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0 ratings0% found this document useful (0 votes)462 viewsCarl Rogers outlines 19 propositions about his theory of personality:1) Individuals exist in a continually changing world and are the center of their own experiences. 2) People react to anAI-enhanced title and descriptionSaveSave Carl Rogers- Theory of Personality For Later0%0% found this document useful, undefinedYou have no recently viewed pagesForm of psychotherapy developed by psychologist Carl RogersMedical interventionPerson-centered therapyMeSHD009629[edit on Wikidata]Person-centered therapy (PCT), also known as person-centered psychotherapy, person-centered counseling, client-centered therapy and Rogerian psychotherapy, is a humanistic approach psychotherapy developed by psychologist Carl Rogers and colleagues beginning in the 1940s[1] and extending into the 1980s.[2] Person-centered therapy emphasizes the importance of creating a therapeutic environment grounded in three core conditions: unconditional positive regard (acceptance), congruence (genuineness), and empathic understanding. It seeks to facilitate a client's actualizing tendency, "an inbuilt proclivity toward growth and fulfillment",[3] via acceptance (unconditional positive regard), therapist congruence (genuineness), and empathic understanding.[4][5]Person-centered therapy was developed by Carl Rogers in the 1940s and 1950s,[6]:138 and was brought to public awareness largely through his book Client-centered Therapy, published in 1951.[7] It has been recognized as one of the major types of psychotherapy (theoretical orientations), along with psychodynamic psychotherapy, psychoanalysis, classical Adlerian psychology, cognitive behavioral therapy, existential therapy, and others.[6]:3 Its underlying theory arose from the results of empirical research; it was the first theory of therapy to be driven by empirical research,[8] with Rogers at pains to reassure other theorists that "the facts are always friendly".[9] Originally called non-directive therapy, it "offered a viable, coherent alternative to Freudian psychotherapy.... [Rogers] redefined the therapeutic relationship to be different from the Freudian authoritarian pairing."[10]Person-centered therapy is often described as a humanistic therapy, but its main principles appear to have been established before those of humanistic psychology.[11] Some have argued that "it does not in fact have much in common with the other established humanistic therapies"[12] but, by the mid-1960s, Rogers accepted being categorized with other humanistic (or phenomenological-existential) psychologists in contrast to behavioral and psychoanalytic psychologists.[13] Despite the importance of the self to person-centered theory, the theory is fundamentally organismic and holistic in nature,[14][15] with the individual's unique self-concept at the center of the unique "sum total of the biochemical, physiological, perceptual, cognitive, emotional and interpersonal behavioural subsystems constituting the person".[16]Rogers coined the term counselling in the 1940s because, at that time, psychologists were not legally permitted to provide psychotherapy in the US. Only medical practitioners were allowed to use the term psychotherapy to describe their work.[17]Rogers affirmed individual personal experience as the basis and standard for living and therapeutic effect.[6]:142143 This emphasis contrasts with the dispassionate position which may be intended in other therapies, particularly the behavioral therapies. Hallmarks of Rogers's person-centered therapy include: living in the present rather than the past or future; organismic trust; naturalistic faith in one's own thoughts and the accuracy in one's feelings; a responsible acknowledgment of one's freedom; and a view toward participating fully in our world and contributing to other peoples' lives.[18] Rogers also claimed that the therapeutic process is, in essence, composed of the accomplishments made by the client. The client, having already progressed further along in their growth and maturation development, only progresses further with the aid of a psychologically favored environment.[19]Rogers (1957; 1959) stated that there are six necessary and sufficient conditions required for therapeutic change:[6]:142143Therapistclient psychological contact: A relationship between client and therapist must exist, and it must be a relationship in which each person's perception of the other is important.Client incongruence: Incongruence (as defined by Carl Rogers; "a lack of alignment between the real self and the ideal self") exists between the client's experience and awareness.Therapist congruence, or genuineness: The therapist is congruent within the therapeutic relationship; the therapist is deeply involvedthey are not "acting"and they can draw on their own experiences (self-disclosure) to facilitate the relationship.Therapist unconditional positive regard: The therapist accepts the client unconditionally, without judgment, disapproval, or approval. This facilitates increased self-regard in the client, as they can begin to become aware of experiences in which their view of self-worth was distorted or denied.Therapist empathic understanding: The therapist experiences an empathic understanding of the client's internal frame of reference. Accurate empathy on the part of the therapist helps the client believe the therapist's unconditional regard for them.Client perception: The client perceives, to at least a minimal degree, the therapist's unconditional positive regard and empathic understanding.The three conditions specific to the therapist/counselor came to be called the core conditions of PCT: therapist congruence, unconditional positive regard or acceptance, and accurate empathic understanding.[5][20][21] There is a large body of publications of empirical research on these conditions.[20]Rogers believed that a therapist who embodies the three critical and reflexive attitudes (the three core conditions) will help liberate their client to more confidently express their true feelings without fear of judgement. To achieve this, the client-centered therapist carefully avoids directly challenging their client's way of communicating themselves in the session in order to enable a deeper exploration of the issues most intimate to them and free from external referencing.[22] Rogers was not prescriptive in telling his clients what to do, but believed that the answers to the clients' questions were within the client and not the therapist. Accordingly, the therapist's role was to create a facilitative, empathic environment wherein the client could discover the answers for themselves.[23]Recent studies suggest that narrative shifts within therapy, such as "innovative moments" where clients express thoughts or behaviors inconsistent with their previous problematic self-narratives, are associated with meaningful psychological change in client-centered therapy.[24] Additionally, a study found that person-centered and experiential therapies were effective in treating anxiety, particularly when emotional depth and self-exploration were central to the process. However, these therapies were sometimes less effective than cognitive-behavioral therapy in direct comparisons, which supports the importance of tailoring treatment to individual client needs.[25]Building on this, another study used a machine learning approach to determine which clients would respond better to person-centered therapy versus cognitive-behavioral therapy. Their findings showed that outcomes significantly improved when therapy was matched to the clients predicted needs, reinforcing the value of personalized care.[26] Person-centered therapy has also been shown to benefit specific populations. In a randomized controlled trial, von Humboldt and Leal found that older adults receiving PCT reported significant improvements in self-esteem that were sustained for a full year after treatment. This suggests that the core principles of PCT are adaptable and effective across age groups.[27]Research on the effectiveness of person-centered therapy (PCT) across various clinical conditions has produced mixed but encouraging results. While PCT has generally been found to yield positive outcomes for anxiety and depression, some studies suggest it may be less effective than structured approaches like cognitive-behavioral therapy (CBT) in certain contexts. For example, a 2013 meta-analysis found that experiential therapies, including PCT, showed improvement in clients with anxiety from pre- to post-treatment, although they often performed below CBT in direct comparisons.[25]Even so, PCT offers distinct advantages. Its focus on emotional depth, client autonomy, and a non-directive therapeutic environment can be particularly helpful for individuals who prefer a more supportive and less structured approach to therapy.[25] These qualities may also make PCT a good fit for clients who have had negative experiences with more prescriptive or diagnosis-driven models.Recent findings suggest that outcomes improve when therapy is matched to individual client needs. Delgadillo and Duhne used machine learning to analyze which clients responded best to CBT versus PCT. Their results showed that clients who received the therapy most aligned with their predicted treatment response experienced significantly better outcomes than those who received a non-matching therapy.[26] This supports the idea that while PCT may not be ideal for every individual, it can be highly effective when personalized to the client. PCT has also shown promise with specific populations. In a randomized controlled trial, von Humboldt and Leal found that older adults who received person-centered therapy reported significant improvements in self-esteem. These gains were maintained for at least 12 months after the intervention, highlighting PCTs potential for long-term impact and its adaptability across age groups.[27]Person-centered therapy has been adapted for a variety of populations and settings. For example, a randomized controlled trial in Portugal demonstrated that PCT significantly improved self-esteem in older adults by reducing the gap between their real and ideal selves. These improvements were maintained at a 12-month follow-up, suggesting long-term effectiveness in aging populations.[27]PCT has also been applied in educational and youth counseling settings. Its emphasis on empathy, acceptance, and authentic communication makes it particularly effective for adolescents and young adults who are navigating identity development, interpersonal challenges, and emotional regulation. Additionally, the non-directive nature of PCT allows it to be used across cultural contexts where traditional therapist-led approaches may not align with community values or client expectations.The adaptability of person-centered therapy stems from its core belief that the client is the expert in their own experience. This principle enables therapists to work effectively with diverse populations while maintaining a strong respect for individual autonomy and cultural differences.See also: Actualizing tendency CriticismAlthough client-centered therapy has been criticized by behaviorists for lacking structure and by psychoanalysts for offering what they view as a conditional rather than truly neutral therapeutic relationship,[28] research has shown that person-centered therapy can be effective across a variety of clinical issues.[29] Critics have also noted that the non-directive nature of PCT can make it difficult to measure outcomes consistently, as well as to assess the uniform application of its core conditions across therapists.Another concern involves the generalizability and adaptability of the approach. A study by Delgadillo and Duhne used machine learning to examine whether certain clients with depression responded better to person-centered counseling or cognitive-behavioral therapy. The results showed that clients who received the therapy most closely aligned with their predicted treatment response experienced significantly better outcomes than those who received a non-matching therapy.[26] This supports the idea that while PCT can be highly effective, it may not be the best choice for every individual unless selected based on specific client needs.In addition, some have questioned whether PCT provides sufficient structure for clients with more severe or complex mental health conditions, such as trauma or chronic depression. Although PCT encourages emotional growth within a supportive relationship, it may require adaptation or integration with other therapeutic models to effectively meet the needs of clients dealing with more intensive clinical presentations.Humanistic psychologyHuman Potential MovementELIZA^ Rogers, Carl R. (1942). Counseling and psychotherapy: newer concepts in practice. Boston: Houghton Mifflin. ISBN978-1406760873. OCLC165705. {{cite book}}: ISBN / Date incompatibility (help)^ Rogers, Carl R.; Sanford, R. C. (1985). "Client-centered psychotherapy". Comprehensive textbook of psychiatry. By I., Kaplan, Harold; J., Sadock, Benjamin. Vol.2. Williams & Wilkins. pp.13741388. ISBN9780683045116. OCLC491903721.{{cite book}}: CS1 maint: multiple names: authors list (link)^ Yalom, Irvin D. (1995). Introduction. A way of being. By Rogers, Carl R. Houghton Mifflin Co. p.xi. ISBN9780395755303. OCLC464424214.^ Rogers 1957.^ a b Rogers, Carl R. (1966). "Client-centered therapy". In Arieti, S. (ed.). American handbook of psychiatry. Vol.3. New York City: Basic Books. pp.183200. OCLC2565173.^ a b c d Prochaska, James O.; Norcross, John C. (2007). Systems of Psychotherapy: A Transtheoretical Analysis (6thed.). Belmont, CA: Thomson/Brooks/Cole. ISBN978-0495007777. OCLC71366401.^ Rogers 1951.^ Wilkins, P. (2016). Person-centred therapy: 100 key points and techniques. 2nd ed. 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Humboldt, S., & Leal, I. (2012). Person-centered therapy and older adults' self-esteem: A pilot study with follow-up. Studies in Sociology of Science, 3(4), 110. resources about Person-centered therapy Resources in your libraryResources in other librariesWorld Association for Person-Centered and Experiential Psychotherapy and CounselingRetrieved from " academic degree"PhD" redirects here. For other uses, see PHD (disambiguation).Doctor of PhilosophyA PhD degree conferred by Columbia UniversityAcronymPhDDPhilTypePostgraduate educationDuration3 to 8 yearsPrerequisitesBachelor's degreeMaster's degree(varies by country and institution)A Doctor of Philosophy (PhD, DPhil; Latin: philosophiae doctor or doctor in philosophia)[1] is a terminal degree that usually denotes the highest level of academic achievement in a given discipline and is awarded following a course of graduate study and original research. The name of the degree is most often abbreviated PhD (or, at times, as Ph.D. in North America), pronounced as three separate letters (/pietdi/ PEE-aych-DEE).[2][3][4] The University of Oxford uses the alternative abbreviation "DPhil".[5][6]PhDs are awarded for programs across the whole breadth of academic fields. Since it is an earned research degree, those studying for a PhD are required to produce original research that expands the boundaries of knowledge, normally in the form of a dissertation, and, in some cases, defend their work before a panel of other experts in the field. In many fields, the completion of a PhD is typically required for employment as a university professor, researcher, or scientist.[7]In the context of the Doctor of Philosophy and other similarly titled degrees, the term "philosophy" does not refer to the field or academic discipline of philosophy, but is used in a broader sense in accordance with its original Greek meaning, which is "love of wisdom".[8] In most of Europe, all fields (including history, philosophy, social sciences, mathematics, and natural philosophy later known as natural science)[9] other than theology, law, and medicine (the so-called professional, vocational, or technical curricula) were traditionally known as philosophy, and in Germany and elsewhere in Europe the basic faculty of liberal arts was known as the "faculty of philosophy".[citation needed]A PhD candidate must submit a project, thesis, or dissertation often consisting of a body of original academic research, which is in principle worthy of publication in a peer-reviewed journal.[10] In many countries, a candidate must defend this work before a panel of expert examiners appointed by the university. Universities sometimes award other types of doctorate besides the PhD, such as the Doctor of Musical Arts (DMA) for music performers, Doctor of Juridical Science (SJD) for legal scholars and the Doctor of Education (EdD) for studies in education. In 2005 the European University Association defined the "Salzburg Principles", 10 basic principles for third-cycle degrees (doctorates) within the Bologna Process.[11] These were followed in 2016 by the "Florence Principles", seven basic principles for doctorates in the arts laid out by the European League of Institutes of the Arts, which have been endorsed by the European Association of Conservatoires, the International Association of Film and Television Schools, the International Association of Universities and Colleges of Art, Design and Media, and the Society for Artistic Research.[12]A group of new PhD graduates with their professors at Worcester Polytechnic Institute in Worcester, MassachusettsThe specific requirements to earn a PhD degree vary considerably according to the country, institution, and time period, from entry-level research degrees to higher doctorates. During the studies that lead to the degree, the student is called a doctoral student or PhD student; a student who has completed any necessary coursework and related examinations and is working on their thesis/dissertation is sometimes known as a doctoral candidate or PhD candidate. A student attaining this level may be granted a Candidate of Philosophy degree at some institutions or may be granted a master's degree en route to the doctoral degree. Sometimes this status is also colloquially known as "ABD", meaning "all but dissertation".[13] PhD graduates may undertake a postdoc in the process of transitioning from study to academic tenure.[citation needed]Individuals who have earned the Doctor of Philosophy degree use the title Doctor (often abbreviated "Dr" or "Dr."), although the etiquette associated with this usage may be subject to the professional ethics of the particular scholarly field, culture, or society. Those who teach at universities or work in academic, educational, or research fields are usually addressed by this title "professionally and socially in a salutation or conversation".[14] Alternatively, holders may use post-nominal letters such as "Ph.D.", "PhD", or "DPhil", depending on the awarding institution. It is, however, traditionally considered incorrect to use both the title and post-nominals together, although usage in that regard has been evolving over time.[15]In the universities of Medieval Europe, study was organized in four faculties: the basic faculty of arts, and the three higher faculties of theology, medicine, and laws (canon law and civil law). All of these faculties awarded intermediate degrees (bachelors of arts, theology, laws and medicine) and final degrees. Initially, the titles of master and doctor were used interchangeably for the final degreesthe title Doctor was merely a formality bestowed on a Teacher/Master of the artbut by the late Middle Ages the terms Master of Arts and Doctor of Theology/Divinity, Doctor of Law, and Doctor of Medicine had become standard in most places (though in the German and Italian universities the term Doctor was used for all faculties).[16]The doctorates in the higher faculties were quite different from the current PhD degree in that they were awarded for advanced scholarship, not original research. No dissertation or original work was required, only lengthy residency requirements and examinations. Besides these degrees, there was the licentiate. Originally this was a license to teach, awarded shortly before the award of the master's or doctoral degree by the diocese in which the university was located, but later it evolved into an academic degree in its own right, in particular in the continental universities.According to Keith Allan Noble (1994), the first doctoral degree was awarded in medieval Paris around 1150.[17] The doctorate of philosophy developed in Germany as the terminal teacher's credential in the 17th century (circa 1652).[18] There were no PhDs in Germany before the 1650s (when they gradually started replacing the MA as the highest academic degree; arguably, one of the earliest German PhD holders is Erhard Weigel (Dr. phil. hab., Leipzig, 1652).[citation needed]The full course of studies might, for example, lead in succession to the degrees of Bachelor of Arts, Licentiate of Arts, Master of Arts, or Bachelor of Medicine, Licentiate of Medicine, or Doctor of Medicine, but before the early modern era, many exceptions to this existed. Most students left the university without becoming masters of arts, whereas regulars (members of monastic orders) could skip the arts faculty entirely.[19][20][21]This section appears to contradict itselfon where the first modern PhDs were awarded. Please see the talk page for more information. (November 2024)This situation changed in the early 19th century through the educational reforms in Germany, most strongly embodied in the model of the University of Berlin, founded in 1810 and controlled by the Prussian government. The arts faculty, which in Germany was labelled the faculty of philosophy, started demanding contributions to research,[22] attested by a dissertation, for the award of their final degree, which was labelled Doctor of Philosophy (abbreviated as Ph.D.)originally this was just the German equivalent of the Master of Arts degree. Whereas in the Middle Ages the arts faculty had a set curriculum, based upon the trivium and the quadrivium, by the 19th century it had come to house all the courses of study in subjects now commonly referred to as sciences and humanities.[23] Professors across the humanities and sciences focused on their advanced research.[24] Practically all the funding came from the central government, and it could be cut off if the professor was politically unacceptable.[relevant?][25]These reforms proved extremely successful, and fairly quickly the German universities started attracting foreign students, notably from the United States. The American students would go to Germany to obtain a PhD after having studied for a bachelor's degree at an American college. So influential was this practice that it was imported to the United States, where in 1861 Yale University started granting the PhD degree to younger students who, after having obtained the bachelor's degree, had completed a prescribed course of graduate study and successfully defended a thesis or dissertation containing original research in science or in the humanities.[26] In Germany, the name of the doctorate was adapted after the philosophy faculty started being split up e.g. Dr. rer. nat. for doctorates in the faculty of natural sciences but in most of the English-speaking world the name "Doctor of Philosophy" was retained for research doctorates in all disciplines.The PhD degree and similar awards spread across Europe in the 19th and early 20th centuries. The degree was introduced in France in 1808,[contradictory] replacing diplomas as the highest academic degree; into Russia in 1819, when the Doktor Nauk degree, roughly equivalent to a PhD, gradually started replacing the specialist diploma, roughly equivalent to the MA, as the highest academic degree; and in Italy in 1927, when PhDs gradually started replacing the Laurea as the highest academic degree.[citation needed]A new PhD graduate from the University of Birmingham, wearing a doctor's bonnet, shakes hands with the chancellor.Research degrees first appeared in the UK in the late 19th century in the shape of the Doctor of Science (DSc or ScD) and other such "higher doctorates". The University of London introduced the DSc in 1860, but as an advanced study course, following on directly from the BSc, rather than a research degree. The first higher doctorate in the modern sense was Durham University's DSc, introduced in 1882.[27]This was soon followed by other universities, including the University of Cambridge establishing its ScD in the same year and the University of London transforming its DSc into a research degree in 1885. These were, however, very advanced degrees, rather than research-training degrees at the PhD level. Harold Jeffreys said that getting a Cambridge ScD was "more or less equivalent to being proposed for the Royal Society."[28]In 1917, the current PhD degree was introduced, along the lines of the American and German model, and quickly became popular with both British and foreign students.[29] The slightly older degrees of Doctor of Science and Doctor of Literature/Letters still exist at British universities; together with the much older degrees of Doctor of Divinity (DD), Doctor of Music (DMus), Doctor of Civil Law (DCL), and Doctor of Medicine (MD), they form the higher doctorates, but apart from honorary degrees, they are only infrequently awarded.In English (but not Scottish) universities, the Faculty of Arts had become dominant by the early 19th century. Indeed, the higher faculties had largely atrophied, since medical training had shifted to teaching hospitals,[30] the legal training for the common law system was provided by the Inns of Court (with some minor exceptions, see Doctors' Commons), and few students undertook formal study in theology. This contrasted with the situation in the continental European (and Scottish) universities at the time, where the preparatory role of the Faculty of Philosophy or Arts was to a great extent taken over by secondary education: in modern France, the Baccalaurat is the examination taken at the end of secondary studies. The reforms at the Humboldt University transformed the Faculty of Philosophy or Arts (and its more recent successors such as the Faculty of Sciences) from a lower faculty into one on a par with the Faculties of Law and Medicine.Similar developments occurred in many other continental European universities, and at least until reforms in the early 21st century, many European countries (e.g., Belgium, Spain, and the Scandinavian countries) had in all faculties triple degree structures of bachelor (or candidate) licentiate doctor as opposed to bachelor master doctor; the meaning of the different degrees varied from country to country, however. To this day, this is also still the case for the pontifical degrees in theology and canon law; for instance, in sacred theology, the degrees are Bachelor of Sacred Theology (STB), Licentiate of Sacred Theology (STL), and Doctor of Sacred Theology (STD), and in canon law: Bachelor of Canon Law (JCB), Licentiate of Canon Law (JCL), and Doctor of Canon Law (JCD).Until the mid-19th century, advanced degrees were not a criterion for professorships at most colleges. That began to change as the more ambitious scholars at major schools went to Germany for one to three years to obtain a PhD in the sciences or humanities.[31][32] Graduate schools slowly emerged in the United States. In 1852, the first honorary PhD in the nation was given at Bucknell University in Lewisburg, Pennsylvania to Ebenezer Newton Elliott.[33] Nine years later, in 1861, Yale University awarded three PhDs: to Eugene Schuyler in philosophy and psychology, Arthur Williams Wright in physics, and James Morris Whiton Jr. in classics.[34][35]Over the following two decades, Harvard University, New York University, Princeton University, and the University of Pennsylvania, also began granting the degree. Major shifts toward graduate education were foretold by the opening of Clark University in 1887 which offered only graduate programs and the Johns Hopkins University which focused on its PhD program. By the 1890s, Harvard, Columbia, Michigan and Wisconsin were building major graduate programs, whose alumni were hired by new research universities. By 1900, 300 PhDs were awarded annually, most of them by six universities. It was no longer necessary to study in Germany.[36][37] However, half of the institutions awarding earned PhDs in 1899 were undergraduate institutions that granted the degree for work done away from campus.[33] Degrees awarded by universities without legitimate PhD programs accounted for about a third of the 382 doctorates recorded by the US Department of Education in 1900, of which another 810% were honorary.[38] The awarding of PhD as an honorary degree was banned by the Board of Regents of the University of the State of New York in 1897. This had a nation-wide impact, and after 1907, less than 10 honorary PhDs were awarded in the United States each year.[39] The last authenticated PhD awarded honoris causa was awarded in 1937 to Bing Crosby by Gonzaga University.[39]At the start of the 20th century, U.S. universities were held in low regard internationally and many American students were still traveling to Europe for PhDs. The lack of centralised authority meant anyone could start a university and award PhDs. This led to the formation of the Association of American Universities by 14 leading research universities (producing nearly 90% of the approximately 250 legitimate research doctorates awarded in 1900), with one of the main goals being to "raise the opinion entertained abroad of our own Doctor's Degree."[38]In Germany, the national government funded the universities and the research programs of the leading professors. It was impossible for professors who were not approved by Berlin to train graduate students. In the United States, by contrast, private universities and state universities alike were independent of the federal government. Independence was high, but funding was low. The breakthrough came from private foundations, which began regularly supporting research in science and history; large corporations sometimes supported engineering programs. The postdoctoral fellowship was established by the Rockefeller Foundation in 1919. Meanwhile, the leading universities, in cooperation with the learned societies, set up a network of scholarly journals. "Publish or perish" became the formula for faculty advancement in the research universities. After World War II, state universities across the country expanded greatly in undergraduate enrollment, and eagerly added research programs leading to masters or doctorate degrees. Their graduate faculties had to have a suitable record of publication and research grants. Late in the 20th century, "publish or perish" became increasingly important in colleges and smaller universities.[40]A South African PhD graduate (on the right, wearing a ceremonial gown)Detailed requirements for the award of a PhD degree vary throughout the world and even from school to school. It is usually required for the student to hold an Honours degree or a Master's degree with high academic standing, in order to be considered for a PhD program.[citation needed] In the US, Canada, India, Sweden and Denmark, for example, many universities require coursework in addition to research for PhD degrees. In other countries (such as the UK) there is generally no such condition, though this varies by university and field.[41] Some individual universities or departments specify additional requirements for students not already in possession of a bachelor's degree or equivalent or higher. In order to submit a successful PhD admission application, copies of academic transcripts, letters of recommendation, a research proposal, and a personal statement are often required. Most universities also invite for a special interview before admission.A candidate must submit a project, thesis, or dissertation often consisting of a body of original academic research, which is in principle worthy of publication in a peer-reviewed context.[10] Moreover, some PhD programs, especially in science, require one to three published articles in peer-reviewed journals. In many countries, a candidate must defend this work before a panel of expert examiners appointed by the university; this defense is open to the public in some countries, and held in private in others; in other countries, the dissertation is examined by a panel of expert examiners who stipulate whether the dissertation is in principle passable and any issues that need to be addressed before the dissertation can be passed.Some universities in the non-English-speaking world have begun adopting similar standards to those of the anglophone PhD degree for their research doctorates (see the Bologna process).[42]A PhD student or candidate is conventionally required to study on campus under close supervision. With the popularity of distance education and e-learning technologies, some universities now accept students enrolled into a distance education part-time mode.In a "sandwich PhD" program, PhD candidates do not spend their entire study period at the same university. Instead, the PhD candidates spend the first and last periods of the program at their home universities and in between conduct research at another institution or field research.[43] Occasionally a "sandwich PhD" will be awarded by two universities.[44]It is possible to broaden the field of study pursued by a PhD student by the addition of a minor subject of study within a different discipline.[45][46]A career in academia generally requires a PhD, although in some countries it is possible to reach relatively high positions without a doctorate. In North America, professors are increasingly being required to have a PhD, and the percentage of faculty with a PhD may be used as a university ratings measure.[47]The motivation may also include increased salary, but in many cases, this is not the result. Research by Bernard H. Casey of the University of Warwick, U.K, suggests that, over all subjects, PhDs provide an earnings premium of 26% over non-accredited graduates, but notes that master's degrees already provide a premium of 23% and a bachelor's 14%. While this is a small return to the individual (or even an overall deficit when tuition and lost earnings during training are accounted for), he claims there are significant benefits to society for the extra research training.[48]However, some research suggests that overqualified workers are often less satisfied and less productive at their jobs.[49] These difficulties are increasingly being felt by graduates of professional degrees, such as law school, looking to find employment. PhD students may need to take on debt to undertake their degree.[50][51]A PhD is also required in some positions outside academia, such as research jobs in major international agencies. In some cases, the executive directors of some types of foundations may be expected to hold a PhD[citation needed]. A PhD is sometimes felt to be a necessary qualification in certain areas of employment, such as in foreign policy think-tanks: U.S. News & World Report wrote in 2013 that "[i]f having a master's degree at the minimum is de rigueur in Washington's foreign policy world, it is no wonder many are starting to feel that the PhD is a necessary escalation, another case of costly signaling to potential employers".[52] Similarly, an article on the Australian public service states that "credentialism in the public service is seeing a dramatic increase in the number of graduate positions going to PhDs and masters degrees becoming the base entry level qualification".[53]The Economist published an article in 2010 citing various criticisms against the state of PhDs. These included a prediction by economist Richard B. Freeman that, based on pre-2000 data, only 20% of life science PhD students would gain a faculty job in the U.S., and that in Canada 80% of postdoctoral research fellows earned less than or equal to an average construction worker ($38,600 a year). According to the article, only the fastest developing countries (e.g. China or Brazil) have a shortage of PhDs.[49] In 2022, Nature reported that PhD students' wages in biological sciences in the US do not cover living costs.[54]The U.S. higher education system often offers little incentive to move students through PhD programs quickly and may even provide incentive to slow them down. To counter this problem, the United States introduced the Doctor of Arts degree in 1970 with seed money from the Carnegie Foundation for the Advancement of Teaching. The aim of the Doctor of Arts degree was to shorten the time needed to complete the degree by focusing on pedagogy over research, although the Doctor of Arts still contains a significant research component. Germany is one of the few nations engaging these issues, and it has been doing so by reconceptualising PhD programs to be training for careers, outside academia, but still at high-level positions. This development can be seen in the extensive number of PhD holders, typically from the fields of law, engineering, and economics, at the very top corporate and administrative positions. To a lesser extent, the UK research councils have tackled the issue by introducing, since 1992, the EngD.[citation needed][clarification needed]Mark C. Taylor opined in 2011 in Nature that total reform of PhD programs in almost every field is necessary in the U.S. and that pressure to make the necessary changes will need to come from many sources (students, administrators, public and private sectors, etc.).[55] Other articles in Nature have also examined the issue of PhD reform.[56][57][58]Freeman Dyson, professor emeritus at the Institute for Advanced Study in Princeton, was opposed to the PhD system and did not have a PhD degree.[59] On the other hand, it was understood by all his peers that he was a world leading scientist with many accomplishments already under his belt during his graduate study years and he was eligible to gain the degree at any given moment.[citation needed]Main article: List of doctoral degrees awarded by countrySee also: Doctor (title) Worldwide usage, and Doctorate National variationsThe UNESCO, in its International Standard Classification of Education (ISCED), states that: "Programmes to be classified at ISCED level 8 are referred to in many ways around the world such as PhD, DPhil, D.Lit, D.Sc, LL.D, Doctorate or similar terms. However, it is important to note that programmes with a similar name to 'doctor' should only be included in ISCED level 8 if they satisfy the criteria described in Paragraph 263. For international comparability purposes, the term 'doctoral or equivalent' is used to label ISCED level 8."[60]In German-speaking nations, most Eastern European nations, successor states of the former Soviet Union, most parts of Africa, Asia, and many Spanish-speaking countries, the corresponding degree to a Doctor of Philosophy is simply called "Doctor" (Doktor), and the subject area is distinguished by a Latin suffix (e.g., "Dr. med." for Doctor medicinae, Doctor of Medicine; "Dr. rer. nat." for Doctor rerum naturalium, Doctor of the Natural Sciences; "Dr. phil." for Doctor philosophiae, Doctor of Philosophy; "Dr. iur." for Doctor iuris, Doctor of Laws).[61]See also: Education in ArgentinaIn Argentina, the admission to a PhD program at public Argentine University requires the full completion of a Master's degree or a Licentiate degree. Non-Argentine Master's titles are generally accepted into a PhD program when the degree comes from a recognized university.While a significant portion of postgraduate students finance their tuition and living costs with teaching or research work at private and state-run institutions, international institutions, such as the Fulbright Program and the Organization of American States (OAS), have been known to grant full scholarships for tuition with apportions for housing.[62]Others apply for funds to CONICET, the national public body of scientific and technical research, which typically awards more than a thousand scholarships each year for this purpose, thus guaranteeing many PhD candidates remain within the system.Upon completion of at least two years' research and coursework as a graduate student, a candidate must demonstrate truthful and original contributions to their specific field of knowledge within a frame of academic excellence.[63] The doctoral candidate's work should be presented in a dissertation or thesis prepared under the supervision of a tutor or director and reviewed by a Doctoral Committee. This committee should be composed of examiners that are external to the program, and at least one of them should also be external to the institution. The academic degree of Doctor, respective to the correspondent field

lectureship or Junior Research Fellowship (NET for LS and JRF) conducted by the National Testing Agency (NTA).[86]The Dottorato di ricerca (research doctorate), abbreviated to "Dott. Ric." or "PhD", is an academic title awarded at the end of a course of not less than three years, admission to which is based on entrance examinations and academic rankings in the Bachelor of Arts ("Laurea", a three-year diploma) and Master of Arts ("Laurea Magistrale" a two-year diploma). While the standard PhD follows the Bologna process, the MDPhD programme may be completed in two years.The first institution in Italy to create a doctoral program (PhD) was Scuola Normale Superiore di Pisa in 1927 under the historic name "Diploma di Perfezionamento".[87][88]Further, the research doctorates or PhD (Dottorato di ricerca) in Italy were introduced by law and Presidential Decree in 1980,[89][90] referring to the reform of academic teaching, training and experimentation in organisation and teaching methods.[91][92]The Superior Graduate Schools in Italy[93] (Scuola Superiore Universitaria),[94] also called Schools of Excellence (Scuole di Eccellenza)[93][95] such as Scuola Normale Superiore di Pisa and Sant'Anna School of Advanced Studies still keep their reputed historical "Diploma di Perfezionamento" PhD title by law[88][96] and MIUR Decree.[97][98]Doctorate courses are open, without age or citizenship limits, to all those who already hold a "laurea magistrale" (master degree) or similar academic title awarded abroad which has been recognised as equivalent to an Italian degree by the Committee responsible for the entrance examinations.The number of places on offer each year and details of the entrance examinations are set out in the examination announcement.In Poland, a doctoral degree (Pol. doktor), abbreviated to PhD (Pol. dr) is an advanced academic degree awarded by universities in most fields and by the Polish Academy of Sciences, regulated by the Polish parliament acts and the government orders, in particular by the Ministry of Science and Higher Education of the Republic of Poland. Students with a master's degree or equivalent are accepted to a doctoral entrance exam. The title of PhD is awarded to a scientist who has completed a minimum of three years of PhD studies (Pol. studia doktoranckie; not required to obtain PhD), finished a theoretical or laboratory scientific work, passed all PhD examinations; submitted the dissertation, a document presenting the author's research and findings,[99] and successfully defended the doctoral thesis. Typically, upon completion, the candidate undergoes an oral examination, always public, by a supervisory committee with expertise in the given discipline.The doctorate was introduced in Sweden in 1477 and in DenmarkNorway in 1479 and awarded in theology, law, and medicine, while the magister's degree was the highest degree at the Faculty of Philosophy, equivalent to the doctorate.Scandinavian countries were among the early adopters of a degree known as a doctorate of philosophy, based upon the German model. Denmark and Norway both introduced the Dr. Phil(os). degree in 1824, replacing the Magister's degree as the highest degree, while Uppsala University of Sweden renamed its Magister's degree Filosofie Doktor (fil. dr) in 1863. These degrees, however, became comparable to the German Habilitation rather than the doctorate, as Scandinavian countries did not have a separate Habilitation.[100]The degrees were uncommon and not a prerequisite for employment as a professor; rather, they were seen as distinctions similar to the British (higher) doctorates (DLitt, DSc). Denmark introduced an American-style PhD, the ph.d., in 1989; it formally replaced the Licentiate's degree and is considered a lower degree than the dr. phil. degree; officially, the ph.d. is not considered a doctorate, but unofficially, it is referred to as "the smaller doctorate", as opposed to the dr. phil., "the grand doctorate." Holders of a ph.d. degree are not entitled to style themselves as "Dr."[101] Currently Denmark distinctions between the dr. phil. as the proper doctorate and a higher degree than the ph.d., whereas in Norway, the historically analogous dr. philos. degree is officially regarded as equivalent to the new ph.d. Today, the Norwegian PhD degree is awarded to candidates who have completed a supervised doctoral programme at an institution,[102] while candidates with a master's degree who have conducted research on their own may submit their work for a Dr. Philos. defence at a relevant institution.[103] PhD candidates must complete one trial lecture before they can defend their thesis,[102] whereas Dr. Philos. candidates must complete two trial lectures.[103]In Sweden, the doctorate of philosophy was introduced at Uppsala University's Faculty of Philosophy in 1863. In Sweden, the Latin term is officially translated into Swedish filosofie doktor and commonly abbreviated fil. dr or FD. The degree represents the traditional Faculty of Philosophy and encompasses subjects from biology, physics, and chemistry, to languages, history, and social sciences, being the highest degree in these disciplines. Sweden currently has two research-level degrees, the Licentiate's degree, which is comparable to the Danish degree formerly known as the Licentiate's degree and now as the ph.d., and the higher doctorate of philosophy, Filosofie Doktor. Some universities in Sweden also use the term teknologie doktor for doctorates awarded by institutes of technology (for doctorates in engineering or natural science related subjects such as materials science, molecular biology, computer science etc.). The Swedish term fil. dr is often also used as a translation of corresponding degrees from e.g. Denmark and Norway.Singapore has six universities offering doctoral study opportunities: National University of Singapore, Nanyang Technological University, Singapore Management University, Singapore Institute of Technology, Singapore University of Technology and Design, and Singapore University of Social Sciences.[104]The first doctoral degree in South Africa was issued in 1899 by the University of the Cape of Good Hope (now University of South Africa or UNISA) and the first PhDs were conferred in the 1920s by the University of Cape Town and the University of the Witwatersrand.[105] Owing to the influence of British colonialism, South African higher education bears profound similarities to the modern UK universities system. South Africa boasts twenty-six state universities, all of which offer doctoral degrees. Presently, only two private institutions offer accredited PhDs, including the South African Theological Seminary and St. Augustine College of South Africa. Typically, South African colleges and universities abbreviate Doctor of Philosophy with either PhD or DPhil.South African PhD programs require both a four-year undergraduate and a relevant graduate degree. Certain PhD programs require preexisting knowledge of research languages or field experience. Some programs require applicants undergo an interview or provide references, a curriculum vitae, and letters of recommendation. Typically, PhD applicants must furnish a provisional research proposal which discloses the basic trajectory of their area of interest. English competency is a universal requirement.Akin to PhD programs in the UK and in the Netherlands, South African PhD programs consist of a research thesis or dissertation produced under the supervision of a subject-matter expert. South African PhD programs are designed to result in a substantial piece of scholarship that has undergone critical evaluation through peer review. Unlike PhD programs in many other African countries or the US, South African PhD programs rarely involve coursework and are undertaken through rigorous and semi-independent research. Most South African PhD programs are designed to be completed within three to six years.In Spain, doctoral degrees are regulated by Real Decreto (Royal Decree in Spanish) 99/2011 from the 2014/2015 academic year.[106] They are granted by a university on behalf of the King, and its diploma has the force of a public document. The Ministry of Science keeps a National Registry of Theses called TESEO.[107]All doctoral programs are of a research nature. The studies should include original results and can take a maximum of three years, although this period can be extended under certain circumstances to 5 years.[108]The student must write their thesis presenting a new discovery or original contribution to science. If approved by her or his "thesis director (or directors)", the study will be presented to a panel of 35 distinguished scholars. Any doctor attending the public presentations is allowed to challenge the candidate with questions on their research. If approved, they will receive the doctorate. Four marks can be granted: Unsatisfactory, Pass, Satisfactory, and Excellent. "Cum laude" (with all honours, in Latin) denomination can be added to the Excellent ones if all five members of the tribunal agree.[109]The social standing of doctors in Spain was evidenced by the fact that Philip III let PhD holders to take seat and cover their heads during an act in the University of Salamanca in which the King took part so as to recognise their merits. This right to cover their heads in the presence of the King is traditionally reserved in Spain to Grandees and Dukes. The concession is remembered in solemn ceremonies held by the university by telling Doctors to take seat and cover their heads as a reminder of that royal leave.[110]All Doctor Degree holders are reciprocally recognized as equivalent in Germany and Spain ("Bonn Agreement of November 14, 1994").[111]In Ukraine, starting in 2016,[112] in Ukraine Doctor of Philosophy (PhD, Ukrainian:) is the highest education level and the first science degree. PhD is awarded in recognition of a substantial contribution to scientific knowledge, origination of new directions and visions in science. A PhD degree is a prerequisite for heading a university department in Ukraine. Upon completion of a PhD, a PhD holder can elect to continue their studies and get a post-doctoral degree called "Doctor of Sciences" (DSc. Ukrainian:), which is the second and the highest science degree in Ukraine.See also: Doctorates in the United Kingdom and Education in the United KingdomIn the United Kingdom, universities admit applicants to PhD programs on a case-by-case basis; depending on the university, admission is typically conditional on the prospective student having completed an undergraduate degree with at least upper second-class honours or a postgraduate master's degree but requirements can vary even within institutions. For example, the University of Edinburgh requires a minimum of a 2:1 honours degree (or international equivalent) for a PhD in clinical psychology,[113] while its business school requires a master's degree with an average of 65% in the taught components and a distinction-level dissertation.[114]For students who are not from English-speaking countries, UK Visas and Immigration requires universities to assess English proficiency. Many do this using IELTS tests, although the requirements may vary depending on the institution.[115][116][117] 143 UK universities require applicants to undergo IELTS before admission,[118] with minimum acceptable scores ranging from 4 to 6.5 and above. However, some universities are willing to accept students without IELTS.[119]Students are first accepted onto an MPhil or MRes programme and may transfer to PhD regulations upon satisfactory progress, this is sometimes referred to as APG (Advanced Postgraduate) status. This is typically done after one or two years and the research work done may count towards the PhD degree. If a student fails to make satisfactory progress, they may be offered the opportunity to write up and submit for an MPhil degree, e.g. at King's College London and the University of Manchester. In many universities, the MPhil is also offered as a stand-alone research degree.PhD students from outside the EU/EEA or other exempt countries are required to comply with the Academic Technology Approval Scheme (ATAS), which involves undergoing a security clearance process with the Foreign Office for courses in sensitive areas where research could be used for weapons development.[120] This requirement was introduced in 2007 due to concerns about overseas terrorism and weapons proliferation.[121]In the United Kingdom, funding for PhD students is sometimes provided by government-funded Research Councils (UK Research and Innovation UKRI) or the European Social Fund, usually in the form of a tax-free bursary which consists of tuition fees together with a stipend.[122] Tuition fees are charged at different rates for "Home/EU" and "Overseas" students, generally 3,0006,000 per year for the former and 9,00014,500 for the latter (which includes EU citizens who have not been normally resident in the EEA for the last three years), although this can rise to over 16,000 at elite institutions. Higher fees are often charged for laboratory-based degrees.[123][124] As of 2022/23[update], the national indicative fee for PhD students is 4,596, increasing annually, typically with inflation; there is no regulation of the fees charged by institutions, but if they charge a higher fee they may not require Research Council funded students to make up any difference themselves.[125]As of 2022/23[update], the national minimum stipend for UKRI-funded students is 16,062 per year, increasing annually typically with inflation.[125] The period of funding for a PhD project is between three and four years, depending on the research council and the decisions of individual institutions,[126] with extensions in funding of up to twelve months available to offset periods of absence for maternity leave, shared parental leave, adoption leave, absences covered by a medical certificate, and extended jury service.[127] PhD work beyond this may be unfunded or funded from other sources. A very small number of scientific studentships are sometimes paid at a higher rate for example, in London, Cancer Research UK, the ICR and the Wellcome Trust stipend rates start at around 19,000 and progress annually to around 23,000 a year; an amount that is tax and national insurance free. Research Council funding is distributed to Doctoral Training Partnerships and Centres for Doctoral Training, who are responsible for student selection, within the eligibility guidelines established by the Research Councils.[122] The ESRC (Economic and Social Science Research Council), for example, explicitly state that a 2.1 minimum (or a master's degree) is required.[128]Many students who are not in receipt of external funding may choose to undertake the degree part-time, thus reducing the tuition fees. The tuition fee per annum for part-time PhD degrees are typically 5060% of the equivalent full-time doctorate.[129] However, since the duration of a part-time PhD degree is longer than a full-time degree, the overall cost may be the same or higher.[130] The part-time PhD degree option provides free time in which to earn money for subsistence. Students may also take part in tutoring, work as research assistants, or (occasionally) deliver lectures, at a rate of typically 1214 per hour, either to supplement existing low income or as a sole means of funding.[131]A PhD gown at the University of Cambridge. Reflecting the status of the PhD as a lower doctorate, it uses a black Master's gown with scarlet facings rather than the scarlet Doctor's gown of the higher doctorates at Cambridge.[132]There is usually a preliminary assessment to remain in the program and the thesis is submitted at the end of a three- to four-year program. These periods are usually extended pro rata for part-time students. With special dispensation, the final date for the thesis can be extended for up to four additional years, for a total of seven, but this is rare.[133][bettersourceneeded] For full-time PhDs, a four-year time limit has now been fixed and students must apply for an extension to submit a thesis past this point. Since the early 1990s, British funding councils have adopted a policy of penalising departments where large proportions of students fail to submit their theses in four years after achieving PhD-student status (or pro rata equivalent) by reducing the number of funded places in subsequent years.[134] Inadvertently, this leads to significant pressure on the candidate to minimise the scope of projects with a view on thesis submission, regardless of quality, and discourage time spent on activities that would otherwise further the impact of the research on the community (e.g., publications in high-impact journals, seminars, workshops). Furthermore, supervising staff are encouraged in their career progression to ensure that the PhD students under their supervision finalise the projects in three rather than the four years that the program is permitted to cover. These issues contribute to an overall discrepancy between supervisors and PhD candidates in the priority they assign to the quality and impact of the research contained in a PhD project, the former favouring quick PhD projects over several students and the latter favouring a larger scope for their own ambitious project, training, and impact.[citation needed]There has recently been an increase in the number of Integrated PhD programs available, such as at the University of Southampton. These courses include a Master of Research (MRes) in the first year, which consists of a taught component as well as laboratory rotation projects. The PhD must then be completed within the next three years. As this includes the MRes all deadlines and timeframes are brought forward to encourage completion of both MRes and PhD within four years from commencement. These programs are designed to provide students with a greater range of skills than a standard PhD, and for the university, they are a means of gaining an extra years' fees from public sources.Some UK universities (e.g. Oxford) abbreviate their Doctor of Philosophy degree as "DPhil", while most use the abbreviation "PhD"; but these are stylistic conventions, and the degrees are in all other respects equivalent.In the United Kingdom, PhD degrees are distinct from other doctorates, most notably the higher doctorates such as DLitt (Doctor of Letters) or DSc (Doctor of Science), which may be granted on the recommendation of a committee of examiners on the basis of a substantial portfolio of submitted (and usually published) research. However, some UK universities still maintain the option of submitting a thesis for the award of a higher doctorate.Recent years have seen the introduction of professional doctorates, which are the same level as PhDs but more specific in their field.[135] Most tend not to be solely academic, but combine academic research, a taught component or a professional qualification. These are most notably in the fields of engineering (EngD), educational psychology (DEdPsych), occupational psychology (DOccPsych), clinical psychology (DClinPsych), health psychology (DHealthPsy), social work (DSW), nursing (DNP), public administration (DPA), business administration (DBA), and music (DMA). A more generic degree also used is DProf or ProfD. These typically have a more formal taught component consisting of smaller research projects, as well as a 40,00060,000-word thesis component, which together are officially considered equivalent to a PhD degree.Main article: Graduate science education in the United StatesFurther information: Doctorate United StatesIn the United States, the PhD degree is the highest academic degree awarded by universities in most fields of study. There are more than 282 universities in the United States that award the PhD degree, and those universities vary widely in their criteria for admission, as well as the rigor of their academic programs.[136]Typically, PhD programs require applicants to have a bachelor's degree in a relevant field, and, in many cases in the humanities, a master's degree, reasonably high grades, several letters of recommendation, relevant academic coursework, a cogent statement of interest in the field of study, and satisfactory performance on a graduate-level exam specified by the respective program (e.g., GRE, GMAT).[137][138]Depending on the specific field of study, completion of a PhD program usually takes four to eight years of study after the bachelor's degree; those students who begin a PhD program with a master's degree may complete their PhD degree a year or two sooner.[139] As PhD programs typically lack the formal structure of undergraduate education, there are significant individual differences in the time taken to complete the degree. Overall, 57% of students who begin a PhD program in the US will complete their degree within ten years, approximately 30% will drop out or be dismissed, and the remaining 13% of students will continue on past ten years.[140]The median age of PhD recipients in the US is 32 years. While many candidates are awarded their degree in their 20s, 6% of PhD recipients in the US are older than 45 years.[141]The number of PhD diplomas awarded by US universities has risen nearly every year since 1957, according to data compiled by the US National Science Foundation. In 1957, US universities awarded 8,611 PhD diplomas; 20,403 in 1967; 31,716 in 1977; 32,365 in 1987; 42,538 in 1997; 48,133 in 2007,[142] and 55,006 in 2015.[143]PhD students at US universities typically receive a tuition waiver and some form of annual stipend.[citation needed] Many US PhD students work as teaching assistants or research assistants. Graduate schools increasingly[citation needed] encourage their students to seek outside funding; many are supported by fellowships they obtain for themselves or by their advisers' research grants from government agencies such as the National Science Foundation and the National Institutes of Health. Many Ivy League and other well-endowed universities provide funding for the entire duration of the degree program (if it is short) or for most of it,[citation needed] especially in the forms of tuition waivers/stipends.[144]In Russia, the degree of Candidate of Sciences (Russian: , Kandidat Nauk) was the first advanced research qualification in the former USSR (it was introduced there in 1934) and some Eastern Bloc countries (Czechoslovakia, Hungary) and is still awarded in some post-Soviet states (Russian Federation, Belarus, and others). According to "Guidelines for the recognition of Russian qualifications in the other European countries,[145]" in countries with a two-tier system of doctoral degrees (like Russian Federation, some post-Soviet states, Germany, Poland, Austria and Switzerland), should be considered for recognition at the level of the first doctoral degree, and in countries with only one doctoral degree, the degree of Candidate of Sciences should be considered for recognition as equivalent to this PhD degree.Since most education systems only have one advanced research qualification granting doctoral degrees or equivalent qualifications (ISCED 2011,[146] par.270), the degree of Candidate of Sciences (Kandidat Nauk) of the former USSR countries is usually considered to be at the same level as the doctorate or PhD degrees of those countries.[147][148]According to the Joint Statement by the Permanent Conference of the Ministers for Education and Cultural Affairs of the Lnder of the Federal Republic of Germany (Kultusministerkonferenz, KMK), German Rectors' Conference (HRK) and the Ministry of General and Professional Education of the Russian Federation, the degree of Candidate of Sciences is recognised in Germany at the level of the German degree of Doktor and the degree of Doktor Nauk at the level of German Habilitation.[149][150] The Russian degree of Candidate of Sciences is also officially recognised by the Government of the French Republic as equivalent to French doctorate.[151][152]According to the International Standard Classification of Education,[153] for purposes of international educational statistics, Candidate of Sciences belongs to ISCED level 8, or "doctoral or equivalent", together with PhD, DPhil, DLitt, DSc, LLD, Doctorate, or similar. It is mentioned in the Russian version of ISCED 2011 (par.262) on the UNESCO website as an equivalent to PhD belonging to this level.[146] In the same way as PhD degrees awarded in many English-speaking countries, Candidate of Sciences allows its holders to reach the level of the Docent.[154] The second doctorate[147] (or post-doctoral degree)[155][156] in some post-Soviet states called Doctor of Sciences (Russian: , Doktor Nauk) is given as an example of second advanced research qualifications or higher doctorates in ISCED 2011[146] (par.270) and is similar to Habilitation in Germany, Poland and several other countries.[147][156] It constitutes a higher qualification compared to PhD as against the European Qualifications Framework (EQF)[157] or Dublin Descriptors.[158][156]About 88% of Russian students studying at state universities study at the expense of budget funds.[159] The average stipend in Russia (as of August2011[update]) is $430 a year ($35/month).[160] The average tuition fee in graduate school is $2,000 per year.[161]PhD SPbSU certificateOn 19 June 2013, for the first time in the Russian Federation, defenses were held for the PhD degree awarded by universities, instead of the Candidate of Sciences degree awarded by the State Supreme Certification Commission.[162][163] Renat Yuldashev, the graduate of the Department of Applied Cybernetics of the Faculty of Mathematics and Mechanics of St. Petersburg State University, was the first to defend his thesis in field of mathematics according to new rules for the PhD SPbSU[clarification needed] degree.[164]For the defense procedure in the field of mathematics, it was used the experience of joint Finnish-Russian research and educational program organized in 2007 by the Faculty of Information Technology of the University of Jyvskyl and the Faculty of Mathematics and Mechanics of St. Petersburg State University: co-chairs of the program N.Kuznetsov, G.Leonov, P.Neittaanmki, were organizers of the first defenses and co-supervisors of dissertations.[165]At some universities, there may be training for those wishing to supervise PhD studies. There is much literature available, such as Delamont, Atkinson, and Parry (1997). Dinham and Scott (2001) have argued that the worldwide growth in research students has been matched by the increase in the number of what they term "how-to" texts for both students and supervisors, citing examples such as Pugh and Phillips (1987). These authors report empirical data on the benefits to a PhD candidate from publishing; students are more likely to publish with adequate encouragement from their supervisors.Wisker (2005) has reported that research into this field distinguishes two models of supervision:The technical-rationality model of supervision, emphasising technique; and the negotiated order model, which is less mechanistic, emphasising fluid and dynamic change in the PhD process. These two models were first distinguished by Acker, Hill and Black (1994; cited in Wisker, 2005). Considerable literature exists on the expectations that supervisors may have of their students (Phillips & Pugh, 1987) and the expectations that students may have of their supervisors (Phillips & Pugh, 1987; Wilkinson, 2005) in the course of PhD supervision. Similar expectations are implied by the Quality Assurance Agency's Code for Supervision (Quality Assurance Agency, 1999; cited in Wilkinson, 2005).PhD graduates represent a relatively small, elite group within most countries around 1.1% of adults among OECD countries.[166] Slovenia, Switzerland and Luxembourg have higher numbers of PhD Graduates per capita as illustrated here. For Slovenia, this is because MSc degrees before Bologna Process are ranked at the same level of education as PhD. Without the MSc, Slovenia has 1.4% PhD graduates, which is comparable to the average in OECD and EU-23 countries.[167]Afghanistan: Albania: Doktorature.(Dr.)Algeria: Doctorat, Argentina: Doctorado (Dr.)Armenia: Austria: Doktor (Dr., plural: DDr.)Australia: Doctor of Philosophy (PhD)Azerbaijan: Flsf doktoru (Dr.)Bangladesh: DoctorateBelarus: Belgium (Dutch-speaking): Doctor (dr. or PhD)Belgium (French-speaking): Doctorat (dr. or PhD)Bosnia and Herzegovina: Doktor naukaBrazil: Doutorado (DSc)Bulgaria: Burma: Canada: Doctor of Philosophy (PhD)China: (Bo-shi)Chile: DoctoradoColombia: DoctoradoCosta Rica: PhD or Doctorado (Dr.)Croatia: Doktor znanosti (dr. sc.)Cuba: Doctorado (DrC)Czech Republic: kandidt vd (CSc.) was used until 1998, since 1998 doktor (Ph.D.) is used; doktort (degree)Denmark: Licentiate, Magister, PhD (the doctorates are higher degrees)Dominican Republic: DoctoradoEcuador: DoctoradoEl Salvador: DoctoradoEgypt: Doctorat, Estonia: Doktor (Dr)Ethiopia: , Doctor (PhD, Dr.)Finland: Filosofian tohtori and any degree of tohtoriFrance: DoctoratGeorgia: Germany: DoktorGreece: Hong Kong: (Doctor)Hungary: Doktor (Dr.)India: DoctorateIndonesia: Doktor (Dr.)Iran: , , (PhD) , () , ((Doktor))Iraq: (Duktorah)Ireland: an DoctireachtIsrael: ("doctorat")Italy: Dottorato di ricerca (Dott. Ric. or Ph.D.)Japan: (hakase)Jordan: (Doctorah)Korea: (baksa)Kuwait: (Dektoraah)Kurdistan: (Doctorah)Kyrgyzstan ( )Latin America: Doctorado/DoctorateLatvia: Zintu doktorsLebanon: (doktorah)Lithuania: DaktarasMacau: (Doutoramento)North Macedonia: Malaysia: Doktor FalsafahMauritius: Doctor of Philosophy (PhD)Mexico: DoctoradoMongolia: Morocco: DoctoratMozambique: DoutoramentoNepal: DoctorNetherlands: Doctor (dr. or PhD)New Zealand: Doctor of Philosophy (PhD)Nigeria: Doctor of Philosophy (PhD)Norway: Magister, Licentiate, doctorates (traditionally considered higher degrees), PhDPakistan: DoctorPalestine: (doktorah)Paraguay: PhD or Doctorado (Dr.)Peru: DoctoradoPhilippines: DoktorPoland: DoktorPortugal: DoutoradoRomania: DoctoratRussia: (PhD), ru: (Sc.D.)Saudi Arabia: Singapore: DoctorSerbia: Slovakia: Doktor filozofie (PhD)Slovenia: Doktor znanostiSomalia: Dhaqtarka FalsafadaSouth Africa: Doctor of Philosophy (PhD, Doctor)Spain: DoctoradoSweden: Filosofie doktor (fil.dr., FD)Switzerland: Doctorat (Dr)Syria: (doktorah)Taiwan: (Mandarin: Bo-shi; Taiwanese: Phok-s)Thailand: Tunisia: (doktorah)Turkey: DoktoraUganda: Doctor of Philosophy (PhD)United Arab Emirates: (doktorah)United Kingdom: Doctor of Philosophy (PhD, doctor, the abbreviation DPhil is used by the University of Oxford)United States: Doctor of Philosophy (PhD)Ukraine: (PhD)Uruguay: DoctoradoUzbekistan: Fan nomzodi (CSc.)Vatican City State: Doctor of Sacred Theology (STD) or Doctor of Canon Law (JCD)Venezuela: DoctoradoVietnam: Tin sYemen: (doktorah)History of higher education in the United StatesList of fields of doctoral studies in the United StatesDoctor of Professional StudiesPiled Higher and Deeper, a comic stripTerminal degreeDoctor of Philosophy by publication^ "Degrees and Diplomas" (PDF). 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