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Back to Basics: Conceptual Frameworks for the Undergraduate Training of Psychologists in Chile

Retorno a las Bases: Marcos Conceptuales para la Formación de Pregrado de Psicólogos y Psicólogas en Chile

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The study sought to identify a basic conceptual compendium for those completing their undergraduate training in any psychology degree program in Chile. This effort arose from the need to reach a consensus on minimum curricular contents that would provide a clear conceptual scaffolding and contribute to provide quality guarantees for the training of all students. In specific terms, the study consisted of identifying, with the help of expert judges, the 100 most important concepts to know and handle in each of the following 12 disciplinary sub-areas: Basic Psychological Processes, Biological Bases of Behavior, Motivation and Emotion, Developmental Psychology, Cognitive Processes, Quantitative Research Methods, Qualitative Research Methods, Social Psychology, Personality Psychology, Abnormal Psychology, History of Psychology and Psychometrics. The research team compiled twelve preliminary lists of concepts from indexes and glossaries of texts and manuals, which were prepared and presented randomly by remote administration to the expert judges in each subarea through online forms. A total of 104 academics from 22 universities, with an average of 11.2 years of teaching experience, agreed to evaluate the importance, in their opinion, of each of the 100 concepts in their area for the training of a psychology graduate. This article presents the results of this process and argues in favor of the importance of generating standards for undergraduate training in psychology.

Keywords: undergraduate training in psychology, basic concepts, minimum knowledge

El estudio buscó identificar un compendio conceptual básico para quienes completen su formación de pregrado, en cualquier carrera de psicología impartida en Chile. Este esfuerzo surgió ante la necesidad de consensuar contenidos curriculares mínimos, que provean un andamiaje conceptual claro y contribuyan a otorgar garantías de calidad para la formación de todas y todos los estudiantes. En términos específicos, el estudio consistió en identificar, con la ayuda de jueces expertos, los 100 conceptos más importantes de conocer y manejar en cada una de las siguientes 12 subáreas disciplinarias: Procesos psicológicos básicos, Bases biológicas de la conducta, Motivación y emoción, Psicología del desarrollo, Procesos cognitivos, Métodos cuantitativos de investigación, Métodos cualitativos de investigación, Psicología social, Psicología de la personalidad, Psicología anormal, Historia de la Psicología y Psicometría. El equipo de investigación compiló doce listados preliminares de conceptos, a partir de índices y glosarios de textos y manuales, los que fueron preparados y presentados de manera aleatoria mediante una administración remota a los jueces expertos de cada subárea, a través de formularios en línea. Un total de 104 académicos/as, adscritos a 22 universidades, con un promedio de 11,2 años de experiencia docente, aceptaron evaluar la importancia que, a su juicio, tiene cada uno de 100 conceptos de su área, para la formación de un/a licenciado/a en psicología. El presente artículo presenta los resultados de este proceso, y argumenta a favor de la importancia de generar estándares para la formación de pregrado en Psicología.

Palabras clave: formación de pregrado en psicología, conceptos básicos, conocimientos mínimos

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Over the last few decades, higher education has undergone profound transformations at international level as a result of the Bologna Process (Freixas, 2005) and the work of Tuning in Latin America (González et al. 2004). In the case of Chile, these changes have been reflected in reforms that highlight the need to ensure quality and equity in the face of the massification of access to tertiary education and the greater diversity of the student body (Riquelme et al., 2017). Consequently, higher education institutions have defined graduation profiles for the programs they offer, which comprise a set of knowledge, competences and attitudes that students of each degree program are expected to have internalized by the time they graduate, and which constitute the reference framework for the application of accreditation criteria (National Accreditation Commission - CNA, 2015).

In this context, universities and training units have been focused on designing the graduate profiles of their respective degree programs, committing to the training of professional competences that enable the translation of specific performances to specific contexts (Cuadra-Martínez et al., 2018; Gómez et al., 2020; Riquelme et al., 2017). However, this seems to have resulted in an excessive focus on the installation of professional competences, with the consequent inadvertent undermining of efforts to develop greater conceptual clarity and greater precision in the theoretical distinctions inherent to the discipline (Vosniadou et al., 2008).

As Vosniadou et al. (2008) point out, in order to understand the advanced scientific concepts of a discipline, students cannot rely on simple memorization of events and data, but must learn to restructure their naïve and intuitive theories based on everyday experience and popular culture. In other words, those who adopt a scientific discipline must undergo a profound conceptual change. This kind of conceptual change cannot be achieved without systematic instruction that takes into consideration both individual and socio-cultural factors of the learners (Vosniadou et al., 2008).

The importance of clearly and thoroughly defining the discipline's own concepts has been highlighted by various authors since the early 2000s (Summers, 2001; MacKenzie, 2003; Flake, 2021; Bringmann et al., 2022). They all stress the importance of carefully defining and delimiting the meaning of the concepts and constructs that are used in training processes, in technical reports and, most especially, in research.

According to these authors, the conceptual management of any discipline should be considered a fundamental dimension of training. This dimension refers to whether students or professionals have the fundamental knowledge and a well-defined vocabulary in the different sub-areas of their discipline.

Concepts constitute the "basic building blocks" for structuring thought and theory building (Gerring, 1999; Podsakoff et al., 2016) and, therefore, they play a fundamental role in all dimensions of psychological work. But although many authors have noted that lack of conceptual clarity is a widespread and endemic problem in psychology (Antonakis, 2017; Eronen & Bringmann, 2021; Flake, 2021; Mackenzie, 2003; Podsakoff et al., 2016; Scheel et al., 2021), very few efforts have been made to incorporate conceptual clarification as a component of the psychology training curriculum (see, for example, Aguinis & Vandenberg, 2014). It is important here not to confuse conceptual clarification with construct validity; the latter refers primarily to whether a test measures the construct it purports to measure (Borsboom et al., 2004; Voss et al., 2020). Whereas, conceptual clarification, on the other hand, is about characterizing the construct, independently of, and necessarily prior to, its measurement (Cartwright, 2009).

In this context, the American Psychological Association (APA) identified five learning objectives in the training of psychology students, among which the first one: knowledge of the foundations of psychology, stands out (APA, 2023). In particular, the APA suggests that students should demonstrate knowledge and understanding of the main concepts, theoretical perspectives, historical trends and empirical evidence, in order to analyze their relationship to specific aspects of behavior. In this regard, Thompson et al. (2020) argue that the only way to ensure a standardized management of disciplinary knowledge, is by identifying what that knowledge is, and designing a standardized assessment instrument to measure it (Thompson et al. 2020).

Another area of concern, also related to the quality of training, stems from the number and diversity of psychologists' training programs in Chile. Recent data from the Ministry of Education's Higher Education Information System (SIES, 2023), indicates the existence of 222 psychologists' training programs, offered by 51 universities. And despite the fact that 61 of these programs stated that they did not received any new students in 2023, that year, 11,255 young people enrolled into a psychology training program, turning this program, into the one with the highest number of enrollment amongst all other university training programs

in the country (SIES, 2023). This overwhelming growth in the supply of psychology training programs has been the subject of concern for the higher education institutions themselves, and also for the sector's trade organizations. In this regard, the position adopted by the Colegio de Psicólogos de Chile, A.G. (2018) is very clear, which, in its Work Program for the 2018-2020 period, states:

> "The liberalization of higher education provision has led to the deregulation of student quotas, as well as a diversity of curricula, creating a current scenario in which psychology students can receive completely different training depending on the school where they study. That is to say, a recently graduated psychologist in our country may have very dissimilar knowledge and competences depending on the university from which he or she graduates". (p. 2).

In short, in Chile, psychology students may receive very different curricula, but in the end, they receive the same professional degree and are legally authorized to offer the same professional services. On the other hand, it is worth mentioning that not all programs are accredited. According to the SIES database, only 16 programs claim to be accredited (SIES, 2023). It should be noted, however, that the voluntary accreditation processes for professional degree programs, are temporarily suspended until 31 December 2024, pending regulations and the specification of criteria by the CNA, as established by the new Higher Education Law No. 21.091. The above, with the exception of medicine, dentistry and pedagogy, which are programs under compulsory accreditation.

In this context, and in the absence of pre-established and agreed upon standards of knowledge, necessary for a quality and equivalent training for all those who obtain the degree of psychologist in our country, this study sought to answer, from the point of view of academics, the question: Which are the specific content areas that all psychology graduates should know and manage before graduating?

Consequently, the overall objective of the study was to identify a minimum conceptual compendium for undergraduate psychology education. This objective was sought to be met through the voluntary participation of academics who categorized the level of importance of 100 concepts, within each of twelve disciplinary sub-areas of psychology.

For the purposes of this study, a disciplinary sub-area was understood as a minor sub-component, with specific contents, within the broad disciplinary field of general psychology. These sub-areas are characterized by the fact that they attract the scientific interest of specialized researchers, have their own theories about their objects of study, and have their own means for the dissemination of their theories and results (manuals and scientific journals). Usually, the contents of these sub-areas, form an important part of the undergraduate curriculum for any psychology training program. In specific terms, and in order to guide the selection of the disciplinary content sub-areas for the present study, the commonality (in the form of the overlapping of one or more subjects) during the first four years of the curricula from 35 psychology training programs were reviewed. The selected sub-areas are presented and described in Table 1.

Method

This study used a descriptive, selective, cross-sectional and non-probabilistic descriptive strategy (Ato et al., 2013), based on the use of the self-report survey method, to gather empirical information about the participants' classificatory judgement on a sample of items.

Table 1

Identification and brief description of the 12 sub-areas of disciplinary content that, for the purposes of this study, were considered relevant for undergraduate training in psychology.

	Sub-areas	Description
1.	Basic Psychological Processes	Sensory mechanisms, perceptual processes, attention, learning, types and mechanisms of memory.
2.	Biological Basis of Behavior	Brain structure and function, neurons, neural networks, neurotransmitters, psychophysiological and neuropsychological functions.
3.	Motivation and Emotions	Internal processes that drive human actions, feelings and emotional responses, theories and adaptive function.
4.	Cognitive Processes	Language, thinking, problem solving, planning, decision making, communication.
5.	Developmental Psychology	Theories, stages and trajectories of development; characteristics of the human life cycle in all areas of experience.
6.	Social Psychology	Interaction with others, influences, prejudices, stereotypes, group dynamics and conflict, cultural influences.
7.	Personality Psychology	Theories of character, temperament, personality; traits, behaviours and emotions that define people.
8.	Abnormal Psychology	Mental disorders, organic disorders, drug action, causes, symptoms and psychological treatments.
9.	History of Psychology	Evolution of theories, systems and methods; key figures, major milestones and leading figures in the history of psychology.
10.	Qualitative Research Methods	Non-numerical data collection and analysis, flexible and interactive designs, comprehensive interpretation, social contexts and subjective meanings.
11.	Quantitative Research Methods	Measurement theory, statistical procedures, quantitative research methods, designs, explanatory models.
12.	Psychometrics	Applied statistics, measurement of psychological variables; measurement of constructs: intelligence, personality, attitudes, values, aptitudes, etc.

Note: For the purposes of this report, the order of presentation of the sub-areas is not relevant.

Participants

The participants were 104 volunteer academics from 22 universities (10 public, with 36 participants, and 13 private, with 38 participants). Another 30 participants did not register their institutional affiliation. Of the total number of volunteers who agreed to act as expert judges, 97.92% had a doctoral degree, and only two had a background other than psychology (biology). Participation was confidential and anonymous, and the only requirement for inclusion was to have been a university lecturer of subjects in the sub-area of their expertise for five or more years. The process of recruiting participants was initiated through direct consultation with key informants: psychologists who were nationally recognized for their leadership roles in academia and professional organizations. They were asked to suggest names of teachers and researchers in each of the 12 disciplinary sub-areas mentioned above. In all cases, it was necessary to expand the list of potential participants by soliciting peer suggestions from the participants themselves. Table 2 presents a characterization of the experts who voluntarily agreed to participate in this study.

Instruments

Two instruments were used: (1) a brief questionnaire for demographic characterization of participants; and (2) a survey to classify the importance of each of the 100 concepts referring to the specific contents of the disciplinary sub-area corresponding to the expertise of each participating judge. In a similar way to the procedure used by Boneau (1990), the 100 concepts corresponding to each of the disciplinary sub-areas considered in the study were selected by the research team from the analytical indexes and glossaries of textbooks and manuals, taking into account the descriptions contained in Table 1. Once this process was completed, there were 12 lists of 100 concepts, one for each disciplinary sub-area, where each concept constituted a target for the classificatory judgement from every judge, within the respective sub-area. For each concept, the expert was asked to assert his or her opinion, about how important it should be for a psychology graduate, to know and handle that concept. The response options were: 1 = "not very important", 2 = "moderately important", and 3 = "very important".

Table 2
Characterization of the sample of experts who responded the importance ratings questionnaires, within each disciplinary sub-area.

Sub-disciplinary area	Number of invited participants	Number of actual participants (%)	% women	Average age (years)	Average teaching experience (yrs.)
Basic Psychological Processes	11	8 (73%)	50%	39,5	8,1
Biological Basis of Behavior	10	10 (100%)	40%	44,6	12
Motivation and Emotions	10	8 (80%)	50%	50,3	12
Developmental Psychology	12	9 (75%)	77%	52,1	13
Quantitative Research Methods	11	11(100%)	18%	44,3	8,3
Qualitative Research Methods*	9	5 (56%)	43%	47,2	7,5
Cognitive Processes	10	8 (80%)	25%	54,8	13
Social Psychology	10	10 (100%)	50%	49,4	12
Personality Psychology	10	7 (70%)	71%	43,7	10,7
History of Psychology	10	9 (90%)	33%	51	14
Abnormal Psychology	12	9 (75%)	56%	48,7	12
Psychometrics	11	10 (90%)	10%	44,6	11,5
Totals and averages	126	104(83%)	45%	47,5	11,2

Note: * = This disciplinary sub-area was incorporated late in the process, so it did not have a preliminary list of concepts, nor were its participants subject to the same deadlines as the other sub-areas.

The decision taken to limit the number of items per sub-area to 100 concepts was an arbitrary one. Although far from reflecting the global extent of the conceptual contents from each sub-area, this quantity was considered a substantive sample of them. At the same time, it was considered that this amount of items would not discourage the judges' willingness to respond, nor would it jeopardize the reliability of their responses, due to the possible fatigue of participants.

Some other decisions also had to be made during the selection of concepts to resolve overlaps between sub-areas. In some cases, this involved excluding some concepts at the borders between areas, and in other cases the final selection was left to the judgement of the expert judges.

Procedure

Once the expert entered the QuestionPro platform, he/she had to read the informed consent form and give his/her consent. If so, the demographic characterization questionnaire was displayed, followed, one by one, by the 100 concepts corresponding to the disciplinary sub-area under evaluation. The expert's evaluative judgement proceeded as described in the previous section. Once each judge's classification was completed, and given that it was unfounded to suppose that the hundred concepts proposed could saturate the contents from the respective sub-area, the expert was asked to suggest additional concepts that he or she considered very important, but which were not on the list. Finally, the expert was invited to suggest names of colleagues who could also participate as judges.

A special case arose with respect to the sub-area "Qualitative research methods". Due to the quantitative bias of the research team, this sub-area was initially omitted, but its incorporation was reconsidered and later integrated into the study. As a result, there was no preliminary list of concepts, so each judge was asked to construct his or her own list of 100 concepts. The concepts on which two or more judges coincided were then included in the final list of concepts in this sub-area.

The research protocol for this study was approved by the Scientific Ethics Committee from Universidad de La Frontera, according to Act Nº 123_21. The collection of contributions from the expert judges took place between March and October 2022.

Results

Reduction of concepts

Once all the responses had been collected and exported to an Excel matrix, the research team proceeded to average the judges' judgements and construct the concept tables, according to the resulting hierarchy for each sub-area. The final ranking was generated by placing, first, the concepts evaluated with an average score of 3, i.e., those which all the judges in the sub-area considered "very important", followed by those in all the intermediate values, and ending with the concepts with an average score of 1, which all the judges in the sub-area, considered "less important". Due to the narrow range of variation in the evaluative judgements, the new ranked lists had a large number of concepts with tied scores.

With regard to the new concepts proposed by the judges, a total of 612 was recorded by adding up those from all the sub-areas, with an average of 55.63 concepts per sub-area. In spite of the large number of new concepts proposed, there was a large dispersion of them, and a very low rate of coincidence. In all cases where the same concept was suggested by two or more judges, that concept was incorporated to the list, by replacing the concept with the lowest score already in the list. When there was a tie on the minimum score, the research team opted to replace the concept it considered least relevant of the tied concepts. A total of 114 concepts (18.7%) were replaced by this procedure. The new concepts that were suggested by the judges, and the number of concepts actually replaced in each sub-area, are presented in Table 3.

Table 3

Changes in the contents of the concept list per sub-area as a result of additional concepts suggested by the participating experts.

Sub-disciplinary Area	Total number of suggested new concepts[1]	Number of new concepts added, at the suggestion of two or more judges[2]
Basic Psychological Processes	56	10
Biological Basis of Behavior	35	2
Motivation and Emotions	62	10
Developmental Psychology	65	11
Quantitative Research Methods	75	3
Qualitative Research Methods[3]	---	---
Higher Cognitive Processes	79	6
Social Psychology	70	12
Personality Psychology	29	25
History of Psychology	58	8
Abnormal Psychology	54	4
Psychometrics	29	23
Totals (excluding Qualitative Meth.)	**612**	**114**

Note 1: Simple sum of the concepts suggested by all participating judges, within each sub-area.

Note 2: Different concepts suggested coincidentally by two or more judges, within a sub-area. Each new concept replaced the last lowest ranked concept in the initial list.

Note 3: Due to the quantitative bias of the research team, the qualitative methods sub-area was not initially incorporated into the study. Consequently, the final list of concepts was constructed with the coincidental inclusion of concepts from the self-built lists from two, or more of the five judges, who agreed to participate.

It should be noted that, as a result of the substitutions made, 19 cases of repetition of the same concept in different areas were detected (*e.g.* "socialization", which ended up being present in Personality Psychology, Developmental Psychology and Social Psychology; or "plasticity", which ended up being present in Biological Basis and Developmental Psychology; etc.). In each of these cases, the research team opted to retain the concept in the sub-area in which it was considered to be most relevant, and to replace it in the other sub-areas, by introducing a new concept from among those suggested by the experts.

Summary of the most important concepts

As a result from the rankings made by the participating judges, and the adjustments and permutations just described, 12 new lists of ranked concepts were generated, one for each sub-area. These lists are presented in annexes A to L. Although in all sub-areas the judges agreed in awarding the maximum score to at least the first three concepts, this situation varied ostensibly for the following concepts in the lists, depending on the sub-area. Specifically, the judges' agreement in assigning maximum importance varied from a minimum of 3 concepts to a maximum of 31.

A preliminary approximation of what the reader will find in the annexes is presented in Table 4. In the absence of any criteria to select the most important among all the concepts with maximum judges' agreement, it was decided to simply include the first three concepts from each list in the table. In contrast to the judges' frequent overlaps in their high and medium ratings, there was no concept that obtained the lowest rating from all judges in any of the 12 sub-areas.

Table 4

Sample of the first three concepts with the highest scores, within each sub-area.

Sub-disciplinary area	Concept 1	Concept 2	Concept 3
Basic Psychological Proc.	procedural memory	perceptual constancy	sensory integration
Biological basis of Behavior	central nervous system	nerve transmission	neurotransmitters
Motivation and Emotions	stress	fear	empathy
Developmental Psychology	ecological theory of development	evolutionary trajectory	attachment
Quant. Research Methods	dependent variable	correlation coefficient	independent variable
Qual. Research Methods	axial coding	semi-structured interview	credibility
Cognitive Processes	language	executive functions	problem solving
Social Psychology	cognitive dissonance	attitudes	prejudice
Personality Psychology	personality	factor theories	ideographic approach
History of Psychology	Sigmund Freud	partnership	empiricism
Abnormal Psychology	depression	symptom	anxiety
Psychometrics	validity of a test	reliability of a test	measurement error

Visual inspection of the scores that supported the final ranking of the lists within the sub-areas showed that there were five sub-areas (biological bases, quantitative methods, cognitive processes, abnormal psychology and psychometrics) in which the judges' maximum scores coincided only for less than five concepts. In three other sub-areas (motivation and emotions, social psychology, and history of psychology), the judges' maximum ratings coincided in the range between five and ten concepts. In three additional sub-areas (developmental psychology, qualitative methods, and personality psychology), the judges' maximum rating was the same for the range between ten and twenty concepts. While the remaining sub-area (basic psychological processes) obtained 31 coincidental maximum ratings.

Discussion

The results obtained in this study made it possible to identify, based on the convergence of expert judgements, a substantive body of basic disciplinary notions that it is expected should be known and managed, in a relevant and effective manner, by all persons receiving undergraduate training in psychology at a Chilean university. The identification and clarification of a common framework of knowledge is essential for professional training, as it allows for a deeper and more precise understanding of the fundamental concepts of psychology.

When a student or professional has a clear understanding of the key concepts of their discipline they are more likely to be able to apply them effectively in their work and solve problems more efficiently (Dai & Chen, 2013).

Conceptual clarity is also important for effective communication. When practitioners have a clear understanding of the terms and concepts of their discipline, they can communicate their ideas more accurately and clearly to colleagues, students and other stakeholders.

In the same context, conceptual clarity is important for more effectively evaluating the arguments and ideas of others and making informed decisions (Bello, 2016).

An example of the need to improve conceptual clarity for correct decision-making can be seen, for example, in psychological assessment, a sub-area exclusive to the professional practice of psychologists, where the frequent use of instruments without psychometric support has been reported (Vinet et al., 2023; Vinet & González, 2013).

Another interesting, and often overlooked, aspect of the importance of conceptual clarity is illustrated in the sample of concepts shown in Table 4. Of the 36 concepts that received the highest importance rating from all judges in the respective sub-area, none can be defined simply and directly, without the need to keep other concepts in mind. The vast majority of these concepts are part of more complex theories and conceptual systems, where the correct understanding of a given concept necessarily requires clarity about a set of other related notions, multiplying the requirements of 'clarity' by 5, 10, and more.

An important factor to highlight in this study was the number and suitability of the academics (83%) who, from more than twenty universities in the country, agreed to participate. Although this does not constitute a result in the strict sense of the term, it can be considered as an emerging manifestation of a significant and widespread concern for undergraduate psychology education in our country.

However, in spite of the judges' competence, the large variation in the frequency of concurrent judgements observed between the different sub-areas is striking. In retrospect, this could be due to several reasons, and more likely a combination of them. First, there is what we might call the density of conceptual networks within each sub-area, in contrast to the lack of sharpness of edges in other sub-areas defined in the study. It is plausible to assume that the more diffuse the edges are, the more likely it is that the suggested new concepts will be widely and loosely distributed, and the less likely it is that two or more judges will coincide in suggesting the same concept, and thus achieve its incorporation (by replacing another) in the final list.

On the other hand, if the sub-areas are conceptually dense and sharp-edged, it is likely that judges will need to suggest fewer new concepts and achieve a higher number of matches, and thus a higher number of substituted concepts in the final list.

Examples of this can be found in Table 3. The sub-areas of "Quantitative Methods" and "Cognitive Process" register a high number of suggestions for new concepts, but welcome very few substitutions; whereas the sub-areas of "Personality Psychology" and "Psychometrics" are examples of the reverse situation.

On another level, this study also demonstrates that, as was achieved in the past (Juliá, 2006, 2013), it is possible to converge inter-institutional efforts in the identification of elements that contribute to the quality of the training of psychologists. However, and despite the responsibility recognized and exercised by the universities, the large number and diversity of programs that train psychologists, and the enormous number of professionals competing in an increasingly saturated and demanding occupational market, resent the absence of specific national standards that regulate such training.

It is hoped that, by providing feedback to psychology degree programs with the results of this study, we will be stimulating the design and implementation of curricular adjustments and innovations leading to the achievement of levels of psychological literacy that are more relevant and appropriate to the professional requirements of our society. However, and notwithstanding the relevance of these results, it is necessary to note some clarifications and limitations.

First, as mentioned above, the content sub-areas considered in this study are limited to the training required for a bachelor's degree and do not cover the areas of professional specialization. For the latter, a similar exercise to the present one could be considered, with the necessary methodological and procedural adjustments.

Secondly, the number of 100 concepts per sub-area is not a figure of value in itself. Strictly speaking, this figure was chosen because it constitutes a reasonably broad, but at the same time limited, range that

can be addressed without being too time-consuming for the participating experts. In no case should it be understood that there are only 100 conceptual contents relevant to training in each of the selected sub-areas.

In other words, the results of the present study do not constitute an indicator to be adhered to in an unrestricted manner; rather, they constitute a valuable, but relative, benchmark aimed at contributing, as an additional input, to the efforts of curricular restructuring and innovation for undergraduate psychology training. Ultimately, the quality of training will depend on the results of the implementation of curricula, curricular activities and assessment strategies. This is a partial contribution to the content to be taught; while the relevance, objectives and methodologies used to deliver that content will always be the prerogative and responsibility of the academic teams in charge of each training program.

The limitations of this study include, firstly, the way in which the lists of concepts submitted to the evaluative judgement of the experts were prepared. Although this was done similarly to the procedures used by Boneau (1990), once the study was completed, it became clear that having compiled the lists of concepts from bibliographical sources in the subject area of each sub-area did not necessarily guaranteed the equivalence of the levels of relevance and topicality of the sources for all the areas. For future studies along these lines, it is recommended that a panel of experts be commissioned to compile the lists of concepts, by sub-area, where each participant first individually constructs his or her own list of one hundred "most important" concepts (or however many), and that, at a second stage, the panel meets to reach a consensus on the composition of the final list, in a kind of modified Delphi technique (Yáñez & Cuadra, 2008; Cruz & Rúa, 2018).

Another limitation was the insufficient academic and demographic information collected from the participating academics. In retrospect, it has become clear that it should have been possible to profile much more clearly and accurately the background, trajectory and institutional affiliation of the participants.

On the other hand, the narrow ranking range of only three options ('very important', 'moderately important', and 'not very important') offered to the judges, was also a limitation. This too narrow range of responses, resulted in too many ties between concepts that could otherwise have been legitimately differentiated from each other, as well as allowing for statistical treatment of the data.

In terms of the implications of these results, it seems relevant to mention that, now that we have identified the most important content that a psychology graduate should know and manage, the next stage, in accordance with what is proposed by Thompson et al. (2020), is the construction of an instrument to measure and diagnose the level of knowledge and effective management of these contents. In other words, in order to ensure a minimum level of knowledge, it is necessary to design a standardized assessment instrument to evaluate it.

In the long term, we are encouraged to contribute to the implementation of a quality assurance system for professional training, as well as to collaborate with trade union and institutional efforts to install mandatory accreditation of psychology degrees and psychological specialties in our country.

In closing, the authors of this study would like to reaffirm our conviction that conceptual clarity is crucial to professional training because it enhances communication, decision-making, creativity and learning. Professionals who have a clear understanding of the concepts and terms related to their discipline are more likely to be effective and successful in their careers, whether professional or academic.

In sum, this study should be seen as a partial contribution to achieving greater conceptual clarity and commonality for future psychology graduates in Chile, as well as a first step towards the establishment of agreed upon standards for quality and equivalent training for all those who obtain the title of psychologist in our country.

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Annex A

One hundred concepts referring to the sub-area of basic psychological processes, ranked according to expert judgement.

1. Procedural memory
2. Perceptual constancy
3. Sensory integration
4. Selective attention
5. Episodic memory
6. Learning
7. Vicarious learning
8. Habituation
9. Positive reinforcement
10. Generalization
11. Unconditional stimulus
12. Working memory
13. Bottom-up processing
14. Divided attention
15. Learned helplessness
16. Declarative memory
17. Top-down processing
18. Proprioception
19. Semantic memory
20. Automatic processes
21. Forgetfulness due to interference
22. Conditioned response
23. Figure-background relations
24. Negative reinforcement
25. Sensory memory
26. Extinction
27. Sensory adaptation
28. Instrumental conditioning
29. Awareness-raising
30. Controlled processes
31. Secondary reinforcers
32. Absolute threshold
33. Gestalt Principles
34. Differential threshold
35. Theory of opposing processes
36. Signal detection theory
37. Synesthesia
38. Awareness
39. Attentional blindness
40. Weber and Fechner's Law
41. Field of vision
42. Perceptual constants
43. Context effects
44. Modelling
45. Psychophysics
46. Adaptation to darkness
47. Two-process theory
48. Kinesthesia
49. Closure principle
50. Proximity principle
51. Receptive field
52. Contingency ratio
53. Size constancy
54. Olfactory system
55. Auto kinetic movement
56. Barely perceptible differences
57. Color blindness
58. Sensory receptors
59. Apparent movement
60. Distal vs. proximal stimuli
61. Blind spot
62. Retinal ganglion cells
63. Depth vision
64. Cones
65. Stereopsis
66. Binocular fusion
67. Lateral inhibition
68. Stroke fading theory
69. Auditory localization
70. Convergence
71. Rods
72. Cocktail phenomenon
73. Scotopic vision
74. Binocular disparity
75. Photopic vision
76. Retinal disparity
77. Simultaneous contrast
78. Post image
79. Linear perspective
80. Trichromatic color theory
81. Attribute detector
82. Distance keys
83. Nuance
84. Target gradient
85. Complementary colors
86. Reversible figures
87. Texture gradient
88. Decibel
89. Tachistoscope
90. Semicircular canals
91. Cochlea
92. Phi phenomenon
93. Motion parallax
94. Müller-Lyer illusion
95. Strobe lights
96. Necker Cube
97. Nanometers
98. Pure tone
99. Hair cells
100. Additive color mixing

Annex B

One hundred concepts referring to the sub-area biological basis of behaviour, ranked according to expert judgement.

1. Central nervous system
2. Nerve transmission
3. Neurotransmitter
4. Hippocampus
5. Cerebral hemispheres
6. Circadian rhythm
7. Limbic system
8. Neocortex
9. Brain plasticity
10. Phylogeny
11. Synapses
12. Action potential
13. Sensorimotor cortex
14. Thalamus
15. Parietal lobe
16. Hypothalamus
17. Occipital lobe
18. Parasympathetic nervous system
19. Sympathetic nervous system
20. Autonomic nervous system
21. Broca's aphasia
22. Excitatory synapses
23. Prefrontal cortex
24. Primary motor cortex
25. Dendrite
26. Axon
27. Synaptic space
28. Peripheral nervous system
29. Antidepressant drugs
30. Antipsychotic drugs
31. Cerebral cortex
32. Frontal lobe
33. Anterograde amnesia
34. Apraxia
35. Corpus callosum
36. Addiction
37. Myelin sheath
38. Sensitive homunculus
39. All-or-nothing law
40. Pleasure centers in the brain
41. Dyslexia
42. Right hemisphere
43. Hormones
44. Psychoactive drugs
45. Mirror neurons
46. Psychotropic drugs
47. Anxiolytic drugs
48. Endorphins
49. Ascending reticular system
50. Nerve impulse
51. Interoception
52. Membrane potential
53. Wernicke's aphasia
54. Cerebellum
55. Epilepsy
56. Endocrine glands
57. Acetylcholine
58. Brain stem
59. Psychosomatic illnesses
60. Hallucinogens
61. Norepinephrine
62. DNA
63. Electroencephalogram
64. Prosopagnosia
65. Paradoxical sleep (REM)
66. Estrogen
67. Pituitary gland
68. Depolarization
69. Hemianopsia
70. Glial cells
71. Testosterone
72. Alcohol addiction
73. Alpha waves
74. Dopamine
75. Cardiovascular accident
76. Genotype
77. Behavioral genetics
78. Ventricle
79. Chromosomal abnormalities
80. Antagonist
81. Chromosome
82. Androgens
83. Temporal lobotomy
84. Parkinsonism
85. Slow sleep
86. Adopted twin studies
87. Dorsal roots
88. Meninges
89. Congenital defect
90. Down's Syndrome
91. Apoptosis
92. Transcranial magnetic stimulation
93. Neuromuscular synapses
94. Gradual potentials
95. Cerebrospinal fluid
96. Dominant gene
97. Anosognosia
98. Hyperphagia
99. Self-stimulation
100. Microelectrode

Annex C

One hundred concepts referring to the sub-area of motivation and emotions, ranked according to expert judgement.

1. Stress
2. Fear
3. Empathy
4. Excitement
5. Avoidance
6. Emotional control
7. Emotional expression
8. Motivation
9. Frustration
10. Impulsivity
11. Violence
12. Addictive behavior
13. Arousal
14. Aggression
15. Self-efficacy
16. Conflict
17. Attribution
18. Happiness
19. Compassion
20. Self-esteem
21. Hate
22. Need for affiliation
23. Relationship between activation and performance
24. Primary emotions
25. Cognitive dissonance
26. Reduction of discrepancy
27. Blame
28. Homeostasis
29. Inverted U-curve
30. Egocentrism
31. Cannon-Bard Theory
32. Panic disorder
33. Obsession
34. Placebo
35. Coping
36. Sexuality
37. Obedience
38. Maslow's model
39. Anxiety
40. Emotional contagion
41. Self-determination
42. Gratitude
43. Incentive
44. Sorrow
45. Achievement
46. Self-fulfilling prophecy
47. Pain theory
48. Suicidal disorder
49. Will
50. Limbic system
51. Schachter-Singer theory
52. Ambivalence
53. Dysphoria
54. Interpersonal attraction
55. Hunger mechanisms
56. Stages of grief
57. Phobia
58. Brain Amygdala
59. Hypothalamus
60. Pride
61. Instinct
62. Love
63. Visceral response
64. Sentiment
65. James-Lange Theory
66. Reactance
67. Pleasure center
68. Resentment
69. Mania
70. Anhedonia
71. Anguish
72. Compliance
73. Mindfulness
74. Cruelty
75. Seasonal affective disorder
76. Neuroticism
77. Goal gradient
78. Teratogenic
79. Pleasure principle
80. Hypochondriasis
81. Stereotype threat
82. Emotional intelligence
83. Extrinsic motivation
84. Free will
85. Curiosity
86. Thirst mechanisms
87. Paraphilias
88. Negative stereotyping
89. Defence mechanisms
90. Lipothymia
91. Allostatic load
92. Pulse
93. Determination
94. Catharsis
95. Compulsion
96. Hypothymia
97. Prozac
98. Libido
99. Lapsus linguae
100. Intrinsic motivation

Annex D

One hundred concepts related to the sub-area developmental psychology, ranked according to expert judgement.

1. Ecological theory of development
2. Evolutionary trajectory
3. Attachment styles
4. Post-formal thinking
5. Theory of mind
6. Life course theory
7. Protective factor for development
8. Adolescence
9. Identity
10. Life cycle theory
11. Ageing
12. SOC theory or model
13. Gender Identity
14. Gender
15. Identity building
16. Childhood
17. Socio-affective development
18. Equilibration (Piaget)
19. Conventional morality
20. Assimilation
21. Ethics of care
22. Accommodation
23. Attachment
24. Puberty
25. Individualization
26. Human sexuality
27. Early childhood
28. Object permanence
29. Pre-conventional morality
30. Middle childhood
31. Youth
32. Positive Youth Development (PYD)
33. Imitation
34. Epigenesis
35. Transition
36. Middle age
37. Post-conventional morality
38. Moral reasoning
39. Periods of development
40. Peer influence
41. Risk factors
42. Concrete operational stage
43. Inheritance-environment controversy
44. Self-concept
45. Gestation
46. Egocentrism
47. Decentralization
48. Separation anxiety
49. Parenting styles
50. Stages of cognitive development
51. Maturation
52. Secular trend
53. Formal thinking
54. Pre-operational stage
55. Sensorimotor stage
56. Prenatal development
57. Bronfenbrenner
58. Early stimulation
59. Hierarchical integration
60. Cognitive impairment
61. Maternal sensitivity
62. Mentalizing
63. Development tasks
64. Self-regulation
65. Menarche
66. Menopause
67. Disability
68. Adulthood
69. Older Adulthood
70. Mother-child attachment
71. Psychosexual stages
72. Psychosocial development
73. Moral development (Kohlberg)
74. Secondary sexual characteristics
75. Congenital
76. Oedipal conflict
77. Taking a social perspective
78. Critical period
79. Emerging adulthood
80. Resilience
81. Erik Erikson
82. Cognitive reserve
83. Piaget
84. Secondary attachment
85. Bereavement
86. Separation bereavement
87. Family influences
88. Family
89. Generativity
90. Human development systems
91. Baltes
92. Neo-Piagetian Paradigm
93. Mid-life crisis
94. Gerotranscendence
95. James Marcia
96. Richard Lerner
97. Plasticity
98. Adaptation
99. Early experiences
100. Adolescent asynchronous brain development

Annex E

One hundred concepts referring to the sub-area quantitative research methods, ranked according to expert judgement.

1. Dependent variable
2. Correlation coefficient
3. Independent variable
4. Covariation versus causation
5. Significant differences
6. Median
7. Standard deviation
8. Reliability
9. Linear relational
10. Alpha value (statistical significance)
11. Standardized test
12. Control group
13. Experimental group
14. Hypothesis testing
15. Sample
16. Level of significance
17. Population
18. Sample size
19. Percentile score
20. Internal validity
21. Quasi-experimental design
22. Null hypothesis
23. Statistician
24. Type I error
25. Generalizability of results
26. Standardized scores
27. ANOVA
28. Dispersion
29. Ordinal scale
30. Parameter
31. Normal distribution
32. Variance
33. Interval scale
34. Quantitative variables
35. Discrete variables
36. Nominal scale
37. Construct validity
38. Descriptive statistics
39. Medium
40. Random sampling
41. Operational definition
42. Frequency distribution
43. Product-moment correlation
44. Type II error
45. Z score
46. Normal distribution
47. Scatter diagram
48. Power of proof
49. Central tendency
50. Inferential statistics
51. Randomization
52. Alpha value (statistical)
53. Confidence interval
54. Experimental control
55. Ratio scale
56. Analysis of variance
57. Independence (probability)
58. Continuous variable
59. Histogram
60. Skewed distribution
61. Qualitative variables
62. Factor analysis
63. Probabilistic distribution
64. Intervening variable
65. Interaction
66. Alternative hypothesis
67. Percentile rank
68. Apparent validity
69. Population mean
70. Dispersiogram
71. Population variance
72. Critical region
73. Proportions
74. Standard error
75. Double-blind test
76. Test-retest reliability
77. Fashion
78. Fisher's F coefficient
79. Two-tailed test
80. Sample distribution
81. Independent events
82. Non-parametric tests
83. t Distribution
84. Degrees of freedom
85. One-tailed test
86. Explained variance
87. Regression to the mean
88. Counterbalancing
89. Curvilinear relationship
90. Homoscedasticity
91. Range
92. Cumulative frequency distribution
93. Frequency polygon
94. Naturalistic observation
95. Standard error of the difference
96. Completely random design
97. Student's t-test
98. Bimodal distribution
99. Mean square
100. Structural equation modelling

Annex F

One hundred concepts related to the sub-area qualitative research methods, ranked according to expert judgement.

1. Axial coding
2. Semi-structured interview
3. Credibility
4. Selective coding
5. Focus group
6. Snowball sampling
7. Participant observation
8. Sampling of typical cases
9. Transferability
10. Content analysis
11. Open coding
12. In-depth interview
13. Epistemology
14. Ethnography
15. Experience
16. Hermeneutics
17. Participatory action research
18. Method of constant comparisons
19. Field notes
20. Meaning
21. Subjectivity
22. Grounded theory
23. Fieldwork
24. Interpretative phenomenological analysis
25. Atlas.ti
26. Categorization
27. Coding
28. Emerging design
29. Ethnographic interview
30. Group interview
31. Narrative interview
32. Ethnomethodology
33. Phenomenology
34. Discussion group
35. Symbolic interactionism Focus group
36. Life history
37. Summary Memo
38. Theoretical sampling
39. Extreme case sampling
40. Maximum variation sampling
41. Purposive sampling
42. Criterion sampling
43. Ontology
44. Interview guide
45. *Rapport*
46. Life stories
47. Content saturation
48. Data manipulation
49. Discourse analysis
50. Documentary analysis
51. Textural analysis
52. Autobiographies
53. Biograms
54. Checking with informants
55. Hermeneutic circle
56. Descriptive coding
57. Free coding (live)
58. Code
59. Descriptive codes
60. Understanding
61. Confirmability
62. Constructivism
63. Counter-check
64. Exclusion criteria
65. Inclusion criteria
66. Dependency
67. Dense description
68. Dialectics
69. Speech
70. Research design
71. Expert interviews
72. Episodic interview
73. Focused interview
74. Informal group interview
75. Unstructured interview
76. Sampling strategies
77. Case studies
78. Social phenomenology
79. Delphi Group
80. Oral history
81. Key informant
82. Interpretation
83. Inter-subjectivity
84. Conditional matrix
85. Methodology
86. Mixed methods
87. Homogeneous sampling
88. Purposive sampling of typical cases
89. Purposive intensity sampling
90. Theoretically guided sampling
91. Narratives
92. NUD-IST
93. Nvivo
94. Objectivity
95. Naturalistic observation
96. Non-participant observation
97. Simple observation
98. Paradigm
99. Triangulation
100. Constructivist paradigm

Annex G

One hundred concepts referring to the sub-area cognitive processes, ranked according to expert judgement.

1. Language
2. Executive functions
3. Problem solving
4. Heuristics
5. Internal representations
6. Language
7. Communication
8. Meaning
9. Parallel processing
10. Reasoning
11. Concept formation
12. Bias
13. Cognitive skills
14. Deduction
15. Intelligence
16. Thinking
17. Artificial intelligence
18. Representation
19. Formal operations
20. Hermeneutics
21. Connexionism
22. Implicit learning
23. Abstraction capacity
24. Algorithm
25. Recognition vs. evocation
26. Semantics
27. Syntax
28. Pragmatics
29. Metacognition
30. Linguistic relativism
31. Induction
32. Recency effect
33. Primacy effect
34. Significant
35. Communicative competence
36. Linguistic competence
37. Social skills
38. Mental rotation
39. Decision-making
40. Natural concepts
41. Problem
42. Self-efficacy
43. Sensorimotor intelligence
44. Concept
45. Prototype
46. Basic category
47. Schema theory
48. Retroactive interference
49. Inhibitory control
50. Phonological awareness
51. Mental flexibility
52. Tip-of-the-tongue phenomenon
53. Planning
54. Mnemonics
55. Specific operations
56. Multitasking
57. Intellectual Quotient (IQ)
58. Misattribution of causality
59. Priming effect
60. Mental imagery
61. Supra-ordinate category
62. Subordinate category
63. Centrality
64. Mental fluency
65. Creativity
66. Speech act
67. Linguistic sign
68. Semantic network
69. Coding strategies
70. Mental chronometry
71. Assimilation
72. Expectation
73. Stroop effect
74. Theory of multiple intelligences
75. G factor
76. Conflict
77. Categorical level
78. Magic number seven
79. Necessary and sufficient conditions
80. Witness statements
81. Transformational grammar
82. Impulsivity
83. Critical thinking
84. Elaborative review
85. Family resemblance
86. Phonology
87. Sensitivity to interference
88. Accommodation
89. Semantic induction
90. Certainty judgement
91. Simulation
92. Perfectionism
93. Avoidance tendency
94. Coping
95. Incubation
96. Deep structure
97. Brown-Peterson Task
98. Gambler's fallacy
99. Target
100. Eidetic imagery

Annex H

One hundred concepts related to the sub-area of social psychology, ranked according to expert judgement.

1. Cognitive dissonance
2. Attitudes
3. Prejudice
4. Pro-social behavior
5. Discrimination
6. Social learning theory
7. Socialization
8. Social norms
9. Social influence
10. Attribution theory
11. Causal attributions
12. Attitude scale
13. Socialization of gender roles
14. Leadership
15. Social cognition
16. Attitudinal change
17. Non-verbal communication
18. Intergroup conflict
19. Empathy
20. Obedience to authority
21. Characteristics of groups
22. Learned helplessness
23. Social facilitation
24. Ethnocentrism
25. Personality
26. Group dynamics
27. Cohesion
28. Group decisions
29. Social desirability
30. Culture
31. Status
32. Stereotypes
33. Sexism
34. Self-fulfilling prophecy
35. Impression formation
36. Conformism
37. Attribution error
38. Authoritarian personality
39. Subtle prejudice
40. Frustration-aggression hypothesis
41. Responsibility attribution
42. Interpersonal attraction
43. Modelling
44. Social support
45. Locus of control
46. Kelly's attribution theory
47. Role expectations
48. De-individuation
49. Personality-situation interaction
50. Pygmalion effect
51. Milgram's obedience exhibit
52. Placebo effect
53. Helping behaviors
54. Social exchange theory
55. Cognitive-affective consistency
56. Observational learning
57. Manipulation
58. Social comparison theory
59. Perception of person
60. Situational attribution
61. Inter-judge reliability
62. Primacy effect
63. Spectator effect
64. Attraction
65. Mere exposure effect
66. Dispositional attribution
67. Equity theory
68. Experimenter expectations
69. Heider's attribution theory
70. The prisoner's dilemma
71. Reciprocity rule
72. Role conflict
73. Correlational method
74. Activation and emotion
75. Role-playing games
76. Scapegoat
77. Frame of reference
78. Semantic differential technique
79. Foot-in-the-door effect
80. Self-attribution
81. Handling impressions/appearances
82. Psychological reactance
83. Resistance to persuasion
84. Dissemination of personality
85. Equilibrium theory
86. Misattribution of activation
87. Baseline information
88. Anti-social behavior
89. Level of comparison
90. Compliance versus enforcement
91. Power
92. Cognitive gender differences
93. Sociobiology
94. Level of adaptation
95. Return
96. Contact hypothesis
97. Ideologization
98. Social stigma
99. Feminist theory
100. Empowerment

Annex I

One hundred concepts related to the sub-area of personality psychology, ranked according to expert judgement.

1. Personality
2. Factor theories
3. Ideographic approach
4. Personality assessment
5. Introversion-extraversion
6. Character
7. Neuroticism
8. Trait theory
9. Big Five
10. Temperament
11. Hypothetical construct
12. Modelling
13. Observational learning
14. Neurotic needs
15. Extraversion
16. Introversion
17. Identity formation
18. Social learning
19. Nomothetic approach
20. Expectations
21. Longitudinal research
22. Schizophrenia
23. Achievement motivation
24. Unconscious
25. Impulse control
26. Psychodynamic theories
27. IQ
28. Self-efficacy expectations
29. Genes vs. traits
30. Humanist theories
31. Need for achievement
32. Disposal
33. Trait anxiety
34. Maturation
35. Deferral of gratification
36. Paranoid
37. Defense mechanisms
38. Repression
39. Self-actualization
40. Naturalistic observation
41. Identity crisis
42. Twin studies
43. Hierarchy of motives
44. Approach-avoidance conflict
45. Screening
46. Kretchmer's theory
47. MMPI
48. Narcissism
49. Egodistonic
50. Psychology of the self
51. Systematic desensitization
52. Client-centered therapy
53. Unconscious motivation
54. Sublimation
55. Reality principle
56. Fear conditioning
57. Structural approach
58. Culturally valid evidence
59. Super me
60. Frustration-aggression hypothesis
61. Psychosexual stages
62. Reality check
63. Intrapsychic conflict
64. Preconscious
65. Transfer
66. Regression
67. Primary processes
68. Latency period
69. Subconscious
70. Projective techniques
71. Monozygotic twins
72. Instincts (in Freudian theory)
73. Oral stage
74. Manifest content
75. Catharsis
76. Identification (in Freudian theory)
77. Pleasure principle
78. Inferiority complex
79. Genital stage
80. Anal stage
81. Thematic Apperception Test
82. Twins
83. Collective unconscious
84. Free association
85. Libido
86. Phallic stage
87. Reactive training
88. Oedipal conflict
89. Eros
90. Somatopsychic theories
91. Dispositional trait
92. Heritability of traits
93. Castration anxiety
94. Egosyntonic
95. Histrionic
96. Hostility
97. Impulsivity
98. Psychoticism
99. Clonninger's Model
100. Eysenck's model

Annex J

One hundred concepts relating to the sub-area history of psychology, ranked according to expert judgement.

1. Sigmund Freud
2. Partnership
3. Empiricism
4. Scientific method
5. Classical conditioning
6. Mind-body dualism
7. Hypothetic-deductive method
8. Eminent personalities
9. Phenomenology
10. Cognitive revolution
11. Humanistic Psychology
12. Positivism
13. Ivan Pavlov
14. Law of effect
15. Psychoanalysis
16. Gestalt Psychology
17. Falsifiability/ refutability
18. Rationalism
19. William James
20. Carl Rogers
21. B.F. Skinner
22. Cognitive maps
23. Reductionism
24. Neuropsychology
25. Constructivism
26. Determinism
27. Reaction time
28. Latency
29. Philosophy of science
30. Stream of consciousness
31. Epistemology
32. Explanation vs. prediction
33. Lev Vigotsky
34. Introspection
35. English empiricism
36. Habit
37. Gordon Allport
38. Information theory
39. Abraham Maslow
40. Albert Bandura
41. Holism
42. Intelligence Quotient
43. Wilhelm Wundt
44. Phrenology
45. Kurt Lewin
46. Max Wertheimer
47. Evolution versus creationism
48. Tabula rasa
49. Insight learning
50. Homeostasis
51. Neo-behaviorism
52. Structuralism
53. Models versus paradigms
54. Environmentalism
55. Psychophysics
56. Figure-background contrast
57. Generalization
58. Wundt's experimental psychology
59. Eugenics
60. Innate ideas
61. Ethology
62. APA, SIP, SCP
63. Jean Piaget
64. Ebbinghaus' Curve of forgetting
65. Operationalism
66. Gustav Fechner
67. Instinct theory
68. Darwinian evolutionism
69. Nativism versus empiricism
70. Methodological behaviourism
71. Reflexive response
72. Stanley Hall
73. Trial and error learning
74. Equipotentiality principle
75. David Wechsler
76. Emerging adulthood
77. Phillip Zimbardo
78. Survival of the fittest
79. Law of parsimony
80. Mechanism
81. Atomism
82. Weber and Fechner's Law
83. Anthropomorphism
84. Transfer of learning
85. Peripheral theory of thought
86. Dynamic neuroimaging
87. Copernican Revolution
88. Phineas Gage
89. Brain localization
90. Psychology of faculties
91. Roger Sperry
92. Daniel Kahneman
93. John O'Keefe
94. Force of habit
95. Localization of functions
96. Sergio Yulis
97. The Morgan canon
98. Steven Pinker
99. Anticipatory response to the goal
100. Rubén Ardila

Annex K

One hundred concepts referring to the sub-area of abnormal psychology, ranked according to expert judgement.

1. Depression
2. Symptom
3. Anxiety
4. Obsession
5. Aetiology
6. Psychosis
7. Phobia
8. Hallucination
9. Diagnosis
10. Anamnesis
11. Agoraphobia
12. Panic attacks
13. Trauma
14. Bulimia
15. Mental illness
16. Anorexia
17. Delirium
18. Paranoia
19. Autism
20. Withdrawal syndrome
21. Hyperactivity
22. First outbreak of schizophrenia
23. Psychosomatic disorders
24. Affective disorder
25. Bipolar disorder
26. Neurosis
27. Compulsion
28. Personality disorder
29. Suicide
30. Attention deficit disorder
31. Diagnosis
32. DSM V
33. Pre morbid
34. Post-traumatic stress
35. Organic-brain disorder
36. Referral
37. Precipitating factor
38. Psychotherapy
39. Anxiety disorders
40. Acute schizophrenia
41. Primary prevention
42. Epidemiology
43. Psychogenic
44. Syndrome
45. Delirious disorder
46. Obsessive-compulsive personality
47. Transfer
48. Psychodynamic therapy
49. Group therapy
50. Endogenous factors
51. Expressed emotion
52. Antisocial personality
53. Prognosis
54. Schizoaffective disorder
55. Catatonic schizophrenia
56. Conversion disorder
57. Placebo effect
58. Psychoactive drug
59. Denial
60. Psychotropic drugs
61. Client-centered therapy
62. Depressants
63. Forecast
64. Defense mechanism
65. Claustrophobia
66. Neurology
67. Family therapy
68. Secondary gain
69. Systematic desensitization
70. Repression
71. Compulsive personality
72. Hallucinogenic
73. Medical model
74. Chronic psychosis
75. Screening
76. Non-directive therapy
77. Psychopathic personality
78. Dysfunctional
79. Schizoid personality
80. Manic-depressive psychosis
81. Hyperphagia
82. Hysteria
83. Post-traumatic syndrome
84. Tranquillizer
85. Electroconvulsive therapy
86. Counter-conditioning
87. Transvestism
88. Passive-aggressive personality
89. Reactive training
90. Schizophrenic paranoia
91. De-institutionalization
92. Psychopathic personality
93. Sleep disorders
94. Sexual dysfunctions
95. Eating disorders
96. Multiple personalities
97. Mental health
98. Risk factors
99. Borderline personality disorder
100. Addictive behaviors

Annex L

One hundred concepts related to the sub-area of psychometrics, ranked according to expert judgement.

1. Validity of a test
2. Reliability of a test
3. Measurement error
4. Internal consistency
5. Normal distribution
6. Standard deviation
7. Cultural bias
8. Factor analysis
9. Measurement levels
10. Construct validity
11. Validity of criteria
12. False positive
13. False negative
14. Construct
15. Adaptation of a test
16. Validation of a test
17. Likert scale
18. Content validity
19. Temporal stability (test-retest)
20. Measuring attitudes
21. Classical test theory
22. Ordinal scale
23. Nominal scale
24. Interval scale
25. Score z
26. Standardized scores
27. Parameter
28. Uni-dimensionality
29. Types of reliability
30. Internal consistency analysis
31. Ratio Scale
32. Normative reference group
33. Indeces
34. Standardization
35. Multidimensionality
36. Probability
37. Predictive validity
38. Measuring intelligence
39. Cronbach's alpha coefficient
40. Measuring skills
41. Standard norms
42. Shalom Schwartz
43. Cut-off point
44. Cross-validity
45. Charles Spearman
46. Equivalence
47. Efficiency (power) tests
48. Typical behavioral tests
49. Personality assessment
50. Measuring preferences
51. Scaling up
52. Structural equation modelling
53. Percentile distribution
54. Mental age
55. Checking the veracity of responses
56. Assumptions
57. Latent trait
58. Collective tests
59. Social desirability
60. Alfred Binet
61. *g* Factor
62. Item response theory
63. Constant
64. Linear transformation of scores
65. Kappa Coefficient
66. Ceiling effect
67. Parallel forms
68. Randomization
69. Specific skills
70. Discriminant value
71. Item characteristic curve
72. Typical performance tests
73. Maximum performance tests
74. Inter-rater reliability
75. Intellectual Quotient
76. Sir Francis Galton
77. James Cattell
78. Theodor Simon
79. Mental level
80. Louis Thurstone
81. Item bank
82. Distractors
83. Test battery
84. Item Difficulty Rating
85. Invariance
86. Factor score
87. Coefficient of concordance
88. Halo effect
89. Computerized adaptive test
90. Representational model
91. Operational model
92. Psychometric profile
93. Psychometric Society
94. Psychometrika
95. Edwards Inventory
96. Rorschach test
97. Exner's comprehensive system
98. Alienation coefficient
99. Item response theory
100. International Test Commission (ITC)