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Research Studies about "Plant Blindness" from 1999 to 2024: A Literature Review Study

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ABSTRACT

Plant blindness is a concept that has long been ignored by researchers and teachers. It brings integrated overview about "plant blindness" research history and it can serve as a springboard for other researchers. The aim of this study was to identify how research studies represent the concept of "plant blindness." These research studies primarily focus on the education process. The PRISMA model was used for this review study. Data collection took place during spring and summer of 2025, covering studies from 1999 to 2024 related to research on "plant blindness." Google Scholar was chosen as the information source. Initially, 52 research articles were reviewed; after analysis, 22 studies were selected, while 30 papers were excluded because their main focus was outside the scope of this study. Most of the research studies were published in 2023, the majority of respondents were from the USA, and university students were the most frequent sample group.

Keywords: biology education, plant blindness, plants, science education, review study

INTRODUCTION

Plants have long been overlooked by researchers and educators, despite being integral to human life (Azizi et al., 2023; Deng & Deng, 2018; Raven, 2019). They are essential for life on Earth, supplying vital resources and sustaining ecological balance (Verma, 2021). As the basis of food chains, plants provide nourishment to humans and animals alike (Emmet et al., 2005; Harlan, 1976; Kayode et al., 2018; Nascimento et al., 2016). Through photosynthesis, plants produce the oxygen we breathe and regulate climate by absorbing carbon dioxide (Cummins et al., 2020; Gondim & Rondon, 2020). Additionally, they create habitats for diverse organisms (Usman et al., 2014), prevent soil erosion (Osman et al., 2021; Zaib et al., 2023), and supply materials used in medicine, shelter, and clothing (Brevik et al., 2019; Calixtio, 2000; Fowler, 2006). The term "plant blindness" was first used in a 1999 publication by educators James Wandersee and Elisabeth Schussler. They described it as the tendency to overlook or undervalue plants in favor of animals, often perceiving plants merely as background elements. This concept highlights a lack of attention and appreciation for the importance of plants in ecosystems and everyday life. Wandersee and Schussler outlined the symptoms of plant blindness as:

(a) thinking of plants as mere backdrops for animal life.

(b) failing to notice or focus attention on plants in daily life.

(c) misunderstanding what plants need to survive.

(d) overlooking the importance of plants to daily affairs (Wandersee & Schussler, 1999).

Plant blindness describes a cognitive bias where people fail to notice plants in their surroundings or recognize their ecological and societal importance, often due to factors like visual homogeneity, lack of movement, and cultural zoo-centrism. This leads to undervaluing plants' roles in oxygen production, food webs, and climate regulation. The term equates blindness—a disability—with a negative trait, making it ableist and potentially hurtful to disabled communities. Critics argue it perpetuates the idea that disability is inherently undesirable, contrary to the original intent.

Researchers propose "plant awareness disparity" (PAD) as a more neutral replacement, capturing the same attention, attitude, knowledge, and literacy gaps without ableist connotations. This shift supports broader efforts to address perceptual biases in education and policy (McDonough et al., 2019; Sanders, 2019). Parsley introduced "Plant Awareness Disparity" (PAD) in 2020 as a replacement for "plant blindness" to avoid ableist connotations, emphasizing that plants are noticed but often backgrounded compared to animals. This disparity in attention drives the other PAD components: reduced interest in plants relative to animals, lower knowledge about their importance, and less positive attitudes toward them. PAD consists of four interconnected elements, with attention as the primary driver.

1. Attention: Tendency to overlook plants in visual environments, placing them in the background.

2. Attitude: Lack of positive feelings toward plants, especially in education.

3. Knowledge: Limited understanding of plants' roles and value.

4. Relative interest: Preference for animals over plants.

PAD highlights opportunities for intervention through targeted education, as the disparity is malleable rather than a fixed "blindness." Instruments like the Plant Awareness Disparity Index (PAD-I) measure these components in students to support such efforts. This framework builds on prior work while addressing critiques of ableism. While all these components are important, the term Plant Awareness Disparity highlights the root cause of the problem, similar to how plant blindness did previously. The renaming and acceptance of

the new term have been adopted in several studies (Albuquerque et al., 2025; Brownley et al., 2023; Mercan et al., 2024; Parsley et al., 2022; Prokop & Fancovicova, 2023; Stagg & Dillon, 2022). "Plant awareness disparity" (PAD), formerly termed "plant blindness," describes the tendency for people, especially students, to overlook or undervalue plants in their surroundings, often favoring animals. This concept encompasses four key components: attention (failing to notice plants), attitude (disliking or indifference toward plants), knowledge (underappreciating plants' importance to ecosystems and humans), and relative interest (prioritizing animals).

While often used interchangeably, PAD emphasizes a broader "disparity" in awareness between plants and animals, proposed by Parsley (2020) to avoid ableist connotations of "blindness." The user's distinction—that PAD focuses more on the affective domain (e.g., attitudes and interest) versus plant blindness's cognitive (knowledge) and conative (behavioral intent) emphases—aligns partially with PAD's components but lacks strong differentiation in the literature, where both terms integrate all domains. Parsley's work highlights attention as foundational, leading to affective and cognitive gaps. Stagg and Dillon (2022) reviewed educational and ethnobiological literature on these concepts, supporting their interconnected nature. Parsley (2020) formalized PAD, arguing that it better captures the awareness imbalance without stigma. These theoretical overviews exclude primary empirical data, fitting the user's note on reserving such for later chapters.

Research Aims

Research studies on plant blindness show a rising trend. It is possible to see that all scientific databases (like Web of Science, Scopus, and others) have seen a growing trend in the inclusion of published studies regarding the mentioned concepts. With the increasing number of studies focused on this topic, the scientific community is gradually calling for a summary of studies of a theoretical–analytical nature. Based on this, the following aims were established:

- to present basic features of selected research studies
- to determine whether there has been an increase in the number of publications over time;
- to analyze the representation of studies based on the nationality of respondents and assess the influence of other categories related to respondent nationality;
- to examine the representation of samples according to educational level in the analyzed studies.

METHOD

Selection of Articles

Google Scholar was chosen as the primary database for the literature review on plant blindness due to its comprehensive indexing of publications, including those in local journals and conference-related works not captured by more restrictive databases like Web of Science or Scopus. The concept of plant blindness, first coined by botanists J. H. Wandersee and E. E. Schussler in their 1999 publication "Preventing Plant Blindness," emerged relatively recently, with early studies often appearing in non-mainstream outlets. This aligns with the selection's time frame from the term's first mention through 2024, excluding incomplete 2025 data collected in July.

Articles were limited to empirical, peer-reviewed studies in English, categorized under Educational Research, ensuring focus on rigorous qualitative or quantitative educational research. Conference proceedings were excluded owing to inconsistent peer-review processes, and no monographs or books were identified in the database. This methodical approach, detailed in **Table 1**, prioritizes verifiable, high-quality empirical evidence on plant blindness in educational contexts.

Table 1. Principles for studies included in the review process

Inclusion Principles	Exclusion Principles
Research paper on plant blindness and plant awareness disparity	Studies on plant blindness and plant awareness disparity, which have not got empirical character
They were published from 1999 to 2024	They were published after 2024
Research studies regarding to education	Research studies, which were not regarding to education
The full version or minimally abstract of the publication has open access via the Google Scholar and was published in journals	The full version or minimally of the publication has open access via the Google Scholar, but it was not published in journal only in conference proceedings
The publication was published in English language	The publication was published in different as English language

The criteria enhance reliability by emphasizing peer-reviewed empirical work, addressing the concept's novelty and scattered publication history. However, reliance on Google Scholar introduces potential limitations, as not all indexed articles undergo equivalent review scrutiny compared to curated databases. Authors acknowledged this awareness, balancing inclusivity with quality for a novel topic like plant blindness.

Data collection for the research part took place during the first half of 2025, when 22 studies were found according to the specified criteria. The checklist for PRISMA was filled, and a PRISMA model was created according to the guidelines (Page et al., 2021). This ensures that readers can understand the rationale, methodology, and results of the review, making it easier to assess the quality and reliability of the findings. The flow diagram showed how many records were identified, screened, assessed for eligibility, and included in the final analysis. In summary, the PRISMA model, which was used, was a critical tool for conducting systematic reviews, helping to standardize reporting and improve the quality and transparency of research. The PRISMA model is possible to see in **Figure 1**.

Geographical Restrictions and the Coding Process

The described methodology employs a comprehensive, global inclusion of studies without geographic restrictions to maximize data breadth, followed by a two-phase iterative coding process rooted in grounded theory principles. Open (exploratory) coding initiates the process by systematically reading data to identify and label emergent main themes without preconceived categories. This inductive step captures initial patterns directly from the raw material. Axial (categorization) coding follows, grouping individual data instances into standardized, interconnected categories to refine structure and reveal relationships. Codes evolve iteratively, adapting to recurring patterns observed across the dataset for enhanced reliability.

Time Limit and Language Restrictions

Studies were selected from 1999, marking the first relevant publication, to 2024, as 2025 remains incomplete for comprehensive analysis. The prose review of these studies occurred between April and July 2025, aligning with standard practices for scoping recent literature while awaiting full-year data. Articles published in English were included in the analysis to ensure accessibility and consistency in evaluation. This approach mirrors common systematic review methods, where English-language restrictions facilitate feasibility, though they may limit global representation; for instance, only 22% of unrestricted reviews incorporate non-English trials. Such criteria support rigorous assessment within resource constraints typical of academic research projects.

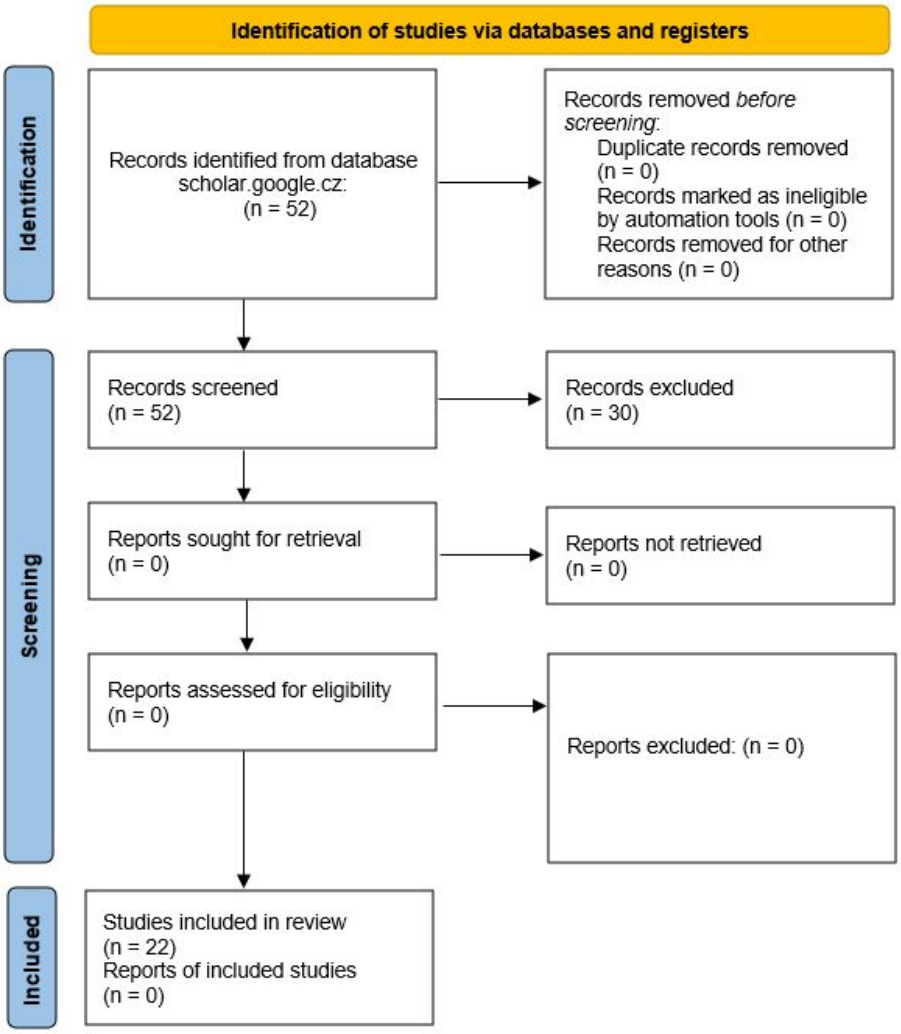

Figure 1. PRISMA flow diagram describing the selection of studies for analysis in 2025 regarding the concept "plant blindness."

Data Analysis

Articles were systematically searched in the selected database, tracked down, and downloaded for inclusion in the literature review on plant blindness. Original research studies were identified through individual examination, followed by categorization of data into year of publication, journal, nationality of respondents, and education level. Absolute numbers of studies were reported due to the concept's recent emergence since 1999, with results visualized in word, table, and figure formats for clarity. This approach aligns with standard systematic review guidelines, where initial screening ensures empirical originality before extracting descriptive variables like publication details and sample demographics. Low study counts reflect plant blindness's novelty, as confirmed in prior scoping reviews emphasizing its limited empirical base. The authors conducted all analyses per literature review protocols, enhancing transparency and replicability. Presenting data multimodally (text, tables, figures) improves comprehension, particularly for nascent fields like plant blindness, where trends in geography or samples reveal research gaps. Such descriptors provide foundational insights for future meta-analyses once publication volume increases. This methodology supports rigorous synthesis without advanced statistical pooling, given the sparse dataset.

RESULTS

As mentioned, a total of 22 studies were analyzed out of an initial 52. Many studies (nearly 60 %) were excluded because they focused on analyzing main concepts without any empirical data. Other excluded studies did not focus on education but rather on botany or environmental contexts. The basic features of selected studies are in **the Appendix.** As noted in the theoretical background, there are two synonymous terms: "plant blindness" and "plant awareness disparity." The term "plant blindness" was used in 15 studies, while "plant awareness disparity" appeared in 7 studies. It is mentioned in the theoretical background that "plant awareness disparity" started to be used in 2019; however, up to now, the term "plant blindness" remains more commonly used.

Another criterion considered was the year of publication. The earliest study included in the analysis was published in 2014. The next studies meeting the criteria appeared in 2018, with similar patterns observed for 2019, 2021, and 2022. The majority of studies were published in 2023. It is possible to see that between 1999 and 2014 was not detected any research study regarding the concept “plant blindness”, As it was mentioned in the previous section of the text, the concept “plant blindness” was starting in 1999. The first studies were not empirical, but they were tried to define the main ideas of this concept and to anchor this concept in the field of didactics of science subjects. The distribution of studies by year is shown in **Table 2**.

The other criterion was the country of the respondents. As it is possible to see in the **Figure 2**, the distribution of score was interesting. The highest number of research studies regarding to “plant blindness” focused on the educational process was published in the USA. The lowest number was published in Slovakia and Portugal. The Asian countries had got a representation in two countries – Turkey and Indonesia.

The last criterion was the educational level of respondents. As it is possible to see in **Figure 3**, the most selected number of respondents was from universities (n = 8). The primary school students were found in three studies. The respondents were also from a non-educational environment. They were random visitors of botanical gardens, parks, etc. The university students answered questions in the test. The tests were the most common research tool used in the empirical researches among all respondents. The questionnaire, where the attitude toward plants was examined, was used marginally. The interview was used among primary school pupils. The category “others” covered content analysis of textbooks.

Table 2. Number of studies published in concrete years

Publication year	Number of studies
2014	1
2018	1
2019	1
2020	4
2021	1
2022	1
2023	9
2024	4

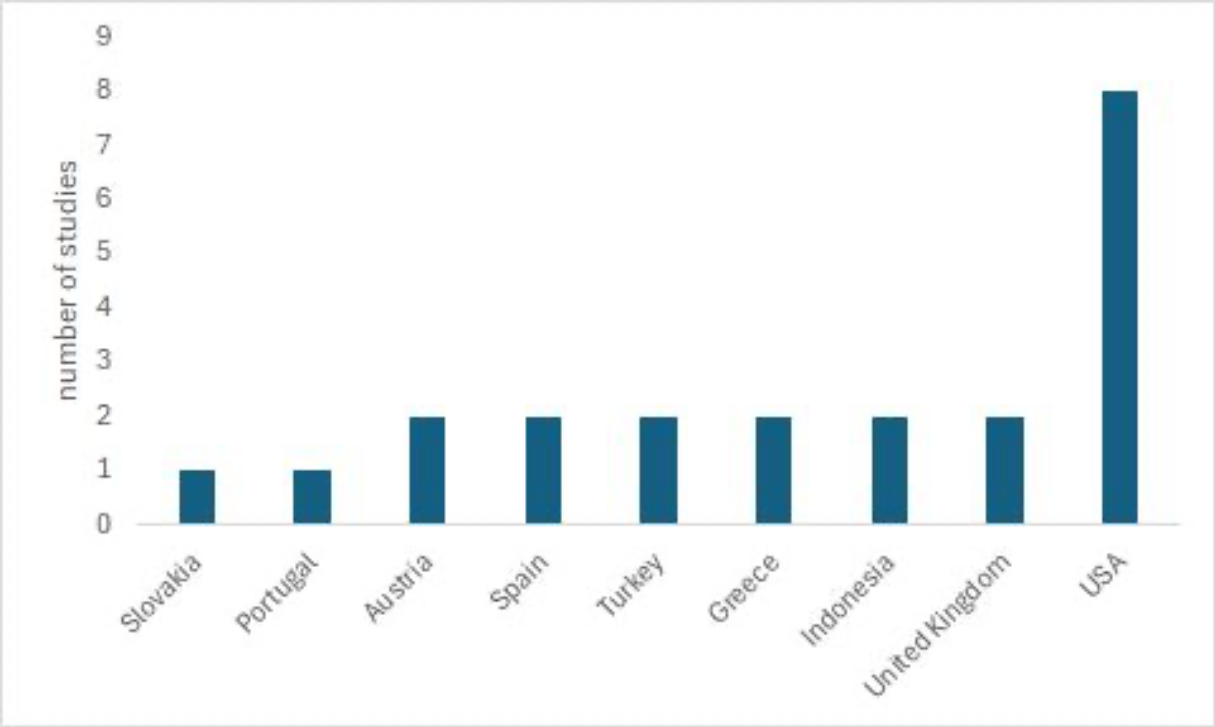

Figure 2. Number of studies with respect to the country of respondents

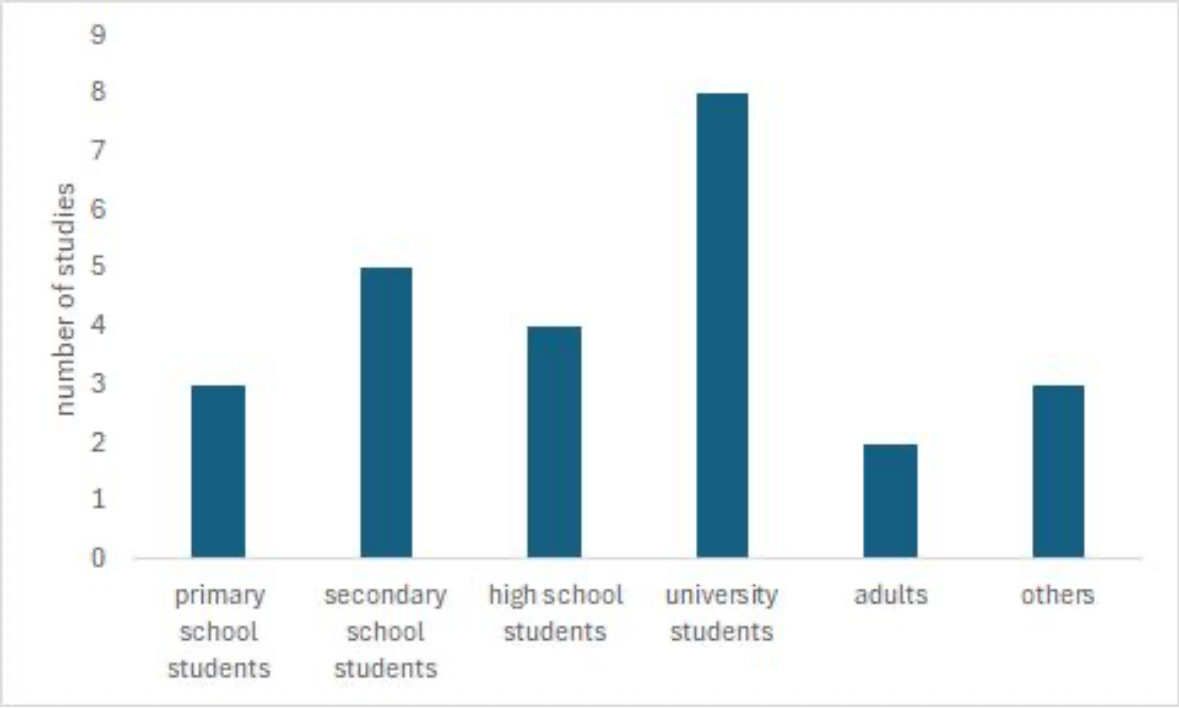

Figure 3. Number of studies with respect to the educational level of respondents

Brief Synthesis of Reviewed Studies

This subchapter presents a comprehensive summary of the studies analyzed regarding the concept of "plant blindness," positioning itself as one of the pioneering reviews focusing specifically on research dedicated to this phenomenon. The primary aim of the study was to consolidate, in one place, an overview of what has been examined within this concept over a relatively short period. Given that "plant blindness" is a comparatively recent research topic, it is understandable that the depth of analysis is not yet comparable to more established concepts with extensive research histories. As outlined earlier, the review identified 22 strictly research-based studies that have referenced "plant blindness" as a central theme. This concept, first introduced in 1999, continues to play a significant role in both theoretical and empirical studies to the present day. Notably, since 2019, a related term, "plant awareness disparity," has been increasingly employed in the literature, with a noticeable rise in its usage from 2020 onwards.

Early research on plant blindness predominantly consisted of theoretical explorations, laying the conceptual groundwork for later investigations. The first empirical study on the topic emerged in 2014, marking a shift towards data-driven research. However, growth in the number of empirical studies was gradual and somewhat anticipated, given the nascent stage of this research domain. The field remained dominated by theoretical studies up until around 2020, after which there was a notable increase in empirical investigations. Both terms, “plant blindness” and “plant awareness disparity,” have been used during this period, with ongoing theoretical debate particularly around the latter term. Some scholars have argued that “plant blindness” is an inadequate label and have advocated for “plant awareness disparity” instead, yet this terminological shift has not supplanted the original concept, which remains widely accepted and applied in research contexts.

Geographically, most respondents involved in these studies were from the United States, which aligns with the origin of the plant blindness concept itself. The term “plant awareness disparity” also first emerged in the U.S., where methodologically focused studies primarily engaged American participants. The research timeline indicates the U.S. as the starting point for studies on both terms. Subsequently, research efforts spread to other regions, including European countries—such as Spain, Greece, and the United Kingdom—and some Asian countries, including Turkey and Indonesia, although the numbers of these studies was fewer. Many countries had limited empirical research participation, which resulted in a heavier reliance on theoretical discourse in the literature. Additionally, some studies appearing in scholarly databases were published only in conference proceedings, lacking formal peer-reviewed research statuses.

Regarding participant demographics, university students were the most common respondents, likely due to easier access compared to younger populations in primary or secondary schools. The latter presented challenges in data collection, commonly due to institutional reluctance and barriers imposed by school administrations. Interestingly, some studies focused on analyzing educational materials, such as textbooks, to investigate representations of plants, but these content analyses were relatively few in number.

Overall, this subchapter underscores the emerging and evolving nature of research into plant blindness and plant awareness disparity. The growing empirical base, coupled with sustained theoretical inquiry, highlights the importance of continued investigation to better understand and address this phenomenon, which has significant implications for education, conservation, and ecological awareness worldwide. This summary provides a foundation upon which future research can build deeper, broader analyses and more effective interventions to counteract human tendencies to overlook plants in their environments.

DISCUSSION

This chapter of the study is one of the most important, mainly because it focuses on a key issue. The problem of “plant blindness,” also referred to as “plant awareness disparity,” has increasingly attracted the interest of

researchers, especially in the field of science education. However, the number of research studies focused on this concept within education is still somewhat limited. This may be due to relatively strict selection criteria, such as including only empirical studies with a dominant focus on science education. Early publications on plant blindness primarily addressed the basic definition of the concept and how it could be integrated into education, particularly science education. More precise signs and characteristics of the concept were needed for its further development (Batke et al., 2020).

Related to the previous paragraph, one of the criteria examined was publication year. The first full-fledged empirical study was published in 2014 by Pany (2014). Before this time, studies on plant blindness were mostly theoretical or lacked significant empirical data. The theoretical groundwork was essential for clearly establishing the concept within the educational framework. It is important to remember that the scientific education field is very rigid. As Zhang et al. (2022) noted, educational policymakers and theoretical experts tend to be slow to accept and adopt new terms. This may explain why, in the first 15 years after the term "plant blindness" was introduced, most studies aimed to define and establish the concept rather than empirically investigate it. Many excluded studies focused mainly on definition, with only marginal or no empirical content. This trend has continued after 2014, but since 2020, empirical studies have been increasing, and it is likely that this trend will continue.

The year 2019 was somewhat groundbreaking because, after a series of discussions, the term "plant blindness" was deemed unsuitable. It has been identified as a disability metaphor, equating disability with a negative trait that needs "fixing" (Schalk, 2013). It is inappropriate and hurtful to people, and its lack contributes to ableism. Ableism is the belief that disability is inherently bad and, in practice, devalues disabled people (Parsley, 2020).

Despite the strong push to use the new concept "plant awareness disparity," it is still possible to observe that research studies frequently use the term "plant blindness." A review analysis supports this observation, as it identified research studies using the term "plant blindness" even after 2019 (e.g., Ferreira & Simoes, 2024). The number of such studies is greater than one, and they have appeared recently, including publications in scientific journals in 2025. Examples include Da Silva (2025), Soraya et al. (2025), and Torres-Porras et al. (2025).

The next variable observed was the country of respondents selected for the research. The majority of studies came from the USA, while other countries were represented by only one or two studies each. This is likely due to the origins of both concepts, "plant blindness" and "plant awareness disparity." The initial definitions and first methodological studies—focused on developing and validating research tools—were published by American authors. The earliest full research studies were conducted among American pupils and students. Researchers in Asian and European countries often adapted the research tools and methodologies from these original American studies. Notably, African countries were not represented in the research sample.

University students were the most frequently studied group in these research studies. Other groups appeared less often. Primary school students were included in only three studies, one of which also involved older respondents from secondary school to university (Marcos-Walias et al., 2023). The reason university students are the most frequent subjects is that working with them is easier compared to younger respondents. University students are more accessible as samples compared to children or adult populations. This point is also discussed in Chen et al. (1998). Preparing research tools for university students is much simpler than developing tools or conducting interviews with primary school students.

Limitations of the Study

The review study presents basic findings from previously published research on the concept of "plant blindness." It examined several variables that form the foundation for further research, including the use of the

term, the nationality of respondents, and the number of published studies per year. Other variables were not examined due to the limited duration of research on the concept of "plant blindness." The predominant methodological approach is quantitative for data collection and analysis, while qualitative approaches are marginal. However, qualitative methods may become more important in the future, as the study of this concept is still in its early stages.

During the first fifteen years, research mainly focused on defining the concept. The subsequent shift to the term "plant awareness disparity" did not significantly contribute to its development. Consequently, research approaches and methods remain underdeveloped. It is likely that, as more studies are published over time, it will become possible to explore additional variables related to this concept.

CONCLUSION

This contribution summarizes previous findings and statements. The study focused on reviewing published research articles about “plant blindness” and “plant awareness disparity.” An important criterion was the connection to education. This concept is increasingly important for promoting persistent awareness of plants as an integral and unique part of human life. This study brings one of the first overview about the empirical research regarding the concept “plant blindness”. It can serve for the other researchers in science didactics as the starting point in their research. Future readers could read about the variables that were examined and according to them, determine other ones, which can bring new knowledge about this concept.

However, as this is a review study, its practical implications for education are limited. According to the research, there remains a significant lack of interest in plants compared to animals. In all areas—cognitive, affective, and conative—scores were higher for animals than for plants. Teachers should likely be more proactive, and teaching processes could benefit from more outdoor activities. Direct experience with nature is more beneficial than learning from textbooks or within traditional educational institutions. This recommendation is supported by other studies (e.g., Yanniris et al., 2023).

RECOMMENDATIONS

The implications for educational practice align with findings from previous empirical studies. Animals tend to be more visible, engaging, and thus are perceived as more important to nature and humans. Science educators should increase their awareness of presenting the importance of plants, not only for the overall ecosystem but also for human well-being. Without plants, life on Earth would not be sustainable.

This review study examined several variables related to plant blindness. Future research could explore additional variables, such as ownership of gardens or other relevant factors. Further directions include testing interventions like perceptual priming to reduce plant blindness, investigating longer-term and broader conservation behaviors connected to plant engagement, and exploring multisensory plant experiences to overcome perceptual biases. Research efforts should focus on improving teaching and learning strategies about plants to counteract plant blindness in ways that support environmental sustainability and conservation goals.

The study has some limitations. The authors acknowledge that not all factors were addressed. This work offers only a basic overview of research on the concept of “plant blindness,” summarizing the number of studies published, their geographic distribution, and the most common sample populations used in this research area.

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Appendix. Basic Features of Selected Research Studies

Title	Country	Approach	Sample	Scope
Plant Blindness				
Pany, P. (2014). Students' interest in useful plants: A potential key to counteract plant blindness. *Plant science bulletin*, *60*(1), 18-27.	Austria	Quantitative approach, Survey	Elementary and high school students (n = 1299)	Interest in useful plants
Krosnick, S. E., Baker, J. C., & Moore, K. R. (2018). The pet plant project: Treating plant blindness by making plants personal. *The American Biology Teacher*, *80*(5), 339-345.	USA	Quantitative approach, Survey	University students (n = 209)	Appreciation for plants, responsibility and pride related to plant care, a continued desire to grow plants
Ahi, B., Atasoy, V., & Balci, S. (2018). An Analysis of Plant Blindness in Turkish Textbooks Used at the Basic Education Level. *Journal of Baltic Science Education*, *17*(2), 277-287.	Turkey	Review study	Textbooks	
Comeau, P., Hargiss, C. L., Norland, J. E., Wallace, A., & Bormann, A. (2019). Analysis of children's drawings to gain insight into plant blindness. *Natural Sciences Education*, *48*(1), 1-10.	USA	Qualitative approach, children drawings	Primary school students	To determine evidence of plant blindness through children's drawings
Amprazis, A., & Papadopoulou, P. (2020). Plant blindness: a faddish research interest or a substantive impediment to achieve sustainable development goals?. *Environmental Education Research*, *26*(8), 1065-1087.	Greece	Review study	Textbooks	
Batke, S., Dallimore, T., & Bostock, J. (2020). Understanding plant blindness–students' inherent interest of plants in higher education. *Journal of Plant Sciences*, *8*(4), 98.	United Kingdom	Quantitative approach, Survey	University students (n = 88)	Identify and recognize animals and plants
Colon, J., Tiernan, N., Oliphant, S., Shirajee, A., Flickinger, J., Liu, H., ... & McCartney, M. (2020). Bringing botany into focus: Addressing plant blindness in undergraduates through an immersive botanical experience. *BioScience*, *70*(10), 887-900.	USA	Quantitative approach – Survey; Qualitative analysis – Inductive coding	University students (n = 4159)	Perception of botany, the study of plants
Bakar, F., Avan, Ç., Şeker, F., & Aydınlı, B. (2020). Plant and animal awareness in nature education perspectives: Where is blindness?. *International Electronic Journal of Environmental Education*, *10*(2), 122-135.	Turkey	Quantitative approach, Knowledge test	Lower secondary students (n = 47)	To determine the changes in middle school students' awareness towards animals, plants and mushrooms through nature education

Amprazis, A., Papadopoulou, P., & Malandrakis, G. (2021). Plant blindness and children's recognition of plants as living things: A research in the primary schools context. *Journal of Biological Education*, *55*(2), 139-154.	Greece	Quantitative approach, Survey	Primary school students (n = 1408)	Students' difficulty to recognise plants as living things
Pedrera, O., Ortega-Lasuen, U., Ruiz-González, A., Díez, J. R., & Barrutia, O. (2023). Branches of plant blindness and their relationship with biodiversity conceptualisation among secondary students. *Journal of Biological Education*, *57*(3), 566-591.	Spain	Quantitative approach, Knowledge test	Lower secondary school students (n = 63)	To notice and identify the surrounding plants
Wulandari, S., Sunandar, A., & Setiadi, A. E. (2023). The plant blindness profile of secondary school students. *Journal of Education Research and Evaluation*, *7*(3), 502-510.	Indonesia	Mixed design (knowledge test and interview)	High school students (n = 238)	To identify plant blindness in students in recognizing local vegetables
Blue, S., Hargiss, C. L., Norland, J., Dekeyser, E. S., & Comeau, P. (2023). Plant blindness represents the loss of generational knowledge and cultural identity. *Natural Sciences Education*, *52*(1), e20106.	USA	Quantitative approach, Knowledge test	Adult population (n = 216)	Knowledge of local wetland, grassland, and forest habitats; names of plants; and how citizens use plant features in identification
Daniel, J., Russo, A., & Burford, B. (2023). How might we utilise the concept of botanic gardens' in urban contexts to challenge plant blindness?. *Biodiversity and Conservation*, *32*(7), 2345-2364.	United KIngdom	Mixed design (survey and interview)	Adult population (n = 200)	An investigation into the motivations and beliefs of people in terms of plant awareness, plant fascination and conservationist efforts
Putriani, T., Sunandar, A., & Qurbaniah, M. (2023). Plant Blindness Profile of High School Students in Hulu Gurung Sub-District, Kapuas Hulu District. *Journal of Biological Education Indonesia (Jurnal Pendidikan Biologi Indonesia)*, *9*(3), 326-334.	Indonesia	Mixed design (Knowledge test and interview)	High school students (n = 186)	Identifying local vegetables
Ferreira, S., & Simões, H. (2024). Biodiversity Conceptualization and Plant Blindness in Portuguese Student Teachers. *Science Education International*, *35*(4), 330-337.	Portugal	Quantitative approach, Survey	University students (n = 27)	To what extent educational strategies that value interaction with plants contribute to the promotion of biodiversity and to prevent plant blindness in student teachers

Plant Awareness Disparity				
Title	Country	Approach	Sample	Scope
Parsley, K. M., Daigle, B. J., & Sabel, J. L. (2022). Initial development and validation of the plant awareness disparity index. *CBE—Life Sciences Education*, *21*(4), ar64.	USA	Quantitative approach, Survey	University students (n = 78)	To measure four components of PAD
Brownlee, K., Parsley, K. M., & Sabel, J. L. (2023). An analysis of plant awareness disparity within introductory biology textbook images. *Journal of Biological Education*, *57*(2), 422-431.	USA	Review study	Textbooks	
Marcos-Walias, J., Bobo-Pinilla, J., Delgado Iglesias, J., & Reinoso Tapia, R. (2023). Plant Awareness Disparity among Students of Different Educational Levels in Spain. *European Journal of Science and Mathematics Education*, *11*(2), 234-248.	Spain	Quantitative approach, Survey	From primary school to university students (n = 259)	To evaluate their species literacy, especially regarding local flora and fauna
Prokop, P., & Fančovičová, J. (2023). Enhancing attention and interest in plants to mitigate plant awareness disparity. *Plants*, *12*(11), 2201.	Slovakia	Quantitative approach, Survey	University students (n = 238)	To find out attitudes toward animals and plants
Linderwell, S., Hargiss, C. L., & Norland, J. (2024). Do demographic factors impact plant knowledge and plant awareness disparity?. *Natural Sciences Education*, *53*(1), e20146.	USA	Quantitative approach, Knowledge test	University students (n = 702)	Study assessed how race, gender, rurality, and college type of general biology students influenced their self-perceived plant knowledge and where that knowledge was learned
Zhu, B., Parsley, K. M., Griscom, H. P., Wallace, L. E., Castellano, R., Gonzalez, R., ... & McCartney, M. (2025). Connecting plant science education in undergraduate life science courses to plant awareness disparity, Vision and Change, and sustainability careers. *Journal of Biological Education*, *59*(4), 642-656.	USA	Quantitative approach, Survey	Adult population (n = 245)	To determine connections to the frameworks of plant awareness disparity (PAD), a framework detailing the inability to notice or appreciate the plants in one's own environment
Pany, P., Meier, F. D., Dünser, B., Yanagida, T., Kiehn, M., & Möller, A. (2024). Measuring students' plant awareness: A prerequisite for effective botany education. *Journal of Biological Education*, *58*(5), 1103-1116.	Austria	Quantitative approach, Survey	Lower secondary school students (n = 345)	to measure four components of PAD