PSYCHOLOGY

Age of Onset and Its Correlates in Men with Sexual Interest in Children

Safiye Tozdan, PhD, and Peer Briken, MD, FECSM

ABSTRACT

Introduction: Current discussions in the field of sex research concern the age at which sexual interest in children occurred or awareness emerged.

Aim: To investigate the age of onset (AOO) and its correlates in men with sexual interest in children.

Methods: Using 2 samples (study 1, patients from an outpatient treatment center, n = 26; study 2, an online survey using 3 recruitment paths, n = 94), we assessed self-reported AOO of sexual interest in children, its flexibility, its exclusiveness, and individuals' motivation to change it. We further examined the interrelation between these variables.

Main Outcome Measure: AOO as the self-reported age at which participants retrospectively felt sexually attracted to children for the first time.

Results: We found broad ranges in AOO (study 1: mean 20.0 ± 10.7; study 2: mean 17.0 ± 8.7), flexibility, and exclusiveness (in studies 1 and 2, 7.7% and 22.3%, respectively, reported that their sexual interest is exclusively in children). The earlier participants felt sexually attracted to children for the first time, the more they were attracted exclusively in children and the less they perceived it to be flexible. Participants who reported rather exclusive sexual interest in children were less likely to perceive it as flexible. The more participants reported on flexibility, the more they were motivated to change it. The earlier participants of study 2 felt sexually attracted to children for the first time, the less they were motivated to change.

Clinical Implications: The variety of our results indicates the contradiction of overall rules for individuals with sexual interest in children.

Strength & Limitations: We included individuals with sexual interest in children from different contexts (eg, forensic vs non-forensic). Our results are in line with previous findings. However, both studies included rather small samples, limiting generalizability. There is not yet consent about how to operationalize AOO.

Conclusion: We recommend a differentiated perspective on individuals with sexual interest in children and on different forms of pedophilia in the diagnostic construct. **Tozdan S, Briken P. Age of Onset and Its Correlates in Men with Sexual Interest in Children. Sex Med 2019;7:61−71.**

Key Words: Pedophilia; Age of Onset; Flexibility; Exclusiveness; Motivation to Change

INTRODUCTION

Sexual Interest in Children and Pedophilia

The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*,[1] defines pedophilia as recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving sexual activity with prepubescent children (aged up to 10 or 11 years). This definition, if taken literally, would exclude those men from diagnosis who are sexually attracted to pubescent children (ie, physically immature persons aged 10−13 years). This sexual interest in pubescent children has been called hebephilia.[2]

Regarding prevalence rates, a recent study showed that 4.1% of 8,718 German men reported sexual fantasies that included prepubescent children, but only 0.1% of them stated that they had a pedophilic sexual preference.[3] However, other research results suggest an even higher prevalence, ranging from 3% to 5% for pedophilia in the general population (eg, Ahlers et al,[4] Seto,[5,6] and Smith[7]).

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Institute for Sex Research and Forensic Psychiatry, Hamburg, Germany

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The present article is on sexual interest in prepubescent as well as pubescent children (ie, children up to 13 years), and we use the term "sexual interest in children" rather than "pedophilia" owing to its connotation with the official diagnosis.

Early or Late Onset

In 2012, Seto[6] postulated that pedophilia is similar to sexual orientation (ie, hetero-, homo-, and bisexuality) regarding age of onset (AOO). The AOO of sexual orientation appears to develop or reach consciousness before the onset of puberty (ie, around the age of 10).[8-10] However, recent studies suggest that men feel sexual attracted to children at later stages in life than sexual orientation. Among 75 men with self-identified sexual interest in children, our earlier study[11] found that self-perceived AOO ranged from 6 to 44 years with a mean value of 17 years. Bailey et al[12] recently published a study with a large sample of 1,189 men having sexual interest in prepubescent and/or pubescent children. The authors reported that "on average, participants recalled that they first realized their attraction to children ages 14 and younger at age 14.24 years (SD = 5.36). They began to suspect that this attraction was unusual, compared with peers, at age 16.11 (SD = 5.24). They knew their attraction was unusual at age 18.12 (SD = 5.89)[13]" [p. 983].

The definition and operationalization of the AOO is in current research debate.[14] McPhail[14] identifies issues and methodological problems in recent literature and contributes to a more nuanced definition of what is meant by the AOO.

Stable or Flexible

There are researchers who concluded that pedophilia is a lifelong condition[6,15,16]; others assume that sexual interest in children can change.[17,18] Recently, we examined 75 individuals with sexual interest in children.[11] We assessed the self-perceived flexibility of the participants' sexual interest in children measured with a questionnaire with a minimum score of 3 and a maximum of 15. We reported that the whole range of possible scores was covered, and scores had a mean value of 8.4.[11] These results may indicate that sexual interest in children has other characteristics than sexual orientation, which is usually described as relatively stable over time (eg, Savin-Williams and Ream[19] and Mock and Eibach[20]). With the aim of investigating the interrelation of important measures in individuals with sexual interest in children, we further found that the earlier in life participants reported they had feelings of sexual attraction to children; the less flexible they perceive their sexual interest in children to be.[11]

Exclusive or Non-Exclusive

In clinical practice, there are clients described as having an exclusive, extremely fixated, and persistent sexual interest in children that occurred during puberty and remained unchanged ever since.[21] There seems to be a general consensus that this specific subgroup of people constitutes only a small percentage of the total population of individuals with sexual interest in children.[22] Supporting empirical evidence was provided by Eher et al,[23] who investigated 430 child molesters sentenced to prison and reported that only 16.67% of them displayed the criteria for an exclusive pedophilia with regard to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. Similarly, our earlier study[11] demonstrated that 20% of the total sample (n = 75) reported exclusive sexual interest in children, whereas 80% had non-exclusive sexual interest in children. We also found a moderate negative correlation ($r = -0.357$, $P = .002$) between exclusiveness and flexibility/stability.[11] In other words, the more exclusively individuals report being sexually attracted to children, the less flexible (ergo the more stable) they perceive their sexual interest in children to be. Although these results were preliminary, an important conclusion from them may be that individuals are distributed on a spectrum regarding the exclusiveness of their sexual interest in children.

Stereotyping or Differentiating

The prototype of a man with an exclusive and persistent sexual interest in children, which occurs at a very early stage of life, tends to represent a subgroup rather than the majority of men with sexual interest in children.[11,21-23] It appears highly relevant to note that the either/or principle including the generalization of flexibility/stability may have the potential to generate false stereotypes in both directions.[24,25] In an earlier study,[26] we postulated a framework that linked sexual interest in children with psychological constructs such as self-efficacy, as well as theories such as the labeling theory. The result of this approach was a framework in which sexual interest in children can be seen as more or less flexible and able to be influenced. However, because of the contrasting empirical results described above, the questions as to whether sexual interest in children starts early or late, is stable or flexible, exclusive or non-exclusive, remain open.

The Present Study

The present study aims to investigate special characteristics in men with sexual interest in children. The primary outcome criterion is the AOO of sexual interest in children, its flexibility, its exclusiveness, and the individuals' motivation to change it. We expect ranges among all primary outcome measures similar to those of previous results.[11] We further focus on examining the relationship between these characteristics. On the basis of previous results,[11] we expect significant relations at least between AOO and flexibility as well as between flexibility and exclusiveness. We expect AOO to be positively correlated with flexibility, indicating that the later participants felt sexually attracted to children for the first time, the more flexible they perceive their sexual interest in children to be.

METHODS

Procedures and Samples

We reanalyzed self-reported data from 2 earlier studies (ie, post hoc). Study 1 (n = 26) was conducted within an ongoing research project at an outpatient treatment center for men with a sexual interest in children in Germany. The project targets individuals with a self-identified sexual interest in children who seek treatment of their own accord to cope with their sexual interest in children. The primary goal is to hinder potential sexual offenses. The 26 participants entered the program between 2012 and 2015. The study's aim was to examine the relationship between participants' self-beliefs about their sexual interest in children and their actual sexual interest in children, as well as between changes in these 2 variables. The inclusion criterion was therefore not only a self-identified sexual interest in children when entering the treatment program, but also the existence of at least 2 times of measurement within treatment progress.[27] (This is the reason the sample size in study 1 is so small. Of course, there were more clients entering the treatment program between 2012 and 2015, but there were only 26 participants with 2 or more times of measurement.) Study 2 (n = 94) was an online survey conducted via 3 recruitment paths: (i) German and Swiss outpatient centers that treat individuals with self-identified sexual interest in children who voluntarily enter treatment to cope with their sexual interest in children (hereafter named non-forensic participants, n = 44); (ii) German forensic outpatient centers that treat individuals registered by the judicial system for ≥1 sexual offense against children, who have self-identified sexual interest in children and enter treatment as the result of a judicial decision (hereafter forensic participants, n = 17); and (iii) an Internet information platform (https://www.Schicksal-und-Herausforderung.de) addressing individuals with sexual interest in children. The platform was created by and for affected individuals and explicitly advocates not acting on sexual interest in children (hereafter Internet participants, n = 33). The inclusion criterion was self-identified sexual interest in children at data collection. First, the study aimed to examine the impact of the suggestion that pedophilia is immutable on participants' self-beliefs, regarding their ability to change their sexual interest in children.[28]

Sample characteristics for both studies are shown in Table 1. In study 1, 4 clients reported exclusive sexual interest in adults at data collection but met the inclusion criterion of having sexual interest in children at the start of treatment. In study 2, the 3 subsamples appeared to be different in several variables; therefore sample characteristics are reported for the total sample as well as for the 3 subsamples. Internet and non-forensic participants reported a higher level of professional education than forensic participants. Non-forensic and forensic participants were more likely to be currently in treatment as a result of their sexual interest in children than Internet participants. Non-forensic and Internet participants were mostly attracted to both prepubescent and pubescent children (up to 13 years) compared with forensic participants, who were mostly attracted only to pubescent children (11−13 years).

It should be noted that the outpatient centers also recruited men who had already completed the treatment program or who had not yet entered the program but were in a diagnostic phase. This is why not all of the non-forensic and forensic participants reported that they are currently in treatment.

Both studies were approved by the Ethics Committee of the Hamburg Chamber of Psychotherapists. Informed consent was obtained from all participants included. In study 1, participants gave their written consent in the context of standardized diagnostics. Before beginning the online survey, participants of study 2 had to click 3 statements confirming that they had (i) read and (ii) understood the information for participants and (iii) were giving their consent to participate in the study.

All procedures performed in our studies involving human participants were in accordance with the ethical standards of the Hamburg Chamber of Psychotherapists and with the 2008 Helsinki declaration and its later amendments.

Outcome Measures

Age of Onset

Because the definition and operationalization of the AOO is not been finally clarified yet, we present the reader with the exact words that participants were given: "The following question refers to the age of onset of your sexual interest in children. When did you start feeling sexually attracted to children (boys and/or girls)? Please enter (in years) how old you were when you felt sexually attracted to children for the first time." (Original German version: "Die folgende Frage bezieht sich auf das erstmalige Auftreten Ihres sexuellen Interesses an Kindern. Seit wann empfinden Sie Kinder [Jungen und/oder Mädchen] als sexuell anziehend? Bitte geben Sie [in Jahren] an, wie alt Sie waren, als Sie zum ersten Mal gespürt haben, dass Sie sich sexuell zu Kindern hingezogen fühlen.")

Therefore, the AOO of sexual interest in children in the present study describes the age at which participants retrospectively felt that they had a sexual interest in children for the first time.

Flexibility

A questionnaire on the flexibility of sexual interest in children was created. The 3 items refer to previous experiences concerning changes in the participants' sexual interest in children. In study 1, all items were introduced with the statement "After I started feeling sexually attracted to children (boys and/or girls)…." In study 2, all items were introduced by the statement "After onset of my puberty…." Items could be answered on a scale from 1 (do not agree at all) to 5 (totally agree). Items 2 and 3 were negatively formulated and had to been recoded when analyzing the questionnaire. The maximum score is 15, with higher scores indicating greater flexibility and lower scores indicating greater stability of sexual interest in children.

Table 1. Sample characteristics

Variables	Study 1 (n = 26, 100%)	Study 2 (n = 94, 100%)	Study 2			Significance*
			NF (n = 44, 47%)	F (n = 17, 18%)	I (n = 33, 35%)	
Mean age, y (SD)[†]	39.3 (11.7)	37.0 (12.2)	38.1 (12.9)	38.8 (11.0)	34.6 (11.8)	NS
School education						NS
No education	0	1 (1.1)	0	1 (5.9)	0	
Lower secondary education	2 (7.7)	19 (20.2)	8 (18.2)	5 (29.4)	6 (18.2)	
Secondary education	8 (30.8)	33 (35.1)	17 (38.6)	8 (47.1)	8 (24.2)	
Vocational baccalaureate diploma	1 (3.8)	8 (8.5)	3 (6.8)	0	5 (15.2)	
General matriculation standard	15 (57.7)	33 (35.1)	16 (36.4)	3 (17.6)	14 (42.4)	
Professional education						
No professional training	3 (11.5)	15 (16.0)	3 (6.8)	7 (41.2)	5 (15.2)	‡,§,**
In training	1 (3.8)	0	0	0	0	
Completed apprenticeship	12 (46.2)	49 (52.1)	25 (56.8)	9 (52.9)	15 (45.4)	
University degree	10 (38.5)	30 (31.9)	16 (36.4)	1 (5.9)	13 (39.4)	
Relationship status						NS
In a relationship	14 (53.8)	32 (34.0)	19 (43.2)	4 (23.5)	9 (27.3)	
Currently single	12 (46.2)	62 (66.0)	25 (56.8)	13 (76.5)	24 (72.7)	
In treatment[‖]						
Yes	0	50 (53.2)	31 (70.5)	12 (70.6)	7 (21.2)	¶,§,††
No	0	44 (46.8)	13 (29.5)	5 (29.4)	26 (78.8)	
Age group attracted to[#]						
Prepubescent (up to 10 years)	1 (3.8)	14 (14.9)	6 (13.6)	1 (5.9)	7 (21.2)	‡,§,‡‡
Pubescent (11–13 years)	4 (15.3)	28 (29.8)	12 (27.3)	10 (58.8)	6 (18.2)	
Both (up to 13 years)	21 (80.9)	52 (55.3)	26 (59.1)	6 (35.3)	20 (60.6)	

F = forensic; I = internet; MANOVA = multivariate variance analysis; NF = non-forensic; NS = not significant.

Data are n (%) unless noted otherwise. Sample characteristics for the total samples of study 1 (n = 26) and study 2 (n = 94) including overall results of comparisons between the 3 subsamples in study 2 (NF, F, I) using MANOVA for interval scaled variables, the Kruskal–Wallis test for ordinal scaled, and the chi-square test for nominal and binary variables.

*Significance level of the group comparison analysis.

[†]Age at time of data collection.

[‡]Significant difference for comparison of the NF and F groups.

[§]Significant difference for comparison of the F and I groups.

[‖]Currently in treatment because of sexual interest in children (not assessed in study 1).

[¶]Significant difference for comparison of the NF and I groups.

[#]Age group to which the sexual interest relates.

**$P < .01$.

[††]$P < .001$.

[‡‡]$P < .05$.

Table 2. Descriptive statistics

Variables	Study 1 (n = 26, 100%)	Study 2				
		All (n = 94, 100%)	NF (n = 44, 47%)	F (n = 17, 18%)	I (n = 33, 35%)	Significance*
Age of onset†	20.0 (10.7)	17.0 (8.7)	18.2 (11.1)	18.4 (7.4)	14.8 (4.4)	NS
Flexibility‡						§,‖,**
Score	8.9 (3.7)	8.3 (3.6)	9.1 (3.9)	9.6 (3.1)	6.6 (2.9)	
Item 1: "There were times in which I was not sexually interested in children."						§,‖,**
Do not agree at all	4 (15.4)	30 (31.9)	12 (27.3)	2 (11.8)	16 (48.5)	
Hardly agree	9 (34.6)	19 (20.2)	5 (11.4)	5 (29.4)	9 (27.3)	
Partly agree	5 (19.2)	11 (11.7)	7 (15.9)	1 (5.9)	3 (9.1)	
Mostly agree	3 (11.5)	14 (14.9)	9 (20.5)	3 (17.6)	2 (6.1)	
Totally agree	5 (19.2)	20 (21.3)	11 (25.0)	6 (35.3)	3 (9.1)	
Item 2: "I have always had a sexual interest in children."						‖,‡‡
Do not agree at all	5 (19.2)	20 (21.3)	10 (22.7)	6 (35.3)	4 (12.1)	
Hardly agree	4 (15.4)	11 (11.7)	7 (15.9)	2 (11.8)	2 (6.1)	
Partly agree	3 (11.5)	12 (12.8)	6 (13.6)	3 (17.6)	3 (9.1)	
Mostly agree	9 (34.6)	21 (22.3)	8 (18.2)	4 (23.5)	9 (27.3)	
Totally agree	5 (19.2)	30 (31.9)	13 (29.5)	2 (11.8)	15 (45.5)	
Item 3: "So far, my sexual interest in children has been constant."						§,‡‡
Do not agree at all	5 (19.2)	13 (13.8)	10 (22.7)	0	3 (9.1)	
Hardly agree	9 (34.6)	25 (26.6)	13 (29.5)	6 (35.3)	6 (18.2)	
Partly agree	3 (11.5)	12 (12.8)	4 (9.1)	4 (23.5)	4 (12.1)	
Mostly agree	6 (23.1)	29 (30.9)	12 (27.3)	6 (35.3)	11 (33.3)	
Totally agree	3 (11.5)	15 (16.0)	5 (11.4)	1 (5.9)	9 (27.3)	
Exclusiveness¶						
Score	3.2 (1.2)	2.4 (1.1)	2.6 (1.1)	2.4 (1.1)	2.0 (0.9)	
Item: "My sexual interest is…						NS
Exclusively in adults."	4 (15.4)	0	0	0	0	
Mainly in adults."	6 (23.1)	21 (22.3)	14 (31.8)	4 (23.5)	3 (9.1)	
Equally in children and adults."	8 (30.8)	13 (13.8)	6 (13.6)	2 (11.8)	5 (15.2)	
Mainly in children."	6 (23.1)	39 (41.5)	17 (38.6)	7 (41.2)	15 (45.5)	
Exclusively in children."	2 (7.7)	21 (22.3)	7 (15.9)	4 (23.5)	10 (30.3)	
Motivation#						
Score	4.2 (1.1)	3.1 (1.6)	3.6 (1.4)	3.8 (1.4)	2.2 (1.4)	
Item: "I want to change my sexual interest in children."						§,‖,††
Does not apply at all	0	22 (23.4)	4 (9.1)	2 (11.8)	16 (48.5)	
Applies a bit	3 (11.5)	14 (14.9)	8 (18.2)	0	6 (18.2)	
Applies somewhat	3 (11.5)	17 (18.1)	7 (15.9)	5 (29.4)	5 (15.2)	
Applies mostly	7 (26.9)	12 (12.8)	8 (18.2)	2 (11.8)	2 (6.1)	
Applies completely	13 (50.0)	29 (30.9)	17 (38.6)	8 (47.1)	4 (12.1)	

F = forensic; I = internet; MANOVA = multivariate variance analysis; NF = non-forensic; SIC = sexual interest in children.
Descriptive statistics for the total samples of studies 1 (n = 26) and 2 (n = 94) including overall results of comparisons between the 3 subsamples in study 2 (NF, F, I) using MANOVA.
*Significance level of the group comparisons analysis.
†Age at which participants felt sexually attracted to children for the first time.
‡Flexibility of the SIC measured as self-reported changes of sexual interest in the past.
§Significant difference for comparison of the NF and I groups.
‖Significant difference for comparison of the F and I groups.
¶Exclusiveness of the SIC.
#Motivation to change the SIC.
**$P < .01$.
††$P < .001$.
‡‡$P < .05$.

Table 3. Results of 2-tailed tested Spearman's rho correlations between all outcome measures for the total sample of study 1 (n = 26)

		1	2	3	4
1. AOO*	*r*	—			
	P	—			
2. Flexibility†	*r*	0.505‖	—		
	P	.009	—		
3. Exclusiveness‡	*r*	−0.506‖	−0.678#	—	
	P	.008	.000	—	
4. Motivation§	*r*	0.235	0.446**	−0.440**	—
	P	.248	.022	.025	—

r = Pearson's product-moment correlation coefficient; *P* = *P* value of the correlation coefficient.
*Age at which participants felt sexually attracted to children for the first time.
†Flexibility of sexual interest in children.
‡Exclusiveness of sexual interest in children.
§Participants' motivation to change their sexual interest in children.
‖$P < .01$.
#$P < .001$.
**$P < .05$.

Table 4. Results of 2-tailed tested partial correlations between all outcome measures including group (non-forensic, forensic, Internet) as control variable as well as 2-tailed tested Spearman's rho correlations for the total sample of study 2 (n = 94)

		1.	2.	3.	4.
1. AOO*	*r*	—			
	P	—			
	ρ	—			
	p	—			
2. Flexibility†	*r*	0.368‖	—		
	P	.000	—		
	ρ	0.294¶	—		
	P	.004	—		
3. Exclusiveness‡	*r*	−0.258#	−0.498‖	—	
	P	.012	.000	—	
	ρ	−0.243#	−0.520‖	—	
	P	.018	.000	—	
4. Motivation§	*r*	0.295¶	0.363‖	−0.292¶	—
	P	.004	.000	.004	—
	ρ	0.346¶	0.437‖	−0.361‖	—
	p	.001	.000	.000	—

P = *P* value of the correlation coefficient above; *ρ* = Spearman's rho correlation coefficient; *r* = Pearson's product-moment correlation coefficient.
*Age at which participants felt sexually attracted to children for the first time.
†Flexibility of sexual interest in children.
‡Exclusiveness of sexual interest in children.
§Participanťs motivation to change their sexual interest in children.
‖$P < .001$.
¶$P < .01$.
#$P < .05$.

Exclusiveness

We asked participants to complete the introductory statement "My sexual interest is…" on a scale from 1 (exclusively in adults) to 5 (exclusively in children). Thus, the maximum score is 5, with higher scores indicating more exclusiveness of sexual interest in children.

Motivation to Change

The item "I want to change my sexual interest in children" was assessed on a scale from 1 (does not apply at all) to 5 (applies completely). Thus, the maximum score is 5, with higher scores indicating greater motivation to change sexual interest in children. We would like the reader to note that we intentionally did not formulate this item with a direction (eg, "I want to reduce my sexual interest in children."). Flexibility of sexual interest in children would mean it can decrease or increase, maybe depending on individuals' intention to either reduce or enhance their sexual interest in children. And even if we expected a rather low probability that our participants are motivated to enhance their sexual interest in children, we would not like to assume this condition as impossible.

Data Presentation and Statistics

For the purpose of better clarity and understanding, we present the average score (including SD) as well as the frequencies of the 5 response categories for the 3 flexibility items, the item on participants' motivation to change their sexual interest in children, and the item on exclusiveness of sexual interest in children.

To test overall differences between the 3 subsamples of study 2, we used multivariate variance analysis (MANOVA). For pairwise post hoc comparisons, we used the Scheffé test because it is considered appropriate in different sample sizes.[29]

For the analysis of the interrelations of the outcome measures, we conducted correlation analyses.[30] We tested whether the outcome measures in both studies are normally distributed using the Kolmogorov–Smirnov test.[31] Because of a lack of normal distribution in motivation to change ($P < .001$) and AOO ($P < .001$), we chose the rank correlation coefficients[32] to analyze the interrelations between the outcome measures in study 1. For the data from study 2, we deemed it necessary to conduct partial correlation coefficients[30] with group (non-forensic, forensic, Internet) as the control variable owing to substantial differences between the 3 subsamples in both sample characteristics and main outcome measures. Because of a lack of normal distribution in all 4 main outcome measures ($P < .001$), we also conducted rank correlation coefficients.[32] Because the effect of a covariate such as group (non-forensic, forensic, Internet) cannot be taken into account in rank correlation analyses, we decided to report both correlation coefficients (ie, partial correlation coefficients and rank correlation coefficients).

RESULTS

Descriptive Statistics

Descriptive statistics for each sample and subsample are shown in Table 2. In study 2, non-forensic (mean = 9.1, SD = 3.9) and forensic (mean = 9.6, SD = 3.1) participants reported a higher level of flexibility in their sexual interest in children regarding the total score than Internet participants (mean = 6.6, SD = 2.9). The same difference was found for flexibility item 1. Furthermore, forensic participants reported a higher level of flexibility in item 2 and non-forensic participants reported a higher level of flexibility in item 3 than Internet participants. Non-forensic and forensic participants also demonstrated a greater motivation to change their sexual interest in children than Internet participants.

Age of Onset

In study 1, participants reported an average age of onset of 20 years (SD = 10.7) with a median of 16.5 and range from 6 to 52 years. For the total sample of study 2, the AOO displayed a mean value of 17 years (SD = 8.7), a median of 14, and a range from 7 to 66 years (Table 2).

Correlation Analyses

In study 1, the AOO showed a positive correlation with flexibility (Table 3), indicating that the higher the AOO, the more likely participants are to perceive their sexual interest as flexible. A negative relation was revealed between exclusiveness and AOO as well as between exclusiveness and flexibility. This means that the more participants' sexual interest is exclusively in children (ie, less sexual interest in adults), the earlier they felt sexually attracted to children for the first time, and the more they perceive their sexual interest in children as stable. Flexibility further positively correlates with motivation to change, meaning that the greater the flexibility, the more strongly participants are motivated to change their sexual interest in children. Another negative correlation was found between exclusiveness and motivation to change, indicating that participants with a more exclusive sexual interest in children were less motivated to change their interest compared with participants with a less exclusive sexual interest in children.

In study 2, both correlation analyses (ie, partial correlation analysis as well as rank correlation analysis) revealed the following correlation pattern. The AOO also displayed a positive correlation with flexibility (Table 4) which further shows a positive correlation with motivation to change. In addition, exclusiveness demonstrates a negative correlation with AOO and flexibility. This means that a more exclusive sexual interest in children is associated with an earlier AOO as well as with less flexibility (ie, greater stability). The AOO correlates positively with motivation to change, which means that the later participants became aware of their sexual interest for the first time, the more strongly they are motivated to change it. Moreover, flexibility positively correlates with motivation to change, indicating that participants who perceive their sexual interest in children as flexible have a higher probability of possessing more motivation to change. Exclusiveness correlates negatively with motivation to change. In other words, the more exclusively participants were interested in children, the less they were motivated to change it.

DISCUSSION

Our results from both studies reveal that the AOO demonstrated a wide range (AOO range, study 1 = 6−52; study 2 = 7−66 years) and that only half of the participants reported an AOO of 16.5 years or younger in study 1 and 14 years or younger in study 2 (Table 2). By this, results of the current study confirm previous results.[11,33] Some researchers assume that the AOO implies information about the stability or persistence of sexual interest in children (eg, Grundmann et al[33] and Bailey et al[12]). Comparable with the study by Tozdan and Briken,[11] the self-perceived flexibility of sexual interest in children also demonstrated variety (mean = 8.9, SD = 3.7). The whole range of possible flexibility item scores was exhausted (Table 2). Approximately one-third of all participants confirmed that there had been times in which they were not sexually interested in children since their first sexual attraction to children (study 1) or since puberty (study 2) by choosing "mostly agree" or "totally agree." Approximately one-third of them rejected always having had sexual interest in children by choosing "do not agree at all" or "hardly agree." And approximately half of all participants rejected that their sexual interest in children has so far been constant, again by choosing "do not agree at all" or "hardly agree." These results may speak against the hypothesis that pedophilia and hebephilia are relatively stable over time (eg, Seto,[6] Grundmann et al,[33] and Bailey et al[12]). These results support the hypothesis that sexual interest in children can be relatively stable or flexible, probably depending on factors specific to the affected individual, his or her environment, and current situational factors.

Regarding exclusiveness, only a few participants reported on exclusive sexual interest in children (study 1 = 7.7%, study 2 = 22.3%), confirming earlier results for different samples.[3,11,34] The vast majority further displayed more or less motivation to change their sexual interest in children (study 1 = 100%, study 2 = 76.6%), which is again in line with previous findings.[11] Taken together, the majority of participants had obviously not been interested in children from entering puberty onward, were not exclusively attracted to children, and—most importantly—are not resistant to progress and development.

In study 2, non-forensic participants not known to the justice system who entered treatment to cope with their sexual interest in children, as well as forensic participants registered within the judicial system for ≥1 sexual offense against children who entered treatment as a result of a judicial decision, reported on a higher level of flexibility of their sexual interest in children and a higher level of motivation to change it than did participants from

the Internet platform (Table 2). An explanation for this might be that individuals who want to change their sexual interest in children are more likely to achieve actual changes owing to personal development or treatment. They are therefore probably more likely to have experienced changes in their sexual interest in children and thus perceive it as being more flexible than individuals who do not want to change their sexual interest in children. For the forensic group in particular, it should be noted that participants might have misrepresented themselves for instrumental reasons or social desirability.

Our results (Tables 3 and 4) further showed that the earlier participants felt sexually attracted to children for the first time, the more they appeared to be attracted exclusively in children and less they perceived it to be flexible (study 1: $r = -0.506$, $P < .01$; study 2: $r = -0.258$, $P < .05$). Simultaneously, participants who reported rather exclusive sexual interest in children were less likely to perceive it as flexible (study 1: $r = -0.678$, $P < .001$; study 2: $r = -0.498$, $P < .001$). These findings are in line with previous results[11] and suggest that there might be some individuals who have exclusive sexual interest in children that rather remains stable over time. However, the majority of participants reported non-exclusive sexual interest in children which rather might change over time.

The following results are contrary to those reported earlier by us.[11] The more participants reported on flexible sexual interest in children, the more they were motivated to change it (study 1: $r = 0.446$, $P < .05$; study 2: $r = 0.437$, $P < .001$). Experiencing changes in sexual interest in children might reinforce the motivation to change it, since individuals may start believing that they are able to change their sexual interest in children, which in turn might raise hope and self-efficacy.[26] Furthermore, the more participants reported on an exclusive sexual interest in children, the less they were motivated to change (study 1: $r = -0.440$, $P < .05$; study 2: $r = -0.292$, $P < .01$). A self-perceived strong fixation of sexual interest in children might preclude a focusing on other objects of sexual interest (eg, adults).

Moreover, participants in study 2 who reported an earlier AOO were less likely to have high levels of motivation to change their sexual interest in children than participants who reported a later AOO ($r = 0.295$, $P < .01$). This result seems to be consistent with the others discussed above. There may be a specific group of individuals with sexual interest in children who are continuously and exclusively interested in children from an early stage in life onward and are not interested in changing their situation. Possibly, this group is more likely to be found outside clinical settings and therapeutic outpatient centers. This assumption is supported by the fact that we did not find this correlation within study 1, in which all participants were voluntarily in treatment, ie, had a certain intrinsic motivation to change.

As in our earlier results,[11] we found no relation between the AOO and motivation to change in participants of study 1. In other words, an early AOO does not indicate lower levels of motivation to change for participants of study 1.

Limitations

Study 1 in particular, as well as the subsamples of study 2, consist of small sample sizes, thus decreasing statistical power and generalizability. Only a very small percentage of participants reported on sexual interest in prepubescent children only (study 1 = 3.8%; study 2 = 14.9%). The rest reported on sexual interest in pubescent or both prepubescent and pubescent children. This sample heterogeneity also limits the generalizability of our results. There has been a great deal of research recently into the distinction between pedophilia and hebephilia (eg, Blanchard et al[2] and Beier et al[35]), and it might be possible that these 2 groups differ in our main outcome measures. We were not able to examine this question with enough statistical power owing to small sample sizes.

In both studies, we assessed men who have a certain attitude in common, which is not to act on their sexual interest in children. We know that there are individuals with a self-identified sexual interest in children detectable in the Internet who do not explicitly advocate against acting on sexual interest in children. Such individuals were shown to be different in several ways (eg, motivation to change their sexual interest in children). This means that participants in the present studies are selective and cannot be assumed to represent all individuals with sexual interest in children. This means that drawing conclusions from the present results and generalizing them to all individuals having sexual interest in children would be a false approach as well.

Furthermore, data from study 2 were collected online and were thus accompanied by a certain degree of unknowingness about participants as a result of anonymity. Most importantly, all outcome measures in the present study were based on participants' self-reports and were not validated by therapists or such objective measures as viewing time.[36] In both studies, we did not apply a social desirability scale, which is a serious limitation. Thus, distortion of our data owing to social desirability cannot be excluded. Regarding the AOO, we assessed how old participants were when they started feeling sexually attracted to children. We could therefore not detect an onset that was not yet accessible to consciousness (eg, when individuals at the start suppressed their attraction to children). In addition, it might be that our AOO item rather assesses the age at which participants became aware that their sexual attraction is different to others around them (refer to Bailey et al[12]). This would be the age at which participants consciously realized that they have sexual interest in children. As said earlier, there is a reasonable discussion on how to define and operationalize the AOO.[14,37] The question remained open whether the AOO assessed in the present study is comparable to the AOO assessed in other studies.

Nevertheless, no study so far has shown that the AOO for sexual interest in children is similar to the one for sexual orientation, which is around the age of 10 years (eg, McClintock and Herdt,[8] Savin-Williams,[38] Hamer et al,[9] Pattatucci and Hamer,[10] and Timiras[39]). A more accurate way to assess the AOO of sexual interest in children may be to present participants

with multiple questions to differentiate between different facets of the AOO (eg, age of first sexual feelings at all, age of first sexual attraction to children, age of becoming aware of sexual interest in children, age of self-discovery or confession).[12,14]

Further limitations are considered owing to few differences between the 3 subsamples. Although we controlled for the group variable within the statistical analysis, the outcome measures might have a different relevance for the different subsamples that could not be detected owing to small subsample sizes. Nevertheless, concerning the AOO and exclusiveness, the subsamples do not differ from each other.

Another limitation concerns the flexibility questionnaire, which was introduced by different statements in the 2 samples (study 1: "After I started feeling sexually attracted to children (boys and/or girls)…"; study 2: "After onset of my puberty…"). Strictly speaking, this means that we assessed 2 different measures of flexibility that are not comparable. However, we did not mix the 2 samples, and we analyzed and interpreted results independently for each sample. Regarding the items of the flexibility questionnaire, it might be that participants misunderstood the meaning of "having no sexual interest in children." Perhaps some of them had in some times in their life no sexual interest in children due to depressive symptoms or other reasons which would not indicate a change of the sexual interest in children but its covering by another problem, such as no sexual interest at all.

Regarding all outcome measures, it also has to be noted that they consist of 3 single-item scales (AOO, exclusiveness, motivation to change) and one 3-item scale (flexibility) which had not yet been proven to be associated with evidence of validity. However, the present and previous results[11] revealed a quite plausible pattern of correlation on which at least certain validity can be concluded based on the reasonable relation between the outcome measures. Nevertheless, psychometric investigations of the present outcome variables are considered necessary.

When interpreting the present results, it should also be taken into account that the measurements were made in many participants who were in treatment. After a certain period of time in treatment, it can be supposed that substantial changes within the characteristics investigated in the present study may have already taken place.

Finally, it might be assumed that participants in the present study had already been influenced by information from different contexts about the assumed flexibility/stability of pedophilia/hebephilia. Most of the participants were in treatment and probably affected by their therapist's attitude towards the flexibility/stability question. In addition, it might be argued that solely being surrounded by a society that still stigmatized pedophilic/hebephilic individuals[40] may be the underlying reason for the participants' responses.

As a result of these limitations, the validity and generalizability of the present results are probably restricted to a certain degree. Further empirical results on this topic are deemed necessary, especially including larger samples and more variables that are probably related to those examined in the present study. By this, the required statistical power might be reached to, for example, investigate the differences between groups. One research question might be, where lies the difference between those participants who reported a very early AOO and those whose AOO started later in life, especially in the context of therapeutic interventions? A hypothesis might be that individuals whose sexual interest in children starts early in life (eg, during puberty) have more difficulty in changing their sexual interest in children than individuals whose sexual interest in children starts later in life (eg, around early adulthood).

CONCLUSION

We recommend a differentiated perspective on individuals with sexual interest in children and on pedophilia as a diagnostic construct instead of one that generalizes its characteristics. Naturally, we tend to generalize because generalizing means simplifying complexity to cope with it. But in fact this approach pursues the strategy of generating and maintaining stereotypes.[24,25]

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Corresponding Author: Safiye Tozdan, MSc, Institut für Sexualforschung und Forensische Psychiatrie, Universitätsklinikum Hamburg-Eppendorf, Martinistraße 52, 20246 Hamburg, Germany. Tel: +49 40741057622; Fax: +49 40741057921; E-mail: s.tozdan@uke.de

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STATEMENT OF AUTHORSHIP

Category 1

(a) Conception and Design
Safiye Tozdan; Peer Briken

(b) Acquisition of Data
Safiye Tozdan; Peer Briken

(c) Analysis and Interpretation of Data
Safiye Tozdan

Category 2

(a) Drafting the Article
Safiye Tozdan

(b) Revising It for Intellectual Content
Safiye Tozdan; Peer Briken

Category 3

(a) Final Approval of the Completed Article
Safiye Tozdan; Peer Briken

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