Well-Being in a 10 Year Cohort Study. **Social Indicators Research**, New York, n. 121, p. 455-470, maio 2014. DOI 10.1007/s11205-014-0648-0.
- INGLEHART, R.; WELZEL, C. **Modernization, Cultural Change, and Democracy**: The Human Development Sequence. Cambridge: Cambridge University, 2005.
- ISMAIL, N. A. H. Rediscovering Roger's Self Theory and Personality. **Journal of Education, Health and Community Psychology**, Yogyakarta, v. 4, n. 3, p. 28-36, June 2015.
- KEGAN, R. **In Over Our Heads**: The Mental Demands of Modern Life. Boston: Harvard University, 1998.
- KEGAN, R. **The Evolving Self**: Problem and Process in Human Development. Boston: Harvard University, 1982. Reprinted edition, 2009.
- KLEINEBERG, M. **Integrative Levels**. Toronto: Knowledge Organization, 2017.
- KORCHIN, S. J.; SCHULDBERG, D. The future of clinical assessment. **American Psychologist**, Washington, v. 36, n. 10, p. 1147-1158, Dec. 1981. DOI: 10.1037/0003-066x.36.10.1147.
- LEWIS, P. M. **The Discerning Heart**: The Developmental Psychology of Robert Kegan. Seattle: Kindle Direct Publishing, 2007.
- MACDONALD, D.; FRIEDMAN, H. Growing Up and Waking Up: A Conversation With Ken Wilber About Leaving Transpersonal to Form Integral Psychology. **Journal of Humanistic Psychology**, Thousand Oaks, v. 156, n. 1, p. 1-16, Jan. 2020. DOI 10.1177/0022167820902287.
- MARREWIJK, M. V.; WERRE, Marco. Multiple Levels of Corporate Sustainability. **Journal of Business Ethics**, New York, v. 44, n. 2, p. 107-119, May 2003.
- MASLOW, A. H. [1943]. **A Theory of Human Motivation**. Summit: Start Publishing, 2013.
- MASLOW, A. H. The farther reaches of human nature. **Journal of Transpersonal Psychology**, Palo Alto, v. 1, n. 1, p. 1-9, June 1969.

- REITTER, Nicholas. Clare W. Graves and the Turn of Our Times. **Journal of Conscious Evolution**, San Francisco v. 11, n. 11, p. 1-66, Nov. 2014.
- ROGERS, Carl. The Necessary and Sufficient Conditions of Therapeutic Personality Change. **Psychotherapy: Theory, Research, Practice, Training**, Washington, v. 44, n. 3, p. 240-248, Oct. 2007. DOI 10.1037/0033-3204.44.3.240.
- SCHEIN, E. H. **The Corporate Culture Survival Guide**. Boston: Jossey-Bass, 2009.
- SUTICH, A. J. Some considerations regarding transpersonal psychology. **Journal of Transpersonal Psychology**, Palo Alto, v. 1, n. 1, p. 11-20, June 1969.
- TAVAKOL, M.; DENNICK, R. Making sense of Cronbach's alpha. **International Journal of Medical Education**, Oxford, v. 27, n. 2, p. 53-55, June 2011. DOI: 10.5116/ijme.4dfb.8dfd
- TORBERT, W. R. **Brief Comparison of Five Developmental Measures**: the WUSCT, the SOI, the LDP, the MAP and the GLP primarily in terms of pragmatic and transformational validity and efficacy. 2017. Preprint. Retrieved from: <http://www.williamrtorbert.com/wp-content/uploads/2012/03/DevMeasuresCompared4714.pdf>. Accessed on: 30th Sep. 2022.
- URBINA, S. **Essential of psychological testing**. 2. ed. New Jersey: Wiley, 2014.
- VALLE, R.; HARARI, C. Transpersonal Psychology. **The Humanistic Psychologist**, Washington, v. 13, n. 1, p. 11-15, Mar. 1985.
- VICH, M. The Origins and Growth of Transpersonal Psychology. **Journal of Humanistic Psychology**, Thousand Oaks, v. 30, n. 2, p. 47-50, Aug.1990.
- VIEIRA, S. **Alfa de Cronbach**: questionários com respostas escalonadas. 24 Jan. 2016. Available on: <http://soniavieira.blogspot.com/2016/01/os-pesquisadores-que-levantam-dados-por.html>. Access: June, 2022.
- WATSON, J. B. [1924]. **Behaviorism**. Tucson: West, 2011.
- WIGGINS, J. S. **Paradigms of Personality Assessment**. New York: The Guilford, 2003.
- WILBER, K. **Integral Psychology**: consciousness, spirit, psychology, therapy. Boston: Shambala, 2000.
- WILBER, Ken. **The collected works of Ken Wilber**. Boston, MA: Shambhala, 1999-2000.
- WILBER, Ken. **The Integral Vision**. Boston, MA: Shambhala, 2008.
- WITT, A. et al. A new tool to map the major worldviews in the Netherlands and USA, and explore how they relate to climate change. **Environmental Science & Policy**, Amsterdã, v. 63, p. 101-112, Sep. 2016.
- ZIMRING, F. Carl Rogers. **Prospects**, v. 24, n. 4, p. 411-422, 2005.