



Article

Circumstances Leading To Finding Out about Being Donor-Conceived and Its Perceived Impact on Family Relationships: A Survey of Adults Conceived via Anonymous Donor Insemination in Germany

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Abstract: Recent empirical research on the psychosocial implications of donor insemination is increasingly based on data directly obtained from donor-conceived persons. This descriptive study on donor-conceived adults in Germany inquires into their experience of finding out about being donor-conceived and answers the following research question: how do German adults conceived via anonymous donor insemination find out about the means of their conception and how do they experience family relationships post finding out? An online self-administered questionnaire targeting German donor-conceived adults to obtain qualitative and quantitative data was administered between September and November 2020. Fifty-nine donor-conceived adults were recruited via the support and advocacy group *Verein Spenderkinder*. Participants had been born in heterosexual-couple-parented families, were between 21 and 46 years old, and found out about the circumstances of their conception between 5 and 46 years of age. A broad spectrum of contexts and circumstances in which participants learned about being donor-conceived were reported, such as discovery via medical records, through disclosure as a result of parental consideration of the child's current life situation or through direct-to-consumer DNA testing. Finding out about the means of their conception was experienced by participants as affecting their relationships with their family members to different degrees and in various ways. This first systematic inquiry into German donor-conceived adults' experiences expands the literature and provides basic data for further research. Direct-to-consumer DNA testing is identified as one emerging trigger for finding out, warranting future research. The heuristic value of further in-depth inquiry into donor-conceived adults' relationship with family members other than their parents, in particular their siblings, is highlighted.



Citation: Bauer, Tobias, and Anne Meier-Credner. 2023. Circumstances Leading To Finding Out about Being Donor-Conceived and Its Perceived Impact on Family Relationships: A Survey of Adults Conceived via Anonymous Donor Insemination in Germany. *Social Sciences* 12: 155. <https://doi.org/10.3390/socsci12030155>

Academic Editor: Kristin Snopkowski

Received: 7 January 2023

Revised: 18 February 2023

Accepted: 27 February 2023

Published: 6 March 2023



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Keywords: sperm donation; donor-conceived adults; disclosure; family relationships; Germany

1. Introduction

The possible psychosocial and ethical implications of donor insemination (DI) have been the subject of public discussion and scientific inquiry over several decades. Prior research has focused on donor-conceived children and adolescents, relying predominantly on the parents' accounts (Brewaeyns 2001). Findings based on data directly obtained from donor-conceived adults (DCAs) aware of their means of conception have become increasingly available over the last two decades, as rising numbers of donor-conceived persons (DCPs) have learned of their origins and begun to articulate their points of view (Blyth et al. 2020). Empirical research has focused on topics such as DCAs' attitudes and feelings toward the means of their conception (Hewitt 2002; Jadva et al. 2009; Mahlstedt et al. 2010; Scheib et al. 2005) and the donor (hereafter referred to as "genetic father," as this term more adequately denotes the nature of the relationship to DCPs

from the latter's perspective and considers DCPs' terminological preferences (Hertz et al. 2013; Koh et al. 2020; Meier-Credner 2020; *We Are Donor Conceived* 2020)), identity issues (Harrigan et al. 2015; Turner and Coyle 2000), and mental health (Adams et al. 2021). Such research is joined by studies in an emerging field of inquiry, namely the DCAs' request or search for information on and contact with the genetic father (Beeson et al. 2011; Lampic et al. 2022; Macmillan et al. 2021; Scheib et al. 2017) and their experiences of searching for and relating to half-siblings sharing the same genetic father (Bolt et al. 2021; Frith et al. 2018a; Hertz et al. 2017; Scheib et al. 2020).

Arguably, one of DCAs' most crucial life experiences is the disclosure or discovery of their means of conception. This significance is mirrored by a growing body of research on DCAs' experiences of finding out about their means of conception (hereafter, "finding out"), the age and circumstances at the time this occurred, and the impact on their sense of personal identity and family relationships. Studies examining DCAs' age at disclosure found that those who learned about being donor-conceived during adulthood had more negative feelings regarding their donor conception, compared with those who were told earlier (Jadva et al. 2009; Lampic et al. 2022), although the absence of a significant relationship between the attitude toward the means of conception and the age of disclosure has also been reported (Mahlstedt et al. 2010). A number of studies on related issues and various populations of DCAs have briefly reported on the circumstances surrounding participants' finding out and the events that trigger parental disclosure (e.g., parents' divorce, arguments with their parents, or a genetics class at school), and found that participants were predominantly told by one or both parents, more frequently the mother (Beeson et al. 2011; Cosson et al. 2021; Jadva et al. 2009; Macmillan et al. 2021; Mahlstedt et al. 2010). However, few studies have provided more detailed qualitative analyses of DCAs' experiences of finding out. A thematic analysis of DCAs' accounts highlighted the broad spectrum of their narratives vis-à-vis their finding out and the possible events prompting parental disclosure (Frith et al. 2018b). Riley (2012) explored the experiences of "late discoverers" (i.e., DCPs learning of their means of conception during adulthood) and identified patterns of finding out, such as "reluctant or begrudged telling" or "accidental discovery," thus emphasizing the shock and confusion experienced by the participants post finding out. Riley's (2012) findings reinforced those of preceding research, which reported that DCAs tend to experience late finding out as disruptive for their narrative identity, which could, in turn, have detrimental effects on their family relationships (Kirkman 2003; Turner and Coyle 2000).

Such potential adverse impact was reported to predominantly pertain to DCAs' relationship with their parents, due to the perceived parental deception, resulting in loss of trust and feelings of anger. Therefore, research has focused on the relationship between DCPs and their parents, taking the accounts of DCPs as an empirical basis (Berger and Paul 2008; Cosson et al. 2021; Jadva et al. 2009; Turner and Coyle 2000). Additionally, a few studies started to draw attention to the no less important potential impact of discovery or disclosure on DCPs' relationship with their (social) siblings (Daniels 2020) or extended family (Frith et al. 2018b), thereby underscoring the far-reaching and complex intrafamilial dynamics triggered by disclosure or discovery of conception via DI.

The current explorative study contributes to this discussion by qualitatively inquiring into how adults conceived via anonymous DI experienced finding out, and its impact on their family relationships, not only with their parents but also with their siblings, partners, children, and extended family members. Furthermore, it expands on existing knowledge by specifically aiming to identify the circumstances surrounding DCAs' finding out. By providing such data and analysis, the current study aims to extend the ongoing discussion on the ethical and psychosocial implications of DI, especially of issues in relation to the disclosure of the circumstances of conception to DCPs and in the context of the discourse on the right to know one's genetic parentage. In addition, as this study draws on a survey that is the first to obtain and report systematic data collected from a larger sample of DCAs in Germany, it adds to the limited literature on the experiences of German DCAs. Therefore,

the present study's contribution is clear, as topic-relevant literature is currently limited to case studies (Funcke 2009, 2013); the presentation of vignettes (Bernard 2015; Oelsner and Lehmkuhl 2016); a psychological study on DCAs' narrative identity construction (Müller 2020); and an anthropological inquiry (Baumann 2021). All of these studies rely on data obtained from eleven or fewer German DCAs.

2. Materials and Methods

2.1. Study Setting

It is estimated that over 125,000 children have been born by means of DI in (West) Germany since 1970, initially at university hospitals and, subsequently, also increasingly at private facilities; at present, around 1000 children are conceived using this method each year (Katzorke 2019). Similar to other countries, the practice of DI in Germany was characterized by secrecy in the form of donor anonymity and non-disclosure of the means of conception to the child and the family's social environment, which was intended to protect family relationships as well as all stakeholders involved from negative psychosocial and legal consequences. Due to a lack of comprehensive legal regulations of DI, inseminations were conducted not under an absolute, legally underpinned anonymity, but rather based on informal agreements between the recipients and the medical facility. While preceding diagnostics were covered by health insurance, DI, as such, had to be financed privately. Well into the 1990s, recipient couples were advised to maintain strict secrecy (Thorn 2019).

However, in accordance with global trends, recent years have witnessed an increasing recognition of the benefits of early disclosure to the child in terms of their psychological well-being and family relationships (Golombok 2015; Nuffield Council on Bioethics 2013), as well as a growing recognition of children's right to know their genetic parentage. These trends could lead to the assumption that DI recipients are increasingly open with their children on the means of their conception (Thorn 2019), although the disclosure rates for the German context are unknown. Furthermore, by implementing its Sperm Donor Registry Act in 2018, Germany de facto banned the previous practice of anonymized sperm donation by establishing a mandatory central registry of the donors' identifying information. This allows persons conceived after July 2018 through DI in clinical settings to access information on their genetic father. Although the Sperm Donor Registry Act does not legally oblige parents to disclose the circumstances of conception to their donor-conceived children, recipients of sperm donations are to be informed about the child's right to know their genetic parentage.

Since the data relating to persons conceived before that date are not included in the registry, this group of DCPs continues to face difficulties in accessing information on their genetic parentage. Although the Sperm Donor Registry Act of 2018 stipulates in its current form that the data on DI prior to 2018 are to be preserved by the medical facility conducting the DI, in many cases medical facilities are not able (or sometimes not willing) to comply with DCAs' requests for information on their genetic fathers, arguing that the relevant documentation had been accidentally lost or routinely destroyed upon expiration of a prescribed retention period for medical records of 10 years. In some cases, DCAs initiated lawsuits against the medical facilities that conducted the DI, to obtain information on their genetic fathers. Since the 2000s, German DCAs' experiences of finding out and their embarking on the quest to identify and contact their genetic fathers have become known to an increasingly wider public, due to DCAs' appearance in various media and through the *Verein Spenderkinder* ("association of donor-conceived children"), a support and advocacy group of DCPs, founded in 2009. The *Verein Spenderkinder* frequently announces its demands and views, which include the general rejection of anonymous gamete donation, thus emphasizing the importance of early disclosure to donor-conceived children and demands to further improve DCPs' possibilities to exercise their right to know their genetic parentage (Meier-Credner 2020). The need to improve the current situation of DCPs was acknowledged by the current government, stating in their coalition agreement

plans to retrospectively integrate the data on DCPs conceived before 2018 into the Sperm Donor Registry (SPD et al. 2021).

Only recently, the use of DI in clinical settings—which had de facto been limited to heterosexual couples—became accessible for lesbian couples and single mothers by choice (Bundesärztekammer 2018). Embryo donation has been facilitated since 2013 by the Embryo Donation Network (*Netzwerk Embryonenspende*) (German Ethics Council 2019); additionally, oocyte donation is prohibited in Germany. Therefore, qualitative studies involving persons conceived in these settings within the German context still remain a desideratum.

2.2. Study Design

Qualitative and quantitative data were obtained from an online self-administered questionnaire targeting German DCAs.

2.3. Recruitment

The questionnaire was pretested by members of *Verein Spenderkinder* ($n = 2$). It was administered via the online survey tool SoSci Survey and was available online from September to November 2020. Participants were recruited via *Verein Spenderkinder's* mailing list, which had 210 adult members (18 years and older) in September 2020; they were encouraged to share the link to the questionnaire with other DCAs, such as their half-siblings, as participation was not limited to *Verein Spenderkinder* members. For this reason, the response rate could not be determined. All participants gave their informed consent prior to starting the survey. No compensation was provided for participation. The final sample for this study consisted of 59 DCAs who met the inclusion criteria of being donor-conceived in Germany and having answered the questions relevant to this study. Most participants ($n = 55$: 93.2%) were members of *Verein Spenderkinder*, while three (5.1%) were not, and one participant (1.7%) did not indicate membership status. Analysis of demographic characteristics showed that two participants were presumably raised as siblings in the same family. Data for both participants were included in the sample.

2.4. Data Collection

The current study's questionnaire was partly based on a survey conducted by Frith et al. (2018b) in their investigation on DCAs in the United Kingdom. As part of a larger project on the experiences of DCAs, including also their experiences of searching for and contacting their genetic father and half-siblings, the current study draws on data obtained from 31 items of this questionnaire, focusing on DCAs' experiences of finding out about being donor-conceived and its impact on their family relationships.

First, the participants responded to questions regarding their age, gender, professional background, and the country where they were raised. The participants' family constellations were thoroughly assessed via questions on their social and legal parentage, the number and age of their siblings and their genetic relationship with them, and the participants' own partners and children. For each question, participants were invited to add clarifying free-form comments on constellations that could not be captured by the closed-ended questions provided. In the second section, open-ended questions invited them to describe their experiences of the disclosure or discovery in detail. In the third section, the participants indicated the degree to which they considered finding out to be impactful on their relationship with their mother, father, siblings, partner, and children; this impact was assessed on Likert scales and via open-ended questions for each family member. In addition, participants were asked to describe their relationships with the members of their extended family post finding out.

2.5. Data Analysis

The retrieved data were analyzed using thematic qualitative text analysis, as proposed by Kuckartz (2014). Following his approach, the authors started out by familiarizing themselves with the data by writing case summaries and theoretical memos. Next, a

preliminary coding structure and main categories were developed, according to the research question and questionnaire structure. Circumstances of finding out were coded as mutually exclusive, while simultaneous coding was applied to categories related to the experiences of family relationships post finding out, as in answering the open-ended questions participants frequently referred to multiple aspects concerning the relationships to each of their family members. The analysis focused on the participants' responses to the respective questions of the survey; however, answers given elsewhere were also coded if they contributed to the subject matter. Preliminary coding of the data was conducted by the first author and subsequently discussed between both authors. After jointly reviewing and refining definitions of codes, sub-categories, and categories, both authors systematically coded the data independently. MAXQDA software was used for facilitating data organization, coding, and iterative exchange of results. The outcome was compared and discussed until consensus was reached. The remainder of the analysis was conducted by the first author and subsequently refined and consolidated through discussion between both authors. Descriptive statistics were used to report some of the demographic characteristics, patterns of finding out, and Likert-scale results. In addition, inferential statistics were utilized to examine the relationship between the participants' age at the time of finding out about being donor-conceived and the change in their relationships with family members (Pearson correlation).

3. Results

3.1. Demographic Characteristics

The first part of the questionnaire captured the participants' basic demographic characteristics (Table 1). At the time of data collection, the 59 participants were aged between 21 and 46 years ($M = 33.54$ years; $SD = 6.29$), which means they were born between 1974 and 1999. Forty-seven participants described their gender identity as female and nine as male, while three did not answer this question. The majority reported to have grown up with both a mother and a father as legal parents ($n = 48$), while three grew up solely with their mother, following their parents' early divorce. Seven participants responded that they had grown up in yet another constellation of legal parents, which in all cases included the mother (e.g., cases where the mother and a stepfather were present). Single mothers by choice or families with two mothers were not reported, which is not surprising, as DI during that time period was almost exclusively provided to heterosexual couples.

In the survey of this study, as well as in the following, the term "legal father" is used to refer to the man married to the mother at the time of the child's birth or the man who acknowledged paternity and who the participants believed to be also their "genetic father" before learning about their means of conception. This term is used in order to draw a terminological distinction with a "social father," who in some cases was involved in the upbringing of the participants following an early divorce or the demise of the "legal father." However, this terminology does not intend to deny the parental role of the "legal father," who participants frequently referred to as their "father" or "dad" (see Section 3.3.2).

Participants grew up with up to three siblings, not including any half-siblings they would have identified after finding out about their means of conception. The participants reported a variety of constellations and genetic relationships vis-à-vis their siblings. Twenty-four participants grew up solely with siblings also conceived through DI, either sharing the same genetic father or as half-siblings conceived by different genetic fathers. In some cases, the status of the genetic relationship between the participants and their siblings was reported to be unclear at the time. The siblings of twelve participants were exclusively non-donor conceived, such as stepsibling(s), adoptive sibling(s), or spontaneously conceived sibling(s). Another five participants reported having been brought up together with both donor-conceived and non-donor-conceived siblings. Forty participants reported to be currently in a relationship with a partner and 25 had up to four genetically-related children of their own.

Table 1. Demographic characteristics of participants ($N = 59$).

Age at study	20–24 years	n (%)
	25–29 years	5 (8.5)
	30–34 years	11 (18.6)
	35–39 years	17 (28.8)
	40–44 years	14 (23.7)
	45–49 years	10 (16.9)
	Mean (SD) = 33.54 (6.29)	2 (3.4)
Gender	Female	n (%)
	Male	47 (79.7)
	Other	9 (15.3)
	Did not answer	0 (0)
Legal parents the participant grew up with	Mother and father	3 (5.1)
	Mother and mother	7 (11.9)
	Mother	1 (1.7)
	Other constellation	48 (81.4)
	Did not answer	0 (0)
Number of siblings the participant grew up with	No siblings	n (%)
	1 sibling	17 (28.8)
	2 siblings	27 (45.8)
	3 siblings	11 (18.6)
Means of conception of siblings the participant grew up with	Donor-conceived sibling(s)	4 (6.8)
	Non-donor-conceived sibling(s)	24 (40.7)
	Both donor-conceived and non-donor-conceived sibling(s)	12 (20.3)
	Unclear	5 (8.5)
	No siblings	1 (1.7)
Relationship status at study	In a relationship	n (%)
	Single	40 (67.8)
	Did not answer	18 (30.5)
Number of genetically-related children at study	0	1 (1.7)
	1	33 (55.9)
	2	7 (11.9)
	3	14 (23.7)
	4	3 (5.1)
	Did not answer	1 (1.7)

N designates the total number of participants in this study.

3.2. Circumstances of Finding Out

The participants' age at finding out ranged from 5 to 46 years ($M = 24.88$ years; $SD = 9.78$, Table 2), and the time interval between finding out and participation in the study ranged from two weeks to 30 years ($M = 8.66$ years; $SD = 9.23$, Table 3). All participants recollected finding out or disclosure as a distinct event. None of them reported to have been raised "always knowing" about their means of conception. A broad spectrum of contexts and circumstances in which they learned about being donor-conceived was reported (Table 4). In most cases ($n = 49$), participants were informed about the means of their conception by one or both of their legal parents: either their mothers ($n = 36$), their fathers ($n = 2$), or jointly, by both parents ($n = 11$). These include cases of participants confronting their parents in order to seek confirmation of their suspicions concerning the established family narrative. In three cases, participants were told about being donor-conceived by a non-parent (a sibling, a friend, and the partner of the divorced, legal father). In six cases, it remained unclear whether a disclosing communication between the legal parents and participants had taken place or if the participants had found out independently, without subsequently seeking confirmation or an explanation from their legal parents. Thirty participants responded that disclosure took place at the initiative of one or both legal

parents, twenty-one participants stated that the communication leading to disclosure was initiated by themselves, and two participants reported that disclosure occurred at the initiative of a non-parent.

Table 2. Age at the time of finding out about being donor-conceived ($N = 59$).

	<i>n</i> (%)
Age of participants at the time they found out about their means of conception	
5–9 years	5 (8.5)
10–14 years	3 (5.1)
15–19 years	12 (20.3)
20–24 years	4 (6.8)
25–29 years	15 (25.4)
30–34 years	11 (18.6)
35–39 years	6 (10.2)
40–44 years	2 (3.4)
45–49 years	1 (1.7)
Mean (<i>SD</i>) = 24.88 (9.78)	

N designates the total number of participants in this study.

Table 3. Time interval between finding out about being donor-conceived and study participation ($N = 59$).

	<i>n</i> (%)
Time interval between finding out about being donor-conceived and study participation	
0–4 years	28 (47.5)
5–9 years	10 (16.9)
10–14 years	7 (11.9)
15–19 years	3 (5.1)
20–24 years	4 (6.8)
25–29 years	6 (10.2)
30–34 years	1 (1.7)
Mean (<i>SD</i>) = 8.66 (9.225)	

N designates the total number of participants in this study.

Table 4. Circumstances of finding out about being donor-conceived ($N = 59$).

	<i>n</i> (%)	
Disclosing person	Parent(s)	49 (83.1)
	Mother	36 (61.0)
	Mother and father	11 (18.6)
	Father	2 (3.4)
	Non-parent	3 (6.8)
	Unclear person unclear	1 (1.7)
	Unclear whether disclosure communication occurred/independent discovery	6 (10.1)
Person initiating disclosure	Parent(s)	30 (50.8)
	Child	21 (35.6)
	Non-parent	2 (3.4)
	Unclear whether disclosure communication occurred/independent discovery	6 (10.1)
Circumstances triggering discovery or disclosure	Discovery of medical records or conditions	11 (18.6)
	Consideration of the child's current life situation	8 (13.6)
	Direct-to-consumer DNA testing	7 (11.9)
	Parent's divorce or intra-familial conflicts	6 (10.1)
	Spontaneous disclosure	6 (10.1)
	Child's suspicion	5 (8.5)
	Professional advice	5 (8.5)
	(Imagined) external pressure	5 (8.5)
	Overheard conversation	1 (1.7)
	Hint by member of the extended family	1 (1.7)
	Unclear	4 (6.8)

N designates the total number of participants in this study.

Medical records or conditions ($n = 11$) were identified as a frequent factor leading to disclosure or discovery. Participants reported having confronted their legal parents

after accidentally discovering medical records or finding out about medical conditions that either hinted directly at the fact that they had been being donor-conceived or disproved the possibility of a genetic link to their legal father, such as learning about their legal father's infertility or his blood group being inconsistent with their own. Examples of this include the following:

I accidentally found a folder with documents on sperm donation [Respondent was in her late teens when she found out].

My sister and I found a doctor's letter in our late father's files, and it said he had [a genetic condition associated with infertility]. We googled it and did not think much about it at first. Only after some further research did we realize that he was most likely infertile. My sister directly asked my mother a couple of days later and that was when she told us about the sperm donation [Respondent was in her 30s when she found out].

I accidentally happened to see my dad's blood donor card and could see from his blood type that we could not be biologically related [Respondent was in her 20s when she found out].

Taking a reflected and planned approach to disclosure, the parents of eight participants chose to inform their children at a time they considered to be optimal, considering their children's age and current life situation. According to the participants' accounts of their parents' explanations, despite the parents' established intention to inform their children, the actual disclosure was often postponed out of consideration for the children's life circumstances, wherein disclosure was considered disruptive and detrimental to their well-being. Some participants reported these forms of disclosure to take place in a comparably formal setting in the form of a pre-announced family gathering.

My sister and I are separated by a big age difference, which is why [our mother] did not want to tell us until my sister was 18, but then she kept putting it off because of theses, high-school exams, and stays abroad. Finally, she told us at Christmas because we were all at home [. . .] [Respondent (gender unknown) was in their 20s when they found out].

Seven participants found out about the means of their conception in connection with direct-to-consumer DNA testing, such as paternity testing, conducted secretly with the intention to confirm doubts about the legal father's paternity. For instance:

I conducted two paternity tests on my own. Both tests showed that my father could not be my biological father. The path leading up to the decision to take these tests was long. Throughout my life I felt that something was wrong in our family, that I looked completely different from everyone else, that I had different interests, and so on. With this double result that my father could not be my biological father, I confronted my parents; after a long silence and excuses, they told me that I had been conceived through sperm donation [Respondent was in his 30s when he found out].

One participant reported to have conducted a DNA sibling test with her sister "following [their] intuition," which revealed that they were half-siblings conceived by different genetic fathers. Some participants registered their DNA information with online DNA-database services out of genealogical interest, which resulted in the unexpected and simultaneous discovery of donor-conceived half-siblings and their own donor-conceived status.

[I found out] via a DNA test on an online DNA database. There, I discovered a genetic half-sister. After contacting her, she explained to me that she was conceived through sperm donation and that I was most likely conceived in the same way. After consulting with my mother, this assumption was then confirmed [. . .] [Respondent was in his 30s when he found out].

Six participants reported that their finding out about being donor-conceived was related to their legal parents' going through a marital crisis or divorce.

It was during my parents' separation when it came down to who would stay with whom. My brother is three years older and was an absolute daddy's boy and wanted to stay with my father. Of course, my mother was not happy, which is why at that time she said to us "your father is not your real father" [Respondent was a preschooler when she found out].

Six participants experienced their parents' disclosure as spontaneous and incidental, rather than being the result of a conscious and planned decision.

In a moment of emotional weakness, the information came up during a conversation with my mother. Originally, my parents never wanted to tell me, but it just burst out of my mother that day [Respondent was in her 20s when she found out].

The participants' own intuitive suspicion, questioning the established family narrative and the genetic link to their legal fathers, was another possible trigger for both participants and parents to initiate communication leading to disclosure ($n = 5$). For example, one participant stated that she "always" had suspicions and was finally triggered by her plans to have children of her own, to confront her mother. Other participants reported that their parents' real or imagined filial suspicion prompted them to disclose.

Our mother thought [my brother and I] had suspected something and confessed it to us [Respondent was in her teens when she found out].

Receiving professional advice to either disclose to the child or seek parental clarification on the status of the legal father, as indicated by five participants, was an event that could likewise lead to disclosure initiated by either the participants or the parents. For instance:

I had "seen" in a family constellation that there was a clear suspicion that my father is not my father. Together with my therapist, I decided to ask my mother. When I asked my mother, I was told about the sperm donation [Respondent was in her 20s when she found out].

My mother had sought psychological counselling. She was instructed to disclose to me as early as possible [Respondent was a grade-schooler when she found out].

In five cases, parents disclosed to their children after being pressured to do so by a third party or did so with the intent to forestall a real or imagined risk of the child being told by a third person.

My mother told me about it in tears. But only because of my stepfather's blackmailing her [Respondent was in her 30s when she found out].

My mother got scared because she found out that someone had learned about [my donor-conceived status] whom she had not been aware of knowing this, so she decided she had to tell me [Respondent was a grade-schooler when she found out].

Other events or circumstances triggering discovery or disclosure included an overheard parental conversation and a hint obtained from a member of the extended family ($n = 1$ each). In four cases, the given answers were not conclusive enough to identify the context related to the participants' finding out.

3.3. Experiences of Family Relationships Post Finding Out

3.3.1. Participants' Relationship with Their Mother

Among all family members, the participants experienced the relationship with their mother as being affected the most by finding out their donor-conceived status (Table 5). There was a moderate, positive correlation between the participants' age at the time of finding out and their perceived extent of change in the relationship with their mother ($r(57) = 0.42, p < 0.001$). Participants who found out later in their life perceived higher degrees of change in their relationship with their mother. In their answers to the open-ended questions, 28 of the participants reported that they developed feelings of mistrust,

disappointment, or anger toward their mothers, holding them responsible for having withheld such information from them. Especially, participants who found out as adults blamed their mothers for having been dishonest with them—often in a perceived stark contrast to the ideals of honesty and trust they had been taught by their mothers. Frequently, such negative and accusing feelings were reinforced by the participants’ perception of their mothers, such as self-righteous, failing to acknowledge their responsibility and the severe consequences of their secrecy, and as lacking empathy and understanding for the participants’ situation ($n = 15$).

My mother and I had a good relationship. However, I had no idea that she would withhold this essential information on the means of my conception from me. My trust in my mother is clearly damaged, especially since she has never apologized to me in a credible way, instead only justifying her actions [Respondent was in his 30s when he found out].

Table 5. Change of relationships with family members after finding out about being donor-conceived ($N = 59$).

To What Extent Does the Following Statement Apply to You: “Learning about the CIRCUMSTANCES of My Conception Has Changed My Relationship with My ... ?”					
	<i>n</i> (%)				
	... mother	... legal father	... sibling(s) I grew up with	... partner at the time of finding out	... child/children
fully applies	18 (30.5)	10 (16.9)	2 (3.4)	5 (8.5)	2 (3.4)
applies somewhat	18 (30.5)	18 (30.5)	10 (16.9)	3 (5.1)	6 (10.2)
does not apply entirely	14 (23.7)	17 (28.8)	12 (20.3)	7 (11.9)	3 (5.1)
does not apply at all	9 (15.3)	6 (10.2)	18 (30.5)	22 (37.3)	14 (23.7)
did not answer		2 (3.4)		1 (1.7)	1 (1.7)
not applicable		6 (10.2) [grew up with absence of the legal father]	17 (28.8) [grew up without siblings]	21 (35.6) [not in a relationship with a partner at the time of finding out]	33 (44.9) [no children]

N designates the total number of participants in this study.

Conversely, 10 participants reported an improvement in their relationship with their mother after overcoming initial feelings of anger and shock upon finding out. One reason for this improvement, as reported by the participants, was the feeling of relief resulting from being able to finally understand certain past events and their mothers’ often incomprehensible or inconsistent behavior ($n = 4$). Another reason was the development of an understanding regarding the circumstances which led their mother to use DI ($n = 10$). Furthermore, nine participants reported a difficult relationship with their mother prior to finding out, which did not substantially change thereafter.

The relationship with my mother was never that good. It has not changed much [Respondent was in her 20s when she found out].

3.3.2. Participants’ Relationship with Their Legal Father

Participants’ relationship with their legal father, the man married to the mother at the time of the child’s birth or the man who acknowledged paternity, was reported to have not been affected to the same extent as their relationship with their mother (Table 5). There was a moderate, positive correlation between the participants’ age at the time of finding out and their perceived extent of change in the relationship with their legal fathers ($r(49) = 0.34$, $p = 0.007$). Participants who found out later in their life perceived higher degrees of change in their relationship with their legal father. The analysis of the participants’ open-ended responses showed that, in comparison to their relationship with their mother, their

perception of their relationship with their legal father was, in general, not only much less impacted by finding out but also far less emotional and close in the first place.

The answers of 17 participants indicated that they had rather distanced relationships (to varying degrees) with their legal fathers prior to finding out. These participants described their pre-disclosure relationships as “a good (albeit rather cold) relationship,” “always quite distant,” or “not a close bond by any means.” Reasons provided for this pertained not only to the participants’ legal parents’ separation, leading, in turn, to reduced contact with their legal father or their legal father’s personality or medical conditions (such as autism or depression), but also to the participants’ assumption that DI led to emotional distancing on behalf of their legal father. For instance:

My father and I have always been very different. Even in my childhood, I always perceived my father as very absent. He was always there and has been a constant in my life; nevertheless, it was emotionally difficult for me to build a deep bond with him because he was barely present on an emotional level. When I was told about the means of my conception, I finally understood why my father often seems so distant [Respondent was in his late teens when he found out].

Ten participants reported that either no communication with their legal father took place at all after finding out or the topic of DI was entirely avoided. Reasons for this could be not only their legal father’s personality or their parents’ separation, as mentioned above, but also the participants’ concern for their legal fathers’ feelings. In two cases, the participants declared that their legal fathers were not aware that the participants knew they had been conceived via DI. In a similar way that their finding out affected their perception of their mothers due to the latter’s deception, five participants reported feelings of anger and disappointment toward their legal fathers post finding out. However, in many cases, such feelings were less intense than those directed against the mother, to whom participants frequently tended to attribute the main responsibility for hiding their donor-conceived status as well as the decision to undergo DI in the first place. As mothers were often portrayed as the dominant person in the family, many participants ascribed responsibility to them instead of their legal fathers. Another reason participants gave for this asymmetric ascription of responsibility is the fact that their relationship with their mothers tended to be closer than that with their legal fathers, which made the breach of trust more hurtful.

Since learning about the means of my conception, I began to re-evaluate my family’s history and dynamics as well as the roles of my parents, my brother, and myself. Since then, my mother’s role within the family appears even more dominant and powerful than I had previously realized. Therefore, I hold her as the one mainly responsible for my parents’ silence, since—to put it bluntly—my father does not have much to say anyway [Respondent was in his 30s when he found out].

Funnily enough, I almost do not blame [the legal father] at all for breaking my trust by not telling me about the means of my conception. Maybe, I can understand his point of view. Besides, my relationship with him was never so strong that I might have expected him to tell me. I would have rather expected my mother to tell me [Respondent was in his 30s when he found out].

Sixteen of the participants emphasized feelings of understanding and sympathy for the situation of their legal fathers, who had to come to terms not only with their infertility but also with the task of raising a genetically unrelated child as their own, for which participants expressed their appreciation. In addition, three participants sensed insecurity in their legal fathers concerning their paternity status post finding out, and 12 participants emphasized their continuing acceptance of their respective legal fathers as “their father” or “their dad.”

In contrast, some participants also expressed relief upon finding out that their legal father was not their genetic father, either due to the reduced pressure to have to meet the expectations of their legal fathers or due to certain personality traits of their legal fathers

perceived as problematic ($n = 7$). In addition, participants experienced an improvement in their understanding of their legal fathers' past behavior and of differences in personality and physical characteristics between them ($n = 11$). For instance:

I have always attributed the differences between my father and I to a whim of nature. Now that I have learned about how I was conceived, I know that these differences may well be in my DNA. It makes a lot of things easier to understand. The pressure to want to meet the expectations of my father has largely disappeared. Nevertheless, I can still have a good relationship with him. Overall, knowing how I was conceived brought me relief [Respondent was in his 30s when he found out].

3.3.3. Participants' Relationship with the Siblings They Grew Up with

There was a moderate positive correlation between the participants' age at the time of finding out and their perceived extent of change in the relationship with their siblings ($r(40) = 0.45, p = 0.0013$). Participants who found out later in their life perceived higher degrees of change in their relationship with the siblings they grew up with. Participants' relationships with their siblings did not change post finding out as much as those with their mothers and legal fathers (Table 5). This was reiterated in the open-ended answers, wherein 16 participants emphasized that their relationship with their siblings remained relatively unchanged, not only in cases where the participants grew up with siblings whose genetic unrelatedness had been clear from the outset (e.g., when they had step-siblings) but also in cases where their siblings (who they thought were their genetic full siblings) turned out to have a different genetic father.

My brother [conceived by a different donor] and I have been getting along very well as adults and support each other in all situations. The fact that we found out a few years ago that we were only half-siblings did not change anything. Today, this fact plays no role whatsoever in our everyday family life [Respondent was in her 30s when she found out].

Similar to the post-finding-out understanding they gained regarding the physical and personality differences between themselves and their legal father, 10 participants expressed that they were now able to better understand the differences which they had observed pre finding out between themselves and their siblings, who turned out to be, in fact, their half-siblings. This discovery of the underlying reason for such differences led, in some cases, to an increased mutual tolerance and improvement of the relationship.

The relationship with my [spontaneously conceived] sister had always been challenging but never bad. For about three years now, I have consciously understood that we are "only" half-siblings and that relaxes/relieves me immensely because I can better accept that we are not as close as I might have wished before. This realization has brought me closer to her again [Respondent was in her teens when she found out].

Other participants ($n = 5$) reported that their relationship with their siblings who were also donor-conceived was strengthened, due to their shared experience and struggle in coming to terms with their donor-conceived status and the consequences of finding out. They experienced this shared background as a unique bond, providing them with mutual psychological support.

Due to our rather rare story of conception, [my (donor-conceived) brother and I] have found in each other someone who understands the emotions [related to being donor-conceived] [Respondent was in her teens when she found out].

Conversely, participants also experienced alienation from their siblings as well as tensions between them. The main cause for inter-sibling conflicts and stress was related to differences in the siblings' approach to accepting their donor-conceived status, which was often diametrically opposed to the approach taken by the participants themselves. Such differences were reported by nine of the participants.

My [donor-conceived] sister has reproached me for destroying the family [by temporarily breaking off contact with their parents after disclosure]. She is more of a family person than I am. I did not want my relationship with her to change, we were like best friends. But she pulled away. We spoke on the phone a few times; I tried to explain to her why I reacted the way I did, but she could not quite forgive me. In the meantime, the relationship has improved, but it is no longer as intimate as it used to be. That still makes me sad sometimes. Maybe, it is also because of our age; we each have our own lives now, but something has broken between us [Respondent was in her 30s when she found out].

Such differing attitudes between siblings could also extend to the question of whether a clarification of their genetic relationship status should be sought or not.

My brother is completely different from me and has erased the topic from his mind because he does not want to know anything about it. It is a bit of a difficult situation for me because I would like to be able to talk to him about it, and I would also like to know whether he is my full brother, but I accept his way of dealing with it because even if I had a [DNA test] result that he is only a half-brother, it would not change anything for me [Respondent was a preschooler when she found out].

3.3.4. Participants' Relationship with Their Partner at the Time of Finding Out

None of the participants reported that they had not informed their partner of their own donor-conceived status upon finding out. However, one participant reported that her (also donor-conceived) sister had not informed her partner, in compliance with a parental request. In some cases, disclosure took place in the presence of the partners. In one case, the partner was informed prior to the participant. Most participants who were in a relationship at the time they found out stated that this did not change their relationship (Table 5).

Five participants described their partners as understanding and supportive. For instance, My boyfriend at the time (who is now my husband) always stood behind me and continues to do so. He was so excited about the results from FamilyTree [a commercial DNA-testing company] and so on and was very happy when I found a [genetic] match. He was also there for me and always comforted me and listened to me when my world fell apart [Respondent was in her teens when she found out].

Contrastingly, seven participants experienced some sort of negative impact or deterioration of their relationship with their partner upon finding out, which they mostly ascribed to their own need to come to terms with the new situation.

Yes, unfortunately [finding out about being donor-conceived impacted the relationship with my partner]. Suddenly everything revolved around me, while the relationship faded into the background. Also, the desire to have children had to be put at the bottom of the list because I needed time for myself first. Of course, this has affected our partnership [Respondent was in her 30s when she found out].

3.3.5. Participants' Relationship with Their Children

Most participants who had children of their own ($n = 26$) stated that learning about the means of their own conception did not change their relationship with their children (Table 5). None of the participants' answers to the open-ended questions stated that finding out had a substantial impact on their relationship with their children. As the survey did not inquire whether participants with children learned about being donor-conceived before or after they became parents, the data summarized in Table 5 and the participants' answers to the open-ended questions also pertain to the perceived impact of knowing about being donor-conceived on the relationship with their children born after the participants attained this knowledge.

Eight participants explicitly reported that they had taken an open approach to the topic and had already explained the circumstances of their own conception and the status of their children's grandfather to their children. Their children's future interest in their genetic grandfather was cited as a motivation for one participant to search for their genetic father. Against the background of their own family planning, one female participant expressed a reserved attitude toward her hypothetically resorting to means of assisted reproductive technology. Three participants expressed relief and gratitude for having been able to conceive spontaneously, and were happy to note their children's similarities to their partner. Two participants expressed their concern about not knowing a part of their children's genetic makeup, especially in relation to possible hereditary diseases, as the consequences of their ignorance concerning their genetic roots could affect their children as well.

[Finding out] has not changed the relationship, but you do not know part of your children's DNA and that makes you sad and insecure [Respondent was in her teens when she found out].

3.3.6. Participants' Relationship with Members of Their Extended Family

Concerning their extended family, participants reported a broad spectrum of relationship dynamics, depending on factors such as whether or not their family members already knew about their donor-conceived status, how close and good the relationship was prior to finding out, and the status of the genetic relationship between themselves and their family members. The statement most frequently observed in the data was that the participants' relationship with the members of their extended family had not changed upon finding out ($n = 30$). Participants reported ongoing stability in their relationships not only with family members who were already aware of the participants' donor-conceived status but also with those that were not aware of said status and those who had not been previously aware of the participants' donor-conceived status but were informed by the participants themselves. Examples of this include the following:

[Me and my (donor-conceived) brother's] relationship with our relatives has not changed. But I was surprised that both of my grandparents and my parents' siblings knew about it. Nobody ever revealed anything . . . [Respondent was in her 30s when she found out].

My relatives do not know anything about how I was conceived. Since my parents do not want to change that at the moment either, I have not officially announced it yet, so nothing has changed so far [Respondent was in his 30s when he found out].

We told my 90-year-old maternal aunt about my conception and she has taken it well. The relationship has not changed, as I have always had a good relationship with her [Respondent was in her 40s when she found out].

Some participants reported feeling initially irritated and sad about being genetically unrelated to their legal father's relatives; however, such feelings were overcome and, in some cases ($n = 6$), led to an increased openness between the participants and their extended family members. In addition to such implications for their mutual relationship, the participants' perception of their extended family was affected by the knowledge of the circumstances of their conception. The data showed that such a reassessment of their relationship with their extended family, triggered by the newly acquired knowledge of their circumstances of conception, could lead to a renewed focus on their similarities to their genetically related extended-family members, on the one hand, and to an increased awareness and deepened understanding of their differences to their genetically unrelated family members, on the other. An increasing distance was either perceived or intentionally created, especially in cases where the relationship was not close or good in the first place. In some cases ($n = 5$), the knowledge of being genetically unrelated to parts of their extended family was experienced as a relief. For instance:

I had hardly any contact with my social father's relatives before that. After learning about how I was conceived, I no longer felt connected to them at all, but this was liberating in a way [Respondent was in her 20s when she found out].

4. Discussion

The present study highlights the broad spectrum of possible circumstances and events leading to disclosure or discovery, thereby generally confirming the findings of preceding studies conducted in other national or international contexts (Beeson et al. 2011; Macmillan et al. 2021; Mahlstedt et al. 2010). However, the findings of this study specifically suggest that two of the identified contexts warrant further attention and research.

First, this study identified "professional advice" as one occasion prompting disclosure. As the data of this study showed, this could comprise advice given by a psychologist or therapist to a parent, recommending disclosure to the DCA for the sake of the parents' or DCA's well-being or improvement in family relationships. It could also consist of advice given to the DCA, recommending that they seek clarification from their parents in contexts such as therapy involving systemic family constellations, which could lead to suspicion concerning the established family narrative. Therefore, as family relationships could be strongly affected by finding out about donor-conception, the question of how such professional support could be extended to accompany the process of disclosure and subsequent re-negotiation of family relationships could be a fruitful subject of further research. This seems to be even more important in light of the difficulties in family communication encountered by some participants post finding out, especially vis-à-vis their legal fathers; an issue that has also been reported in earlier research (Hertz et al. 2013; Turner and Coyle 2000). Although the need for professional psychosocial post-disclosure support for DCPs and their families has been highlighted by expert organizations (e.g., *Beratungsnetzwerk Kinderwunsch Deutschland 2021*; *ESHRE Working Group on Reproductive Donation 2022*), this has rather been neglected in current research (Crawshaw et al. 2022), which tends to focus on the counselling needs of intended parents as well as on issues arising from recent regulatory and technological developments in the field. Psychosocial support for DCPs trying to identify and contact genetic kin via DNA databases is a field that has only recently begun to be recognized (Crawshaw et al. 2016).

Second, mirroring the findings of a recent (non-peer-reviewed) transnational survey on DCPs conducted by a resource site and Facebook group for DCPs, which identified commercial DNA-testing as the most frequent way (34%) their participants discovered the circumstances of conception (*We Are Donor Conceived 2020*), the significance of the "discovery of medical records or conditions" and the use of "direct-to-consumer DNA testing" are highlighted by this study. In our sample, these contexts were identified as the most frequent triggers prompting German DCAs to confront their parents and seek disclosure. As this study illustrates, the role of the various forms of direct-to-consumer DNA testing triggering finding out is not limited to cases where DCAs seek to confirm or disprove suspicions concerning genetic relatedness in their families. This could also pertain to the unexpected discovery of inconsistencies in the family narrative or the accidental discovery of individuals' donor-conceived status by learning about half-siblings sharing the same genetic father upon using a commercial DNA database for unrelated, non-specific reasons, such as health or genealogical interest (Crawshaw 2018; Grethel et al. 2022), as reported by four participants of this study. Six of the seven participants whose finding out was related to DNA testing reported that they found out about their donor-conceived status as recently as one year or less before participating in this study. This fact, compounded with the increasing availability and lower costs of direct-to-consumer DNA testing outside the US, suggests that in the future this could become a more common form of discovery among DCPs raised by heterosexual couples old enough to access direct-to-consumer DNA testing by themselves. Especially in the German context, this manner of discovery could arguably be of high relevance, given the estimated large number of donor-conceived persons hitherto unaware of their means of conception. The findings of the current study, therefore,

highlight the need for a more in-depth qualitative inquiry into the experiences of DCPs who “accidentally” found out about being donor-conceived by the use of direct-to-consumer DNA testing. Such research could investigate the impact that this specific form of discovery has on the DCP’s family relationships, identify potential ethical challenges involved in this novel means of finding out (such as the question of how DCPs should deal with “accidentally” matched half-siblings not yet aware of being donor-conceived), and thereby complement the emerging body of literature on attitudes toward and experiences with direct-to-consumer DNA testing (Guerrini et al. 2022; Hazel et al. 2021; Newton et al. 2023). As DI constitutes only one of the possible causes of “misattributed paternity” that could be unexpectedly discovered through direct-to-consumer DNA testing, a comparison with different settings such as undisclosed adoption or marital affairs could further contribute to our understanding of the specificities and similarities of DI’s impact on identity and family relations (Grethel et al. 2022).

Through its inquiry into the post finding out evolvement of family relationships, the current study succeeded in identifying a correlation between the participants’ age at the time of finding out and their perceived extent of change in the relationship with their mothers, fathers, and siblings, thus demonstrating that such relationships tended to be less impacted when the DCAs found out at a younger age than at a later point in their lives. The data of this study, however, showed that the specific way in which the family relationships evolved post disclosure also depended on the pre-disclosure nature of the relationships in question; for example, a low impact on a relationship with a parent could mean that a prior poor relationship did not substantially change post-disclosure. Other correlations, such as the perceived impact of specific circumstances of finding out on family relationships (Glidden et al. 2022), could not be demonstrated based on the data of the current study, which comprised participants with many-faceted biographies. Furthermore, as the accounts of the DCAs who had known for a longer period of time suggest, the time interval between finding out and study participation could arguably constitute an important factor in the DCA’s perception as they continuously (re-)evaluate their family relationships retrospectively. Therefore, the data of the current study could not be narrowed down to provide a simple answer concerning the question of the ideal timing and circumstances of disclosure in terms of its impact on family relationships, but they rather highlighted the complex factors impacting the DCA’s post-disclosure family relationships that must be taken into account when undertaking such considerations.

This study further reiterates the findings of prior research, such as the phenomenon that DCAs’ relationships with their mothers tend to be more negatively affected by finding out, compared with those with their legal fathers, as mothers are held primarily accountable for the perceived parental deception (Blyth et al. 2020; Jadva et al. 2009). As the underlying reasons for this asymmetric impact on the parent–child relationship appear to be related primarily to the participants’ perception of familial roles and expectations towards their mothers and legal fathers, rather than the presence or absence of genetic connectedness, a comparison of the experiences of persons conceived by oocyte or embryo donation or persons raised by two mothers could further examine the validity of these findings. In addition, the data showed that the impact of the disclosure or discovery on family relationships was not necessarily exclusively adverse in nature, but could also be viewed as having positive effects, such as an increased understanding and improvement of the participants’ relationship with their parents. Here, this study especially adds to our understanding of DCAs’ relationships with family members other than their parents, in particular the siblings they were brought up with. While tensions and lack of communication between siblings due to topic avoidance or the different ways in which they deal with the knowledge of being donor-conceived have been reported in a preceding study (Daniels 2020), the current study found that, besides such negative experiences, DCAs could also find their relationship with their siblings to be a source of emotional support in the process of coming to terms with their donor-conceived status. Furthermore, participants reported an increased understanding and acceptance of the differences between themselves and their

siblings who turned out not to share the same genetic father. Conversely, the conflicts between donor-conceived siblings identified in this study pertained not only to their opposite approaches in dealing with the knowledge of being donor-conceived and the emerging questions of the status of the genetic relationship between them; they were also caused by tensions arising from the decision of whether to embark on a search for their genetic father or half-siblings. Such relationship dynamics between donor-conceived siblings point out the interpersonal and ethical issues that DCAs have to come to terms with upon disclosure. Similarly, by shedding light on the challenges DCAs face in dealing with complex patterns of knowledge and ignorance and in re-negotiating their relationship with their extended family members, this study expands the findings of the existing research (Frith et al. 2018b).

Finally, the limitations of the current study must be acknowledged. Although many participants diligently provided lengthy answers to the open-ended questions in the questionnaire, the possibility to inquire in depth into their experiences and identify mechanisms and patterns of post-disclosure family relationships was limited by the online survey format chosen for this study. In addition, although this study aimed to explore DCAs' first-hand experiences, their perspective could be complemented by the accounts of parents, siblings, partners, children, and extended-family members. These issues could be further explored in future research, for example, involving qualitative interview-based studies.

In addition, our study's participants were born between 1974 and 1999—a time when access to DI in clinical settings was limited to heterosexual couples, while medical advice still tended to emphasize secrecy and non-disclosure to the child. Therefore, it is unsurprising that the current study does not report the experiences of DCAs who “had always known” about their DCP status, or those raised by single mothers by choice or lesbian couples, who may experience learning about their donor conception and its impact on family relationships in quite different ways (Jadva et al. 2009). It would be interesting to examine how the experiences of this younger generation of German DCPs, in particular those conceived after the Sperm Donor Registry Act of 2018, differ from those of the participants of the current study.

Furthermore, similar to many studies on DCPs' experiences, this research is based on a highly biased sample (Pennings 2021). By relying on the mailing list of *Verein Spenderkinder* for recruiting the participants, the sample of this study is not necessarily representative of all DCAs in Germany who are aware of their means of conception. Arguably, DCAs choosing to join a support and advocacy group might have experienced learning about being donor-conceived (as well as its impact on identity, family relations, and its triggering of the desire to learn more about their half-siblings and genetic father) in a different way than a representative group of DCAs. As the participants' siblings' different approaches to being donor-conceived illustrated in this study suggest, other DCAs could have vastly different attitudes and experiences that do not lead them to actively join a support and advocacy group, and thus were not captured by the current study. However, as preceding research reported that some DCAs find it difficult to talk with other people about their donor-conceived status and often deal with this issue in isolation (Turner and Coyle 2000), the inverse conclusion (that the findings obtained from this sample are limited to the experiences of members of *Verein Spenderkinder*) cannot be drawn either. Further—similar to earlier studies—the population of this study was predominantly female (Blyth et al. 2020), which mirrors the membership structure of *Verein Spenderkinder*.

In choosing to recruit participants via *Verein Spenderkinder*'s mailing list, this study followed the approach taken by prior studies on German DCPs, which have almost exclusively relied on the *Verein Spenderkinder* as a source for recruitment (Baumann 2021; Bernard 2015; Funcke 2009, 2013; Müller 2020; Oelsner and Lehmkuhl 2016). Attempts to recruit participants for qualitative interview-based studies via internet forums, a project homepage, or by approaching the German Association of Sperm Donor Families (*DI-Netz*; another relevant support group) have been reported to have limited success, thereby leading the authors of these studies to rely predominantly on members of *Verein Spenderkinder* and its mailing list (Baumann 2021; Müller 2020). This form of recruitment and requesting

participants to forward this study's invitation email to DCAs who were not members of the mailing list, such as the participants' half-siblings, allowed for a convenient way to contact a broad range and large number of confirmed DCPs (only DCPs are allowed to join the mailing list), which enabled the authors of the current study to recruit the largest sample size ($N = 59$) in the German context so far. Future research on the experiences of German DCPs could continue to explore complementary or alternative ways of recruitment.

In conclusion, this study provided the first systematic research evidence of DCAs' experiences in Germany, specifically concerning how they found out about their donor-conceived status and the post-finding-out development of their family relationships. Direct-to-consumer DNA testing was identified as an emerging trigger for (in some cases unexpected) disclosure or discovery, warranting future research on its psychosocial implications. Moreover, the significance of further in-depth inquiry into DCAs' relationship with family members other than their parents, in particular with the siblings they grew up with, was highlighted.

Author Contributions: Conceptualization, T.B. and A.M.-C.; methodology, T.B. and A.M.-C.; investigation, T.B. and A.M.-C.; validation, T.B. and A.M.-C.; formal analysis, T.B.; writing—original draft preparation, T.B.; writing—review and editing, T.B. and A.M.-C.; funding acquisition, T.B. All authors have read and agreed to the published version of the manuscript.

Funding: This study was funded by Japan Society for the Promotion of Science KAKENHI Grant Number JP19H01186.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee of Faculty 2 of Technische Universität Braunschweig (reference number FV-2020-11, July 2020) and by the Ethics Committee of the Faculty of Humanities and Social Sciences of Kumamoto University (reference number 2020-54, July 2020).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are not publicly available due to privacy/ethical restrictions.

Acknowledgments: We are grateful to all the participants of this study. We would like to thank Lucy Frith, from the University of Liverpool, for kindly providing us with the questionnaire used by Frith et al. (2018b), which served as a template for the questionnaire of this study.

Conflicts of Interest: Anne Meier-Credner is a founding member and board member of *Verein Spenderkinder*. Tobias Bauer declares no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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