


Article

The Dynamics of Diabetes Disclosure in the Workplace

Niki Markou and Doxa Papakonstantinou * 

Department of Educational and Social Policy, University of Macedonia, 156 Egnatia Str, 54636 Thessaloniki, Greece; nmarkou@uom.edu.gr

* Correspondence: klerip@uom.edu.gr

Abstract: Background/Objectives: Individuals with diabetes often experience discrimination and barriers at work and are confronted with the challenge of deciding whether to disclose their health status in their workplace. This study explores the disclosure of diabetes in the workplace. The research was based on a previously developed questionnaire. **Methods:** Two hundred and five persons with diabetes who were employed in Greece participated in the research. **Results:** The majority of the participants chose to disclose. Demographic characteristics influenced their disclosure decision, with the diabetes type and the employment sector showing a more significant impact. The majority of the participants showed a strong preference for early disclosure. **Conclusions:** The main reasons for disclosure were the belief that there was no reason to conceal it and the need to know in an emergency. In contrast, the main reasons for concealment were the fear of being fired or not being hired, the belief that disclosure was unnecessary, and concerns about being treated differently. The present research brings to light the reality of employed people with diabetes in Greece. Future research could focus on a deeper understanding of the disclosure issues of people with diabetes and other non-visible disabilities.

Keywords: diabetes; disability; disclosure; workplace



Citation: Markou, N.; Papakonstantinou, D. The Dynamics of Diabetes Disclosure in the Workplace. *Diabetology* **2024**, *5*, 608–620. <https://doi.org/10.3390/diabetology5060044>

Academic Editor: Sathish Thirunavukkarasu

Received: 29 September 2024

Revised: 31 October 2024

Accepted: 6 November 2024

Published: 8 November 2024



Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Diabetes is one of the significant public health threats that has been rising globally over the past decades [1–3]. In 2019, 463 million people were living with diabetes; by 2030, that number is predicted to rise to 578 million, and by 2045, it will reach 700 million [4–6]. In Greece, 11.9% of the population is affected by diabetes [7]. There are two types of diabetes: Type I is a chronic condition in which the pancreas cannot produce enough insulin on its own; Type II is the most common type of diabetes in which the body cells become resistant to insulin over time, resulting in a decrease in insulin production [8,9]. Individuals with diabetes are more vulnerable to cardiovascular diseases, chronic kidney diseases, and various difficulties that impact their quality of life [9] and, as a result, their employment too. People with chronic illnesses, such as diabetes, often experience discrimination and barriers at work [10,11].

Managing diabetes at work can be challenging at times. A heavy workload (limiting the length of breaks), lack of oversight (unexpected occurrences), and unaddressed social expectations (unease when monitoring blood glucose or injecting insulin) can all make it more difficult to effectively self-manage diabetes during the workday [12].

One of the challenges that employees with diabetes face is deciding whether to disclose or not their health status in their workplace. Workplace disclosure happens when an individual discloses information about their health condition, specific symptoms, and related workplace needs to others, including their employer, coworkers, and human resources [13]. All people face challenges regarding disclosure with non-visible disabilities, including diabetes [14]. According to a relevant study of patients with type I diabetes in Finland, 30% of the participants had not disclosed the disease to employers during their careers. Diabetes non-disclosure was carried out as a function of an unwillingness of employees to

appear weak, to be discriminated against, to garner undesirable attention, to be seen as using the disease to gain advantages in the work environment, and, finally, as a result of an unwillingness to lose their privacy [15]. In another relevant study of 705 patients with type II diabetes in Denmark, the result was that 23% of the participants had not disclosed their disease to their current employer, which was linked to higher rates of work absenteeism because of health issues [16].

One more study examined the opinions of employees and health professionals regarding accommodations that adults with diabetes should have in the workplace to help them stay in their jobs [17]. Employees wanted, for instance, (a) their coworkers to be aware of their diabetes and know how to respond if they became ill; (b) their coworkers and management to have empathy and support for them; (c) a stable workload that balanced their diabetes and their work; and (d) medical professionals who could assist them in managing or preventing complications. Health professionals in this same study (a) required a work environment that promoted diabetes self-management; (b) a workplace free from discrimination; (c) health care providers who considered workplace demands when preparing treatment plans and counseling patients; and (d) support from family promoting a normal lifestyle. Even though many employees do not require special accommodations at work, a thorough evaluation of their needs (e.g., keeping blood sugar under control) could help create a safe workplace where the person with diabetes can perform optimally [18].

Another study involving 101 employees with Type 2 diabetes indicated that while many participants rated their workability as good to excellent, their health status was concerning. The research highlighted important associations between work-related factors—such as support from coworkers and balance between work and personal life—and the perception of workability. Participants indicated a preference for maintaining privacy regarding their diabetes, which may obstruct the development of supportive workplace environments. These findings emphasize the need for innovative workplace programs that incorporate diabetes management and health promotion, fostering a supportive culture that enhances both employee well-being and productivity [19].

Despite the above, the understanding of diabetes disclosure in the work environment is limited due to the very few studies conducted. Moreover, the above countries have highly inclusive work environments for people with disabilities [20]. It is characteristic that the study by Hakkarainen et al., 2018 [15] found that hiding diabetes did not appear to be associated with employers' fear of dismissal in Finland, which may not be the case in other countries with less dynamic disability protection policies. Because workplace ethics and disability protection policies differ, the results of these studies cannot be more widely applied [20].

The need for a more thorough understanding of diabetes disclosure in the workplace motivated this study. This research explores the disclosure of non-visible disabilities in the workplace to individuals with diabetes in Greece. In particular, the research aims are to explore the following: 1. The impact of demographic characteristics on disclosure decisions; 2. The factors affecting disclosure decisions; 3. The timing and the evaluation of the experience of diabetes disclosure; and 4. The reasons for disclosure and future disclosure. By addressing these aims, this research focuses on a deeper understanding of diabetes disclosure in the workplace in Greece.

2. Material and Methods

2.1. Participants

A total of 205 individuals with diabetes participated in this study. The researchers included six demographic questions: sex, age, place of residence, diabetes type, degree of education, and employment sector. These variables were selected because they directly address the research aims. More specifically, research indicates that several characteristics, including sex, age, type of diabetes, and employment status, significantly influence the decision to disclose a disability to an employer [21–23]. It should be noted that for the age variables, the researchers took, as a point of reference, the beginning of adulthood, the age

of 18, and the most productive age up to the average age at which an employed person can retire in Greece, the age of 65 [24]. These age groups also relied on the questionnaire used for this study [25].

The sample consisted of 120 males and 85 females with diabetes, aged 18 to more than 65 years (no participants aged 18–24, 15 aged 25–34 years, 101 aged 35–44 years, 86 aged 45–54 years, three aged 55–64 years, and none aged more than 65 years). One hundred sixteen were living in Athens (56.6%), 56 in Thessaloniki (27.3%), and 33 in the rest of Greece (16.1%). Of these 33 participants, seven were living in the prefecture of Rhodope (21.21%), six in the prefecture of Pieria (2.92%) and Imathia (2.92%), three in the prefecture of Drama (1.46%), Evros (1.46%), Kavala (1.46%), Xanthi (1.46%), and two in the prefecture of Kilkis (0.97%). Twenty-eight participants were affected by Type I diabetes (13.7%), whereas 177 were affected by Type II diabetes (86.3%). Regarding educational background, 10 participants (4.9%) had a lower secondary education degree (Gymnasium, for students aged 12–15 years old, compulsory education), 41 (20%) had an upper secondary education degree (Lyceum, for students 15–18 years old, non-compulsory education), 134 had a bachelor’s degree (65.3%), 19 had a master’s degree (9.3%), and one had a PhD (0.5%). Thirty-seven participants were employed in the public sector (18%), whereas 168 were in the private sector (82%) (Table 1).

Table 1. The participants’ categorical sociodemographic data.

	Frequency	Percent	Disclosure to Their Current Job %	Future Disclosure “Yes” %	Future Disclosure “Maybe” %
Sex					
Female	85	41.50	52.90	29.40	42.40
Male	120	58.50	52.50	40.00	19.20
Age					
25–34	15	7.30	60.00	26.70	40.00
35–44	101	49.30	44.60	25.70	36.60
45–54	86	42.00	62.80	50.00	18.60
55–64	3	1.50	0.00	0.00	0.00
Prefectures					
Attica	116	56.60	52.60	32.80	32.80
Thessaloniki	56	27.30	46.40	28.60	32.10
Rest of Greece	33	16.10	63.60	57.60	9.10
Type of Diabetes					
Type I	28	13.70	67.90	67.90	3.60
Type II	177	86.30	50.30	30.50	32.80
Education					
Junior high school graduate	10	4.90	50.00	40.00	10.00
Senior high school graduate	41	20.00	46.30	24.40	39.00
Bachelor’s degree	134	65.30	55.22	42.50	22.40
Master’s Degree	19	9.30	47.40	10.50	57.90
Doctoral Degree	1	0.50	100.00	0.00	100.00
Sector					
Private	168	82.00	50.00	29.80	32.10
Public	37	18.00	64.90	62.20	13.50

2.2. Instruments and Procedures

The research study was approved by the Committee for Research Ethics of the Researchers’ Institution (13/01-02-2022). This research is part of a broader study on workplace disclosure and people with non-visible disabilities in Greece. Von Schrader et al., 2014 [25] developed the study’s research instrument. The researchers chose this instrument as it supports the study’s research aims at disability disclosure. It includes questions on individuals’ intentions for disclosing their condition, highlighting the reasons behind their future disclosure decisions and the timing of disclosure. The original tool was intended for people

with disabilities; thus, to better fit their study's goals, the researchers changed the word from "disability" to "non-visible disability".

The questionnaire was translated into Greek through back-forward translation [26]. Initially, the English version of the questionnaire by Von Schrader et al., 2014 [25] was translated into Greek by the researchers, who are bilingual translators in both languages and familiar with the study context. A second group of bilingual translators and language specialists independently back-translated the Greek version into English without access to the instrument's original English version. The two versions of the back translations were compared with the original English versions by the two groups of experts mentioned above, researchers and language specialists, working together. Any differences or inconsistencies between the original instruments and the back-translated versions were examined and settled by consensus among the participating experts to ensure the most faithful translation of the original text. Moreover, the researchers pilot-tested the translated questionnaire on a small group of individuals similar to the target population to assess comprehension and clarity of the translated questionnaire.

The questionnaire Von Schrader et al., 2014 [25] developed consisted of nine closed and one open-ended question. The first question of the questionnaire asked participants to rate the importance of various factors in the disclosure decision on a Likert scale of 1 to 5 (1-not important at all, 2-very little important, 3-little important, 4-important, 5-very important). More specifically, the question asked: "Please indicate how important each factor would be to you when deciding to disclose a non-visible disability to an employer". The second question asked participants to rate the importance of various factors in the decision to not disclose on a Likert scale of 1 to 5 (1-not important at all, 2-very little important, 3-little important, 4-important, 5-very important). More specifically, the question asked: "Please indicate how important each factor would be to you when deciding not to disclose a non-visible disability to an employer". The third question from the Von Schrader et al., 2014 [25] questionnaire was "How apparent or visible is your disability to others?". The fourth was whether they disclosed their disability in their current or most recent position. Participants who disclosed in their current or most recent position were asked five more questions, including when they first disclosed their disability, how their experience was, how the more extended consequences of the disclosure experience were, whether they would disclose if presented with a similar situation in the future and whether they had disclosed before their current or most recent job. An open-ended question followed, asking the participants, "Please explain why you would or would not disclose in the future".

To explore the study's aims in greater depth, the researchers added one more open-ended question to Von Schrader et al.'s 2014 questionnaire [25], question number 11, asking participants why they chose to disclose or not disclose their disability. Open-ended questions bring out participants' experiences and decision-making processes regarding workplace disclosure. It is pointed out that an effort was made to preserve the integrity and consistency of the research instrument used for data collection when open-ended questions were included, in line with the study's general aims, and after a careful evaluation [27].

2.3. Data Collection and Analysis

The researchers used convenience sampling for the participants' recruitment, with the help and support of the Hellenic Diabetes Federation (HDF) and the Panhellenic Federation of Associations of People with Diabetes Mellitus (POSSASDIA) located in the Capital of Greece, Athens. It is acknowledged that convenience sampling may introduce research limitations, such as selection bias and limited generalizability of the research results to the broader population of individuals with diabetes. However, the fact that the members of these associations were from various parts of Greece and not only from the locations of the associations, as well as the inclusion of demographic variables, such as age, sex, and geographic location to ensure diversity across the sample, could minimize the limitations of the choice of the convenience sampling which, due to the necessity to access a specific population, was indicated as the most appropriate sampling method

for this research [28]. These associations acted as a communication channel between the researchers and potential participants. The study's goal, design, and voluntary nature were explained to the participants via email. It should be noted that the participants were not paid to participate in the research. Their participation was voluntary, driven by their desire to contribute to the study of diabetes. The participants gave their written consent and were provided with the research tool online via Google Forms. The inclusion criteria to participate in this study were: be over 18 years of age, possess adequate reading and writing skills in Greek, have been employed at any time in their lives for at least six months, and have faced issues and dilemmas related to disclosing the disability to their employer. Participants were included in the study between April 2023 and April 2024.

Google Forms was utilized for data collection. The researchers selected this platform because it reduces geographical barriers and makes it simple for respondents to navigate and complete the questionnaire. The file in Google Forms contained all the variables of the research tool. At the same time, it was accompanied by an introduction note, which informed once more the participants about the aims and goals of the research, the anonymity of their voluntary participation, the protection of their data, and the required time for its completion, which was estimated to be 15 min. Additionally, it offered the researchers' electronic contact information in case the participants had a problem during the research or had questions. Quantitative data from closed-ended questions were analyzed using descriptive statistics, including response frequencies and group comparisons. The significance of group differences was assessed using chi-square tests. Data analysis was conducted using the SPSS v29 program. If data were missing, they were treated with either listwise deletion or various modalities of imputation, depending on the level and pattern of the missing data. Qualitative data from open-ended questions were analyzed using thematic analysis. After carefully reviewing each response, codes were created to identify noteworthy aspects of the data based on themes and patterns. Following the refining and grouping of these codes into more general themes, quotes that exemplified these themes were chosen from the text responses [29].

3. Results

3.1. *The Impact of Demographic Characteristics on Disclosure Decisions*

Of the total of 205 participants who took part in this research, 52.7% had disclosed their disability to their current employer or most recent employer ($n = 108$), while 47.3% ($n = 97$) had not. Distribution by sex indicated that 52.90% of the female participants reported they had disclosed their disability to their current or most recent employer. In comparison, 29.40% would disclose in the future, and 42.40% responded with "maybe, it depends" in the same question. On the other hand, 52.50% of the male participants reported they had disclosed their disability to their current or most recent employer. In comparison, 40% would disclose in the future, and only 19.12% responded with "maybe, it depends" to the same question.

Of those aged 25 to 34, 60% disclosed their disability to their current or most recent employer, while 26.70% would disclose it in the future. Additionally, 40% responded with "maybe, it depends" in the same question. Of those aged 35 to 44, 44.60% disclosed their disability, while 25.70% would disclose it in the future. Furthermore, 36.60% responded with "maybe, it depends" when asked the same question. Of those aged 45 to 54, 62.80% disclosed their disability, while 50% would disclose it in the future. In addition, only 18.60% responded with "maybe, it depends" in the same question.

Of the participants who lived in the prefecture of Attica, 52.60% disclosed their disability, 32.80% wanted to disclose it in the future, and 32.80% responded with "maybe, it depends" in the same question. Additionally, 46.40% of the participants in the prefecture of Thessaloniki disclosed their disability, 28.60% would disclose it in the future, and 32.10% responded with "maybe, it depends" in the same question. Of the participants who lived in prefectures in the rest of Greece, 63.60% disclosed their disability, 57.60% would disclose it in the future, and only 9.10% responded with "maybe, it depends" in the same question.

Regarding the type of diabetes, 67.90% of participants with type I diabetes disclosed their disability, while the same percentage expressed intentions to disclose in the future. Only 3.60% responded with “maybe, it depends” to the same question. For participants with type II diabetes, 50.30% of them disclosed their disability, while 30.50% expressed intentions to disclose it in the future. Furthermore, 32.80% responded “maybe, it depends” to the same question.

In terms of participants’ educational background, 50% of those who graduated from lower secondary education disclosed their disability. In comparison, 40% reported that they would disclose in the future, and only 10% responded with “maybe, it depends” to the same question. Of the participants who graduated from upper secondary education, 46.30% disclosed their disability, 24.40% would disclose it in the future, and 39% responded with “maybe, it depends” to the same question. Participants with a bachelor’s degree had a disclosure rate of 55.22%, with 42.50% expressing intentions to disclose in the future. In addition, 22.40% responded with “maybe, it depends” to the same question. Participants with a master’s degree had a disclosure rate of 47.40%, while only 10.50% expressed intention to disclose it, and 57.90% responded with “maybe, it depends” to the same question. According to the only participant with a doctoral degree, they disclosed their disability and responded with “maybe, it depends” when asked if they would disclose it in the future.

Participants in the private sector had a disclosure rate of 50%, with 29.80% expressing intentions to disclose it in the future. In addition, 32.10% responded with “maybe, it depends” to the same question. In contrast, participants in the public sector had a disclosure rate of 64.90%, while 62.20% expressed intentions to disclose in the future. Only 13.50% responded with “maybe, it depends” to the same question (Table 1).

3.2. The Factors Affecting Disclosure Decisions

The factors affecting the participants’ choice of disclosing their non-visible disability were explored. Table 2 presents the percentage of participants who rated various factors affecting the choice of disclosing non-visible disabilities as “very important”, categorized by whether they disclosed or not their disability. Most of the factors had no statistically significant differences between the two groups. There was also no statistically significant difference between those who responded that they disclosed and those who did not in the importance of factors like the need for accommodations while working, maintaining an encouraging relationship with the supervisor, and being aware that the employer has worked to make the workplace welcoming and inclusive of people with disabilities. In contrast, variations were noted for two variables. Firstly, participants who disclosed their disability rated how inclusive the company’s website or marketing materials were significantly higher (15.70%) than those who did not disclose (3.10%). Secondly, participants who disclosed also rated the statement on hiring materials inviting candidates with disabilities to apply significantly higher (16.70%) than those who did not (3.10%).

Table 2. Percent who rated factors affecting the choice of disclosing the non-visible disability as “very important”.

Factors	Disclosed %	Did Not Disclose %	<i>p</i>
1. The need for an accommodation to perform a job or to take care of a health condition during working hours.	93.50	95.90	0.662
2. An open and supportive relationship with one’s supervisor.	38.00	42.30	0.627
3. Knowing the employer has made concerted efforts to create a disability inclusive/friendly workplace.	48.10	46.40	0.911
4. Knowing that the employer is recruiting and hiring people with disabilities.	44.40	45.40	1.00

Table 2. Cont.

Factors	Disclosed %	Did Not Disclose %	<i>p</i>
5. Knowing that other employees had disclosed their disability and were successful in the workplace.	49.10	46.40	0.807
6. Disability is included in the employer's diversity statement.	36.10	36.10	1.00
7. The belief that disclosure will lead to new opportunities for promotion or training (e.g., programs to advance employees of diverse groups).	26.90	33.00	0.420
8. A message of disability inclusiveness on the company's website or promotional materials (e.g., pictures of people with disabilities).	15.70	3.10	0.005 **
9. A statement on recruitment materials inviting applicants with disabilities.	16.70	3.10	0.003 **
10. An employee with a disability recruiting at job fairs or campus recruitment events.	27.80	35.10	0.331
11. The existence of a disability employee resource group.	40.70	45.40	0.599

** : values of *p* less than 0.05 indicate that one group rated the significantly higher than the other group.

Table 3 shows the percentage of participants who rated various factors influencing the decision not to disclose non-visible disabilities as "very important", categorized by whether or not they disclosed their disability. Three variables showed significant differences between participants who disclosed and those who did not. Those who did not disclose their disability (66.00%) rated their concerns about the employer, focusing more on their disability than their actual job performance/skills, significantly higher than those who disclosed (40.70%). In addition, those who did not disclose rated their concerns about losing or not receiving health care services significantly higher (74.20%) than those who did disclose (58.30%). Similarly, the desire to keep the disability private was rated considerably higher by those who did not disclose (90.70%) than those who disclosed (72.20%).

Table 3. Percent who rated factors affecting the choice of non-disclosing the non-visible disability as "very important".

Factors	Disclosed %	Did Not Disclose %	<i>p</i>
1. Concern about being fired or not being hired.	61.10	73.20	0.092
2. Concern that the employer may focus more on the disability than actual work performance/abilities.	40.70	66.00	0.001 **
3. Concern about losing or not receiving health care benefits.	58.30	74.20	0.025 **
4. Fear that opportunities for promotion will be more limited.	78.70	86.60	0.194
5. Concern that one's supervisor would not be understanding/supportive.	75.00	86.60	0.055
6. Concern about being treated differently by supervisors/co-workers.	75.90	76.30	1.00
7. Concern about being viewed differently by supervisors/co-workers.	69.40	79.40	0.144
8. A belief that the disability does not impact the ability to perform the job.	73.10	64.90	0.263
9. A desire to keep the disability private.	72.20	90.70	0.001 **

** : values of *p* less than 0.05 indicate that one group rated the significantly higher than the other group.

3.3. The Timing and the Evaluation of the Experience of Diabetes Disclosure

When questioned about the timing of disclosing their disability in their current or most recent job, 63 participants (58.3%) revealed their disability "during the interview process". In contrast, a significant portion, 43 participants (39.8%), disclosed "during the recruitment process", and a tiny percentage (1.9%), with only two participants, disclosed "after being hired".

When questioned about the evaluation of their immediate disability disclosure experience, most responses to disability disclosure were either neutral with 66 participants (61.1%) or positive with 41 participants (38%), and a tiny minority, only one participant (0.9%), had an adverse reaction.

When questioned about evaluating the long-term consequences of the disability disclosure experience, 94 participants (87%) reported positive effects, while only 14 (13%) reported negative consequences.

3.4. The Reasons for Disclosure and Future Disclosure

When participants were asked the open-ended question, “Why did you choose to disclose or not disclose your disability?” researchers identified five primary reasons for those who chose to disclose: (1) belief that concealment was not necessary, (2) concern for emergencies or accidents, (3) disclosure for health care benefits, (4) absence of a reason to conceal, and (5) disclosure for work-related reasons. Of the 108 participants who disclosed their disability to their current or most recent employer, 36 (33.30%) agreed with the first reason expressing this belief in statements like “I did not think I should conceal it”. Twenty-nine participants (26.90%) agreed with the second reason: “They should know in case of an emergency or accident”. Seventeen participants (15.70%) agreed with the third reason, stating that they disclosed their disability to receive health care benefits. Sixteen participants (14.80%) agreed with the fourth reason, saying there was no reason to conceal their disability. Lastly, as for the fifth reason, 10 participants (9.30%) indicated disclosing their disability for work-related reasons.

Four primary reasons were identified for those who chose not to disclose: (1) fear of being fired or not being hired, (2) belief that disclosure was unnecessary, (3) concerns about being treated differently, and (4) disclosure of personal health information. Of the 97 participants who did not disclose their disability to their current or previous employer, 37 (38.10%) agreed with the first reason, expressing this belief in statements like “I am afraid that if they find out, I will get fired”. Twenty-five participants (25.80%) agreed with the second reason, expressing this belief in statements like “I did not think disclosure was necessary”. Eighteen participants (18.60%) agreed with the third reason, stating that “I am afraid that they will treat me differently”, and 17 participants (17.50%) agreed with the fourth reason, stating that “I did not disclose because it is personal health information”.

The last open-ended question asked the participants, “Please explain why you would or would not disclose in the future”. Among those who would not choose to disclose in the future, 35 participants (47.90%) expressed the belief that disclosure involves personal health information, and 24 participants (32.90%) expressed fear of being fired. Fourteen participants (19.20%) believed that disclosure depends on the company’s profile. Among those who would choose to disclose in the future, 53 participants (72.60%) expressed the necessity to disclose in case of an emergency or accident. In comparison, 20 participants (27.40%) expressed the intention to disclose to receive health care benefits. Among those who expressed a possibility (“maybe, it depends”) of disclosing in the future, 42 participants (71.20%) expressed concerns related to the profile of the company, and 11 participants (18.60%) expressed fear of being fired. Only two participants (3.40%) expressed concerns about personal health information, and four (6.80%) emphasized the significance of disclosure during emergencies or accidents.

4. Discussion

This study aimed to explore the disclosure of non-visible disability in the work environment by people with diabetes in Greece. This research examined the impact of demographic characteristics on the disclosure decision, the factors affecting the disclosure decision, the timing of the disclosure decision, the evaluation of the experience of the disclosure decision, and the reasons for disclosure and future disclosure for employed individuals with diabetes in Greece. The results can provide specific answers to research questions and draw meaningful conclusions for people with diabetes in Greece.

The first objective of this research was to assess the impact of biological and demographic characteristics on the disclosure decision. Our analysis revealed that over half of the participants disclosed their disability to their current or previous employer. It appears that disability disclosure rates are lower than in other European countries. In particular, relevant studies in Finland [15] and Denmark [16] reported higher rates of diabetes disclosure, namely 70 and 77%, respectively. This might be explained by the highly inclusive disability policies that Scandinavian nations have, both in the work environment and in general [20]. On the other hand, in Greece, there does not seem to be such a high level of inclusion of people with disabilities in the work environment [30], thus leading a large proportion of individuals with diabetes to not disclose their disability.

Biological characteristics like sex, age, and diabetes type impacted the disclosure decision. There were only slight differences in the rates of past disclosure to employers between male participants (52.5%) and female participants (52.9%). The intention to disclose in the future varied by sex, with males (40%) expressing a stronger intention to disclose to females (29.4%). Given the different workplace dynamics or individual attitudes toward disclosure, this may suggest that men feel more comfortable or obligated to disclose their disability in future situations. Due to cultural norms and expectations, prior research has shown that men and women approach health-related disclosures differently [31]. Age also appears to have an impact on disclosure decisions. Although younger people (25–34) were more likely than older age groups to have disclosed their disability (60%), the oldest group (45–54) interestingly had the highest intentions for future disclosure (50%). This may indicate a growing understanding of the value of workplace openness as people get older and experience more health-related problems. The disclosure was significantly influenced by the type of diabetes, with participants who had type I diabetes (67.9%) being more likely to disclose than participants with type II diabetes (50.3%). This difference might arise as type I diabetes has more evident and urgent medical requirements, necessitating disclosure [32].

Demographic characteristics like geographical location, education, and employment sector also impacted disclosure rates. In comparison to participants from other prefectures of Greece (63.6%), those from Attica (52.6%) and Thessaloniki (46.4%) had lower past disclosure rates. Furthermore, participants from other prefectures had the highest future disclosure intentions (57.6%), which may indicate that workplace cultures differ regionally and diabetes awareness and support differ [33]. Education was another characteristic that could have affected disclosure. In comparison with participants with lower secondary education degrees (50%) or upper secondary education degrees (46.3%), the percentage of participants who chose to disclose was higher than that of those with bachelor's degrees (55.22%).

On the other hand, participants with master's degrees would not choose to disclose their disability in the future (10.5%), and that could be the result of them trying to protect their professional career development and be in control of how others perceive them [34]. The employment sector also had an impact on disclosure decisions. Public sector employers had higher rates of past (64.9%) and future (62.2%) disclosure compared to private sector employers (50% past and 29.8% future). This difference may be because public sector employers feel more secure in their jobs, and as a result, they are not afraid to disclose their disability or fear they will be fired or lose their jobs because of the disclosure. Greece's unemployment rate has historically been high, particularly in the last ten years [35]. Employers in the public sector may have found it easier to disclose if they felt stable and secure in their long-term jobs [36].

The second objective was to examine the factors influencing disclosure decisions. According to our analysis, a few key factors significantly impact disclosure decisions. The disability inclusivity statement on the company's website or promotional materials (15.7%) and the statement on hiring materials inviting candidates with disabilities to apply (16.7%) were rated significantly higher by those who disclosed than those who did not. This emphasizes the significance of an employer's clear commitment to inclusivity in promoting

disclosure [37]. On the other hand, participants who did not disclose rated concerns that employers may place more importance on their disability than on their actual job performance (66%), loss of health care benefits (74.2%), and the desire to keep the disability private (90.7%) significantly higher. This fear may be caused by employers' misconception that employees with diabetes might not be as reliable as their coworkers [38,39]. These findings underline the need for improved employer communication and policies to address these concerns, highlighting significant barriers impeding disclosure [25].

Workplace accommodations greatly influence the decision of employees with non-visible disabilities to disclose their condition. Our study found that 93.5% of participants who disclosed their disability rated the need for accommodations to manage their health or perform their job during working hours as "very important". On the other hand, 95.9% of those who chose not to disclose also recognized the value of accommodations, indicating that both groups rated workplace accommodations highly. These results ring a bell for employers who should implement, among other solutions, accessible accommodations, such as flexible work and break schedules, teleworking, and access to rest areas [40] to manage employers' fears and reservations about disclosure.

The third objective was to explore the timing and the evaluation of the experience of the disclosure. Most participants (58.3%) decided to disclose during the interview because they strongly preferred early disclosure. This strategy might result from an effort to build transparency and trust immediately [41]. However, a large percentage (39.8%) of participants decided to disclose during the recruitment process. This suggests they disclosed their disability more methodically after receiving the job offer.

As for evaluating their immediate disability disclosure experience, most responses were either neutral (61.1%) or positive (38%), suggesting that most workplaces manage health information without significant prejudices. As for evaluating their long-term disability disclosure experiences, the majority expressed positive feelings (87%), emphasizing the potential benefits of transparency and trust for employers and employees regarding accommodations and support [42]. Our research showed that although a significant number of participants (34.7%) initially did not disclose their disability, eventually, they chose to disclose it during their current jobs. This indicates a growing feeling of easement or necessity over time. Regarding future disclosure intentions, some participants were still unsure about disclosing their disability (31.9% responding, "Maybe, it depends") and had concerns about workplace reactions [43].

The fourth objective was to determine the reasons for disclosure and future disclosure. Several reasons influenced participants' decisions about whether or not to disclose their disability. There were two important reasons for those who chose to disclose: firstly, the belief that there was no reason to conceal their disability (33.3%), and secondly, the need to know in case of an emergency (26.9%). People with disabilities need to feel empowered and be able to talk about their disabilities out in the open. Being open can help create a more inclusive environment and act against the stigma associated with disabilities [44].

On the other hand, there were three main reasons for choosing not to disclose. The first one was fear of being fired or not being hired (38.1%), the second one was the belief that disclosure was unnecessary (25.8%), and the third one was concerned about being treated differently (18.6%). These reasons highlight fears and practical considerations that must be addressed to establish more encouraging work environments [45]. On the other hand, people can ensure that the right kind of help will be provided in addition to accommodations and support.

Intentions for future disclosure were significantly impacted by the perceived need for emergency preparedness (72.6%) and health care benefits (27.4%). A significant number of participants still expressed intentions ("maybe, it depends") to disclose their disability in the future based on the company profile (71.2%), showing that organizational culture plays a critical role in these decisions. This suggests that individuals with diabetes are more likely to disclose their disability when they feel supported, accepted, and understood by their workplace. This finding agrees with previous research on people with chronic illnesses and

disabilities, showing that having support from an employer or coworker can make a great difference for people with an illness or a disability [46]. It also indicates the importance of creating inclusive work environments that support individuals with disabilities in feeling safe and empowered to disclose their disability [47]. Working in an environment like this can lead to better support and accommodations, benefiting both the employee and the employer [48].

It is necessary to mention some limitations of the present study concerning the sample's representativeness. As can be seen from the analysis of the socio-demographic characteristics of the sample, very few participants worked in areas outside the prefectures of Attica and Thessaloniki. The stigma towards diabetes may differ in other regions, thus leading to a different picture of the disclosure of an invisible disability, which was not examined through this survey. Such a reflection is also due to a more substantial stigma towards other forms of disability in Greece's rural areas than in large urban centers [49].

Furthermore, the limited scientific research on diabetes disclosure and objective data limits the findings' broader applicability. Future research could benefit from incorporating objective data, such as clinical measurements or standardized survey tools, to improve the findings' reliability and validity, even though self-reported data are essential for capturing participants' perceptions and experiences.

Another suggestion for future research could be to investigate disability disclosure in patients with other forms of non-visible disability in Greece. Future research could, therefore, focus on examining the extent to which these relevant forms of non-visible disability are disclosed in the work environment, even conducting comparative analyses about the degree of disclosure of non-visible disability on the part of patients with diabetes. In this way, a more complete understanding of the disclosure of non-visible disability in the work environment in Greece could be obtained. Apart from the benefits of employer inclusiveness, future studies could consider additional significant factors, like the potential impact of various job types on disclosure decisions or the offered workplace accommodations. These factors may significantly influence the degree to which an individual feels comfortable or encouraged to share their diagnosis.

The most important practical implication of the present research is that it brings to light the reality of employed people with diabetes in Greece. The findings indicate that individuals with diabetes in Greece are less likely than those in other countries to disclose their disability and are rather disturbing. As a result, Greek authorities should consider updating their disability policy on employment to make it more inclusive. Employers need to work with employees with diabetes to help them perform their tasks more efficiently, but mostly to feel comfortable with their health status. Work environments where people with disabilities, including diabetes, can disclose their conditions without worrying about prejudice and stigma have to become the reality of the future workplace.

Author Contributions: Conceptualization, N.M. and D.P.; methodology, N.M. and D.P.; formal analysis, N.M. and D.P.; investigation, N.M.; resources, N.M. and D.P.; data curation, N.M. and D.P.; writing—original draft preparation, N.M.; writing—review and editing, D.P.; supervision, D.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: This study was conducted in accordance with the Declaration of Helsinki and approved by the Committee for Research Ethics of the Researchers' Institution (13/01-02-2022).

Informed Consent Statement: All participants provided signed informed consent before any study procedure was conducted.

Data Availability Statement: Data are available upon request and justification to the corresponding author.

Acknowledgments: The researchers would like to express their deepest appreciation to the Hellenic Diabetes Federation (HDF) and the Panhellenic Federation of Associations of People with Diabetes Mellitus (POSSASDIA) for their collaboration during this study.

Conflicts of Interest: The authors declare no conflicts of interest.

References

- Aschner, P.; Karuranga, S.; James, S.; Simmons, D.; Basit, A.; Shaw, J.E.; Wild, S.H.; Ogurtsova, K.; Saeedi, P. The International Diabetes Federation's guide for diabetes epidemiological studies. *Diabetes Res. Clin. Pract.* **2021**, *172*, 108630. [CrossRef] [PubMed]
- Begum, M.; Choubey, M.; Tirumalasetty, M.B.; Arbee, S.; Mohib, M.M.; Wahiduzzaman, M.; Mamun, M.A.; Uddin, M.B.; Mohiuddin, M.S. Adiponectin: A promising target for the treatment of diabetes and its complications. *Life* **2023**, *13*, 2213. [CrossRef] [PubMed]
- Guariguata, L.; Whiting, D.R.; Hambleton, I.; Beagley, J.; Linnenkamp, U.; Shaw, J.E. Global estimates of diabetes prevalence for 2013 and projections for 2035. *Diabetes Res. Clin. Pract.* **2014**, *103*, 137–149. [CrossRef]
- Cho, N.H.; Shaw, J.E.; Karuranga, S.; Huang, Y.; da Rocha Fernandes, J.D.; Ohlrogge, A.W.; Malanda, B.I.D.F. IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. *Diabetes Res. Clin. Pract.* **2018**, *138*, 271–281. [CrossRef] [PubMed]
- Saeedi, P.; Petersohn, I.; Salpea, P.; Malanda, B.; Karuranga, S.; Unwin, N.; Guariguata, L.; Motala, A.A.; Ogurtsova, K.; Shaw, J.E.; et al. Global and regional diabetes prevalence estimates for 2019 and projections for 2030 and 2045: Results from the International Diabetes Federation Diabetes Atlas. *Diabetes Res. Clin. Pract.* **2019**, *157*, 107843. [CrossRef]
- Sun, H.; Saeedi, P.; Karuranga, S.; Pinkepank, M.; Ogurtsova, K.; Duncan, B.B.; Stein, C.; Basit, A.; Chan, J.C.; Mbanya, J.C.; et al. IDF Diabetes Atlas: Global, regional and country-level diabetes prevalence estimates for 2021 and projections for 2045. *Diabetes Res. Clin. Pract.* **2022**, *183*, 109119. [CrossRef]
- Makrilakis, K.; Kalpourtzi, N.; Ioannidis, I.; Iraklianiou, S.; Raptis, A.; Sotiropoulos, A.; Gavana, M.; Vantarakis, A.; Kantzanou, M.; Hadjichristodoulou, C.; et al. Prevalence of diabetes and pre-diabetes in Greece. Results of the First National Survey of Morbidity and Risk Factors (EMENO) study. *Diabetes Res. Clin. Pract.* **2021**, *172*, 108646. [CrossRef]
- Roglic, G. WHO Global report on diabetes: A summary. *Int. J. Noncommunicable Dis.* **2016**, *1*, 3–8. [CrossRef]
- World Health Organization. Classification of Diabetes Mellitus. 2019. Available online: <https://www.who.int/publications/i/item/classification-of-diabetes-mellitus> (accessed on 10 May 2024).
- Bradby, H. *Medical Sociology: An Introduction*; SAGE: Newcastle upon Tyne, UK, 2009.
- Tunceli, K.; Bradley, C.J.; Nerenz, D.; Williams, L.K.; Pladevall, M.; Elston Lafata, J. The impact of diabetes on employment and work productivity. *Diabetes Care* **2005**, *28*, 2662–2667. [CrossRef]
- Loerbroks, A.; Nguyen, X.Q.; Vu-Eickmann, P.; Krichbaum, M.; Kulzer, B.; Icks, A.; Angerer, P. Psychosocial working conditions and diabetes self-management at work: A qualitative study. *Diabetes Res. Clin. Pract.* **2018**, *140*, 129–138. [CrossRef]
- MacDonald-Wilson, K.L.; Russinova, Z.; Rogers, E.S.; Lin, C.H.; Ferguson, T.; Dong, S.; MacDonald, M.K. Disclosure of mental health disabilities in the workplace. In *Work Accommodation and Retention in Mental Health*; Springer: New York, NY, USA, 2011; pp. 191–217. [CrossRef]
- Joachim, G.; Acorn, S. Stigma of visible and invisible chronic conditions. *J. Adv. Nurs.* **2000**, *32*, 243–248. [CrossRef] [PubMed]
- Hakkarainen, P.; Munir, F.; Moilanen, L.; Räsänen, K.; Hänninen, V. Concealment of type 1 diabetes at work in Finland: A mixed-method study. *BMJ Open* **2018**, *8*, e019764. [CrossRef] [PubMed]
- Olesen, K.; Cleal, B.; Skinner, T.; Willaing, I. Characteristics associated with non-disclosure of Type 2 diabetes at work. *Diabet. Med.* **2017**, *34*, 1116–1119. [CrossRef] [PubMed]
- Detaille, S.I.; Haafkens, J.A.; Hoekstra, J.B.; van Dijk, F.J.H. What employees with diabetes mellitus need to cope at work: Views of employees and health professionals. *Patient Educ. Couns.* **2006**, *64*, 183–190. [CrossRef] [PubMed]
- Iavicoli, I.; Gambelunghe, A.; Magrini, A.; Mosconi, G.; Soleo, L.; Vigna, L.; Trevisan, R.; Bruno, A.; Chiambretti, A.M.; Scarpitta, A.M.; et al. Diabetes and work: The need of a close collaboration between diabetologist and occupational physician. *Nutr. Metab. Cardiovasc. Dis.* **2019**, *29*, 220–227. [CrossRef]
- McCarthy, M.; Vorderstrasse, A.; Yan, J.; Portillo, A.; Dickson, V.V. Managing diabetes in the workplace. *Workplace Health Saf.* **2021**, *69*, 216–223. [CrossRef]
- Kuznetsova, Y.; Yalcin, B.; Priestley, M. Labour market integration and equality for disabled people: A comparative analysis of Nordic and Baltic countries. *Soc. Policy Adm.* **2017**, *51*, 577–597. [CrossRef]
- Addabbo, T.; Krishnakumar, J.; Sarti, E. To What Extent does Disability Discourage from Going on the Job Market? Evidence from Italy. In *Factors in Studying Employment for Persons with Disability: How the Picture Can Change*; Emerald Publishing Limited: Bingley, UK, 2017; pp. 79–123. [CrossRef]
- Brohan, E.; Henderson, C.; Wheat, K.; Malcolm, E.; Clement, S.; Barley, E.A.; Slade, M.; Thornicroft, G. Systematic review of beliefs, behaviours and influencing factors associated with disclosure of a mental health problem in the workplace. *BMC Psychiatry* **2012**, *12*, 11. [CrossRef]

23. Pettinicchio, D.; Maroto, M. Employment outcomes among men and women with disabilities: How the intersection of gender and disability status shapes labor market inequality. In *Factors in Studying Employment for Persons with Disability: How the Picture Can Change*; Emerald Publishing Limited: Bingley, UK, 2017; pp. 3–33. [\[CrossRef\]](#)
24. Bamia, C.; Trichopoulou, A.; Trichopoulos, D. Age at retirement and mortality in a general population sample: The Greek EPIC study. *Am. J. Epidemiol.* **2008**, *167*, 561–569. [\[CrossRef\]](#)
25. Von Schrader, S.; Malzer, V.; Bruyère, S. Perspectives on disability disclosure: The importance of employer practices and workplace climate. *Empl. Responsib. Rights J.* **2014**, *26*, 237–255. [\[CrossRef\]](#)
26. Maneesriwongul, W.; Dixon, J.K. Instrument translation process: A methods review. *J. Adv. Nurs.* **2004**, *48*, 175–186. [\[CrossRef\]](#) [\[PubMed\]](#)
27. Barbour, R. *Introducing Qualitative Research: A Student's Guide*; Sage: Newcastle upon Tyne, UK, 2013.
28. Lawrence Neuman, W. *Social Research Methods: Qualitative and Quantitative Approaches*; Pearson: London, UK, 2014.
29. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [\[CrossRef\]](#)
30. Vlachou, A.; Roka, O.; Stavroussi, P. Experiences of workers with disabilities receiving supported employment services in Greece. *J. Intellect. Disabil.* **2021**, *25*, 151–167. [\[CrossRef\]](#)
31. Santuzzi, A.M.; Waltz, P.R.; Finkelstein, L.M.; Rupp, D.E. Invisible disabilities: Unique challenges for employees and organizations. *Ind. Organ. Psychol.* **2014**, *7*, 204–219. [\[CrossRef\]](#)
32. Weijman, I.; Ros, W.J.; Rutten, G.E.; Schaufeli, W.B.; Schabracq, M.J.; Winnubst, J.A. Fatigue in employees with diabetes: Its relation with work characteristics and diabetes related burden. *Occup. Environ. Med.* **2003**, *60* (Suppl. S1), i93–i98. [\[CrossRef\]](#) [\[PubMed\]](#)
33. Kafetsios, K.; Nezelek, J.B. Emotion and support perceptions in everyday social interaction: Testing the “less is more” hypothesis in two cultures. *J. Soc. Pers. Relatsh.* **2012**, *29*, 165–184. [\[CrossRef\]](#)
34. Dervish, J.; Arfuch, V.M.; Murley, C.; McKay, K.A.; Machado, A.; Wennman-Larsen, A.; Friberg, E. Disclosing or concealing multiple sclerosis in the workplace: Two sides of the same coin—Insights from a Swedish population-based survey. *Front. Public Health* **2024**, *12*, 1331746. [\[CrossRef\]](#)
35. Papadakis, N.; Amanaki, E.; Drakaki, M.; Saridaki, S. Employment/unemployment, education and poverty in the Greek Youth, within the EU context. *Int. J. Educ. Res.* **2020**, *99*, 101503. [\[CrossRef\]](#)
36. Sánchez-Sánchez, N.M.; Fernández, A.C. Public versus private job satisfaction. Is there a trade-off between wages and stability? *Public Organ. Rev.* **2021**, *21*, 47–67. [\[CrossRef\]](#)
37. Beatty, J.E.; Kirby, S.L. Beyond the legal environment: How stigma influences invisible identity groups in the workplace. *Empl. Responsib. Rights J.* **2006**, *18*, 29–44. [\[CrossRef\]](#)
38. Gröschl, S. Presumed incapable: Exploring the validity of negative judgments about persons with disabilities and their employability in hotel operations. *Cornell Hosp. Q.* **2013**, *54*, 114–123. [\[CrossRef\]](#)
39. Ruston, A.; Smith, A.; Fernando, B. Diabetes in the workplace—diabetic’s perceptions and experiences of managing their disease at work: A qualitative study. *BMC Public Health* **2013**, *13*, 386. [\[CrossRef\]](#)
40. Lindsay, S.; McDougall, C.; Sanford, R. Disclosure, accommodations and self-care at work among adolescents with disabilities. *Disabil. Rehabil.* **2013**, *35*, 2227–2236. [\[CrossRef\]](#) [\[PubMed\]](#)
41. Jones, K.P.; King, E.B. Managing concealable stigmas at work: A review and multilevel model. *J. Manag.* **2014**, *40*, 1466–1494. [\[CrossRef\]](#)
42. Lindsay, S.; Cagliostro, E.; Leck, J.; Shen, W.; Stinson, J. Employers’ perspectives of including young people with disabilities in the workforce, disability disclosure and providing accommodations. *J. Vocat. Rehabil.* **2019**, *50*, 141–156. [\[CrossRef\]](#)
43. Baldrige, D.C.; Veiga, J.F. Toward a greater understanding of the willingness to request an accommodation: Can requesters’ beliefs disable the Americans with Disabilities Act? *Acad. Manag. Rev.* **2001**, *26*, 85–99. [\[CrossRef\]](#)
44. Wilson-Kovacs, D.; Ryan, M.K.; Haslam, S.A.; Rabinovich, A. ‘Just because you can get a wheelchair in the building doesn’t necessarily mean that you can still participate’: Barriers to the career advancement of disabled professionals. *Disabil. Soc.* **2008**, *23*, 705–717. [\[CrossRef\]](#)
45. Lindsay, S. Discrimination and other barriers to employment for teens and young adults with disabilities. *Disabil. Rehabil.* **2011**, *33*, 1340–1350. [\[CrossRef\]](#)
46. Charmaz, K. Disclosing illness and disability in the workplace. *J. Int. Educ. Bus.* **2010**, *3*, 6–19. [\[CrossRef\]](#)
47. Norstedt, M. Work and invisible disabilities: Practices experiences and understandings of nondisclosure. *Scand. J. Disabil. Res.* **2019**, *21*, 14–24. [\[CrossRef\]](#)
48. Lee, Y.; Li, J.Y.Q. The value of internal communication in enhancing employees’ health information disclosure intentions in the workplace. *Public Relat. Rev.* **2020**, *46*, 101872. [\[CrossRef\]](#)
49. Tzouvara, V.; Papadopoulos, C.; Randhawa, G. Systematic review of the prevalence of mental illness stigma within the Greek culture. *Int. J. Soc. Psychiatry* **2016**, *62*, 292–305. [\[CrossRef\]](#) [\[PubMed\]](#)

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.