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When Diapers are Erotic: Investigation of 197 People with Adult-Baby-Syndrome (Autonepophilia)

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Abstract

Goal: Autonepophilia is a behaviour of adults in which people behave like toddlers. They wear diapers, suck on pacifiers and love it to be cared for from other people. Often an erotic component is involved and urinating into the diaper is connected with sexual arousal. Currently only a small number of studies exist about the AB/DL-syndrome (adult baby / diaper lovers). This study aimed to characterize causes in the development and typical behaviours of affected persons. Method: Data were collected in social networks and online communities for adult baby / diaper lovers. A sample of 184 male and 13 female participants with AB/DL behaviour was recruited and compared with a not-affected control group (158 male and 13 female). Primarily a questionnaire was used, which was developed to collect data about this syndrome by the authors. In addition the elements of the „Giessen-Test-II“ (GT-II, Beckmann et al.) and the „Need Inventory of Sensation Seeking“ (NISS, Hamelstein et al.) were used. Results: Data support a psychodynamic, behavioural and biopsychological explanation for AB/DL behaviour. Predisposing factors were the absence of a secure attachment object, lower stimulation in the anal stage, associations between infant care and first sexual arousal, enuresis and testosterone deficiency. The main motive was the reduction of stress and tensions. In contrast to the short excitement, in a long term practicing of AB/DL led to strong feelings of humiliation and shame. Moreover, AB/DL affected individuals had fewer, shorter and poorer-qualities of partnerships compared to the control group. No significant differences were found with respect to the expression of docility or sensation seeking. Conclusion: The study shows evidence of a psychodynamic explanation for the Adult Baby Syndrome. The absence of a safe attachment object and understimulation in the anal phase of development were identified as possible predisposing factors. In combination with the fact, that AB/DL sufferers more often come from divorced and adoptive families, it can be assumed that the origin of this behaviour is in the external circumstances of childhood and youth.

Keywords: Adult Baby Syndrome; Diaper lovers; Autonepophilia; Paraphilic infantilism; AB/DL; AB-DL.

1. Introduction

„The next [morning] *I woke up and my legs were pressed apart! The spreader and 3 wet diapers make walking impossible. I moved in a duck walk, and then decided to crawl completely. I ate porridge, drank like crazy, and found the thought nice not to be able to stand* [...] *When my diaper was nearly absolutely full* [...] *my desire reached a climax, and I defecated into the diaper. The smell, the warm lump in my pants, this thick, clammy diaper that now, since 16 hrs clung on me* [excited me so much] *that I immediately came* [in the diaper]. *“* (Diaper stories, 2013)

This blog entry of a 20-year-old man describes thoughts, feelings and behaviour of an „adult baby“. In scientific literature, the term „autonepophilia “or „paraphilic infantilism “is used [1]. This expression implies the presence of a mental disturbance, although most “sufferers” regard themselves not as “patients”. In social internet-networks the acronym AB/DL (Adult Baby / Diaper Lover) is preferred.

AB/DL seems to be a widespread phenomenon, Google found 124 Million entries for „adult baby“ (e.g. specialized shops, hotels, and online communities). On the other hand there is a lack of scientific studies. For an interval between 1990 and 2023 the data-base PubMed listed only 7 studies. Until now, AB/DL is not uniformly defined and not recognized in most psychiatric textbooks. Predominantly the available scientific literature consists of single-case studies, here a wide variability of symptoms and partially contradictions occur. Another problem is that almost all published studies are based on patients who suffered from mental strain and were in psychotherapeutic treatment. Not considered is the wide sample of people with AB/DL-behaviour, who do not suffer from any pressure, are not in treatment, and feel no need to change their behaviour.

Diagnostic classification systems as the „Diagnostic and Statistical Manual of Mental Disorders“ (DSM) and the „International Classification of Diseases“ (ICD) are controversy in regard to the alignment of AB/DL [1-5]. In most of the literature the Adult Baby Syndrome is described as paraphilic infantilism [1, 6-10]. But other studies see a connection to obsessive compulsive disorders [2] or with the gender identity disorder [4]. Evicmen and Gratz [3] expressed the view that adult baby behaviour has no pathological character, but serves as a coping strategy.

The first studies in this area were in the beginnings of the last century. Stekel [10] gave first case reports about a behaviour he called „psychosexual infantilism“. He describes it as a paraphilia in which sexual life is expressed in infantile forms. He was referring to the psychosexual stages of development according to Freud (oral, anal, phallic, latency and genital phase). In each stage of development a specific form of erotic satisfaction is dominant [11]. Stekel [10] described the AB/DL-behaviour in psychodynamic terms as regression to stages of the early childhood. Other authors named it as a psychoanalytic defence mechanism to avoid anxiety [12]. Here, even a fall-back to the embryonic life is possible [10]. An over- or understimulation in a certain phase of the developmental stages leads to a fixation on this phase and the subject feels the need of regression into typical behaviours of this childhood-stage for the remnant of his or her life [12, 13]. Stekel [10] recognized the fear of aging as important cause for the regression and the developmental inhibition; the affected subjects want to remain in the state of a toddler. These „eternal infants“ are characterized by the fact that they show a childlike joy, fear of being alone, their mouth plays a more erotic role than the genitals, which leads to a retreat from normal sexual intercourse, but to strong erotic interest in urination and defecation, they were pleased by uncleanness, and often various other neurotic symptoms occur (e.g. nocturnal enuresis).

In recent studies, due to the sexual component, the Adult Baby Syndrome was classified as paraphilia [1]. On the other hand, Speaker [9] noted in a survey of 12 AB/DL subjects that the motives behind the Adult Baby Syndrome vary very strong. For some of these people stood sexual arousal in the foreground, either through fetish objects (e.g. diapers, pacifiers) or by emotional qualities (e.g. humiliation, shame). However, others feel strengthened in their childhood feelings due to their behaviour and see the motivation in the escape of the stress in adult life. Here, the Adult Baby Syndrome is regarded as a coping strategy.

In a single-case study, described by Croarkin, *et al.* [2], the patient wore diapers not for sexual stimulation; he suffered from intrusive thoughts and behaviours in relation to toddler-like behaviours. The clinical picture of the patient fulfilled most criteria of obsessive-compulsive disorder (OCD), accompanied by depressive symptoms, and suicidal thoughts.

Kise and Nguyen [4] suggested a connection between AB/DL and gender identity disorder (gender dysphoria). These authors described a biologically male patient, who wanted not only to be a baby, but also to have the identity of a woman. Kise and Nguyen [4] saw the intense and persistent desire to be a baby rather in the context of a dependent personality disorder with strong feelings of incompetence and helplessness, submission and subordination of own needs, dispending of own decisions, the need to be cared for and anxiety for separation. Also Pate and Gabbard [1] diagnosed in their AB/DL-case-study dependent personality traits and thus suppose the strong desire for care as cause for the wish to be a toddler.

Apart from single case publications, controlled studies about the Adult Baby Syndrome with a sufficiently large sample size were totally missed for a long time. The - so far - only study with a sufficiently large sample size was performed in 2014 by Hawkinson and Zamboni with a survey of 1,934 affected subjects. The participants were recruited in online communities. As typical AB/DL-behaviour these authors found: Enuresis, defecating, wear diapers, use other baby items, play with baby toys, to have a "mom" or a "dad" - both with and without erotically stimulation. The postulated positive relationship between AB/DL behaviour and negative mood states was not significant. The correlation between AB/DL behaviour and fear of commitment was only moderate. The authors found two subgroups within the AB/DL community: Adult-babies, who had primarily interested in the role play as a baby, and diaper-lovers, who wear diapers for sexual stimulation, but show not many other baby behaviours.

The existence of different subgroups is also reflected in the range of motives and feelings, which are connected to the Adult Baby Syndrome. However, the literature provides also controversial results. In majority, the studies see sexual arousal in the foreground of adult baby behaviour [1, 6, 8-10]. Especially diapers serve for sexual excitement; Speaker [9] reported several other childcare articles (e.g.: rubber pants, baby clothing, pacifiers), which serve for the same purpose. By definition, these objects are a fetish and therefore the behaviour is assigned to paraphilias. The main motive behind the Adult Baby Syndrome is the expansion and optimization of sexual satisfaction [9]. In connection with the sexual arousal is the emotional satisfaction a motive [9]. As a result of the AB/DL behaviour several reported feelings of security and affection [4], others had a sense of humiliation [9]. These ambivalent emotions indicate needs for love and care on the one hand, and a tendency to self-humiliation on the other hand.

As mentioned above, Evicmen and Gratz [3] found in their patient neither sexual arousal by wearing diapers, nor any compulsions or obsessions. They regarded the AB/DL-behaviour as a coping strategy to deal with being alone. Coping describes behavioural, emotional or motivational reactions and thoughts, to exceed the resources of a subject [14]. The patient of Evicmen and Gratz [3] described a

relationship between threatening outer requirements (especially: being alone), and the symptoms of Adult Baby Syndrome (e.g.: playing with toys, eat baby food, sleep under a baby blanket, sucking a pacifier).

Some other studies supported this evidence for adult baby behaviour as coping strategy to compensate the strain of adult life and to ease tensions [4, 9]. The average early onset of inclination in the age of about 12 years, Stekel [10] named as indicator for AB/DL as trial to prevent sexuality in the context of puberty.

Difficulties in family and other relationships, feelings of guilt and shame and fear of getting caught in their behaviour are the main problems of affected AD/DL individuals [1, 8, 9]. Speaker [9] uttered the opinion that a treatment is required only, if the patient suffered from his or her desire; in most cases occur neither criminal behaviour nor self-injury. The need of wearing diapers can be perceived as intrusive behaviour [2, 3]. More often, however, the social surrounding (e.g. parents, partners) lead to a request for therapy [8]. That majority of AB/DL only referred minor problems in everyday life [7, 9]. From this point of view raises the question, how the concerned individuals can integrate and arrange their desire with their relationships.

Apart from Stekel‘s psychoanalytic explanatory approaches the question of the causes of Adult Baby Syndrome is hitherto largely unexplored and empirically difficult to prove. Speaker [9] assumed biological, social and psychological factors. In psychodynamic explanatory approaches, it is assumed that the Adult Baby Syndrome is regarded as paraphilia and the theories focus on the aetiology of a fetish. From the psychoanalytic perspective of Sigmund Freud a fetish is created when the original sexual aim is blocked and the sexuality generated energy binds on this substitute object [9]. Since this process is unconscious, an empirical testing of this theory is impossible [9]. Greenacre [15] provides for the absence of a secure binding-object as cause for the development of fetishism, since these objects, in contrast to a living person, are unchangeable and permanent. This theory is supported by some case descriptions of affected persons.

From a behavioural point of view, mental disorders result from a predominance of pathogenic factors against salutogenic factors [16]. People generally have a tendency to take refuge in the past, when they live in an unbearable presence. A subject, who is missing an age-appropriate sexual satisfaction, can fall back on an infantile type of pleasure. This theory is supported by case studies, in which a failed relationship [9] or increased aloneness [3] stood at the beginning of AB/DL.

In behavioural theories, AB/DL behaviour can be regarded as a conditioned response, the diapers and other baby products are connected with sexual arousal as e.g. masturbation [5, 9]. Emotional satisfaction enhanced the behaviour [9]. Since many in childhood appear to suffer from enuresis, it seems likely that wearing diapers originally had a practical use to deal with this problem. Speaker [9] found high frequencies of enuresis, 5 of 12 respondents were affected up to their 15. year of life. Speaker [9] recognized an association of first sexual excitement and masturbation and wearing a diaper, which may lead to a conditioning.

On the base of the current literature, the here presented study aims to give a better understanding and more consistent image of the Adult Baby Syndrome. Until now, the motives and feelings behind the AB/DL behaviour are unknown. What influence has the syndrome on relationships and partnership? What aetiological explanations are possible? Show affected subjects specific personality traits? In the here presented data, typical behaviours, motives, feelings and problems in everyday life and in the relationships to others were explored.

2. Hypotheses and Methods

The following hypotheses were tested:

Hypothesis 1a: The AB/DL behaviour leads to an improvement of positive feelings.

Hypothesis 1b: The AB/DL behaviour leads to feelings of humiliation and shame.

Hypothesis 2: AB/DL-affected subjects show a higher level of sensation-seeking than not-affected people.

Hypothesis 3a: AB/DL-affected subjects differ in their relationship quantity from not-affected people.

Hypothesis 3b: AB/DL-affected subjects differ in relationship duration from not-affected peopled.

Hypothesis 4: AB/DL-affected subjects differ in their relationship quality from not-affected people.

Hypothesis 5: After disclosure of AB/DL-interest the quality of relationship becomes better than before.

Hypothesis 6: After disclosure of AB/DL-interest the AD/BL-interest of the partner increases.

Hypothesis 7a: In childhood AB/DL-affected subjects lacked more of a secure binding to their mother than not-affected people.

Hypothesis 7b: AB/DL-affected subjects lacked stronger in childhood from a secure binding to their father than not-affected people.

Hypothesis 8: In the childhood of AB/DL-affected subjects child care was more important than in not-affected people.

Hypothesis 9a: AB/DL-affected subjects suffered more often from enuresis than not-affected people.

Hypothesis 9b: In case of enuresis, AB/DL-affected subjects suffered longer from enuresis than not-affected people.

Hypothesis 10: There is a relationship between the Adult Baby Syndrome and the presence of hormonal anomalies.

Hypothesis 11: In AB/DL-affected subjects first sexual excitements (e.g. masturbation) were stronger connected with memories of infant care than in not-affected people.

Hypothesis 12: AB/DL-affected subjects show a higher level of docility compared with not-affected people.

3. Methods

In a self-constructed questionnaire, at first general demographic questions were asked (age gender, sexual orientation, years of education). In addition, the participants were asked about their social environment during childhood and adolescence (biological parents, mother, father, adoptive parents, children's home, number and gender and age of their brothers and sisters). The topics of the next questions included: AB/DL behaviour, motives and feelings, problems and motivation for treatment and aetiology (not used in the control group).

In addition to the self-constructed questions, two standardizes questionnaires were used: „Giessen-Test II“ (GT-II, [17], and the „Need Inventory of Sensation Seeking“ (NISS, Roth & Hammelstein, 2003; cited by Hammelstein [18]).

The items for the investigation of typical behaviours of the AB/DL-group were based on the questionnaire of Hawkinson and Zamboni [7]. Participants were asked how old they were, when discovering the AB/DL-interest, the first time of practicing AB/DL behaviour, their gender-identity during the role of adult baby and how much money in average they spend each month for the acquisition of AB/DL articles. They were asked for the frequency of AB/DL behaviour and what kind of behaviour they often used (wear diapers, wear rubber pants, other baby items, a mommy with no erotic stimulating play, a mommy with erotically stimulating plays, a daddy without erotic stimulant, a daddy with erotically stimulating, playing with baby toys), the possible answers were on a scale:

1 = never, 2= less than 2-times, 3 = 2 - 4 times, 4 = 5 - 8 times, and 5 = more than 8 times in a month

The theme about motives and feelings included three questions, which were asked only in the AB/DL group. The first question referred to positive or negative feelings in the role of the adult baby. Here, three points of time were differed: before, during and after the adult baby behaviour. Questions were asked on an 11-step polarity profile, e.g.:

unsecure -50 -40 -30 -20 -10 0 +10 +20 +30 +40 +50 protected

The second and third questions referred to the motives behind the Adult Baby Syndrome. The questions were about the frequency of motives, coping strategies and sexual satisfaction. Participants were asked in which situations the desire to be an adult baby was strongest (e.g.: "when I am stressed"," when I am worried about my future"," if I am tense"," if I am sexually aroused "and "others "). In the third question the participants were on an 11-point Likert scale asked for several motives (e.g.: "I can forget the strain of daily life, when I'm practicing AB/DL-behaviour"). Further questions were about the existence, quantity, duration and quality of relationships (for example, "I have no confidence in my partner" – "I have confidence in my partner" on the above described 11-step scale). Other items related to the functioning of the partnership and sexual satisfaction. In the context of the 5. hypothesis the participants should answer questions on two points of time, either "Prior to the revelation of my AB/DL behaviour ..." or "According to the disclosure of my AB/DL behaviour..." . Another question in the area of partnership was: "Were you ever left from a partner due to your AB/DL?" In the case of an affirmative answer, some other questions followed ("Due to the costs for my AB/DL he / she had existential fears " and "He / she found my AB/DL-sexuality repulsive)". Following are questions, which generally touched the problems of daily life. Participants were asked to an 11-point Likert scale, how strong their AB/DL behaviour affected the following areas: social life, family, partnership, profession, sexuality, hobby / leisure. The next area of questions was: "I am in good terms with my AB/DL-sexuality." And "social networks / my partner / professional support have helped me to accept my AB/DL-sexuality". In the background of treatment motivation, participants were asked if they ever have had psychotherapeutic help due to their AB/DL. Here, seven items asked for a cause of suffering (anxiety about the job, fear for the reputation, desire for a recognized identity as baby, nagging thoughts, desire for normal sexuality, fear of a perpetual single life, financial hardships). The questions about the aetiology claimed the largest part of the questionnaire. The participants of both groups (AB/DL and control) should indicate how intensive the binding in childhood was to father and mother, siblings, other male or female family members, educators, and teachers) on the above describes 11-step scale from "unsecure" to "secure". For testing of the 8. hypothesis that child-care was more important for parents of AB/DL affected persons than for parents of the not affected group, three items (winding, washing, creaming the diaper area) were asked. Regarding the hypothesis 9a the participants were asked for the occurrence and duration of enuresis. For hypothesis 10 the participants were begged to answer questions about hormonal disturbances in their youth (e.g. congenital testosterone deficiency). The next hypothesis postulated a

stronger association between first sexual excitements (masturbation) with memories of intensive infant care in the AB/DL-group than in the controls. The question was: "How exciting were the following events, when your puberty began? "The participants should answer three items ("Watching how little kids are wound", "Watching how small children were admonished from their parents", "Changing of my diapers") on a 11-point Likert scale from "not arousing" to "extremely exciting". To investigate potentially triggering conditions, the participants were questioned about phases of "love disappointment / failed relationship", "diseases" and "intensive phases of aloneness "

For an investigation whether AB/DL is a form of paraphilia or gender dysphoria, the participants answered the next questions on a pure "yes" or "no" decision. They should say, whether there is a period of increased sexual arousal while wearing clothes of the opposite sex; if yes: how long lasted this phase? The same structure had questions about sexual attraction by children as an indicator of paedophilia. In addition to questions about paraphilia and gender dysphoria, three questions in relation to OCD (Obsessive Compulsive Disorder) were asked.

In the control group were also questions about the most common paraphilia. First, the respondents were asked whether they would describe their sexual preferences as "unusual" and then they were asked specific for some disturbances (voyeurism, fetishism, exhibitionism, frottage, masochism, sadism and paedophilia). An example for Voyeurism is: "I experience recurrent and intense sexual arousal by observing other people in intimate activities (For example, being naked, undressing, sexual activity)."

4. Giessen Test II (GT-II)

The Giessen Test-II (GT-II; [17]) is a standardized well known personality test. It consists of six bipolar standard scales with a total of 40 items. Answers for each item were made on a -3 to +3 scale, e.g.: "I guess, I get very rarely in conflicts with other people." Investigated personality dimensions were: social resonance, dominance, control, basic mood, permeability, and social power. The GT II was chosen for this study because it is very economical, has a wide range of applications and suited for different issues. For further information see e.g.: [17].

5. Need Inventory of Sensation Seeking (NISS)

The NISS is used to record the current and enduring need for stimulation [18]. Since no norming data were available, the results of the control group served for the comparison. The test is a self-assessment questionnaire with 17 items based on two scales ("need for stimulation" and "avoidance of rest/silence"). It is indicated in each case how often the respective statement happened in the previous six months. The answers are given on a five-stage Likert scale from "almost never" to "almost always". Two examples of items are: "I like situations where my heart beats due to excitement." Or: "I like it, to be alone and relax." For further information about this test see e.g. Hammelstein [18] or Kreßner and Franke [19].

6. Sample Description

251 AB/DL participants completed the questionnaires, but after a careful analyzing of the raw data, 54 sets of data were excluded, i.e. 197 were included in the study. In the control group 210 subjects completed the questionnaires, but after alignment to age and gender distribution remained only 171 for further analysis.

The final sample consisted of 197 participants in the AB/DL-group, these included 184 men (93%) and 13 women (7%). The recruitment of participants was made in AB/DL-social networks and online communities. AB/DL-specific information can be found in Table 1 and 2.

The participants of the control group were related to the AB/DL-group in respect to the average age and the gender distribution. The control group consisted of 171 participants; 158 (92%) male and 13 (8%) were female. Sociodemographic information (average age, sexual orientation, etc.) of both groups are shown in Table 3.

Table-1. Means and standard deviations of AB/DL-typical behaviour

	M±SD
Beginning of interest in AB/DL	14.28 ±6.72
Beginning of AB/DL-behaviour	16.05 ±6.68
Years of AB/DL behaviour	7.47 ±10.20
Monthly expenses for AB/DL (Euro)	73.86 ±100.27

Table-2. Gender-identity during the AB/DL role play

	Frequency
Male	104 (52.8%)
Female	34 (17.3%)
Sometimes male, sometimes female	57 (28.9%)
Missing answer	2 (1%)

Table-3. Socio-demographic data of the AB/DL-group and the controls

		AB/DL N = 197	Control N=171
Gender	male:	93.4%	92,4%
	female:	6.6%	7,6%
Age (years)	< 15	0,5%	0,6%
	15 - 19	4,1%	5,3%
	20 - 24	11,2%	15,8%
	25 - 29	21,3%	30,4%
	30 - 34	24,9%	19,9%
	35 - 39	22,3%	8,8%
	40 - 44	2,5%	2,9%
	45 - 49	4,6%	5,3%
	50 - 54	4,6%	5,3%
	55 - 59	3,0%	4,7%
	60 – 64	0,5%	0,6%
	> 65	0,5%	0,6
Average of age		33,22 y.	32,24 y.
Sexual orientation	Heterosexual:	61,4%	94,7%
	Homosexual:	7,1%	4,1%
	Bisexual:	29,4%	1,2%
	Missing answer:	2,0%	0,0%
Years of education	> 16 y.	10,7%	43,3%
	13 – 16 y.	35,0%	38,6%
	9 – 12 y.	48,2%	15,8%
	< 9 y.	6,1%	2,3%

7. Results

7.1. Description of participants

Of the AB/DL behaviours, wearing nappies was the most common, followed by the use of other baby products and wearing rubber pants. The average frequency of this practice corresponded to the maximum of the options ("more than 8 times a month"). In contrast, role-play related behaviours were rarely shown (e.g.: having a mummy or daddy with/without erotic-stimulating parts).

The highest mean value for motives was found for the coping strategy in relation to the reduction of tension (9.27 ± SD 2.18 on a 11-step scale). Mean values, standard deviations as well as minima and maxima maxima are shown in Table 4. When asked in which situations the desire to be an Adult Baby was strongest, the highest percentage (28%) was found for the option "when I am stressed". In addition, 26% chose the option "when I am sexually aroused", 18% cited worries about the future and 11% reported tension. 16% opted for the option "other" and 1% did not specify.

Table-4. Motives for AB/DL

Motive	**N**	**Min.**	**Max.**	**M**	**SD**
Coping to forget the daily stress	194	1	11	9.20	2.32
Coping: Anxiety for getting old	194	1	11	7.61	2.96
Coping: Release of tension	193	1	11	9.27	2.18
Sexual arousal	195	1	11	8.43	2.92
More satisfaction than in normal sex	195	1	11	7.26	3.30

35% of respondents stated that they hid their AB/DL behaviour from their partner, 20% had initially concealed their AB/DL behaviour from their partner, but later their partner found out. 39% had told their partner on their own initiative; 27% stated that they had already been left by a former partner because of their AB/DL addiction. Of these, 70% stated a repulsive effect, 13% fear of losing their livelihood due to spending too much on AB/DL items and 17% other reasons, e.g. their partner's break-up.

The mean values of most items for impairment in everyday life varied only slightly around a score of 4 (on a 11-step scale). The mean value of the item "I have come to terms with my AB/DL sexuality" was in the upper half (M = 8.95 ±SD = 2.59). There was a great agreement with the statement that social networks and the exchange with other affected people had contributed to this (M = 8.42 ±SD = 2.83). In contrast, there was little agreement with the statement that professional support (e.g. psychotherapy, counselling therapy) had been helpful (M = 3.29 ±SD = 3.31).

80% of those affected stated that they had had no previous psychotherapeutic experience, only 9% had already undergone psychotherapy, but 11% would like to undergo therapy in the future. In addition, 20% of those surveyed stated that people from their social field suffer from their AB/DL behaviour. The main cause for therapy was to identity the reasons for the AD/DL (M =6.63 ±SD = 3.51).

While in the control group, 90% of respondents stated that they had grown up with their biological parents, this only applied to 66% of the AB/DL participants. In this group, the proportion of those who grew up with only one parent or in an adoptive family was relatively higher. On the other hand, in terms of number, gender and age of siblings, there were hardly any differences in percentage between the groups.

Table-5. Comparison of parents and siblings

		AB/DL	Control
Grown up with…	Biological parents	66% (n=131)	90% (n=153)
	Only mother	20% (n=40)	9% (n=16)
	Only father	1% (n=3)	0,5% (n=1)
	Adoptive parents	8% (n=16)	0% (n=0)
	Children's home	4% (n=7)	0,5% (n=1)
Siblings	No siblings	16% (n=31)	14% (n=24)
	Only brother	17% (n=33)	22% (n=38)
	Only sister	27% (n=54)	26% (n=44)
	Brother & sister	40% (n=79)	38% (n=65)
Age of siblings	Older	35% (n=58)	42% (n=61)
	Junger	45% (n=74)	40% (n=59)
	Both	20% (n=34)	18% (n=27)

With regard to the postulated triggering factors, the AB/DL behaviour mostly began after a long phase of being alone (M=5.87 ±SD=4.14). On the other hand, for the options love disappointment (M=3.06 ±SD= 3.32) and illness (M=3.58 ±SD=3.45), the mean values were only in the lower half of the values.

54% of the respondents stated that they had already experienced a phase in which they had found it sexually arousing to wear clothing of the opposite sex. Of these, 14% (8% of the total AB/DL group) claimed that this phase had lasted longer than six months and therefore fulfil the diagnostic criteria for transvestitism according to DSM-5. 10% of the participants stated that they had ever felt sexually attracted to children. This included 5% (0.5% of the total AB/DL group), for whom the phase had lasted longer than 6 months and thus fulfilled the diagnostic criteria for paedophilia. Among the 38% who claimed to have already had the feeling that they belong to the opposite sex, 18% (7% of the total AB/DL group) met the diagnostic criteria for gender dysphoria.

7.2. Testing the Hypotheses

Hypothesis 1a stated that AB/DL behaviour leads to an improvement in positive feelings in those affected. The internal consistency of the items (Cronbach's α) is .914, which is high. Thus, the items could be summarised as the variable "positive feelings". The Kolmogorov-Smirnov adjustment test showed no significant deviation from the normal distribution for this variable (p = .07). Visually, the histogram confirms that the data can be assumed to be approximately normally distributed. Not-The Mauchly test showed that the condition of sphericity was broken, $\chi^2(2) = 19.55$, $p<.001$. For this reason, the degrees of freedom were corrected using Greenhouse-Geisser estimation (ε = .91). The one-way ANOVA with repeated measures showed that the time had a highly significant effect on the positive feelings, $F(1.82, 344.02) = 16.76$, $p<.001$. The results of the Bonferroni-corrected post-hoc tests showed that only the mean values of the measurements T_{before} and T_{during} (M_{before} = 6.20 ±SD_{before} = 2.42; M_{during} = 7.57 ±SD_{during} = 3.00) as well as T_{during} and T_{after} (M_{after} = 6.55 ±SD_{after} = 2.53) differ significantly from each other (both $p<.001$). The results of the Bonferroni-corrected post-hoc tests showed that only the mean values of the measurements T_{before} and T_{during} (M_{before} = 6.20 ±SD_{before} = 2.42; M_{during} = 7.57 ±SD_{during} = 3.00) as well as T_{during} and T_{after} (M_{after} = 6.55 ±SD_{after} = 2.53) differ significantly from each other (both $p<.001$). However, there was no significant effect in relation to the mean values T_{before} and T_{after} (p =.28). The Hypothesis 1a must therefore be rejected.

Hypothesis 1b was based on the assumption that the AB/DL behaviour in behaviour leads to more humiliation and shame in the pre-post comparison. The internal consistency of the items (Cronbach's α) was .829. The reliability is moderate, the items were therefore combined into the variable "humiliation and shame" and the mean values were tested for significant differences analogue to hypothesis 1a. The Kolmogorov-Smirnov adjustment test revealed no significant deviation from the normal distribution (p = .11). The histogram visually confirms that the data can be assumed to be approximately normally distributed. During the Mauchly test, it turned out that the condition of sphericity was also not met here either, $\chi^2(2)=9.00$, $p<.05$. Thus, the line of freedom was corrected using the Greenhouse-Geisser estimate (ε =.96). From the results of the single-factorial ANOVA with repeated measures it became apparent that the time point had a highly significant effect on the expression of the feelings of humiliation and shame, $F(1.91,363.12)=110.71$, $p<.001$. The Bonferroni-corrected post-hoc tests revealed significant differences in the expression of feelings between all three measurement time points (M_{before} = 5.73 ± SD_{before} = 2.77;

M_{during} = 9.11 ± SD_{during} = 2.22; M_{after} = 6.83 ± SD_{after} = 2.67), in each case with a significance of p<.001. Hypothesis 1b could therefore be accepted.

Hypothesis 2 included the assumption that AB/DL participants show a higher level of sensation seeking compared with non-affected persons. The results confirmed that AB/DL participants (M = 2.86 ± SD = 0.59) show slightly higher level of sensation seeking on the 16 items of the NISS than non-affected persons (M = 2.75 ± SD = 0,55). But the t-test for independent samples showed no significant effect, only a trend could be identified t(366) = 1.78, p =.08.

In hypothesis 3a, it was assumed that AB/DL participants differ in the quantity of their relationship quantity from those who are not affected. The Mann-Whitney U-test revealed a highly significant difference between the groups (z = -5,69, p<.001).

Hypothesis 3b, which assumed a difference in the duration of the relationship between the groups could also be accepted. The difference between the AB/DL and controls was significant (z = -2.37, p<.05).

Hypothesis 4 included the expectation that AB/DL participants would differ in their relationship quality from those who are not affected. The internal consistency (Cronbach's α) of the four items on relationship quality was .906, which is a high level of reliability, so that the items could be summarised. On average, the relationship quality of those not affected (M = 8.77 ±SD = 2.69) was significantly higher than that of the AB/DL-group (M = 7.90 ±SD = 2.30), t (358) = -3.34, p<.01.

Hypothesis 5 stated that the relationship quality of AB/DL participants is better after disclosing their AB/DL interest to a partner. The connection between the relationship quality before and after disclosure was highly significantly positive, r(183) =.68, p< .01. This was the prerequisite for the implementation of a t-test for dependent samples. The average value for relationship quality was higher after the revelation than before (M_{before} = 7.87 ±SD_{before} = 2.30, M_{after} = 8.04 ±SD_{after} = 2.64), however the difference was to small and the t-test showed no significant effect, t(184) = -1.14, p = .26.

In hypothesis 6, it was assumed that the interest of the partner in AB/DL is increased after the disclosure. There was a highly significant positive correlation between the partner's AB/DL interest before and after disclosure, r(177) = .55, t<.01. The requirement for carrying out a t-test for dependent samples was therefore fulfilled. The hypothesis was supported. After the disclosure (M_{after} = 6.49 ±SD_{after} = 3.28), the relationship quality was on average significantly higher on average than before the disclosure (M_{before} = 4.88 ±SD_{before} =3.33), t (178) = -6.89, p<.001.

Hypothesis 7a contained the assumption that AB/DL participants in childhood lacked a secure attachment to their mother to a greater extent than non-affected persons. When calculating the mean values, it became clear that the participants in the control group (M = 9.78 ± SD = 1.81) felt more secure on average than those affected by AB/DL (M = 8.07, SD = 3.30). The t-test for independent samples showed a highly significant effect in this respect, t(312) = -6.28, p<.001.

The same result was found for hypothesis 7b, which stated that the people in the AB/DL-group lacked a secure attachment to their father in childhood than the control-group. Here too, the average feeling of security was lower in the AB/DL group ($M_{AB/DL}$ = 6.56 ±$SD_{AB/DL}$ = 3.43; $M_{control}$ = 8.51 ±$SD_{control}$ = 2.63). The calculation of the t-test revealed a highly significant effect with regard to the feeling of security, t(366) = -6.15, p<.001. Both hypotheses could therefore be accepted. Overall, the calculation of the mean values showed that the feeling of security with all caregivers was lower on average for AB/DL participants than for the control group. Table 6 shows an overview of the mean values and standard deviations of all analysed items.

Table-6. Mean values and standard deviation of the feeling of security

Reference person	AB/DL	Control
Mother	M=8.07 ± SD=3.30	M=9.78 ± SD=1.81
Father	M=6.56 ± SD=3.43	M=8.51 ± SD=2.63
Older siblings	M=5.66 ± SD=3.26	M=7.48 ± SD=2.88
Other female member of family	M=6.61 ± SD=3.20	M=7.79 ± SD=2.56
Other male member of family	M=5.43 ± SD=3.17	M=7.31 ± SD=2.68
Educator	M=5.89 ± SD=3.22	M=6.29 ± SD=2.39
Teacher	M=5.46 ± SD=3.18	M=6.20 ± SD =2.43

Hypothesis 8 included the expectation that in average in the AB/DL-group more value was placed on childcare during childhood than for those not affected. The internal consistency (Cronbach's α) of the three items (nappy changing, washing, creaming the nappy area) was .97, which is a high level of reliability and the grouping of the items into one variable is justified. The mean value analysis contradicted the expectation formulated in the hypothesis. The average importance of childcare was in the control group (M = 9.44 ± SD = 1.37) even higher than in the AB/DL group (M = 8.76 ± SD = 2,60). The t-test for independent samples also showed that this difference was highly significant, t(236.62) = -2.81, p<.01. Hypothesis 8 therefore had to be rejected.

Hypothesis 9a stated that there is a correlation between Adult Baby Syndrome and the occurrence of enuresis in childhood. The two-dimensional Chi-square test showed that the proportion of childhood

enuresis differed significantly with regard to group affiliation (AB/DL or control group), $\chi 2$ (2, N=368) = 67.45, p<.001. The calculation of Cramér revealed a medium correlation (CI= .43). Based on the cross-tabulation, the comparison of observed and expected frequencies, it can be seen that enuresis in AB/DL participants is significantly more frequent than those who are not affected.

Hypothesis 9b assumed that in the case of the occurrence of enuresis, the average age of recovery is higher in the AB/DL-group than in those not affected. When analysing the mean values, it became clear that this assumption is correct ($M_{AB/DL}$ = 15.22 $\pm SD_{AB/DL}$ = 11.16; $M_{control}$ = 9.58 $\pm SD_{control}$ = 5.23). The t-test for independent samples showed that the effect regarding the average age was highly significant, t(27,95) = 2.92, p<.01.

In hypothesis 10, it was expected that there would be a connection between the Adult Baby Syndrome and the presence of hormonal abnormalities. This assumption was supported. With the help of the two-dimensional Chi-square test, it was possible to determine that the incidents of hormonal abnormalities differed significantly with regard to the group membership, $\chi 2$ (2) = 38.23, p<.001. But the correlation proved to be weak (CI =.32). When looking at the cross-tabulations, it became clear that hormonal abnormalities are significantly more frequent in the AB/DL group than in the control group. A frequency analysis of the hormonal abnormalities in the AB/DL group relate in particular to a testosterone deficiency.

Hypothesis 11 was based on the assumption that in AB/DL participants first sexual arousal/masturbation were more strongly associated with memories of infant care than in non-affected individuals. The internal consistency (Cronbach's α) of the three items was .84, i.e. the reliability was medium. The items (1. watching nappy changing; 2. watching being scolded 3. being changed diapers) were thus combined to form the variable infant care. The comparison of the mean values clearly showed that this assumption is supported. In the AB/DL-group (M = 5.65 ± SD = 2.90) the first sexual arousal/masturbation was significantly more strongly associated with infant care than in the control group (M = 1.25 ± SD = 0.96). This difference proved to be highly significant, t(20,08) = 230.68, p<.001.

Hypothesis 12 stated that the AB/DL-group would show a higher level of compliance than non-affected persons. According to the GTII manual (Beckmann et al., 2012), the values of the corresponding items10 of the Dominance scale were summarized. The hypothesis could not be supported. The AB/DL participants (M = 26.13 ±SD = 4.90) were on average more compliant than participants in the norm sample (M = 25.71 ±SD = 0.56), but this effect did not prove to be significant, t(201,91) = 1.20, p = .23.

8. Discussion

In this study, AB/DL behaviours, problems in everyday life and in relationships, motivation for therapy and possible aetiological factors were analysed. The aim in this context was to better understand the motives and feelings of those affected. Furthermore, an attempt should be made to critically scrutinise the conceptualisation of Adult Baby Syndrome, and find explanations for its development.

Summarising the most important results, no improvement in positive feelings was observed in AB/DL participants due to the adult-baby behaviour, but an increase in of humiliation and shame after AB/DL practices. An increased expression of the need for sensation seeking as a possible motive could not be confirmed. In addition, AB/DL sufferers had fewer relationships compared to those not affected, the duration of the relationship was also shorter and the quality of the relationship was poorer. A revelation of the AB/DL behaviour to the partner (if existent) increased the interest of the partner in the specific adult-baby behaviour, but mostly did not have a positive effect on the quality of the relationship.

The investigations into possible predisposing factors revealed a disturbed mother- and father-child relationship compared to the control group. In addition, in those affected correlations with enuresis in childhood were found and hormonal abnormalities, in particular testosterone deficiency.

Contrary to expectations AB/DL participants did not place more value on childcare, in fact the opposite effect was found. On the other hand, in the AB/DL group initial sexual arousal and masturbation were more strongly associated with memories of childcare than in participants of the control group.

From the investigation of the results of the AB/DL behaviours it can be deduced that the wearing of nappies appears to be a particularly characteristic of Adult Baby Syndrome. The average frequency of this practice corresponded to the maximum of the answer options ("more than 8 times a month"). In contrast, role-play related behaviours were not shown at all on average (having a mummy/daddy with/without erotic-stimulating parts). This does not confirm the image of the AB/DL community as presented by Hawkinson and Zamboni [7]. This discrepancy can probably be explained by different study collectives. For example, the sample analysed here primarily included diaper lovers who wear nappies out of sexual preference, and relatively few adult babies who were primarily interested in role-playing as a baby [7].

With regard to the motives associated with AB/DL behaviour, the focus was placed on sexual satisfaction, the function as a coping strategy, emotional satisfaction and the need for sensation seeking. When comparing the motives "sexual satisfaction" and "stress and tension relief" (as a coping strategy), on average the latter was more likely to get approval from those affected. In line with this, the majority of the AB/DL group stated that they had a strong desire to behave as an adult baby under stress. This

result is consistent with some previous studies [3, 4, 9]. Comparatively less agreement was found for the motive of sexual satisfaction, which is described as characteristic in the majority of the literature [1, 6, 8-10].

As in other studies [7, 9], the general impairments in the everyday life of the AB/DL group can be considered as low. At the same time high values of shame with regard to the AB/DL sexuality were indicated. Exchange with others helped in dealing with the AB/DL sexuality, while professional support was perceived as less helpful. However, this result must be seen against the background that 80% of those affected have not yet undergone psychotherapeutic treatment. The motivation for therapy in this study was at best moderate, whereby to learn to deal with psychological distress proved to be a more relevant motive. This result is not consistent with the results of previous studies [5, 8].

The literature to date provides a wide variability of possible aetiological explanations (e.g. psychodynamic, behavioural, humanistic, biopsychological), of which only the behavioural model has so far been empirically supported [9]. Psychodynamic theories are hard to prove due to retrospective questioning about childhood experiences, which are often blurry. In the here presented study we found a high proportion of divorced and adopted children in the AB/DL group. Compared to the controls, fewer grew up with both biological parents. This result is consistent with some previous case studies [1, 9] and supports the assumption made in psychodynamic theories, that the Adult Baby Syndrome is probably caused by problems in the family of origin [1, 10, 15]. A longer phase of loneliness turns out to be a possible triggering actor, which is consistent with the hypotheses of Evicmen and Gratz [3].

Transvestitism (8% of the total AB/DL group) and gender dysphoria (7%) appear to occur with an above-average frequency among those affected. This would support the assumption of Kise and Nguyen [4] that in Adult Baby Syndrome comorbidities with gender dysphoria and other paraphilias occur more often. Also, agreement with the criteria for obsessive-compulsive disorder varied between 19% and 26%, with as many as 10% of those affected affirmed all criteria. This result confirms the findings of Croarkin, *et al.* [2].

Hypothesis 1 postulated that the AB/DL behaviour leads to an improvement in positive feelings Contrary to expectations, this statement was not supported, which contradicts the findings of Kise and Nguyen [4]. On the other hand, in agreement with the results of Speaker [9], it was confirmed that AB/DL behaviour leads to more humiliation and shame. The results reflect a tendency of AB/DL sufferers to self-deprecation, i.e. the emotional satisfaction is associated with suffering in parallel. The highest expressions of positive feelings as well as humiliation and shame are shown during the AB/DL behaviour, which means that two apparently ambivalent feelings occur simultaneously. Emotional satisfaction can therefore also be used as a coping strategy. It remains to be investigated to what extent humiliation and shame has a connection to masochistic tendencies, which is – as Kise and Nguyen [4] stated - a comorbidity with other paraphilias.

Sensation seeking [9] seems not to be a main motive for AB/DL behaviour, only a trend is shown.

In the analysis of the third hypothesis, it could be shown that AB/DL sufferers not only had fewer but also shorter sexual relationships; more than two thirds cited the repulsive effect of their AB/DL sexuality on their partner as a reason for breaking up, and almost a third of all respondents stated that they had already been left by a former partner because of their AB/DL tendencies. This proves that it is generally difficult to integrate AB/DL sexuality into a long-term partnership. In line with this, it was confirmed that the quality of a relationship with an AB/DL partner is significantly worse than the partnerships of not affected persons. Some case studies support this assumption [1, 8].

Nearly all AB/DL participants confessed to hold their adult baby behaviour secret in front of their partner at first. In hypothesis 6 it could be shown that the partner's interest in AB/DL is increased after the revelation. But contrary to expectations, in our data the quality of the relationship did not improve after a disclosure. This result contradicts the case reports from Speaker's (1980) study, in which an improvement of the sexual satisfaction resulting from the partner's involvement in AB/DL behaviour is reported.

One of the most important findings of this study is that AB/DL affected people had more problems with a secure bond with the mother or the father compared with non-affected persons. This result is supported from Greenacre [15] that the absence of a secure attachment object can be seen as a cause for the development of sexual fetishism. In our data the feeling of security also extends to others caregivers. It can be further concluded that not only the bond with the parents was more insecure, but also that there apparently was no alternative object of attachment available. There are analogies to orphans [1, 9]. The results support the psychodynamic perspective that the absence of a secure attachment object is a predisposing factor for the development of an Adult Baby Syndrome [15].

Weak binding to parents is only one theory. The model of Sigmund Freund supposed that deviations of the sexual drive is based in a fixation of infantile pleasure in phases of the psycho-sexual development [10]. Such a fixation emerges not only through overstimulation, but also through understimulation [13]. In our data it could not be shown that those affected by AB/DL have had more value childcare than the not affected group. The opposite effect was found, i.e. that the childcare in the control group was significantly better. Based on the results, it can be suspected that understimulation in the anal phase leads to a fixation, and the person sometimes falls back in a regression of this phase, to get as an adult the

satisfaction which was missed in childhood [10]. In summary, the result supports the psychodynamic perspective, that a fixation in the anal phase is a predisposing factor for the Adult Baby Syndrome [10].

According to the results, enuresis actually occurs significantly more often in childhood of AB/DL participants than in the control-group. Furthermore, it could be confirmed that AB/DL sufferers are significantly older when recovering from this disorder. This result is consistent with the data from Speaker's study (1980), in which almost 50% of respondents suffered from enuresis, which least until the age of about 15 years.

The results of the 10. hypothesis showed that in those affected by AB/DL hormonal abnormalities are actually more common (especially Testosterone deficiency) compared to people who are not affected. This supports Speaker's (1980) assumption that an underdevelopment of secondary sexual characteristics caused by the lack of testosterone could be a predisposing factor. Money [20] postulated an indirect connection between morphological maturity and psychosexual development as well as social interaction according to the physical appearance. In this case, a younger appearance makes it easier for the social environment to treat them like children. But this theory is only been descriptive so far.

According to hypothesis 11, it was hypothesized that in AB/DL sufferers the first sexual arousals/masturbations were more strongly associated with infant care than those of the not affected group. Expressed in some studies this result supports the opinion that AB/DL is a conditioned response to specific objects [9]. Supposed is a connection between an unconditioned stimulus (sexual excitement at the beginning of puberty), and a conditioned stimulus (infant care) as a predisposing factor for AB/DL behaviour. However, the question arises here whether the contiguity for classical conditioning is satisfied [14] normally a close-in-time performance of unconditioned and conditioned stimulus is necessary for the association to tie.

In Hypothesis 12 we found no defining personality trait identify as a predisposing factor. In addition to other aspects, especially the proportion of bisexuals in the AB/DL group was 30 times higher than in the control group.

9. Limitations

Some limitations of this study should be mentioned. The participants in the AB/DL group were recruited mainly from social networks and online communities. This could lead to a selection bias, i.e. participants who are open about their behaviour in the internet have fewer problems and less shame and suffering than AB/DL people with heavier forms of the Adult Baby Syndrome. In addition, there is an unequal ratio of male and female subjects. But according to data of other studies, this represents the real unequal distribution of male:female.

Another limitation is that Adult Baby Syndrome is not the same as Adult Baby Syndrome. The results provide evidence for the existence of various subgroups that need to be examined and differentiated in more detail in the future.

10. Relevance and Future Research

While previous studies have only found empirical support for the behavioural approach, evidence of the possibility of a psychodynamic or biopsychological explanation for the Adult Baby Syndrome was found. From a psychodynamic point of view, the absence of a safe attachment object and understimulation in the anal phase as possible predisposing factors can be identified. In combination with the fact, that AB/DL sufferers more often come from divorced and adoptive families It can be assumed that the origin of this behaviour is in the external circumstances of childhood and youth. The biopsychological influencing factors identified in the study (enuresis and hormonal abnormalities) also provide information for the determination of comorbidities. In addition the recognition of a coping strategy to reduce stress and tension is important for the Adult Baby Syndrome.

In psychotherapy alternative coping strategies should be learned that cause emotional satisfaction without having a negative impact on the partnership.

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