Systematic Review

Self-Concept and Achievement in Individuals with Intellectual Disabilities

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Abstract: *Background*: Understanding self-concept in individuals with intellectual disabilities is crucial for tailored support and interventions. The research question driving this study is: What factors influence the self-concept of individuals with intellectual disabilities, and how is it assessed? *Methods*: Employing a systematic review following PRISMA guidelines, studies from 1993 to 2024, which used diverse assessment tools such as the Pictorial Scale of Perceived Competence and Acceptance, Myself as a Learner Scale, and other self-report questionnaires, were analysed. *Results*: Factors influencing self-concept include diagnosis, age, gender, perception of control, school placement, and socioeconomic status. Internal factors like perception of control and external factors like societal attitudes interact to shape self-concept trajectories. Assessments reveal nuanced dimensions of self-perception, facilitating targeted interventions. *Conclusions*: Assessing self-concept among individuals with intellectual disabilities requires diverse evaluation methods. Insights gained inform tailored interventions to enhance well-being. Further research is needed to validate assessment tools across diverse populations. Recognizing the interplay of internal beliefs, external perceptions, and societal structures is crucial for empowering individuals to embrace their unique identities.

Keywords: self-concept; intellectual disabilities; systematic review; factors influencing self-concept; assessment methods; academic achievement; social integration; gender differences; perceived competence; societal attitudes

1. Introduction

This systematic review aims to provide an overview of the research desideratum pertaining to the intersection of achievement, individuals with intellectual disabilities, and (academic/ability) self-concept. The underlying research questions for this purpose, assessed by synthesising studies from 1993 to 2024, are as follows:

1. How does the formation of self-concept take place in people with intellectual disabilities?
   1.1 Which factors influence the self-concept of people with intellectual disabilities?
   1.2 How do the factors interact to form the self-concept in a certain direction (positive/negative self-concept)?
2. What methods were used to assess the self-concept of people with intellectual disabilities?

Clarification of Terms

Identity. Inseparably linked to the self-concept is the term identity. Self-concept is to be understood as a part of identity. The concept of identity focuses as a central aspect on the individual diversity of each person, which makes a clear definition difficult. A core statement shared by the numerous approaches in identity research is the understanding of identity as a "process of self-discovery of an individual" [1] (p. 33). According to this, it is about finding out who one really is [2].

From a social and cultural science perspective, identity emerges on the one hand in the individual (own perception, internal formation of identity and self-concept) and

on the other hand through social and cultural influences (external perception, external construction of identity and self-concept) [1]. Frey's [3] model describes three identity categories; the external aspect, the internal aspect and an integration and balancing act. The external aspect includes external categorisation and attribution processes as well as social and personal identity. The internal aspect includes internal attribution processes, such as reflective processes about one's own ego identity (social and private self). In the integration and balancing act, the basis for identity representation is formed by balancing self-perceptions and perceptions of others; discrepancies between perceptions can arise here [1]. In Frey's model, the concept of self is referred to as the central entity of identity [3].

Leary and Tangney [4] point to a "widespread semantic ambiguity" [4] (p. 8) of the term 'self' which makes a clear definition of the term for use in research all the more important. According to this definition, the self is said to have three functions: 1. the self as a perceiving subject, 2. the self as beliefs about oneself, and 3. the self as an executive function, that is, as an executing and regulating agent [4] (p. 7). The self, to include these three dimensions comprehensively, is understood as "the human capacity for reflexive thinking" [4] (p. 8), since "virtually all scientific interest in the self [. . .] concerns phenomena that involve this capacity for reflexive thinking" [4] (p. 8). With this reference, the capacity for reflexive thinking is identified as the core unit of the self. The second aspect (self as beliefs about oneself) includes the part of the self to which this work is devoted in order to open up the experiential world of people with intellectual disabilities: the self-concept.

The (academic/ability) self-concept. According to Moschner [5], the self-concept is understood as a "mental model" [5] (p. 760) that an individual develops about their own abilities and characteristics. It plays an important role in the organization of one's own life [1]. The self-concept can be defined as a "form of individuality" (Marquard and Stierle 1979, cited in [6]) (p. 177), which develops through self-experience in interaction with others.

In self-concept research, a hierarchical structure is assumed, according to which the self-concept can be further subdivided [1,7–9]. The self-concept model according to Shavelson et al. [7] is structured pursuant to this idea. It assumes a general self-concept, which is composed of two views of an individual about themselves; this is the descriptive component on the one hand and the evaluative component on the other. The descriptive component is also called the non-academic self-concept. The evaluative component includes statements that the individual makes about his or her own performance (e.g., 'I am good at maths'.)—these are grouped under the academic self-concept or ability self-concept [10] (p. 12). The term ability self-concept is used synonymously with academic self-concept in the literature. This makes it clear that the focus is on cognitive representations and not on affective evaluations [10] (p. 25). How a person perceives themselves is influenced by external factors; two factors that influence descriptive and evaluative views are experiences with the environment and experiences with people close to the individual [10] (p. 12). Furthermore, the self-concept is formed by external as well as internal influences, which in the case of the academic self-concept refer to experiences and feedback regarding one's own achievement (see Figure 1).

For people with intellectual disabilities, there are additional influences that determine the current scientific discourse regarding these topics of identity and self-concept (formation), which therefore will be discussed briefly at this point.
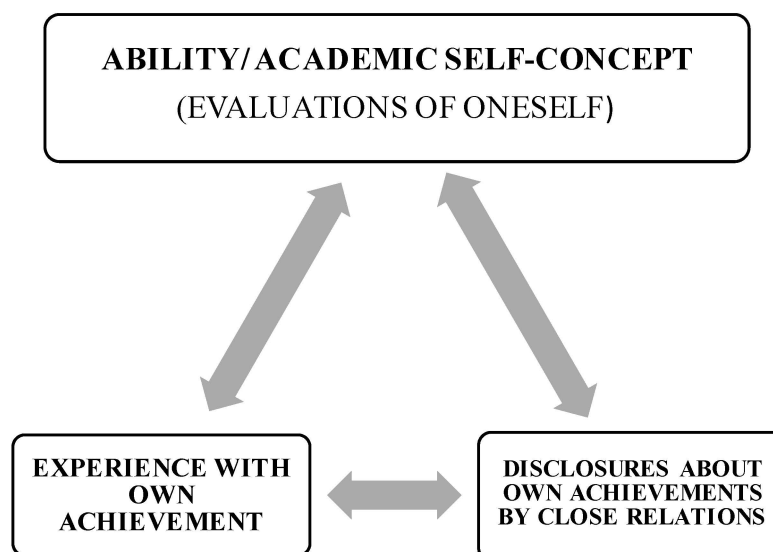
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┌─────────────────────────────────────────────────┐
│         ABILITY/ ACADEMIC SELF-CONCEPT           │
│           (EVALUATIONS OF ONESELF)               │
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│   EXPERIENCE WITH   │   │ DISCLOSURES ABOUT   │
│   OWN   │ ◄──────────────►   │ OWN ACHIEVEMENTS   │
│   ACHIEVEMENT   │   │ BY CLOSE RELATIONS │
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Figure 1. The ability self-concept and its influential factors (adapted from Ref. [10]).

Intellectual disabilities are defined differently depending on the disciplinary discourse (medicine, psychology, sociology, education). In medicine and psychology, intellectual disabilities—according to international classification systems such as the ICD-10 [11] or DSM-5 [12]—are closely linked to the individual and their deviations from the norm, and concepts such as intelligence and adaptive abilities are used for this purpose.

This understanding of intellectual disabilities is characterised by an ableist view of the human being. The term ableism is understood to mean the "judgement of body and mind according to what someone 'can' or 'cannot' do" [13] (p. 2). This understanding is also shared by the Disability Studies and is expressed in the concept of Ableism [13–17].

It becomes clear that both the prevailing understanding of identity and that of the self-concept are linked to achievement; cognitive, reflective abilities are assumed for identity formation [4].

Other theories, such as that proposed by Frey [3], define identity as an unconditional human quality that is inherent in every human being, regardless of disability status [1]. This will serve as the theoretical basis for conducting this systematic review.

As mentioned above, in the ability/academic self-concept, achievement and self-perception are inextricably linked, due to both external and internal influences (see Figure 1). Therefore, the relationship between achievement and identity should be explained in more detail at this point.

2. Self-Concept and Achievement in People with Intellectual Disabilities

According to Distelhorst [18], achievement is understood as a "semantically empty term that is filled with content through societal debates" [18] (p. 29). Constructions of achievement can thus vary greatly from person to person and are dependent on subjective, often unconscious attribution processes. The recognition of a person based on their performance is of particular importance for identity formation [18]. Only by recognising oneself in (and through) the other is it possible to form one's own self-concept. Achievement thus "takes on the rank of a central social integrative mechanism and a decisive moment in identity formation" [18] (p. 28). Here, as well as according to Ricken [19], the influence of other people's constructions of achievement on the self-concept becomes clear, as "the production of one's own self-concept" is fed by evaluation (of achievement) [19] (p. 55). The self-concept is thus shaped on the one hand by external performance assessments, but on the other hand also by self-assessments that take place through comparison with others [19]. Hence, achievement is understood as an integral part of identity formation and at the same time as a continuously evolving construct.

The (academic) self-concept is strongly influenced by (performance) evaluations of close caregivers [10]. It is frequently found that individuals with intellectual disabilities are subjected to negative perceptions as a consequence of the stigmatisation processes that occur within society [20]. This can result in an ableist view being held of them, which leads to attributions of (cognitive) performance weaknesses [13–17]. At the same time, the basic assumption of many identity models implies that identity must develop from cognitive (reflective) abilities [4,21], which leads to this group of people being denied the ability to self-reflect and being ascribed a "damaged identity" [6] (p. 49).

Recent research on the self-concept of people with intellectual disabilities, on the other hand, shows that there need not be any inevitable identity damage and that a positive self-concept is possible for people with intellectual disabilities [6,22–25]. The following hypotheses summarising the studies' content relevant for this review were concluded:

1. There is a gap in research on the topic of (academic) self-concept for people with intellectual disabilities; the perspective of individuals with intellectual disabilities has hardly been included or used to gain knowledge [6,22].
2. The studies confirm the basic assumptions presented in the theory on self-concept:

    a. (Academic) self-concepts (internal factors) influence (academic) performance [22];
    b. (School) performance influences self-concepts [23,24];
    c. Caregivers (external factors) influence self-concepts [25].

In people with intellectual disabilities, the ability self-concept is fuelled to a particular extent by the (up/down) evaluations of important caregivers [26] (p. 76). Furthermore, according to Schuppener [6], "experiences of disability" play a special role in identity development, including the significance of achievements. People with intellectual disabilities already perform in situations that are often experienced as routine or taken for granted by people without experience of disability, for example in communication situations when it comes to making themselves understood to others [6] (p. 46). These achievements, which are accomplished by people with complex disabilities, are usually not perceived or recognised as such by people without the experience of disability. In addition, a special situation for people with complex disabilities is that they rarely have the opportunity to experience their abilities as valuable for others or in social contexts. By focussing on what a person with a disability cannot do, it is made more difficult for them to position themselves in any way other than as a person with a disability [27] (p. 51).

In summary, self-concept and being valued for one's achievements have a crucial impact on quality of life, especially for groups of people who are more dependent on their social environment, such as people with intellectual disabilities. The main topics of the present research can be united in the perspective of ableism and thus examined more closely from this standpoint; on the one hand, the perception of achievement in relation to people with intellectual disabilities and, on the other hand, the influence of these very constructions of achievement on the self-concept of people with intellectual disabilities.

Conducting a systematic review of the literature to address these underexplored areas of research can make a significant contribution to our understanding of the factors influencing the self-concept of people with intellectual disabilities and the methods used to assess their self-concept.

3. Method

3.1. Study Design

Research synthesis in the form of a systematic review serves to summarise and bundle the results of individual empirical studies and to evaluate them interpretatively with regard to a specific research question [28].

The systematic review method is characterised by a transparent and systematic literature search. This is documented in its various phases in a flow diagram (see Figure 2) so that individual decisions to include/exclude studies can be traced. The selection process involved screening titles, abstracts, and full texts according to predefined (and adjusted) inclusion and exclusion criteria [29]. The authors (K.F.) and the second author (T.S.) inde-

pendently screened each record and report retrieved. Discrepancies between parties were resolved through discussion and consensus. The EPPI Reviewer was used to automatically screen for duplicates.
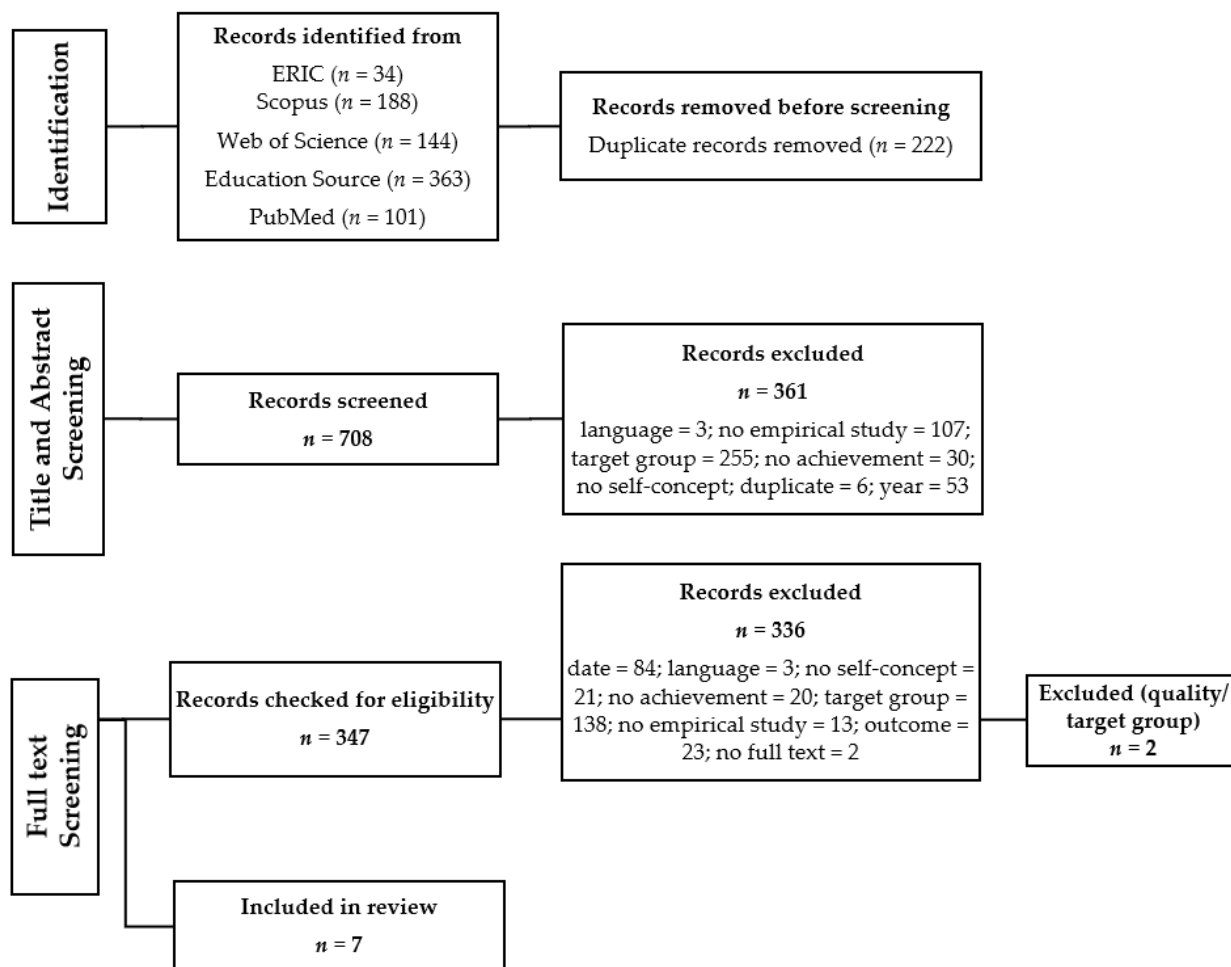

Figure 2. Flow chart of the systematic review.

This systematic review followed the PRISMA statement [30] and was registered to the PROSPERO database with a review protocol in advance (Prospero ID: CRD42023360281). To complete the systematic review, a review protocol was developed based on the research questions mentioned above. First, the core terms based on the PICO framework (participants, phenomenon of interest, context, outcome) were identified [31]. As core terms for the population, people with intellectual disabilities following the revision of the ICD-11 [32] were determined.

3.2. Search Strategy

Searches were conducted in five electronic databases covering all relevant disciplines including ERIC (Ped), Web of Science and Scopus (Psych), PubMed (Med), and Education Source. Studies published between the years of 1993 and 2023 in English and German were included. Initially, a pilot search was undertaken on 1 October 2022 by searching ERIC, Web of Science and Scopus. Afterwards, the search string and search strategy were adapted. An additional search, was conducted on 26 October 2022 using the databases mentioned above. The final search through all databases used was conducted on 2 February 2024, ensuring the complete inclusion of relevant studies to the date of publication. The full search strategy can be found in Table A2 of the Appendix A. The keywords that were used in the literature search were chosen based on the PICO model. A detailed overview of all search terms utilized can be found in the Appendix A of this article (see Table A2).

According to this model, three topics were identified through which the search terms were identified, which will be described in the following section.

3.3. Inclusion and Exclusion Criteria

The PICO (Participant, phenomenon of Interest, Context, Outcome) format was adopted for this systematic review [31]. Here, 'participant' means individuals with a diagnosed intellectual disability and their close caregivers (e.g., teachers, parents); 'phenomenon of Interest' means constructions of achievement and self-concept; 'context' means self-concept and achievement in the context of intellectual disability; and 'outcome' means experiences of self-concept and achievement of individuals with intellectual disabilities and caregivers. The literature included in this systematic review met the following criteria: (i) primary research with qualitative, quantitative of mixed-method study designs, (ii) studies that included individuals with intellectual disabilities and close caregivers, (iii) studies focusing on the self-concept and achievement constructs of individuals with intellectual disabilities and their caregivers, (iv) studies with findings that included influencing factors on the self-concept of people with ID, and of achievement constructs, (v) studies published in English and German, (vi) studies that were peer reviewed and met the criteria of the MMAT [33], (vii) studies that used methods for identifying/exploring the self-concept of people with intellectual disabilities (e.g., interviews or tests) and (viii) studies published between 1993 and 2024.

The following types of studies were excluded: studies that were not empirical studies (reviews and meta-analyses were not included), not on topic (all or one of the topics of intellectual disability, self-concept or achievement were not properly operationalised), were not in English or German, were not peer reviewed, studies that had no participants with a diagnosis of intellectual disability (e.g., specific learning disabilities were not included).

All of the studies that were included in this systematic review are listed in Table 1 below.

Table 1. Included studies (Bakker et al. [34]; Brabcová et al. [35]; Donohue et al. [36]; Huck et al. [37]; Li et al. [38]; Scanlon et al. [39]; Szumski et al. [40]).

Authors	Title
Bakker, Denessen, Bosman, Krijger, & Bouts, 2007 Netherlands [34]	Sociometric Status and Self-Image of Children with Specific and General Learning Disabilities in Dutch General and Special Education Classes
Brabcová, Zárubová, Kohout, Jošt, & Kršek, 2015 Czech Republic [35]	Effect of learning disabilities on academic self-concept in children with epilepsy and on their quality of life
Donohue, Wise, Romski, Henrich & Sevcik, 2010 USA [36]	Self-concept development and measurement in children with mild intellectual disabilities
Huck, Kemp, & Carter, 2010 Australia [37]	Self-concept of children with intellectual disability in mainstream settings
Li, Tam, & Man, 2006 China [38]	Exploring the self-concepts of persons with intellectual disabilities
Scanlon, McEnteggart, & Barnes-Holmes, 2019 Ireland [39]	The academic and social profiles of pupils with attention deficit hyperactivity disorder and mild general learning disability in mainstream education in the Republic of Ireland
Szumski & Karwowski, 2015 Poland [40]	Emotional and social integration and the big-fish-little-pond effect among students with and without disabilities

3.4. Quality Assessment

To assess the quality of each included study, the Mixed Method Appraisal Tool (MMAT) described by Hong et al. [33] was used. The MMAT is a tool used to appraise systematic reviews that include quantitative, qualitative, and mixed-method studies. Hong et al. [33] developed the tool based on a literature review of critical appraisal tools. The critical appraisal of the studies included in this systematic review was conducted by the two

researchers (K.F. and T.S.) independently. Reporting biases, such as publication bias, were addressed by conducting comprehensive literature searches across multiple databases and applying specific inclusion criteria to ensure the inclusion of relevant studies. The certainty of the evidence was assessed using the MMAT, which considers study limitations, methodological consistency, directness of evidence, precision of results and potential bias. This assessment guided the overall confidence in the findings and conclusions presented in the systematic review. In addition, studies were only included if they had been peer-reviewed.

3.5. Data Extraction

The first author (K.F.) extracted data according to predefined criteria. The second author (T.S.) checked the integrity and accuracy of all extracted data.

Data were extracted for each study that met the inclusion criteria. Descriptive data were extracted and studies were grouped in a data extraction table with the following criteria: study, subject, sample, method, outcome. The outcomes for which data were sought included factors influencing self-concept in individuals with intellectual disabilities, internal and external influencing factors, and methods used to assess self-concept.

All compatible results were sought for each outcome domain in each study. Other variables for which data were retrieved included participant characteristics (e.g., age, gender) and intervention characteristics (if applicable).

Assumptions about missing or unclear information were minimised by careful checking and discussion among the reviewers.

3.6. Synthesis

A narrative synthesis was conducted due to the significant heterogeneity of the included studies in terms of study design, intervention characteristics and outcome measures—especially in terms of terminology and measurement of self-concept and intellectual disability across studies and countries.

4. Results

The next section will provide an overview of the results, study by study. The examined studies will be summarised to provide results concerning the factors influencing the self-concept of individuals with intellectual disabilities. Subsequently, the methods used to evaluate the self-concept of individuals with intellectual disabilities will be presented.

4.1. Overview

Study 1. Bakker et al. [34] conducted a study comparing self-image and sociometric status of students with learning disabilities in special and general schools. The sample comprised a population of 1300 students (861 in general and 439 in special education). The number of boys and girls in general education was approximately equal (49.5% and 50.5%, respectively), whereas in special education, boys outnumbered girls (65.1% and 34.9%, respectively). Sociometric status was determined through a questionnaire. Self-concept was assessed using a questionnaire created by the authors adapted from questions of the Dutch version of Harter's Perceived Competence Scale for Children [41] and the Loneliness Scale by Ashe, Hymel, and Renshaw [42], as well as Items from School Questionnaire by Smits and Vorst [43]. The questionnaire covered various domains, including relationships with classmates, feelings of self-worth, feelings of competence, and self-image concerning school tasks.

Study 2. Brábcova et al. [35] aimed to determine factors affecting academic self-concept in children with epilepsy. The sample comprised 182 participants (98 females; 53.8% and 84 males; 46.2%) with mild intellectual disability (IQ 70), aged 9 to 14, who were diagnosed with epilepsy (generalised or focal seizures). The study used the Student's Perception of Ability Scale (SPAS) [44,45] to assess the quality of academic self-concepts in the sample of children with epilepsy.

Study 3. Donohue et al. [36] conducted a year-long reading intervention for primary school children with mild intellectual disability. The sample comprised 38 children with mild intellectual disability, aged between 7 and 13 years, who were in grades 2 through 5. Of these, 15 were female and 23 were male. The study utilised the Self-Description Questionnaire I—Individual Assessment (SDQI-IA) [46] and the Pictorial Scale of Perceived Competence and Acceptance (PSPCA) [47] to investigate self-concept in children with mild intellectual disability.

Study 4. Huck et al. [37] studied the perceived competence and acceptance of younger children with intellectual disability. A total of 11 boys and six girls participated in the study (mean age = 9 years, age range = 7 years 3 months-11 years 2 months). The participants demonstrated mild (IQ 55–70) to moderate (IQ 30–54) intellectual disabilities, with the majority falling within the moderate disability category. The perceived competence (academic self-concept) instrument used was the PSPCA by Harter and Pike [47].

Study 5. Li et al. [38] explored the self-concepts of Hong Kong Chinese adults with intellectual disabilities. The sample consisted of 135 students with mild intellectual disability (IQ 50–70), aged 16 or above. Of these, 65 were male and 70 were female, with a mean age of 24.85 years (range 18–52 years, *SD* 9.27). The comparison group consisted of 146 people without disability. The Adult Source of Self-Esteem Inventory (ASSEI) [48] was used to assess the self-concept of Hong Kong Chinese adults with intellectual disabilities.

Study 6. Scanlon et al. [39] assessed academic achievement, perceptions of learning ability, and self-concept [49] in children transitioning to post-primary school. The sample consisted of 56 individuals, divided into three groups: those with ADHD (*n* = 12; 1 female and 11 males), those with mild general learning difficulties (intellectual functioning below average) (*n* = 12; 6 females and 6 males), and those without disabilities (*n* = 11; 6 females and 5 males). Academic self-concept was measured using the Myself as a Learner Scale (MALS) [50] in the battery of measures assessing academic achievement, self-esteem, and perception of control over behaviour.

Study 7. Szumski and Karwowski [40] conducted research into the Big-Fish-Little-Pond Effect (BFLPE) in students with mild intellectual disability. Their work comprised three studies in this area of enquiry. Study 3 is pertinent to this review as it involved a sample of elementary school children with mild intellectual disability (*n* = 605; 355 boys; 58.7% and 250 girls; 41.3%). The children were aged between 9 and 13 years old (M = 10.95 years, SD = 9.89). They were enrolled in special schools (*n* = 195; 32%) or non-segregated schools (*n* = 410; 68%). Academic self-concept (ASC) was assessed using the Short Scale of Academic Self-Concept (SSASC) in all three studies. Emotional and social integration were measured using two scales from the Academic Integration Questionnaire (AIQ) [51].

4.2. Influencing Factors on the Self-Concept of People with Intellectual Disabilities

This section examines the factors influencing the self-concept of people with intellectual disabilities, a critical area of research for understanding their psychological well-being and social integration. From the literature analysis emerged several dimensions, such as diagnosis, age and gender. These are analysed in more detail in the following sections.

Diagnosis. Brabcová et al. [35] found that a diagnosis of mild intellectual disability had a significant negative impact on academic self-concept (*p* values > 0.01). The study also found a significant correlation between mild intellectual disability and academic self-concept (>0.3). Even mild intellectual disability had a negative impact on academic self-concept, with 15% of participants having a low academic self-concept compared to 5% of the control sample. The study showed that mild intellectual disability has a significant negative impact on academic self-concept, which exceeds the impact of intellectual disability alone.

Bakker et al. [34] also found a significant negative influence of having a diagnosis of intellectual disabilities on self-concept. Additionally, children with GLD had a lower mean self-concept score in the dimension of Relationship with Classmates than the overall mean of all groups (*t*(846) = −2.12, *p* = 0.30, *d* = −0.20). The study found a significant effect

(F(4, 846) = 3.00, p = 0.20) and a negative impact on academic self-concept (F(4, 846) = 11.81, p = 0.001) in students placed in general education.

However, Huck et al. [37] discovered that children diagnosed with intellectual disabilities maintained an overall positive self-concept as they aged, indicating that they perceive themselves as competent learners. In both groups, academic self-concept remained higher than social self-concept.

According to Scanlon et al. [39], students without disabilities consistently achieved higher academic scores than students diagnosed with mild general learning difficulties (MGLD). Despite lower academic achievement, students with diagnosed with MGLD (mild intellectual disabilities) had high academic self-concept and self-esteem. The authors noted that students diagnosed with MGLD, despite achieving lower academically, maintained positive self-concepts and perceived themselves as competent learners.

Age. Age was found to be a significant factor in influencing academic self-concept among children. This was particularly evident in individuals aged between 11 and 13 [34].

Huck et al. [37] observed that self-concept generally decreased with age among children with intellectual disabilities, except for perceived peer acceptance. Older students displayed more negative self-worth, suggesting a possible decline in self-esteem and self-perception with age. Additionally, when including the results of year 4 students, academic self-concept slightly decreased while social self-concept slightly increased.

Bakker et al. [34] also found that the relationship between performance, diagnostic label, and sociometric status varied across different age groups. This suggests that the effect of these factors on the academic self-concept was less pronounced in the younger age group (7–9 years), highlighting the developmental aspect of self-concept in relation to age. The impact of performance level, diagnostic label, and sociometric status on academic self-concept becomes more prominent as students enter adolescence.

For younger students in the early school years, academic self-concept may be independent of academic achievement. Instead, it may be influenced by social processes and the perception of oneself as a 'Good Student' [40].

Gender. Bakker et al. [34] discovered gender differences in self-worth among children with intellectual disabilities. Girls in special education settings reported more negative feelings of self-worth compared to boys. Gender differences were significant, particularly for low-achieving girls with intellectual disabilities facing negative sociometric evaluations. Gender differences were observed among girls, with a significant correlation between performance level, diagnostic label, and sociometric status (X^2(12) = 66.45, p < 0.001) (see Table A1). Low-achieving girls and girls with intellectual disabilities were more likely to receive negative sociometric status evaluations. This emphasises the gender-specific aspects of self-concept development and the necessity for gender-sensitive interventions and support.

In several studies, individuals with intellectual disabilities had a significantly higher total (academic) self-concept score than the comparison group(s) [37–39]. However, among females with intellectual disabilities, there was a negative impact on the gender gap, with girls scoring significantly lower than boys (M_{girls} = 2.16, SD = 0.67, M_{boys} = 2.43, SD = 0.57, t(418) = −3.18, p = 0.002) [33] (p. 56) (see Table A1).

Perception of Control. Scanlon et al. [39] found that in the domain of *perception of control over behaviour*, pupils with mild general learning disabilities (MGLD) scored the highest on the overall mean score (M = 34.250, SD = 5.241), second were pupils without disabilities and third pupils with ADHD (see Table A1).

In terms of correlations between the different test results, perception of control of behaviour overall influenced the academic self-concept negatively; the academic self-concept (MALS; Myself as a Learner) overall test score negatively correlated with perception of control (MMPC) scales: Internal Social control (r = −0.623, p < 0.05) and Powerful Others Cognitive (r = −0.696, p < 0.01). The self-concept (BSS) score 'Relationship with Father' negatively correlated with Perceived Control (MMPC) score 'Unknown Cognitive control' (r = −0.726, p < 0.01), and the self-concept score 'Relationship with Mother' (BSS) negatively

correlated with perceived control 'Powerful Others Social' score ($r = -0.657$, $p < 0.01$). Pupils with a mild general learning disability attribute more cognitive and social control to unknown sources than both other groups [39] (see Table A1).

School Placement. Szumski and Karwowski's study [40] found that students in special schools had higher academic self-concepts than those in integrated schools. Additionally, the study found that parents rated students with lower academic achievement higher.

Perceived Competence and Acceptance. Huck et al. [37] discovered that children with intellectual disabilities generally had positive perceptions of their competence and acceptance. Despite lower academic achievement levels, they maintained positive perceptions of their cognitive and social abilities. The academic self-concept was higher than the social self-concept for both groups, with a small to moderate positive relationship between perceived competence and actual academic achievement ($r_s = -434$, $p = 0.139$) (see Table A1).

Social and Emotional Integration. Szumski and Karwowski [40] demonstrated that social and emotional integration have a significant impact on shaping academic self-concept in students with mild intellectual disabilities. Social integration, in particular, has a greater impact on self-concept than academic achievement. Emotional and social integration moderated the Big-Fish-Little-Pond Effect (BFLPE).

> *"The big-fish--little-pond effect (BFLPE), an application of social comparison theory to educational settings, posits that a student will have a lower academic self-concept in an academically selective school than in a nonselective school".* [52] (p. 364)

The strongest effect of the BFLPE was observed in students who were socially integrated (in school) but poorly emotionally integrated (with their peers). Conversely, the BFLPE was less pronounced in students who were well-integrated both in school and with their peers.

Additionally, emotional and social integration played a role in moderating the relationship between academic achievement and academic self-concept [39]. Social and emotional factors influenced the development of their academic self-concept. Despite lower academic achievement, they maintained a positive self-concept and perceived themselves as competent learners.

Socioeconomic Status (SES). Szumski and Karwowski [40] observed that academic self-concept is influenced by socioeconomic status. Factors such as parental education and possessions were associated with differences in self-concept among students with intellectual disabilities.

Comparison with Peers. Huck et al. [37] suggest that children with intellectual disabilities may form their self-concept based on comparisons with their peers, regardless of their actual achievement levels.

Motivation. Results from the study conducted by Donohue et al. [36] highlighted the stability of non-academic and academic self-concept, with the Harter Pictorial scale identified as a suitable measure. Significant relationships were found between self-concept at Time 1 and achievement at Time 2 (Harter and WRMT-R, $X^2(8) = 17.99$, $r = 0.62$, $p = 0.02$) (see Table A1). The findings suggest that self-concept has an influence on academic achievement. Motivation was proposed as a mediating factor between high reading self-concept and perseverance in challenging tasks, leading to higher achievement.

INTERACTION EFFECTS

Performance Level and Diagnostic Label. Bakker et al.'s [34] study found that the self-concept of individuals with intellectual disabilities was significantly influenced by both their performance level and diagnostic labels. The diagnostic label, especially general learning disability (intellectual disability), and different low performance levels had varying effects on multiple dimensions of self-concept. Children with the diagnosis of GLD had a lower mean self-concept score in the dimension of Relationship with Classmates compared to the overall group mean ($t(846) = -2.12$, $p = 0.30$, $d = -0.20$), which was statistically significant ($F(4, 846) = 3.00$, $p = 0.20$). Additionally, these factors notably adversely affected academic self-concept ($F(4, 846) = 11.81$, $p = 0.001$) (see Table A1).

Age and Gender. Bakker et al. [34] found interaction effects among age, gender, and diagnostic label on self-concept dimensions. For instance, older students with intellectual disabilities had more negative self-worth than younger students, and girls with GLD reported more negative self-worth than boys.

Environmental Factors and Support Systems. Li et al. [38] highlighted the role of supportive environments and employment opportunities in shaping self-perception and fostering positive self-concept and well-being in individuals with intellectual disabilities. The study emphasised the importance of environmental factors and support systems in this regard.

4.3. Methods Used to Assess the Self-Concept of Individuals with Intellectual Disabilities

An overview of the methods used to assess the self-concept of individuals with intellectual disability follows:

1. Pictorial Scale of Perceived Competence and Acceptance (PSPCA):

    This scale, developed by Harter and Pike [46], is a pictorial representation aimed at assessing how individuals perceive their own competence and acceptance in various domains.

2. Dutch Version of Harter's Perceived Competence Scale for Children:

    This scale, developed by Veerman et al. [41], assesses children's perceptions of their competence across different domains.

3. Qualitative Methods:

    Qualitative approaches, as employed complementary by Li et al. [38], involve in-depth interviews, focus groups, or observations to gather rich, descriptive data about individuals' self-concept experiences.

4. Loneliness Scale by Asher, Hymel, and Renshaw [42]:

    This scale measures feelings of loneliness experienced by individuals with intellectual disabilities, providing insight into their social and emotional well-being.

5. Items from School Questionnaire by Smits and Vorst [43]:

    These items assess various aspects related to school experiences and contribute to understanding how school environments influence self-concept.

6. Student's Perception of Ability Scale (SPAS):

    This scale, adapted by Boersma and Chapman [44] and validated by Matejcek and Vágnerová [45], measures students' perceptions of their academic abilities, contributing to their academic self-concept.

7. Self-Description Questionnaire I—Individual Assessment (SDQI-IA) Marsh [46]:

    This questionnaire assesses various aspects of individuals' self-concept through self-descriptive statements.

8. Chinese version of the Adult Source of Self-Esteem Inventory (ASSEI):

    Developed by Elovson and Fleming [48] and adapted into a Chinese version by Tam and Watkins [53], this inventory assesses different sources contributing to adult self-esteem.

9. Burnett Self Scale (BSS):

    Developed by Burnett [49], this scale assesses self-esteem levels in individuals, providing insights into their overall self-concept and self-worth.

10. Myself as a Learner Scale (MALS):

    Developed by Burden [50], this scale assesses individuals' perceptions of themselves as learners, contributing to their academic self-concept.

5. Discussion

This section addresses the first research questions: which factors influence the self-concept of individuals with intellectual disabilities, and in what direction? Following this, the methods employed will be discussed.

5.1. The Formation of the Self-Concept in People with Intellectual Disabilities

In the studies examined, various factors were identified as influences on the participants' self-concept. The analysis of these factors revealed a predominant pattern that can be linked to the aforementioned importance of two factors influencing self-concept [10,19] (see Figure 1): firstly, one's own beliefs and interpretations of one's own achievements, and secondly, judgements coming from outside, especially from people close to the individual (such as teachers, carers, parents). These can be summarised under the following categories:

1. *Internal influencing factors*, i.e., factors that are created/measured/perceived by the individual and are part of their internal belief system;
2. *External influencing factors*, i.e., factors that are created/measured by and visible to the environment and influence the internal belief system from the outside through judgements of those close to the individual.

The *internal influencing factors* were named in more detail in the studies as:

- Perception of control (over self and others, as well as others of oneself) [39], which had a negative influence on the self-concept;
- Family self, social self and personal achievement [38] as important influencing factors (qualitative);
- Identified in the second category as *external influencing factors* were:
- High intellectual competence (high SSAT) score—moderator between Academic Self-Concept together with Academic Achievement, and Academic Achievement (on its own)—both negatively influenced the self-concept [40];
- Performance level (PL) and diagnostic label, PL and Age, PL and Gender [34,36] as negative influences on the self-concept;
- Competence Level [37]/Educational level [38] as positive influences on the self-concept;
- Diagnostic Label as negative [34,36] as well as positive influences [38] (for all data see Table A1).

These categories are not strictly separate, but influence and blend into each other. They serve the purpose of illustrating how factors of achievement influence the self-concept.

According to these results, the theory of two main domains influencing the ability self-concept can be confirmed—the configuration of which can be described in more detail, on the one hand, due to the analysis of different factors found in the included studies of this review. On the other hand, the results show ambivalence in the direction of the influence of the observed factors on the self-concept of people with intellectual disabilities.

5.2. Factors Influencing Self-Concept Development in Individuals with Intellectual Disabilities

The comprehensive analysis of various studies sheds light on the intricate dynamics influencing the self-concept development of individuals with intellectual disabilities. Through synthesising the results, patterns, inconsistencies, and implications can be discerned, that contribute to a deeper understanding of self-concept formation in this population.

One prominent finding across the reviewed studies is the multifaceted nature of factors influencing self-concept, categorised as internal and external influences. Internal factors, encompassing an individual's perception of control and personal achievements, intertwine with external factors such as societal perceptions, educational settings, and socio-economic status to shape self-concept trajectories.

In general, the studies reviewed (see Table 1) found that the views of others have a strong influence on the self-concept of people with intellectual disabilities. These views are influenced by concepts that underlie the formation of opinions and expectations of certain

groups. The only factor that seems to make these expectations particularly high is being perceived as female [34,36,38].

One explanation for this can be found in the concept of ableism [13–17]; a view that focuses on achievement as a marker for a particular population. When combined with a very narrow definition of achievement, e.g., good grades in certain areas of schooling, this in turn leads to high expectations of fitting into pre-defined achievement-oriented expectations. Girls and individuals perceived as female are most affected by this, as societal expectations have historically been more focused on women for longer periods of time. This is illustrated by Honneth's [54] account of the (dis)recognition of women's work in the 19th century and the associated role of the housewife:

> *"[. . .] housework, mostly done by women, such as cooking, laundry and childcare, must have accounted for the lion's share of all socially necessary tasks, but was not officially recognised as such, [. . .]".* [54] (p. 158, translated by the author)

These expectations (of what one should be able to do) are more stringent for those perceived as female than male [54]. Li et al. [38] make a similar argument in their interpretations, which is supported by the overall findings of the included studies focussing on gender [34,38].

Internal Influencing Factors. Intriguingly, perceptions of control emerged as a significant internal factor impacting self-concept [40]. Individuals with intellectual disabilities who perceive lower levels of control over their environment and personal agency tend to exhibit more negative (academic/ability) self-concepts. This highlights the importance of fostering autonomy and empowerment among individuals with intellectual disabilities as a means to cultivate positive self-perceptions.

Additionally, the concept of family self, social self, and personal achievement [38] emerged as crucial determinants of self-concept, underscoring the interconnectedness between familial support, social integration, and individual accomplishments in shaping self-perception. Understanding these internal dynamics is pivotal for designing interventions aimed at bolstering self-esteem and confidence among individuals with intellectual disabilities.

External Influencing Factors. External influences, on the other hand, emanate from societal attitudes, educational frameworks, and interpersonal dynamics. Notably, diagnostic labels and performance levels exerted significant impacts on self-concept [34,36]. The stigma associated with intellectual disabilities, compounded by societal expectations and educational categorisations, can perpetuate negative self-perceptions among individuals with intellectual disabilities [20].

Moreover, the role of gender in shaping self-concept cannot be understated. Girls and individuals perceived as females with intellectual disabilities, particularly when older, are disproportionately affected by societal norms and expectations [34]. The intersectionality of gender and diagnosis exacerbates the challenges faced by individuals perceived as female, highlighting the need for gender-sensitive approaches in supporting self-concept development.

Additionally, children with intellectual disabilities may base their self-concept on comparisons with their peers, regardless of their actual level of achievement, according to Huck et al. [37]. This indicates that social comparison processes influence self-perceptions.

In conclusion, social factors, particularly social interaction processes and behaviour, played a crucial role in shaping the academic self-concepts of students with Mild Intellectual Disability (MID) in special schools. Emotional and social integration were considered essential for the development of a strong academic self-concept in students with MID [40].

Interaction Effects. The interaction between various factors further complicates the self-concept landscape. For instance, performance levels, diagnostic labels, and age collectively influence self-concept trajectories, with older individuals experiencing more pronounced negative self-concept [34]. This underscores the dynamic interplay between developmental stages, cognitive abilities, and societal perceptions in shaping self-concept evolution.

As mentioned above, the factors observed to influence the self-concept of people with intellectual disabilities vary between studies. While some factors may have a positive effect on self-concept in one study, they may have a negative effect in another. Gender remains a negative influence on self-concept, even when combined with other factors that vary in their direction of influence. Gender (in the case of being perceived as female) may negatively influence the development of high self-concept, either alone or in combination with other factors such as age and diagnostic label/level of functioning [34,35,40].

5.3. Methods Used to Assess the Self-Concept of Individuals with Intellectual Disabilities

The methods used to assess the self-concept of individuals with intellectual disabilities encompass a variety of scales, questionnaires, and qualitative approaches. These methods provide insights into different dimensions of self-concept, including perceived competence, loneliness, academic self-concept, self-esteem, and perceptions of oneself as a learner.

The Pictorial Scale of Perceived Competence and Acceptance (PSPCA), developed by Harter and Pike [47], assesses perceived competence and acceptance using pictorial representations, which can be particularly useful for individuals with intellectual disabilities who may have difficulty with traditional verbal scales.

Another aspect is captured by the Loneliness Scale [42], in assessing feelings of loneliness. This can be an important aspect of self-concept, especially in individuals with intellectual disabilities who may experience social challenges, and due to their higher vulnerability, are more dependent on their social environment.

Other scales measure aspects of self-concept to gain a better understanding of specific areas of individuals' identities; the Burnett Self Scale (BSS) [49] specifically measures self-esteem, which is a crucial component of self-concept, whereas the Myself as a Learner Scale (MALS) [50] assesses students' perceptions of themselves as learners, which is a significant aspect of their academic self-concept.

The diverse range of assessment tools reflects the multifaceted nature of self-concept and allows for a comprehensive understanding of individuals with intellectual disabilities in various contexts. These methods collectively offer a comprehensive understanding of the self-concept of individuals with intellectual disabilities across various domains, including competence, social relationships, emotional well-being, and academic experiences. Depending on the specific research objectives and population characteristics, researchers can select appropriate methods or combine multiple approaches and aim to capture the complexities of self-concept accurately.

5.4. Implications for Theory and Practice

The insights garnered from these findings have significant theoretical and practical implications. The conceptualisation of ableism as a predominant influence on self-concept, particularly for girls and individuals perceived as females, elucidates the pervasive impact of societal norms and expectations. Addressing ableism requires a paradigm shift towards inclusive practices and empowerment strategies that celebrate diversity and individual strengths.

Furthermore, the identification of specific factors contributing to positive self-concept, such as perceptions of control and familial support, underscores the importance of holistic interventions encompassing social, emotional, and psychological dimensions. Integrating these insights into educational curricula and support programs can foster environments conducive to self-affirmation and resilience among individuals with intellectual disabilities.

It is evident that further research is required, which should include individuals with more severe intellectual disabilities (e.g., through the use of material-supported interviews). This research should aim to determine their self-concepts and self-perception regarding their abilities.

5.5. Ethical Considerations

In conducting this systematic review, we are mindful of the increased vulnerability of people with intellectual disabilities and the need to address ethical considerations when investigating topics related to their self-concept. While our methodological approach included the use of established appraisal tools such as PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) [30] and MMAT (Mixed Methods Appraisal Tool) [33], which inherently assess aspects of study quality and ethical rigour, we also recognise the need to discuss ethical implications directly.

Research involving vulnerable populations requires heightened sensitivity to ethical considerations. People with intellectual disabilities may face unique challenges and risks, and it is crucial to approach their participation in research with the utmost care and respect for their autonomy and well-being. Although the studies included in this review have undergone peer review, which provides a degree of ethical scrutiny, it is important to acknowledge the potential for ethical concerns inherent in research involving such populations.

For example, the exploration of self-concept in people with intellectual disabilities may raise ethical questions about the potential impact on participants' self-esteem and well-being. Anecdotal evidence suggests that certain measures and interventions designed to assess or improve self-concept may have unintended adverse effects on self-esteem, highlighting the need for careful consideration of ethical dimensions.

In light of these considerations, we emphasise the importance of continued vigilance and sensitivity to ethical dimensions in research involving people with intellectual disabilities. While our review focuses primarily on methodological quality and synthesis of findings, we encourage future studies in this area to include explicit discussions of ethical considerations to ensure that research endeavours uphold the dignity, autonomy and well-being of all participants.

5.6. Limitations

The results of this systematic review should be interpreted within the context of its limitations. The limited number of studies available in this area highlights the need for focused research. In formulating the research questions, the aim was to address key gaps in understanding, taking into account the paucity of existing literature. The research questions are designed to delve deeply into specific aspects, such as the formation and assessment of self-concept in people with intellectual disabilities, thereby maximising inclusivity while addressing the limitations of the limited existing research. The incorporation of studies with diverse definitions of self-concept and varying study designs enriched the perspectives included. It is crucial to contextualise the diagnosis of intellectual disability within the specific educational and health systems of each country, where terminologies may differ. In addition, due to the variability in terminology, an extensive review process was undertaken to exclude studies that focused solely on specific learning disabilities. The diverse nature of the studies made comparative analysis difficult. A narrative synthesis was undertaken, which may reflect the researchers' interpretation of the data. Consequently, there is a possibility that certain risk factors and influencing variables may have been overlooked due to the inherent heterogeneity. Furthermore, the limitation on studies published in English or German was imposed due to resource constraints.

Moreover, it is important to recognise the limitations regarding the generalisability of the findings. With seven studies included in this systematic review, the findings may provide valuable insights into the relationship between self-concept and intellectual disabilities, but cannot be generalised to all populations or contexts. The limited number of studies restricts the extent to which conclusions can be drawn about the wider population of people with intellectual disabilities.

Finally, the risk of confounding variables must be considered, as the small number of included studies may not adequately control for all potential confounders or unmeasured variables that could influence the observed associations. Therefore, while the findings

contribute to the existing literature, they should be considered as an initial exploration rather than definitive conclusions, highlighting the need for further research in this area.

6. Conclusions

Assessing self-concept among individuals with intellectual disabilities is a complex process that requires multiple evaluation methods. Researchers have attempted to capture the nuanced dimensions of self-concept in this population by using tools such as the Pictorial Scale of Perceived Competence and Acceptance, Harter's Perceived Competence Scale, Loneliness Scale, School Situations Grid, and various other self-report questionnaires. These methodologies provide valuable insights into the self-perceptions, competencies, and emotional experiences of individuals with intellectual disabilities. This facilitates targeted interventions and support strategies to enhance their overall well-being and quality of life. However, it is necessary to conduct further research to investigate the applicability, reliability, and validity of these assessment tools in diverse contexts and populations. This will ensure comprehensive and tailored approaches to address the unique needs and strengths of individuals with intellectual disabilities.

In conclusion, by reviewing, analysing and processing the current state of research as reflected in the literature base used, it was possible to achieve a level of knowledge that could be used to develop an answer to the research question posed. This synthesis of findings highlights the intricate interplay between internal beliefs, external perceptions and societal structures in shaping the self-concept of individuals with intellectual disabilities. Recognising and addressing these multiple influences brings the aim of empowering individuals with intellectual disabilities to embrace and develop their unique identities closer.

Appendix A

Table A1. Factors of achievement constructs and their influence (correlation i.a.) on the self-concept in the studies included in the systematic review.

Study	Dimension of Self-Concept (SC)	Factors of Achievement Researched	Influence (Correlation) of Researched Factors on Self-Concept NEGATIVE SC POSITIVE SC
1. Bakker et al. [34]	GENERAL EDUCATION		
	Relationship with classmates	Performance level and diagnostic label GLD	$F(4, 846) = 3.00, p = 0.20$ $t(846) = -2.12, p = 0.30, d = -0.20$
	Feelings of competence	Performance level and diagnostic label GLD	$F(4, 846 = 11.81, p = 0.001)$ $t(846) = -3.36, p = 0.001, d = -0.42$
	SC concerning school-tasks	Performance level and diagnostic label GLD	$F(4, 846) = 16.85, p < 0.001$ $t(846) = -4.67, p = 0.000, d = -0.58$
	SPECIAL EDUCATION		
	Feelings of competence	Performance level (low-achieving = total)	$F(2, 418) = 3.60, p = 0.001$ $t(418) = -0.90, p = 0.37, d = -0.02$
	Feelings of self-worth	Performance level and Age Low achieving and older	$F(2, 418) = 4.74, p = 0.009$ $ß = -0.09, t(418) = -2.07, p = 0.04$
		Diagnostic Label and Gender	$F(2, 418) = 3.14, p = 0.05$ $M_{girls} = 2.16, SD = 0.67, M_{boys} = 2.43, SD = 0.57,$ $t(418) = -3.18, p = 0.002$
2. Brabcová et al. [35]	Academic SC (Boersma and Chapman, 1979)	Diagnostic Label (mild intellectual disability)	<0.001 (15% low ASC, 5% in control sample)
3. Huck et al. [36]	Academic SC	Competence Level	$r_s = -434, p = 0.139$
4. Li et al. [38]	Family Self	Educational Level	$r = 0.17, p < 0.05$
	Personal Achievement (i.e., special talents)	Educational Level	$r = 0.17, p < 0.05$
	External Achievement (i.e., academic achievement)	Educational Level	$r = 0.28, p < 0.01$
	Total Self-Concept	Diagnostic Label (ID)	$M = 145.57, SD = 28.11, M = 129.43, SD = 23.68, p < 0.01$
		Family Self, Social Self, Personal Achievement	Important components for the Self-Concept (Important influencing factors of Self-Concept; Qualitative Data)

Table A1. *Cont.*

Study	Dimension of Self-Concept (SC)	Factors of Achievement Researched	Influence (Correlation) of Researched Factors on Self-Concept NEGATIVE SC POSITIVE SC
5. Scanlon et al. [39]	Academic SC	Perception of Control: Internal Social Control Powerful Others Cognitive	$(r = -0.623, p < 0.05)$ $(r = -0.696, p < 0.01)$
	General SC Relationship w Father Relationship w Mother	Unknown Cognitive Control Powerful Others Social	$(r = -0.726, p < 0.01)$ $(r = -0.657, p < 0.01)$
6. Szumski and Karwowski [40]	Academic SC	High Intellectual Competence (high SSAT) Score (moderator between ASC and Academic Achievement)	$(r = -0.16; p < 0.02)$ (after correcting for range restriction: $r = -0.38, < 0.001$)
		Academic Achievement	$(r = -0.18, p < 0.001)$

Table A2. Search Strategy.

Database	Search Terms/Search String
Education Source 24.1.2024 (last search)—363 Results	((intellect* OR mental* OR learn* OR cognitive) N3 (disab* OR impair*)) AND ((self) N2 (concept* OR perceptio* OR esteem*)) AND ((academi* OR learn*) N3 (achievem* OR performa* OR succes*)))
ERIC—24.1.2024 (last search)—134 Results	((intellect* OR mental* OR learn* OR cognitive) NEAR/3 (disab* OR impair*)) AND ((self) NEAR/2 (concept* OR perceptio* OR esteem)) AND ((academi* OR learn*) NEAR/3 (achievem* OR performa* OR succes*))
Web of Science—24.1.2024 (last search)—144 Results	(((intellect* OR mental* OR learn* OR cognitive) NEAR/3 (disab* OR impair*)) AND ((self) NEAR/2 (concept* OR perceptio* OR esteem*)) AND (academi* OR learn*) NEAR/3 (achievem* OR performa* OR succes*))
SCOPUS—24.1.2024 (last search)—188 Results	(TITLE-ABS-KEY ((intellect* OR mental* OR learn* OR cognitive) W/3 (disab* OR impair*)) AND TITLE-ABS-KEY ((self) W/2 (concept* OR perceptio* OR esteem)) AND TITLE-ABS-KEY ((academi* OR learn*) W/3 (achievem* OR performa* OR succes*)))
PubMed—26.1.3024 (last search)—101 Results	((intellect* OR mental* OR learn* OR cognitive) AND (disab* OR impair*) AND (self) AND (concept* OR perceptio* OR esteem) AND (academi* OR learn*) AND (achievem* OR performa* OR succes*))

* is a wildcard used to broaden the search for the given term (e.g. intellect* will return results such as intellectual, intelligent).

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