

Modelling How to Become Adult

Käthe Schneider 

Institute of Education and Culture, Friedrich-Schiller-University, Jena, Germany
Email: k.schneider@uni-jena.de

How to cite this paper: Schneider, K. (2022). Modelling How to Become Adult. *Psychology*, 13, 1835-1849.
<https://doi.org/10.4236/psych.2022.1313114>

Received: October 27, 2022
Accepted: December 3, 2022
Published: December 6, 2022

Copyright © 2022 by author(s) and Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).
<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

A transdisciplinary model of becoming adult is presented. The qualitative analysis carried out on a research corpus by peer-reviewed journal articles published in the first quarter of the 21st century stemming from authors of Western countries reveals the existence of an action theoretical model of becoming adult. Becoming adult is characterized by the following ongoing process: Promoted as a result of completed maturation and based on the concept of legal age and with flexibility as the predominant recognition marker of adulthood, an individual engages in learning processes to gain experience and to acquire moral, self-management and cognitive abilities. A general education curriculum on adulthood includes learning objectives for the encouragement of cognitive, moral, and self-management abilities, the promotion of experience and of meaning and significance-making processes. These processes relate to: the phenomenon of becoming adult, the cultural sensitivity and recognition of adulthood, the maturation processes and the coming of age. This limited curriculum is valid for Western cultures.

Keywords

Adult, Adulthood, Development, Transition, Transdisciplinarity, Model

1. Introduction

Many research studies consider attainment of adulthood a process of profound importance for the individual and for society (Knežević, 2018; Lee, 2014; Pavlenko, 2016; Williams, 2018): The transition from adolescence to adulthood determines the course of every person's life (Knežević, 2018), as adulthood requires transformations, such as in goals and motivations regarding education, careers, religion and partnership (Knežević, 2018). This transition is experienced in post-industrial nations as the least structured time in life, characterized by stress and instability (Tanner et al., 2009). Studies also report that the peak prevalence rate of different types of risk behaviors is at the beginning of the third decade of

life (Knežević, 2018). More recently, studies have found that the transition trajectories from adolescence to adulthood are not consistent (Schoon & Lyons-Amosba, 2016): the pathways to adulthood have become more flexible, variable and less uniform (Knežević, 2018) and proceed at different rates and with varying success. For example, straight transitions, alternative successful but prolonged transitions, transitions with support needs and failed transitions can be identified (Weis & Joachim, 2017). International data surveys show an increasing prolongation of the transition phase from adolescence to adulthood in terms of the fulfillment of societal norms and expectations (see also Blatterer, 2007; Knežević, 2018; Seiffge-Krenke, 2015). Enabling environmental conditions are central to this sensitive and crisis prone transition phase (Knežević, 2018).

The analysis of the word origin provides information about basic meanings of adulthood: the word “adult” in the German language originates from the Middle High German verb “wachsen” or Old High German “wahan”, which means “to multiply and increase”. Growth refers to the increase in the total mass of individual structures at the levels of organization of cell-organelles, cells, tissues, organs, and total organisms. The adult has emerged from a process of multiplying and increasing (Stroß, 1995). The transformation of the participle “erwachsen” into the adjective already took place in Old High German times, although no date can be attributed to the origin of the noun form (Pfeifer, 1995). The verb “erwachsen” (Middle High German erwachsen, Old High German irwahan) means to gradually emerge (from something), to form or to develop. “Erwachsen” as a past participle denotes an event that has already ended. With regard to the past participle, the meaning of “erwachsen” is in the completed growth or in the absence of the growth defined above. Excluded from growth is pathological growth, which is possible throughout life, as in the case of the growth of cancer cells. Growth, originally understood as the physical process of children and adolescents, was adopted in a generalized sense into the educational vocabulary around 1800 (Stroß, 1995). The term “adult” in the English language, (see also: “adulte” in the French, “adulto” in the Spanish language) derives from the Latin “adultus”. This term denotes something is “full-grown, mature, firmly established”, or a “fully-grown person” (Oxford English Dictionary [OED], 2011). Quill (2011) refers to the Oxford English Dictionary (56) when he states that the term adult is derived from adolescere (to grow up, mature), adolere (to make grow) and adultus (grown).

A profound understanding of adulthood is necessary in order to pedagogically support the environment during this crisis-ridden stage of life (Arnold, 2013). The insights gained across disciplines cover specific stages of adulthood (Lee, 2014; Williams, 2018). Although a variety of individual disciplinary phenomena during adulthood have been researched, these findings have not been related and integrated into a comprehensive theory. A theory of adulthood remains a desideratum to this day (Arnold, 2013).

The research project therefore requires transdisciplinarity so that the interre-

relationships of the phenomena being researched in the different disciplines can be examined. The following research question is at the heart of the study: what does it mean to become adult? As a result, a model of becoming adult in Western societies of the 21st century will emerge. We will discuss how different disciplinary perspectives on adulthood can be connected to afford a more comprehensive understanding of how to become adult.

The development of a better understanding of becoming adult is urgently needed to address a variety of current problems: individually, becoming adult can be understood, educationally and socially, the crisis-prone course can be fundamentally and effectively supported, and the educational system can be provided with a well-founded ideal for developing general education curricula on becoming adult. The particular unique contribution that this study can make in the area of education lies in the newly defined core purposes of education for becoming adult: these core purposes are not defined by criteria of adulthood (Quill, 2011). A coherent conception of adulthood makes it possible to contribute to determining educational ideals (Quill, 2011).

2. Methods

The purpose of the study is to extract relevant concepts of ‘adulthood’ from existing publications from various disciplines and integrate them into a model of becoming adult. The disciplines include: biology, educational science, jurisprudence, philosophy, political science, psychology, medicine, and sociology. These disciplines relate to the interior, exterior, singular and plural of a human phenomenon. The research corpus is characterized by peer-reviewed journal articles published in the first quarter of the 21st century stemming from authors of Western countries.

We take a *transdisciplinary perspective*. Whereas a disciplinary view involves only one discipline in considering and solving a problem, transdisciplinarity concerns itself with studying a research problem in several disciplines simultaneously. “Transdisciplinarity is firstly an integrative, but not a holistic concept. It resolves isolations on a higher methodological level, but it does not build on a ‘holistic’ pattern of interpretation and explanation. In addition, trans-disciplinarity removes constrictions within a historical constitutional context of subjects and disciplines, where these have lost their historical memory and their problem-solving power through excessive specialization, but it does not lead into a new subject or disciplinary context. (...) Moreover, transdisciplinarity is a scientific principle of work and organization that reaches beyond subjects and disciplines in a problem-oriented way, but not a trans-scientific principle. (...) Finally, transdisciplinarity is first and foremost a research principle, not or at most secondarily, namely when theories also follow transdisciplinary research programs, a theory principle. It guides problem perceptions and problem solutions, but it does not solidify in theoretical forms” (Mittelstraß, 2001: p. 94f.).

As a scientific method, we chose *qualitative content analysis* (Mayring, 2015). Qualitative content analysis includes different types of analysis procedures such as deductive and inductive analysis. We analyzed the data using inductive and deductive content analysis (Mayring, 2015). In the case of inductive content analysis, the material is consolidated into main messages, and categories emerge from the text over the course of work (Kuckartz, 2010). Using deductive content analysis, we derived categories from theory (Gläser & Laudel, 2010). The final coding is the process of relating categories to each other in a deductive-inductive manner for deeply understanding the phenomenon of becoming adult. Henceforth, to answer the question of what it means to become adult, the abstracted categories will be coded in an axial manner. *Axial coding* in grounded theory is the process of relating categories to each other in a deductive-inductive manner. Based on the “coding paradigm”, developed by Strauss and Corbin (1998), we relate the categories to (1) the phenomenon under study, (2) the conditions related to that phenomenon (context conditions, intervening-structural-conditions or causal conditions), (3) the actions and interactional strategies directed at managing or handling the phenomenon and (4) the consequences of the actions/interactions related to the phenomenon.

3. Results and Discussion

3.1. Inductively Derived Categories

We first present the results on the identified and abstracted concepts for adulthood in order to relate in a second step the abstract deductively derived categories to each other in a deductive-inductive manner. **Table 1** shows both the inductively derived categories (Categories 1) for adulthood from the different disciplinary perspectives and the deductively derived ones (Categories 2).

In philosophical contexts, judgment, understood in Kantian terms as an ability to apply rules to individual cases, is considered characteristic of adulthood (Neiman, 2015: p. 211). Referring to Plato, who considered human cognitive development as a fundamental part of his philosophy, Saracco (2016) emphasizes that adults, unlike children, acquired the ability to think without relying on the empirical reality. “Coherence of reasons and purposes of action” characterizes, according to Nida-Rümelin (2001), the adult from a philosophical point of view.

Following Franklin-Hall (2013), who directs a moral philosophical view on “adulthood”, the adult is morally accountable for his actions as he has developed the capacity to govern himself by moral standards. The capacity for reflective agency consists of the abilities to stand back, resist and choose on the basis of reasons, values, principles and preferences amongst motivations (Franklin-Hall, 2013). Franklin-Hall (2013) also states that adulthood is characterized by the development of being a reflective and moral agent. He sees the boundary between childhood and adulthood as a conventional (Franklin-Hall, 2013).

Guerrero (2013) examined the anthropological foundations of adulthood as distinct from those of childhood and adolescence based on the writings of Kierkegaard with the premise that anthropological characteristics are general

Table 1. Categories of adulthood seen from a transdisciplinary perspective in the first quarter of the 21st century.

Inductively derived Categories (Categories 1)/Author	Deductively derived Categories (Categories 2)
<ul style="list-style-type: none"> ▪ Judgment (Neiman, 2015) ▪ Ability to think without relying on the empirical (Saracco, 2016) ▪ Maturity of insight (Wolf, 2013) ▪ Reflective agent (Franklin-Hall, 2013; Gheaus, 2015) ▪ Capacity of cognitive control (Luna et al., 2010; Knežević, 2018) 	Cognitive Abilities
<ul style="list-style-type: none"> ▪ Moral growth (Wildeman Kane, 2015) ▪ Reflective and moral agent (Franklin-Hall, 2013; Gheaus, 2015) 	Moral abilities
<ul style="list-style-type: none"> ▪ Willingness to live spiritually (Guerrero, 2013) ▪ Ability to author and govern one's self (Gheaus, 2015) ▪ Coherence of reasons/purposes (Nida-Rümelin, 2001) ▪ Ability to control affect (Gheaus, 2015) ▪ Ability to decide who one is as a person (Gheaus, 2015) ▪ Self-responsibility (Blatterer, 2007; Quill, 2011) ▪ Autonomy as a motive for learning and development (Wolf, 2013) ▪ Overcoming a hurting family past (Silva, 2012) 	Self-management competence
Experience (Gheaus, 2015)	Experience
Fluidity, pluralization of adult recognition (Blatterer, 2007)	Recognition: flexibility
<ul style="list-style-type: none"> ▪ Sexual maturity (Rosenbloom, 2007) ▪ Completed biotic growth: fusion of the epiphysis with the metaphysis of the long bones (Rosenbloom, 2007) ▪ Maturation of prefrontal/posterior brain regions (Knežević, 2018) 	Completed maturation
Coming of age: endowment of the person with legally established duties and rights (Curtis, 2015)	Legal age

approximations (Guerrero, 2013). Whereas childhood is seen as a period of innocence, unconsciousness and immediacy, youth is the age of opening up the spirit to the demands of life, while adulthood is characterized as an attitude by retaining the former existential purposes and returning to an unconsciousness of the spirit (Guerrero, 2013: p. 5). An adult who recognizes the ideals of youth as “ideals of the youth” (Guerrero, 2013: p. 15) needs to be willing to live spiritually.

Drawing on Gopnik (2009), the moral philosopher Gheaus (2015) defends the view that both childhood and adulthood are intrinsically valuable forms of human being. Adults accumulate experience, are more capable of controlling their emotions and are capable of being full moral agents and behaving in a more purposeful way compared to children due to the acquisition of executive abilities. Because adults have fully developed prefrontal cortices, they are able to inhibit information, discriminate and focus. However, through focusing on a task, the prefrontal cortex in adulthood impedes a free imagination and an open mind. Adults have been assigned responsibility that is interlinked with freedom. Compared to children, adults have come closer to completing the task of deciding who they are. In adulthood, choices in non-trivial matters are typically deci-

sions with long-term consequences.

Wildeman Kane (2015) argues from a perspective of political philosophy that the universal characteristics of childhood, dependency and growth, are also universal characteristics of adulthood. Growth emerges through dependency (Wildeman Kane, 2015: p. 166): all individuals are vulnerable and dependent at different points in their lives and are receivers of care. To define oneself as dependent inspires adults for moral growth: according to Carol Gilligan, moral growth manifests itself in being responsive to the needs of others. The giver is not seen to be in a powerful position and the taker is not thought of as deficient. This equal dialogical relationship is based on the concept that the caretaker communicates needs for growth and the caregiver learns to be responsive to the articulated needs (Wildeman Kane, 2015). Against the background of this argumentation, growth and non-growth do not differentiate children and adults; rather the difference lies in the modes of growth.

Sociological perspectives emphasize the view that the concept of adult is a normative one (Paterson, 1979). According to sociologist Blatterer (2007), adulthood is a social category. The criteria for adult recognition that characterized the adult from a social perspective during the Western post-war era were stable relationships, stable work and income, a family of one's own and independence (Blatterer, 2007). These social markers of adulthood are embedded in the values of the Western post-war societies. The norms of adulthood were best to be realized through a white, heterosexual, middle-class male. Although these norms are still robust, they are counterfactual today as they do not correspond anymore with personal orientation and practices (Blatterer, 2007). Blatterer (2007) sees the actual perspective of adulthood in a prevalent fluidity and pluralization of adult recognition, in the expectancy of flexibility. The norms for adulthood are no longer fixed. This normative fluidity is typical for highly differentiated societies. While forms of adult recognition in the post-war era were related to certainty, predictability and long-term planning, in recent times of highly differentiated societies contrary forms of uncertainty, risk-taking and short-term projects are socially validated. "Adulthood", Blatterer (2007) notes, "is inextricably linked to processes of individualization, that is, individuals' gradual liberation from the determinants of birth and religious conformity, and the simultaneous charging with an ever-increasing self-responsibility for all aspects of their lives" (Blatterer, 2007: p. 11).

From a political perspective, Quill (2011) states that a meaningful concept of adulthood is disappearing. Although Quill (2011) concludes that adulthood is related to individualization being characterized by self-responsibility, he takes the position that adulthood is disappearing because of the revolution in information technologies as it encroaches into fundamental life domains, such as, for example, thinking, values and norms (Quill, 2011: p. 11). Quill (2011) refers to Greenfield (2003) to explain his position: short attention spans, sensationalism, infantilization and fragile identity result from a continuous immersion in infor-

mation technologies.

While early educational theory depicts maturity, experience and maturity as anthropological characteristics of adulthood (Pöggeler, 1964), some more recent educational theory approaches see it as a construct (Wolf, 2011). According to Wolf (2013), the experience of autonomy as a special motive for learning and development, as well as the ability to regulate affect (Gheaus, 2015) are characteristics of the adult. An adult must regulate affect independently, while a child is still co-regulated by its adult caregivers (Wolf, 2013). Investigating the transition to adulthood, Silva (2012) demonstrated based on 93 interviews with black and white working-class men and women that the therapeutic narrative allows them to redefine competent adulthood in terms of overcoming a hurting family past.

From a biological perspective, approaches can be found in which the adult is characterized as sexually mature and with completed growth. Adult is a biological synonym for sexually mature. This growth, which by definition refers to the biotic, ends with the “fusion of the epiphysis with the metaphysis of the long bones that marks the end of adolescence” (Rosenbloom, 2007: p. 99). “Growth is complete when the epiphyseal joints close under the influence of estrogen, which is produced either by the ovaries or, in boys, by aromatization of testosterone” (Rosenbloom, 2007: p. 101). At approximately 20 years of age, the epiphyseal fossa ossifies and closes. With completed biotic growth, from a biological point of view, comes adulthood.

According to the psychological perspective of Knežević (2018), becoming an adult is not only about developing skills in order to change behavior and thoughts in accordance with personal goals; it also requires that a person understands and responds to changes in a social environment and adapts to novel situations. Cognitive control, which is crucial for the regulation of behavior, is comprised of response inhibition and performance monitoring (Luna et al., 2010; Knežević, 2018). These are typical for adulthood (Luna et al., 2010; Knežević, 2018): response inhibition and performance monitoring do not fully develop before the age of 25, approximately. “The transition to adulthood seems to include relying more on a broader network of brain regions that share processing (e.g., prefrontal and posterior regions), freeing up cognitive control regions for more complex processing” (Knežević, 2018: p. 278; Luna et al., 2010).

Legally, coming of age is defined by maturity, which is associated with the acquisition of rights and obligations. In Germany, for example, an adolescent attains majority on reaching the age of 18 in accordance with Section 2 of the German Civil Code (BGB). Among other achievements, coming of age is associated with legal capacity, the ability to make a will, the freedom to determine one’s own place of residence and the right to vote—symbols of maturity of insight and control. The endowment of a person with rights and duties varies in terms of calendar age not only between different nations but also between legal areas within a country: under social law, there is an obligation to support children up to the age of 27 in Germany; under criminal law, a person is considered

an adolescent between the ages of 18 and 21. The age range between 16 and 27 marks the development to maturity. The legal age of adulthood assumes control and responsibility for one's person, actions and decisions. From a comparative perspective, this age varies between 15 and 21 (Curtis, 2015).

In a nutshell, reflective and moral agency (Franklin-Hall, 2013; Gheaus, 2015), affect control (Wolf, 2013; Gheaus, 2015), accumulated experience (Gheaus, 2015), willingness to live spiritually (Guerrero, 2013), self-responsibility and flexibility (Blatterer, 2007), intellectual abilities such as judgment (Neiman, 2015) and the ability to think without relying on empirical reality (Saracco, 2016), experience of autonomy as a motive for learning and development (Wolf, 2013), coherence of purposes and reasons (Nida-Rümelin, 2001), as well as dependency and growth (Wildeman Kane, 2015) form the intersubjective categories for adulthood. Completed biotic growth (Rosenbloom, 2007), sexual maturity (Rosenbloom, 2007), the capacity for cognitive control (e.g. response inhibition, performance monitoring), as well as maturation of prefrontal and posterior brain regions (Knežević, 2018) represent the observable categories that describe adult individuals.

3.2. Deductively Derived Categories

From these concepts (Categories 1), listed in the first column of **Table 1** and explained in the preceding text, we obtain the following abstracted categories (Categories 2) that are derived from the following theoretical concepts (see column 2 of **Table 1**): Cognitive abilities refer to a person's capacity for perceiving, thinking and cognizing. Cognitive control is also known as executive control, and includes a broad range of cognitive sub-abilities. Basic components of cognitive control are response inhibition and working memory (Luna et al., 2010). Moral ability refers to "a person's capacity to govern himself by moral standards" (Franklin-Hall, 2013: p. 229).

According to Fröhlich and Kuhl (2003), self-management competencies consist of self-control and self-regulation. While self-control is a "volitional control in which an intention is shielded against competing impulses, needs and desires, self-regulation is about forming and implementing self-congruent goals" (Fröhlich & Kuhl, 2003: p. 222). Self-regulation includes self-determination, positive self-motivation, mood management, self-activation, self-soothing, decision-making skills and goal-directed attention. Self-control is characterized by planning ability, forgetfulness prevention, goal awareness (cognitive self-control) and failure management, self-discipline and anxious self-motivation (affective self-control) (Fröhlich & Kuhl, 2003: pp. 224f., 763).

Experience can be thought of "as a knowledge of the particular, rooted in the pre-scientific realm, as a familiarity with and a mastery of...distinctions that emerge directly from the practice of discerning" (Mittelstraß, 1995: p. 569). Recognition "as a fundamental human necessity" (Blatterer, 2007: p. 781) concerns the question of "who I am in the eyes of others" (Blatterer, 2007: p. 780).

Following [Alvarez-Dominguez and Melton \(2022: p. 235\)](#), maturation is “a dynamic continuum of adaptive phenotypic states set by genetic and environment programming”. Legal age or the age of majority refers to the calendar age at which a person acquires legal rights and responsibilities and gains the legal status of an adult according to state law.

Depending on the respective discipline, in Western and modern societies, adulthood is associated in biology with completed maturation and longitudinal growth, in jurisprudence with the equipping of rights and obligations, institutionalized by the legal age, in sociology with society’s expectations, here especially the expectations of flexibility, in educational sciences with the learning and developmental motive of being autonomous, overcoming a hurting family past and gaining experience, and finally in philosophy and psychology with the acquisition of experience, as well as cognitive, moral and self-management abilities.

3.3. Model of Becoming Adult

In this study, the intersubjective perspective on adulthood is shaped by the Western cultural view of the first quarter of the 21st century: accumulation of abilities, experience, and the expectation of flexibility characterize adulthood from this intersubjective perspective. As we can see for adulthood, culture “[...] has a very powerful, reality-defining quality about it, [...] but some of these cultural rules are totally arbitrary” ([Kegan, 2003: p. 33](#)). Corresponding with the defining quality of culture, [Klimczuk \(2016\)](#) observes for different cultures for example that in countries that are least developed in terms of technology, adulthood is associated with sexual maturity, while in more technologically advanced countries, adulthood is more related to social passages, such as graduating from school. The view of adulthood that focuses on the visible of adulthood is associated with completed maturation and legal age, the endowment of the individual with rights and duties of persons.

In summary, the adult has emerged from a completed process of multiplication in the biotic sense (maturation). In the Western culture of the 21st century, the adult is characterized by the fact that he continues to be in a process of multiplication, in a learning process for the acquisition of skills, experience and flexibility ([Settersten et al., 2015](#)). While the development component of maturation is completed, the learning component of ongoing development characterizes adulthood.

To infer from the completed biotic process a completed process of adult personality development would be a naturalistic fallacy. The skills associated with adulthood in our culture are not attained upon entering legal age and reaching sexual maturity, as the complex and high-level competence of self-management, for example, is time consuming and can be developed only within decades ([Kegan, 2003](#); [Fröhlich & Kuhl, 2003](#)). The fluidity of recognition in Western societies leads to changing markers: the first quarter of the 21st century provides the

adult with fewer developmental norms. Henceforth, the competence of self-direction is fundamental. “If we live in a very simple world with one single definition of who we should be, for example what it means to be grown-up, or an elder or a man or a woman, then we would not necessarily need a more complex system. As long as you can be inducted into that set of values, you will function well. But we live in a very different kind of world with lots of different definitions competing for our attention and loyalty all the time about who we should be. Consequently, we call this ‘self-authoring’, because instead of being written by, we may need to become, so to speak, the writer of, or shaper of a way of making sense” (Kegan, 2003: p. 35). However, it must be relativized that the post-war recognition markers of adulthood are still valid, even if different extents in the various types of welfare regimes in Europe, as become clear, for example, for the social democratic welfare regime versus the southern European welfare regime (Buchmann & Kriesi, 2011).

Based on our analysis, we propose a definition for the concept of adulthood: a culturally defined period of life that is characterized by a completed maturation process of the individual, legal age, and an ongoing acquisition of experience, moral, cognitive and self-management abilities.

Because development characterizes an adult, we argue that the concept of adulthood represents a dynamic state within the personal development as indicated by the verb “grown up” or “erwachsen”. As the recognition marker in the first quarter of the 21st century in Western societies can be seen in flexibility, a context or system that is open in terms of developmental tasks and norms requires constant formal, non-formal and informal learning in adults. The importance of the development of the adult through learning is manifested, for example, in the European educational policy in the agenda of adult education.

Based on the results of the qualitative analysis, we develop the transdisciplinary model on “how to become adult in Western societies of the 21st century”. Following the coding paradigm developed by Strauss and Corbin (1998), we inductively and deductively identify the relationships between the categories (see Figure 1).

At the center of the action theory model (Figure 1) is the phenomenon of “becoming adult”. Although “becoming adult” cannot typically be thought of as a fully conscious action that manifests itself in speech (“I want to become adult”), it can be assumed that desires and intentions are directed toward possible events that affect individual aspects of becoming an adult, such as the remaining markers of parenthood, moving out of a parental home, entering the workforce, or the implications of the learning acts of emotion or need control. The set of events to which the adolescent can be intentionally directed does not constitute a homogeneous unit, as might be imagined, for example, in terms of the intentional object of becoming adult. The mental state of the adolescent is rather about individual aspects of becoming adult.

Promoted as a result of completed maturation and based on the concept of

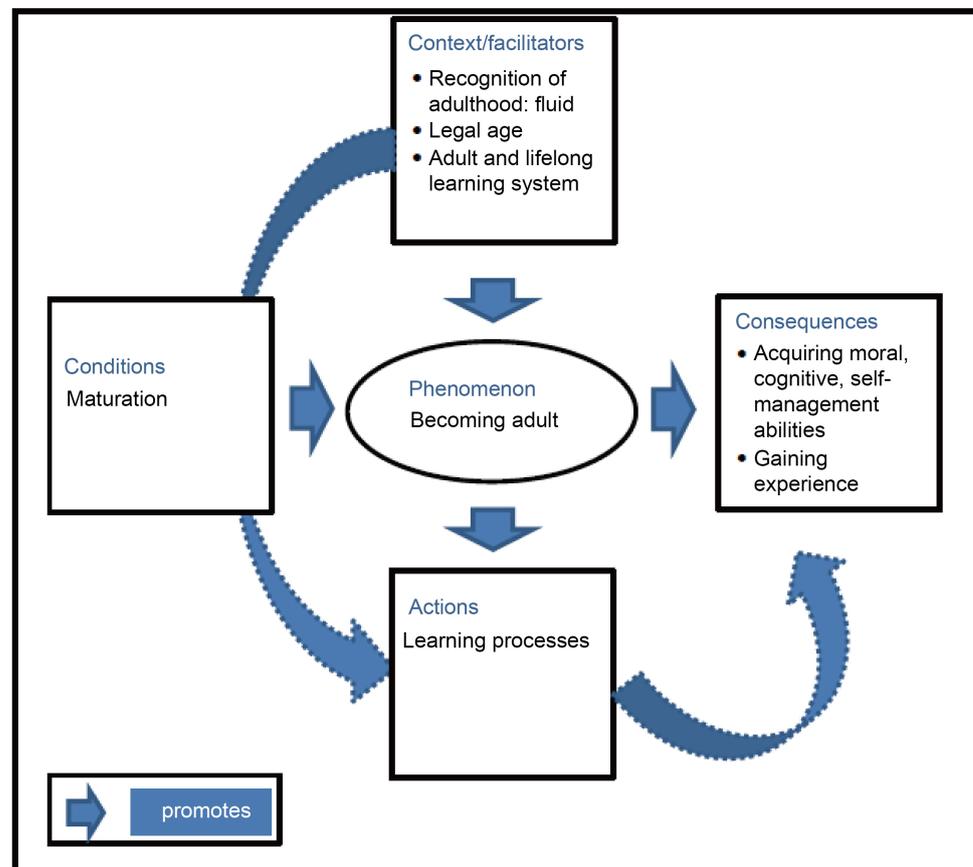


Figure 1. Transdisciplinary model of becoming adult in Western societies of the 21st century.

legal age and with flexibility as the predominant recognition marker of adulthood, an individual engages in learning processes that are supported through the institutionalized adult and lifelong learning system to gain experience and to acquire moral, self-management and cognitive abilities. Maturation and social context influence the phenomenon of becoming adult, which promotes learning processes and leads to learning gains. Maturation of the prefrontal cortex and the development of cognitive control capacity interact with each other (Knežević, 2018). Response inhibition and performance monitoring, which are required for complex action processes with long-term consequences, are promoted by the maturation of the prefrontal cortex (Knežević, 2018: p. 278; Luna et al., 2010) and enable complex learning required for the acquisition of self-control skills. Informal (Decius, 2020), formal and non-formal learning, defined as intentional learning, contribute to gaining experience and acquiring self-control, moral and cognitive skills, such as skills required to act in accordance with the law in everyday life. Legal age, the expectation of flexibility and completed maturation processes promote learning actions. Becoming adult is not a linear process and is not reached at a definitive calendar age as a consequence of a discrete event (Settersten et al., 2015).

Becoming adult is a complex lifelong process: Embedded into a cultural and

legal context, becoming adult is promoted through maturation that interacts with learning processes, resulting in competencies and gained experience.

4. Conclusion

The aim of this study was to develop a model of adulthood in 21st century Western societies.

In Western culture, adulthood is associated with accumulation of moral, cognitive and self-management abilities, experience and flexibility. The external dimension is characterized by completed biotic growth, maturity (sexual maturity and brain maturation) and coming of age.

The transdisciplinary model of becoming adult shows how maturation, legal age, the expectation of flexibility, and adult learning systems contribute to the acquisition of self-management, moral and cognitive abilities as well as experience.

For the discipline of educational science, [Stroß \(1995\)](#) and [Wolf \(2011\)](#) state that there is no educational concept of an adult. [Kade \(2005\)](#) also states that within the discussions of educational science, the adult as a concept hardly receives any attention, since it can neither further theory building nor empirical research. However, the output of this transdisciplinary analysis showed that learning, experience and development are constitutive of becoming adults in 21st century Western culture and of adulthood. Educational features, which form core of this transdisciplinary model of becoming adult, characterize the process of becoming adult in an age that requires flexibility and a legal age, in addition to psychological and biological features.

Considering adulthood as a dynamic life period is consistent with the arguments of [Wildeman Kane \(2015\)](#) and [Postman \(1982\)](#): [Wildeman Kane \(2015\)](#) argues that the static concept of adulthood as an end-stage of physical, cognitive and moral development in political philosophy limits both the development of an adult and the political and organizational state. The view gained here that becoming adult is strongly linked to learning is closely tied to the analysis of [Postman \(1982\)](#): according to [Postman \(1982\)](#), childhood was constructed with the invention of printing or moveable letters. Adulthood represents a symbolic and not biological achievement. The young must become adult by learning to read ([Postman, 1982](#)). Although the binary of adult and child certainly still exists, it is challenged when focusing on the process of growing up ([Quill, 2011](#)).

The fact that adult education has its own status in the system of lifelong learning suggests a special role for the adult, in this case the adult learner, in contrast to that of a child or adolescent. The term adult education which exists in various languages, also points in this direction. Adult education accordingly plays an important role in European education policy: in 2011, the European Council explicitly advocated for strengthening and promoting adult education in its “Resolution on a Renewed European Agenda for Adult Learning” ([European Union, 2011](#)). In the New European Agenda for Adult Learning 2021-2030, the

priorities of a European policy for adult learning are again laid down for a decade until 2030 and made verifiable through key figures (European Union, 2021).

A general education coming-of-age curriculum that is valid for Western cultures over time, because the social recognition markers change over time, includes at least this triad of learning objectives based on this analysis:

- Promotion of cognitive (judgment, insight, cognitive control), moral and self-management abilities.
- Promotion of experience.
- Promotion of the meaning and significance making processes about the phenomenon of becoming adult, about cultural sensitivity and recognition of adulthood, about maturation processes and coming of age.

Examining adulthood from the perspective of different cultures is the aim of future studies that should derive culturally sensitive models of how becoming adult is necessary and will enable the development of culturally sensitive general education curricula for adulthood.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- Alvarez-Dominguez, J. R., & Melton, D. A. (2022). Cell Maturation: Hallmarks, Triggers, and Manipulation. *Cell*, *185*, 235-249. <https://doi.org/10.1016/j.cell.2021.12.012>
- Arnold, R. (2013). Der innere Erwachsene. Ansätze einer psychologisch erweiterten Sicht auf das Erwachsensein. *DIE Zeitschrift für Erwachsenenbildung*, *4*, 21-24. https://doi.org/10.1007/978-3-531-19116-4_3
- Blatterer, H. (2007). Contemporary Adulthood. Reconceptualizing an Uncontested Category. *Current Sociology*, *55*, 771-792. <https://doi.org/10.1177/0011392107081985>
- Buchmann, M. C., & Kriesi, I. (2011). Transition to Adulthood in Europe. *Annual Review of Sociology*, *37*, 481-503. <https://doi.org/10.1146/annurev-soc-081309-150212>
- Curtis, A. C. (2015). Defining Adolescence. *Journal of Adolescent and Family Health*, *7*, Article No. 2.
- Decius, J. (2020). *Informelles Lernen im Kontext industrieller Arbeit—Konzeptualisierung, Operationalisierung, Antezedentien und Lernergebnisse*. Doctoral Dissertation, Paderborn University.
- European Union (2011). *Entscheidung des Rates über eine erneuerte europäische Agenda für die Erwachsenenbildung*. Amtsblatt der Europäischen Union (C 372/01-/06).
- European Union (2021). *Entscheidung des Rates zu einer neuen europäischen Agenda für die Erwachsenenbildung 2021-2030*. Amtsblatt der Europäischen Union (2021/C 504/02).
- Franklin-Hall, A. (2013). On Becoming an Adult: Autonomy and the Moral Relevance of Life Stages. *The Philosophical Quarterly*, *63*, 223-247. <https://doi.org/10.1111/1467-9213.12014>
- Fröhlich, S., & Kuhl, J. (2003). Das Selbststeuerungsinventar: Dekomponierung volitionaler Funktionen. In J. Stiensmeier-Pelster, & F. Rheinberg (Eds.), *Diagnostik von Motivation und Selbstkonzept. Test und Trends, neue Folge* (pp. 221-257). Hogrefe.

- Gheaus, A. (2015). Unfinished Adults and Defective Children: On the Nature and Value of Childhood. *Journal of Ethics and Social Philosophy*, 9, 1-21.
<https://doi.org/10.26556/jesp.v9i1.85>
- Gläser, J., & Laudel, G. (2010). *Experteninterviews und qualitative Inhaltsanalyse*. VS Verlag für Sozialwissenschaften. <https://doi.org/10.1007/978-3-531-91538-8>
- Gopnik, A. (2009). *The Philosophical Baby: What Children's Minds Tell Us about Truth, Love, and the Meaning of Life*. Farrar, Straus and Giroux.
- Greenfield, S. (2003). *Tomorrow's People—How 21st Century Technology Is Changing the Way We Think and Feel*. Allen Lane.
- Guerrero, L. (2013). The Ages of Life: Childhood, Youth and Adulthood. *Revue Roumaine de Philosophie*, 57, 5-17.
- Kade, J. (2005). Erwachsene. In H.-U. Otto (Ed.), *Handbuch Sozialarbeit, Sozialpädagogik* (pp. 403-410). München.
- Kegan, R. (2003). Hidden Curriculum of Adult Life: An Adult Developmental Perspective. *Adult Development in Post-Industrial Society and Working Life*, 2, 21-48.
- Klimczuk, A. (2016). Adulthood. In H. L. Miller (Ed.), *The SAGE Encyclopedia of Theory in Psychology* (pp. 15-18). SAGE Publications.
- Knežević, M. (2018). When Do We Become Adults? Review of Theory, Research and Recent Advances from an Interdisciplinary Perspective. *Psihologijske Teme*, 27, 267-289.
<https://doi.org/10.31820/pt.27.2.7>
- Kuckartz, U. (2010). *Einführung in die computergestützte Analyse qualitativer Daten*. VS Verlag für Sozialwissenschaften. <https://doi.org/10.1007/978-3-531-92126-6>
- Lee, J. S. (2014). An Institutional Framework for the Study of the Transition to Adulthood. *Youth & Society*, 46, 706-730. <https://doi.org/10.1177/0044118X12450643>
- Luna, B., Padmanabhan, A., & O'Hearn, K. (2010). What Has fMRI Told Us about the Development of Cognitive Control through Adolescence? *Brain and Cognition*, 72, 101-113. <https://doi.org/10.1016/j.bandc.2009.08.005>
- Mayring, P. (2015). *Qualitative Inhaltsanalyse: Grundlagen und Techniken*. Beltz.
https://doi.org/10.1007/978-3-531-18939-0_38
- Mittelstraß, J. (1995). Erfahrung. In J. Mittelstraß (Ed.), *Enzyklopädie Philosophie und Wissenschaftstheorie* (pp. 568-571). Metzler.
<https://doi.org/10.1007/978-3-476-98752-5>
- Mittelstraß, J. (2001). *Wissen und Grenzen. Philosophische Studien*. Suhrkamp Verlag.
- Neiman, S. (2015). *Warum erwachsen werden? Eine philosophische Ermutigung*. Hanser.
- Nida-Rümelin, J. (2001). *Strukturelle Rationalität*. Reclam.
- Oxford English Dictionary (OED) (2011). *Oxford Dictionaries*. <http://dictionary.oed.com>
- Paterson, R. W. K. (1979). *Values, Education and the Adult*. Routledge und Kegan Paul.
- Pavlenko, E. S. (2016). "Adult" as a Concept for Young People Building Their Life Course. *Russian Education & Society*, 58, 199-214.
<https://doi.org/10.1080/10609393.2016.1242990>
- Pfeifer, W. (1995). *Etymologisches Wörterbuch des Deutschen*. Deutscher Taschenbuch Verlag.
- Pöggeler, F. (1964). *Der Mensch in Mündigkeit und Reife. Eine Anthropologie des Erwachsenen*. Schöningh.
- Postman, N. (1982). *The Disappearance of Childhood*. Delacorte Press.
- Quill, L. (2011). The Disappearance of Adulthood. *Studies in Philosophy and Education*,

- 30, 327-341. <https://doi.org/10.1007/s11217-011-9231-1>
- Rosenbloom, A. L. (2007). Die Physiologie des Wachstums. *Annales Nestlé*, 65, 99-110. <https://doi.org/10.1159/000163024>
- Saracco, S. (2016). Theoretical Childhood and Adulthood: Plato's Account of Human Intellectual Development. *Philosophia*, 44, 845-863. <https://doi.org/10.1007/s11406-016-9698-7>
- Schoon, I., & Lyons-Amosba, M. (2016). Diverse Pathways in becoming an Adult: The role of Structure, Agency and Context. *Research in Social Stratification and Mobility*, 46, 11-20. <https://doi.org/10.1016/j.rssm.2016.02.008>
- Seiffge-Krenke, I. (2015). "Emerging Adulthood": Forschungsbefunde zu objektiven Markern, Entwicklungsaufgaben und Entwicklungsrisiken. *Zeitschrift für Psychiatrie Psychologie und Psychotherapie*, 63, 165-174. <https://doi.org/10.1024/1661-4747/a000236>
- Settersten, R. A., Ottusch, T. M., & Schneider, B. (2015). Becoming Adult: Meanings of Markers to Adulthood. In R. Scott, & S. Kossyn (Eds.), *Emerging Trends in the Social and Behavioral Sciences* (pp. 1-16). John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118900772.etrds0021>
- Silva, J. M. (2012). Constructing Adulthood in an Age of Uncertainty. *American Sociological Review*, 77, 505-522. <https://doi.org/10.1177/0003122412449014>
- Strauss, A. L., & Corbin, J. M. (1998). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Sage.
- Stroß, A. (1995). Der Erwachsene. In D. Lenzen (Ed.), *Erziehungswissenschaft. Ein Grundkurs* (pp. 406-425). Rowohlt's Enzyklopädie.
- Tanner, J. L., Arnett, J. J., & Leis, J. A. (2009). *Emerging Adulthood: Learning and Development during the First Stage of Adulthood*. Lawrence Erlbaum.
- Weis, D., & Joachim, P. (2017). Der Übergang in Arbeit und seine Auswirkungen auf die gesellschaftliche Integration und das Erwachsenwerden von Jugendlichen. Transitionsverläufe, Probleme und Bewältigungsmuster Jugendlicher und junger Erwachsener. In S. Lessenich (Ed.), *Geschlossene Gesellschaften. Verhandlungen des 38. Kongresses der Deutschen Gesellschaft für Soziologie in Bamberg 2016* (pp. 1-10).
- Wildeman Kane, L. (2015). Childhood, Growth, and Dependency in Liberal Political Philosophy. *Hypatia*, 31, 156-170. <https://doi.org/10.1111/hypa.12214>
- Williams, C. (2018). Adult. *Brock Education: A Journal of Educational Research and Practice*, 27, 13-17. <https://doi.org/10.26522/brocked.v27i2.582>
- Wolf, G. (2011). *Zur Konstruktion des Erwachsenen. Grundlagen einer erwachsenenpädagogischen Lerntheorie*. VS Verlag. <https://doi.org/10.1007/978-3-531-92903-3>
- Wolf, G. (2013). Im Zeichen der Autonomie. Thesen zum erwachsenengerechten Lernen. *DIE Zeitschrift für Erwachsenenbildung*, 4, 25-28.