The Consciousness Quotient: Construct Development and Content Validity Research

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Abstract

The aim of this study was to establish the content validity of a list of traits, skills and abilities that describe conscious experience, aggregated under the construct ‘consciousness quotient’ (CQ). The goal was to evaluate the comprehensiveness and representativeness of the content - whether the lists of the traits comprising the CQ adequately cover conscious experience, with no irrelevant content included. After developing the construct, the content validity was evaluated by a panel of 25 experts. As a result, 40 items were excluded and 27 items were re-worded. New terminological clarifications were developed in order to better operationalize the CQ construct.

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1. Introduction: preliminary construct development and operationalization of conscious experience

The ‘consciousness quotient’ construct was developed through 14 successive studies between 2003 and 2013 (Brazdau & Opariuc, 2014). The CQ-i beta version was first released in 2008, and between 2003 and 2013 a series of studies refined the concept and the measurement procedures. The main objective of these preliminary studies was to find an adequate assessment framework to measure conscious experience using a psychological assessment methodology. The focus was to find a procedure that complies with all the psychological assessment standards and guidelines as developed by organizations such as the American Psychological Association, the International Test Commission, the Association of Test Publishers and the Buros Institute for Assessment Consultation and Outreach.

The initial perspective defined the CQ as “the level of consciousness (or the level of being conscious) that is experienced in the morning, one hour after waking up and after having a refreshing sleep, without being exposed to any significant stimulus (coffee, TV, radio, music, talking, psychological stress). In other words, the consciousness...
quotient is the general level of being conscious/aware throughout a day, in regular life conditions” (Brazdau, 2009). The initial factor structure of the CQ-i beta version confirmed by the factor analysis (Brazdau, 2008), was composed of the factors presented in Table 1.

Table 1. Initial Factor Structure

<table>
<thead>
<tr>
<th>Type</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main factors</td>
<td>Physical, Emotional, Cognitive, Spiritual, Social-Relational and Self-consciousness.</td>
</tr>
<tr>
<td>Secondary factors</td>
<td>Internal State Awareness, Self-reflectiveness, Mindfulness, Autonomy, Personal Growth, Positive Relations with Others, Purpose in Life, Verbal Expression, Openness Towards New Experiences</td>
</tr>
</tbody>
</table>

During the initial items’ development, a series of other psychological assessment instruments were analysed: the Self-consciousness Scale, the Mindfulness Attention and Awareness Scale, the Freiburg Mindfulness Inventory, and Psychological Well-being Scales. Some scales from transpersonal psychology were analysed as well as various recent developments, such as the ‘descriptive experience sampling’ method and the ‘explicitation interview’ (Brazdau & Opariuc, 2014).

Between 2007 and 2013, the specific methodological objectives were: (1) finding an adequate response scale that would serve the purpose of the inventory; (2) framing the conscious traits resulting from operationalization of the concept in such a way that the test applicants could easily understand them and the resulting data would be usable for statistical analyses.

The first version of the CQ-i (2008) had a five-level Likert scale using agreement-disagreement. After consultations with various experts and several studies on a large population (Brazdau, 2011) we decided to change the Likert scale agreement types to frequency types, and to modify it from five levels to six levels. After this modification, the reliability of the CQ-i improved significantly. An important result from these studies was a change in the style of the questions. Behavioural-type items behaved statistically better than other types (e.g., attitudinal-types), and so all the items were designed starting from behaviours that are relevant to conscious experience.

Between 2009 and 2013, a series of consultations with experts were conducted and an extended literature research was undertaken. A qualitative study was developed using the cognitive interviewing approach (Brazdau et al., 2013). A study of the difficulty of the items for adolescents revealed that the structure of the items was easy to understand by adolescents (Brazdau, Sharma, & Ahuja, 2014).

Other exploratory studies were developed during this stage: ‘In search of conscious leadership: a qualitative study of postsecondary educational leadership practices’ (Jones, 2012); ‘Leadership approach in relation to level of consciousness: a correlational analysis’ (Chauhan, Sharma, & Satsangee, 2013); ‘A correlational analysis of physical, mental, emotional, spiritual, social and self-consciousness’ (Ahuja, 2014); ‘Measuring Consciousness Quotient – a study of its influence on employee’s work performance and organizational outcomes’ (Aggarwal, 2013). The relation between CQ and students’ academic performance was explored (Brazdau & Mihai, 2011).

The main conclusion of these preliminary studies was that conscious experience can be scientifically treated like any other psychological variable, and that it is possible to introduce conscious experience as a variable in psychological assessment (Brazdau & Opariuc, 2014). The psychological assessment framework developed during preliminary development was the foundation for the in-depth construct’s operationalization and the items’ development.

2. In-depth construct development: operationalization of conscious experience

After releasing the CQ-i beta v.2013 and using the framework developed during 2003-2013, the operationalization of the CQ was extended in order to find all the relevant descriptors of conscious experience.

During this study, a variety of sources were analysed in order to generate the test content: literature research (consciousness studies, articles, books); mindfulness research; psychometrics research; spiritual wisdom; personal experience of non-dual people, interviews on Conscious TV, and the “Buddha at the gas pump” website; personal experience of witnessing awareness; our team of researchers; experts, friends, psychologists, research partners,
discussions on the “consciousness science” Google group discussions (a group composed on more than 60 consciousness experts, mostly speakers at the Towards a Science of Consciousness conferences), feedback from people responding to the test, Google suggestions (e.g., we analysed the first 100 websites that referred to “I am aware of” and see the recommended links as a source of collective knowledge, especially first-person data).

Some concepts as used in consciousness studies were explored and included as descriptors/traits of conscious experience: mindfulness (Baer et al., 2006), post-autonomous ego development (Cook-Greuter, 2000), witnessing awareness (Brazdau, 2014), meta-awareness/awareness of awareness itself (Monsanto, 2013), emotional intelligence (Heim, 2003).

Related concepts and studies were analysed and taken into consideration in order to find adequate descriptors of conscious experience, including: attention regulation (Asada, 2014; Monsanto, 2013), the triune brain (MacLean, 1990), neuroplasticity (Hanson, 2011), metacognition (Darling-Hammond, 2014), rational/irrational belief-dynamics (Vasile, 2012), spiritual intelligence (King, 2008), conceptual systems and personality organization (Harvey et al., 1961), affective neurosciences (Davidson, 2012), ‘enlightenment’ and ‘awakening’ experiences (Costeines, 2009), persistent non-symbolic experiences (Martin, 2010), neurotheology (Murphy, 2002), levels of human development (Grawes, 1970), outspection (Krznaric, 2014), human connectedness (Andrews, 1996), Ubuntu philosophy (Gianan, 2010), non-dual awareness (Josipovic & Malach, 2006), pure awareness (Forman, 1990; Genarro, 2008), psychedelics research (Kent, 2010), spiritual crises (Grof, 2009), Orch-OR theory (Hameroff, 2010), spiritual intelligence (King, 2008), critical reviews of consciousness studies (Blackmore, 2010), and advaita and neo-advaita philosophy (Conway, 2008).

Other psychological scales were analysed in order to explore some of the measurable factors of conscious experience: the Self-Compassion Scale (Neff, 2003), the Multidimensional Assessment of Interoceptive Awareness (Mehling et al., 2012), the Mystical Experience Questionnaire (MacLean et al., 2012), the Leadership Maturity Assessment Instrument and Loevinger’s Washington University Sentence Completion Test (Cook-Greuter, 2000).

After extensive analyses, a new section with yes/no answers was added (acknowledgements to Sperry Andrews and Carlo Monsanto for suggesting this new section and for providing the initial items). The factor structure that resulted is presented in Table 2. As a result of this in-depth operationalization, the CQ construct was operationalized using a sample of more than 300 traits, skills and abilities, which were later translated into items.

Table 2. Main Factor Structure of the Consciousness Quotient

<table>
<thead>
<tr>
<th>Factor</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical CQ</td>
<td>Body and basic physical perceptions and sensations, environmental awareness</td>
</tr>
<tr>
<td>Emotional CQ</td>
<td>Emotions, feelings, emotional intelligence</td>
</tr>
<tr>
<td>Cognitive CQ</td>
<td>Related to thinking, reflection, judgment, patterns of understanding, ways of meaning-making</td>
</tr>
<tr>
<td>Social-Relational CQ</td>
<td>Parental relationships, close relationships, any conscious interactions with others</td>
</tr>
<tr>
<td>Self CQ</td>
<td>Identity, self-system, image of life, self-awareness, post-autonomous ego-development traits</td>
</tr>
<tr>
<td>Inner Growth CQ</td>
<td>Related to self-development, evolution of personality</td>
</tr>
<tr>
<td>Spiritual CQ</td>
<td>Connecting with humans and nature, meta-awareness, witnessing awareness, acceptance of experience</td>
</tr>
</tbody>
</table>

The spiritual factor was developed by including the participatory understanding of spirituality: “the spirituality of persons is developed and revealed primarily in the spirituality of their relations with other persons. If you regard spirituality primarily as the fruit of individual meditative attainment, then you can have the gross anomaly of a "spiritual" person who is an interpersonal oppressor, and the possibility of "spiritual" traditions that are oppression-prone” (Heron, 2006, p. 6).

3. Content validity research: consultations with experts

In order to establish the content validity of the CQ, the list of traits, skills and abilities that describe conscious experience were analysed by a panel of experts. The goal was to evaluate the comprehensiveness and
representativeness of the content - whether the lists of traits that compose CQ adequately cover conscious experience, with no irrelevant content included (Newton, 2003).

A secondary objective of the content validity study was the evaluation of the pattern-matching (Trochim, 2000): to explore whether our observed patterns of conscious experience (how things operate in reality) correspond with our theoretical patterns (how we think the world works).

3.1. Procedure

The expert panel comprised consciousness researchers, experienced practitioners of inner development techniques (religious or spiritual), and representatives of the non-dual community. Participants were emailed copies of the CQ-i traits and items table, in the format presented in Table 3. They were asked to comment on the overall appropriateness for inclusion of each descriptor. In addition, the experts were asked to comment if they believed anything should be added or deleted, and to evaluate the wording of the items.

For several items, supplemental descriptions and references were available. The participants entered their responses onto the form and emailed it back to the researchers, who then reviewed and collated the replies. Changes were made to the items according to suggestions where appropriate. The consultation took place between March 2013 and July 2014.

Table 3. CQ content validity research - feedback form used by the experts

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sub-factor</th>
<th>Trait, Ability, Skill</th>
<th>Item</th>
<th>Supplemental Description</th>
<th>Example of comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self CQ</td>
<td>Mindful living</td>
<td>Acceptance</td>
<td>I am ok when experiencing physical or psychological discomfort</td>
<td>Might be better worded as: I can tolerate a certain amount of physical and psychological discomfort without needing to change what I am involved in, in order to comfort myself.</td>
<td></td>
</tr>
</tbody>
</table>

3.2. Participants

Out of 108 people invited, the final panel comprised 25 members. Fourteen experts analysed each item: Zoran Josipovic, Susanne Cook-Greuter, Carlo Monsanto, Richard Joannides, Vlad Dogarescu, Kruti Sharma, Altina Hripacov, Sadhna Sharma, Monica Burcea, Ioana Pielescu, Catalin Chites, Felicia Epuran, Sona Ahuja and John Renesch. Eleven experts replied by commenting on the general appropriateness of the items’ format, the CQ structure and the items’ wording: Sperry Andrews, Jan Essman, Rebecca Hardcastle Wright, Michael James, Ionela Andrei, John Cook, Cristiana Levitchi, Chobo Ji, Sam Gentoku McCree, ShantiMayi and Valita Jones.

3.3. Results

The responses confirmed that the CQ-i has an appropriate content that adequately cover the conscious experience. A total of 40 items were excluded from the CQ-i, and 27 items were re-worded to better suit the traits they measured. Some of the panellists raised concerns about its length and ease of use. This will be monitored over time.

As a result, new terminological clarifications were developed in order to better describe the consciousness quotient construct:

- To be conscious is to have a degree of witnessing awareness and a degree of freedom of choice when thinking, feeling, sensing and interacting with people and the environment.
- An important element of conscious experience is intentionality, as the mind-set that allows a person to deliberately choose what behaviour to enact and what attitude to select.
‘More conscious’ (a higher CQ) means a higher degree of witnessing awareness and being less automatic in thinking-feeling-sensing, together with a higher degree of choice when initiating a behaviour. ‘Witnessing awareness’ is usually described as the “I am experience”, “the observer experience”, “just being” (as opposed to “doing”), “aware of awareness itself”, “no-mind”. ‘Mindfulness’ is a related construct (right mindfulness - samma sati in Buddhism - is the same as witnessing awareness), but in modern mindfulness, as it is promoted in the West, being mindful does not go beyond being a cognitive observer.

In order to clarify this distinction, the term ‘non-conceptual self’ was proposed (Brazdau, 2014), as that part of personal identity which has witnessing awareness as its main function, complementary to the ‘conceptual self’, which has cognition as its main function. The witnessing perspective, which leads to the ability to observe the inside and outside worlds without engaging with them, is one of the key factors of the CQ construct.

4. Discussion

The operationalization of the CQ construct was an extended and delicate task, but it was a necessary step in introducing the CQ as a variable in psychological assessment. As CQ-i is one of the first inventories of this type, it was hard to find similar patterns of thinking during the literature research. An important element of feedback was provided by the practitioners of various religious, spiritual and self-development practices, as most of them related to the study by describing their own conscious experiences. Further studies are necessary in order to establish the criterion-related validity of the CQ-i.

References


