Article

Is Emotional Congruence With Children Associated With Sexual Offending in Pedophiles and Hebephiles From the Community?

Anna Konrad[1], Laura F. Kuhle[1], Till Amelung[1], and Klaus M. Beier[1]

Abstract

Although emotional congruence with children (ECWC) is a risk factor for sexual offending against children, its conceptual validity has hardly been researched. This study aims to explore the construct of ECWC by evaluating the factor structure of the Child Identification Scale (CIS-R) and its relation to facets of sexual preference and child sexual abuse behaviors. It was hypothesized that the measure comprises consistent subscales that are differently associated with aspects of sexual preference and sexual offending against children. CIS-R data of a sample of 217 adult male pedophiles from the community were used for an exploratory principal component analysis (PCA). Group comparisons and a multinomial logistic regression analysis were conducted after including a non-pedophilic control group of 22 adult men. PCA revealed a three-factor solution for the CIS-R accounting for 30% of variance. Group comparisons found differences in overall scores and the factor labeled "Attachment to Children" between subgroups of sexual age and gender preference, but not between contact, online, and non-offenders. The regression analysis showed a pedophile sexual preference and the interaction between a hebephile sexual age preference and the factor "Attachment to Children" being associated with past offending behavior. The results indicate a wish to attach to children as core feature of the CIS-R measure assessing ECWC. It is discussed whether this is an inherent feature of pedophilia or rather an independent aspect being differently distinct in pedophiles.

[1]Charité—Universitätsmedizin Berlin, Berlin, Germany

Corresponding Author:
Anna Konrad, Institute of Sexology and Sexual Medicine, Charité—Universitätsmedizin Berlin, Luisenstr. 57, 10117 Berlin, Germany.
Email: anna.konrad@charite.de

Introduction

Emotional congruence with children (ECWC) has been found to be a dynamic risk factor for sexual recidivism in sexual offenders against children (Hanson, Harris, Scott, & Helmus, 2007; Hanson & Morton-Bourgon, 2005) and has been proposed to moderate between sexual interest in children and offending behavior in pedophilic sexual offenders (McPhail, Hermann, & Nunes, 2013). Actuarial risk assessment tools like the Stable-2007 incorporate expert rating of ECWC (Hanson et al., 2007). However, the studies included in the meta-analysis by Hanson and Morton-Bourgon (2005) lacked a clear operationalization of ECWC (Fitch, 1962; Prentky, Knight, & Lee, 1997) or referred to unpublished raw data (Thornton, 2002). Thus, despite the status as important risk factor for sexual offending against children, ECWC lacks a clear conceptualization.

Finkelhor (1984) first defined the construct as an overidentification with childhood. He suggested that a blockage from satisfying intimate relationships with adults made some child sexual offenders find children less threatening, easier to spend time with, and more attractive as sexual partners. In their review of theories on sexual attraction toward children, Finkelhor and Araji (1986) described ECWC as one of four relevant factors, the others being sexual arousal to children, blockage, and disinhibition. While they hypothesized ECWC to be linked to sexual arousal to children, they suggested both constructs to be independent features of pedophilia.

Similarly, McPhail, Hermann, and Fernandez (2014) found no clear support for either sexual deviance or blockage to explain ECWC in sexual offending against children. Supporting a sexual deviance explanation, they found high ECWC to be associated with higher levels of sexual preoccupation, sexual deviance, sex drive, sexual coping, and arousal to male children as assessed by circumferential phallometry. Support for a blockage model was found in sexual offenders against children who were classified as highly emotionally congruent with children and showed higher levels of social rejection and loneliness. A possible explanation for these inconsistent findings can be found in the suggestion of sexuality fulfilling attachment needs besides its functions for reproduction, lust, and arousal (Beier & Loewit, 2011). Although the emphasis of attachment needs might be varying between individuals, they are applicable to paraphilic individuals as well. It could thus be hypothesized that emotional congruence refers to the attachment dimension or the wish to emotionally connect to children. Accordingly in pedophiles, different levels of sexual interest in children and ECWC should be discernible.

Indeed, several authors have aimed to discriminate subgroups of sexual offenders against children on the basis of offenses committed by comparing dynamic risk factors including ECWC (Babchishin, Hanson, & Hermann, 2011; Babchishin, Hanson, &

VanZuylen, 2015; Bates & Metcalf, 2007; Elliott, Beech, & Mandeville-Norden, 2013; Fisher, Beech, & Browne, 1999; McPhail et al., 2013). In two separate meta-analyses, child pornography offenders (CPO) were found to show lower levels of ECWC when compared with sexual offenders against children (SOC), whereas no differences were found between SOC and mixed offenders (Babchishin et al., 2011; Babchishin et al., 2015). McPhail et al. (2013) found extra-familial SOC—especially those with male victims—to score higher on ECWC when compared with intra-familial SOC and other offender groups. However, in a previous analysis on judicially unknown pedophiles, Neutze, Seto, Schaefer, Mundt, and Beier (2011) did not find any differences between groups by lifetime and recent offense history. Their results indicated comparable scores on ECWC for pedophiles and hebephiles who never acted upon their fantasies and those who recently or have ever committed sexual offenses against children. This raises the question of why this empirically supported risk factor for sexual recidivism does not differentiate between offender groups in a non-forensic pedo-hebephilic sample.

Measures of ECWC

A major problem in research on ECWC lies in its imprecise operationalization in self-report, with only two available questionnaires. The *Emotional Congruence With Children* Scale of the Children and Sex Cognitions Questionnaire (CSQ; Beckett, 1987) is a subscale of 15 items assessing how comfortable the respondents are with children. Although included in the meta-analyses mentioned above, it has not been published yet.

The revised version of the *Child Identification Scale* (CIS-R; Wilson, 1999) is a scale of 40 dichotomous items operationalizing ECWC as a tendency to display an exaggerated cognitive and emotional affiliation with childhood. A validation study has been published including a sample of homosexual ($n = 41$) and heterosexual ($n = 31$) pedophiles, heterosexual non-pedophilic incest offenders ($n = 62$), sexual offenders against women ($n = 27$), and non-sexual offender criminals ($n = 33$). A maximum likelihood factor analysis proposed eight factors that accounted for a variance of 44.2%: (a) *Start Life Over* with items reflecting a wish to start life over again, (b) *Immaturity* with items suggesting that the person is inclined to interact with children on their level, (c) *Mentoring* indicating an interest in helping children in their activities, (d) *Isolation* including items supporting the tendency of subjects to keep to themselves, (e) *Enjoys Children's Activities* indicating an interest in activities engaged in by young persons, (f) *Longing for Childhood* identifying individuals who believe they have failed as adults, (g) *Empathy for Children* suggesting an inclination to retain their adult status with children while possibly elevating children to an adult status, and (h) *Abused as a Child* indicating a difficult childhood, including child sexual abuse. The results were mostly reproduced in a second study of the same author (Wilson, McCartan, & Pake, 2011) leading to the conclusion that ECWC is a complex and multifaceted cognitive structure.

The results of Wilson's study can be questioned on methodological and theoretical grounds. Methodologically, the maximum likelihood factor-extraction method applied

by Wilson is generally not recommended for variables violating the assumption of multivariate normality as is the case in the dichotomous items of the measure (Fabrigar, Wegener, MacCallum, & Strahan, 1999). On theoretical grounds, the factors identified by Wilson represent very diverse constructs, some of which appearing only loosely associated with ECWC (e.g., Abused as a Child). Moreover, Wilson's study was conducted on convicted sexual and non-sexual offenders only, although it has been argued that these probably represent a biased subgroup of all offenders (e.g., Laws & Ward, 2010). Wilson (1999) pointed out that the contamination of groups presented a possible limitation and that a better means of distinguishing them could help to shed more light on the construct of ECWC. Hence, it could be beneficial to assess the construct of ECWC within a more homogeneous sample of diagnosed pedophiles and hebephiles to examine the relationship between sexual preference and ECWC, as well as between different types of sexual offending and ECWC.

The present study. The present study was designed to explore the construct of ECWC in a group of self-identified pedophiles and hebephiles from the community by means of the CIS-R (Wilson, 1999). Analyses were designed to evaluate the factor structure of the measure and its potential to differentiate between subgroups with respect to offending behavior or facets of sexual preference (i.e., exclusivity, sexual orientation, sexual age preference).

In the first step, the factor structure was examined within a sample of pedophiles and hebephiles. In the second step, teleiophiles were included in the sample to examine whether the CIS-R could make a distinction with respect to sexual age preference. Based on the model by McPhail et al. (2013), who suggested ECWC may moderate sexual offending against children in pedophilic offenders, the study aimed at exploring whether there is a group of pedophiles/hebephiles who show high scores of ECWC and can be defined according to special aspects regarding their sexual preference or offending behavior. It was hypothesized that a factor analysis would reveal consistent subscales for the CIS-R when administered to a sample of self-referred pedophiles and hebephiles. It was further assumed that these subscales would be differently associated with aspects of sexual preference (i.e., sexual age and gender preference, exclusivity of sexual preference) and sexually abusive behaviors.

Methods

Procedure

The Institutional Review Board of the University Hospital where the participants were assessed and treated approved the study. The data were collected between 2005 and 2010 as part of an ongoing treatment project to prevent sexual offending against children and child pornography (re-) offenses. Men in the general population who feel sexually attracted to children were addressed through a media campaign, offering 1-year cognitive-behavioral treatment, including sex drive–reducing medication to help-seeking pedophiles and hebephiles at risk of offending (see Beier et al., 2009).

Those who contacted the helpline underwent a multistage diagnostic procedure to collect information on the inclusion and exclusion criteria. Further data from the project and the specific phases of the intake assessment are described elsewhere (Beier et al., 2009; Schaefer et al., 2010).

The respondents participated in a 120-min, semi-structured clinical interview and completed a battery of paper-and-pencil questionnaires. Information on criminal and sexual history and sexual preference was obtained in a clinical interview. *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association [APA], 2013) diagnostic criteria for pedophilia and hebephilia were retroactively applied to the intake assessment data (two independent clinically experienced raters, interrater reliability alpha = .908). Participants were diagnosed as having either a pedophilic or a hebephilic disorder (*DSM-5*: other specified paraphilic disorder; *DSM-5*: APA, 2013) on the basis of their self-reported sexual fantasies involving children. Pedophilia was diagnosed if the person reported recurrent and intense sexual thoughts, fantasies, or urges involving prepubescent children over a period of at least 6 months and clinically significant distress or impairment as a result of this sexual interest in children. Although hebephilia is not included as a distinct diagnostic category in the *DSM-5*: APA, 2013, it was coded separately because previous findings have shown distinguishable groups for this condition (Beier et al., 2013). It was consequently diagnosed if the participant reported that early pubescent children rather than prepubescent children were the focus of sexual thoughts, fantasies or urges, and concomitant distress or impairment. Note that, when hebephilia was present in addition to pedophilia, the participant was allocated to the pedophilia group. Sexual gender preference was coded according to the gender of the persons who figured predominantly in the participant's sexual fantasies during masturbation, irrespective of age. In addition, an exclusive type was coded if a person reported recurrent and intense sexual thoughts, fantasies, or urges exclusively involving prepubescent and/or early pubescent children (i.e., exclusive pedo-hebephiles) and denied fantasies involving adults. All men with a minimum of 18 years of age and sufficient literacy in the German language, who self-reported a sexual interest in prepubescent and/or pubescent children, were included in the study. Exclusion criteria consisted of current legal charges for sexual offenses against children or child pornography offenses and additional mental disorders with need for acute treatment (e.g., psychosis or severe depression and suicidality).

Participants

A total of 217 men who completed the assessment battery with respect to the information in the CIS-R and lifetime offense history fulfilled the inclusion criteria and none of the exclusion criteria, and were included in the study.

The mean age of the sample was 37.7 years (*SD* = 11.1). Two thirds (67.3%) of the participants met the *DSM-5* (APA, 2013) criteria of pedophilia, with approximately half of this group preferring girls (47.3%) and slightly fewer preferring boys (43.2%). More than one quarter (28.6%) of the sample reported being sexually attracted to

pubescent children, with the majority preferring girls (59.7%) and a smaller group preferring boys (38.7%). Only a few of the participants were pedophiles (9.6%) or hebephiles (1.6%) attracted to both male and female minors.

In the second step, 22 project applicants who were diagnosed as teleiophiles, that is, reported no sexual fantasies or sexual urges involving children and did therefore not meet the inclusion criteria, were included in the sample. The mean age of these men was 45.4 years ($SD = 12.1$). Half of this group had contacted the project as a consequence of having committed a sexual offense against a child without reporting sexual fantasies including children. The other half was concerned about their sexual fantasies, but reported other paraphilic content rather than pedophilia (e.g., masochism, fetishism). Group allocation for the group comparisons (see Table 2) was performed based on the diagnostic assessments for the $N = 239$ participants by allocating the subjects based on sexual age and gender preference and exclusivity of sexual preference for the respective group comparison.

Measure

CIS-R. This 40-item scale (Wilson, 1999) assesses emotional identification with children. Higher scores indicate greater identification with children in terms of cognitive and emotional connectedness (Cronbach's $\alpha = .82$). As there was no German version of the scale available, it was translated by a team of English and German native-speaking psychologists who were experienced in psychometrics and forensic psychology. The translations into German and back-translation into English were checked by a qualified psychologist with dual, German–British citizenship (Feelgood, Freese, & Schaefer, 2005). Wilson reported mean scores of 18.98 ($SD = 8.11$) for homosexual pedophiles and 15.23 ($SD = 7.56$) for heterosexual pedophiles.

Statistical Analyses

Statistical analyses were conducted in three steps using two overlapping samples: confirmatory factor analysis of the latent structure of CIS-R as proposed by Wilson (1999) and principal component analysis (PCA) of the latent structure of CIS-R in pedohebephilic men from the community were conducted in a sample of $N = 217$ pedohebephilic participants. For clarification of the clinical implications of the resulting factors, group comparisons of groups composed according to clinical and forensic characteristics were conducted, including an additional $n = 22$ teleiophilic applicants for the program. Finally, a multinomial logistic regression with a stepwise entry method was performed to assess whether the overall CIS-R score or single factors contribute to the prediction of offense group affiliation.

For confirmatory factor analysis, the chi-square value (χ^2), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) were used to evaluate the model fit according to the recommendations of Jackson, Gillaspy, and Purc-Stephenson (2009). The χ^2 statistic compares the observed covariance matrix with the theoretically proposed

covariance matrix. CFI indicates how much better a model fits the data compared with a baseline model where all variables are uncorrelated. RMSEA is a measure of discrepancy per degree of freedom in a model and SRMR is an absolute measure of fit and is defined as the standardized difference between the observed correlation and the predicted correlation. Following the recommendations of Hu and Bentler (1999), a good model fit was assumed if χ^2 was non-significant (>.05), the RMSEA and SRMR values were less than .05, and the CFI value was above .95.

A PCA was conducted in the second step to establish linear components in the data and the respective contributions of single variables. PCA was chosen over factor analysis strategies due to dichotomy of the variables. PCA extracts eigenvalues of linear components of the correlation matrix. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were used to test for sampling adequacy. With regard to the KMO, Kaiser (1974) recommended values above .05 as acceptable, values between .05 and .07 as mediocre, values between .07 and .08 as good, values between .08 and .09 as great, and values above .09 as superb. Bartlett's Test of Sphericity tests the null hypothesis that the original correlation matrix is an identity matrix. The test should be significant (<.05), as this would indicate that there are some relationships between the variables. To establish how many factors should be retained in the analysis, eigenvalues should be greater than 1 and the scree plot should be considered (Field, 2009). The rotation technique can improve the interpretability of the factor solution, and oblique rotation was used, as the factors were assumed to correlate (Field, 2009). Group comparisons of non-normal sociodemographic variables were conducted using non-parametric Mann–Whitney and Kruskal–Wallis tests. The comparisons between these groups on overall CIS-R scores and the scores of single factors were performed using one-way ANOVA. ω^2 was used as a measure of effect size, as it incorporates the error variance, where values of .01, .06 and .14 have been considered small, medium, and large effect sizes, respectively (Kirk, 1996). Post hoc comparisons were conducted using Bonferroni correction. All analyses were set at the .05 level of significance. All statistical analyses were conducted using PASW Statistics 18, Release Version 18.0.0 (© SPSS, Inc., 2009, Chicago, IL, www.spss.com).

Results

Results of the CFA

Testing for Wilson's proposed factor structure, the CFA in the present sample revealed a model fit of $\chi^2 = .00$; CFI = .87; RMSEA = .06; SRMR = .07. None of the measures indicated good model fit according to Hu and Bentler (1999).

Results of the PCA

The KMO measure verified a good sampling adequacy for the analysis (KMO = .77), and all KMO values for individual items were >.53, which is above the acceptable limit of .5 (Field, 2009). Bartlett's Test of Sphericity, $\chi^2(780) = 2,512.69$, $p = .000$, indicated that the correlations between the items were sufficiently large for a PCA.

The scale showed an adequate internal consistency of Cronbach's α = .70. The exploratory PCA obtained eigenvalues for each component in the data. Thirteen components had eigenvalues over Kaiser's criterion of 1 and, in combination, explained 63.5% of the variance. The scree plot showed an inflexion justifying three components, which accounted for a variance of 30.7% (see Figure 1). As none of the other 10 factors explained more than a variance of 4.2% (with only 1-2 items loading on the factors), the first three factors were retained for the following analyses. Table 1 shows item loadings of > .40 for these factors, which could be labeled as follows:

1. Attachment to Children: The items reflect emotional identification with the child's world, feeling closer to children than to adults, feeling comfortable around children, feeling romantic love toward children, having difficulties with adults.
2. Discontent with Adult Life: The items reflect a wish to start life over, a reluctance to take responsibility, and the desire to engage in children's activities.
3. Clinging to Childhood: The items with the highest loadings reflect trouble in letting go of one's own childhood.

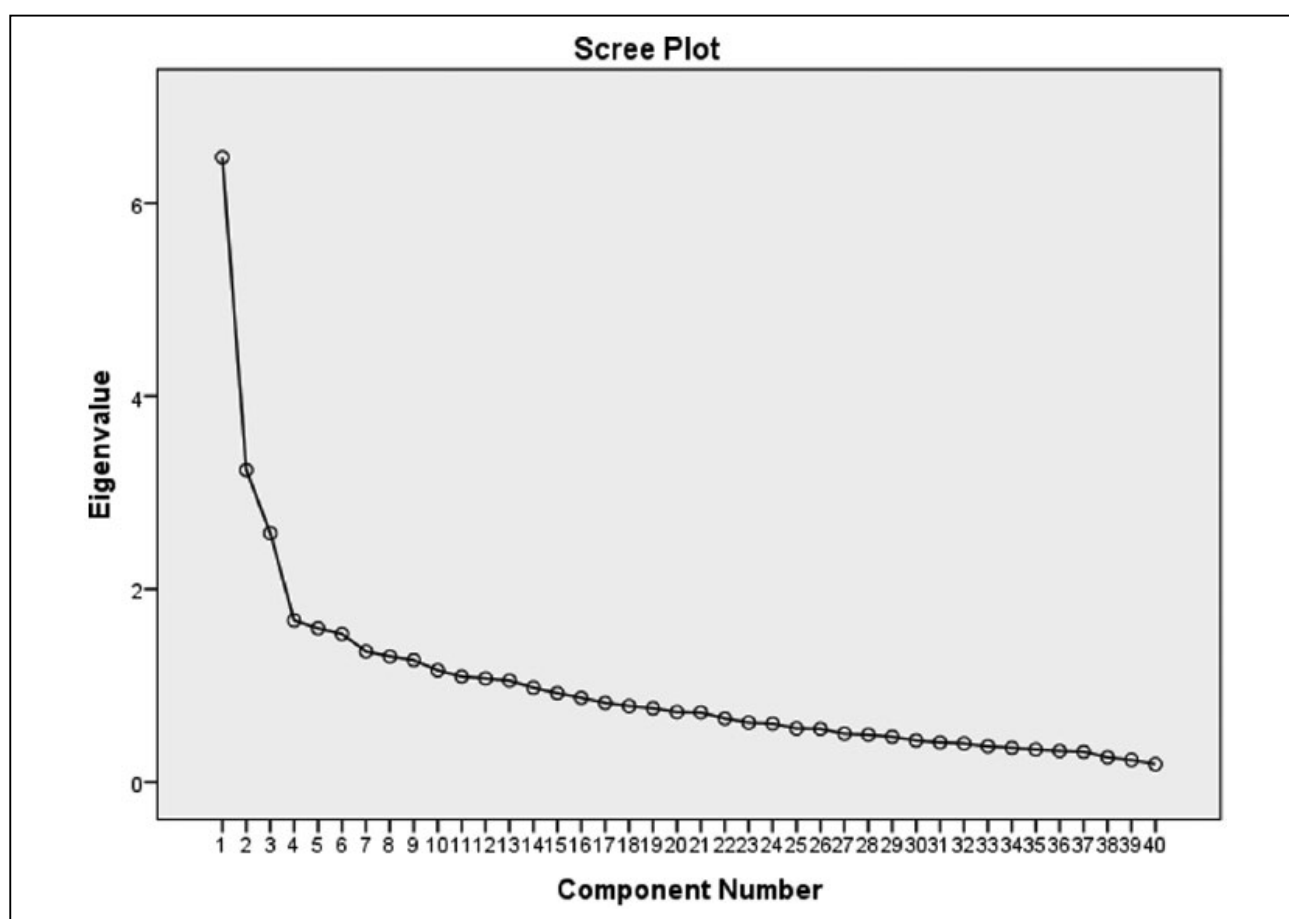### Results of Group Comparisons According to Sexual Age and Gender Preference

Group means and standard deviations of the group comparisons based on sexual age and gender preference, as well as exclusivity of sexual preference, are presented in Table 2.

The groups categorized according to sexual age preference differed in terms of age, $F(2, 236) = 5.21$, $p = .006$, $\omega^2 = .034$, with post hoc analyses showing teleiophiles, $M = 44.74$, $SD = 12.19$, to be significantly older than pedophiles, $M = 36.99$, $SD = 11.08$. Participants attracted to boys were less likely to live in a relationship when compared with participants attracted to girls and participants attracted to boys and girls, $\chi^2(2) = 10.94$, $p = .004$. Similarly, exclusive pedo-hebephiles were less likely to report living in a relationship, $\chi^2(1) = 6.86$, $p = .009$.

Sexual age preference showed a significant effect on overall emotional congruence with children, $F(2, 236) = 5.78$, $p = .004$, $\omega^2 = .039$, and Factor 1, $F(2, 236) = 6.16$, $p = .002$, $\omega^2 = .041$. In post hoc analyses, pedophiles showed significantly higher overall scores than teleiophiles, and higher scores on Factor 1 than both hebephiles and teleiophiles. No differences between these groups were found with respect to Factor 2, $F(2, 236) = 2.44$, $p = .090$, $\omega^2 = .039$, and Factor 3, $F(2, 236) = 1.05$, $p = .353$, $\omega^2 = .039$.

There was a significant contribution of sexual gender preference on the overall scale, $F(2, 236) = 11.90$, $p = .000$, $\omega^2 = .084$, as well as on Factor 1, $F(2, 236) = 10.97$, $p = .000$, $\omega^2 = .077$, Factor 2, $F(2, 236) = 4.46$, $p = .013$, $\omega^2 = .028$, and Factor 3, $F(2, 236) = 5.04$, $p = .007$, $\omega^2 = .033$. Participants attracted to boys when compared with participants attracted to girls showed higher scores on all four measures. Exclusive pedo-hebephiles scored higher than non-exclusive pedo-hebephiles on overall CIS-R, $F(1, 237) = 8.02$, $p = .005$, $\omega^2 = .029$, and Factor 1, $F(1, 237) = 23.19$, $p = .000$, $\omega^2 = .085$.

Figure 1. Scree plot.

Results of Group Comparisons According to Criminal History

Group means and standard deviations of the comparisons between non-offenders, CPO only, SOC only, and mixed offenders are presented in Table 3. There was a significant association between sexual age preference (i.e., pedophilia, hebephilia, or teleiophilia) and offender groups, $\chi^2(6) = 43.05$, $p < .000$. Inspection of standardized residuals revealed teleiophiles to be over-represented in the non-offending group. Significant differences between groups were found with respect to fatherhood, age, and overall CIS-R score. Post hoc analyses showed that non-offenders were less likely to report having children when compared with SOC, $\chi^2(1) = 15.74$, $p = .001$, and mixed offenders, $\chi^2(1) = 15.74$, $p = .050$, and SOC were more likely to report having children when compared with CPO, $\chi^2(1) = 15.74$, $p = .002$, and mixed offenders, $\chi^2(1) = 15.74$, $p = .023$. SOC were significantly older than mixed offenders, F(3, 235) = 3.38, p = .000, $\omega 2 = .029$. Significant differences in overall CIS-R scores were found between CPO and mixed offenders, with the former being less identified with children, F(3, 235) = 4.16, p = .014, $\omega 2 = .038$.

Results of the Multinomial Logistic Regression

Selected results are presented in Table 4. The likelihood ratio tests show that sexual preference, $\chi^2(6, 239) = 14.05$, $p = .029$, and the interaction of Factor 1 and sexual

Table 1. Principal Component Loadings From Items of CIS-R.

		Three-factor solution		
Item no.[a]		Attachment to children	Discontent with adult life	Clinging to childhood
13	I feel closer to children than to adults.	**.685**	−.152	−.205
3	I enjoy myself most when I am playing with children.	**.599**	−.281	−.115
19	When I am with children, I feel like I am one of them.	**.583**	−.066	−.031
1	I often wish I could have remained a child and not grown up.	**.578**	.120	.230
26	There is nothing I like better than seeing a child having fun.	**.544**	−.233	.155
10	I have been in love with child.	**.526**	−.253	−.210
11	I would like to work with children as a babysitter, camp counselor, or teacher.	**.515**	**−.411**	−.096
7	I often find it difficult to act my age.	**.499**	.169	.111
9	I have difficulty relating to adults.	**.479**	.367	−.161
2	I prefer to socialize with people my own age.	**−.467**	−.019	.222
8	My family and friends think I am immature.	**.466**	.298	.031
4	My family and friends cannot understand how I am so patient with children.	**.455**	−.306	−.183
20	I often wish I could start my life over again.	**.454**	**.442**	.101
33	I have had few friends as an adult.	**.426**	**.424**	−.247
25	I wish I had fewer responsibilities.	.384	.357	.118
24	I like to listen to children's music.	.368	−.236	−.119
17	I like to organize activities for children, such as games or selecting toys for them.	.377	**−.509**	−.075
5	Adult responsibilities are just too stressful.	.385	**.440**	.187
14	I enjoy teaching children how to do new things.	.366	**−.425**	−.089
15	I enjoy coaching sports with children.	.227	−.379	−.205
37	My best memories are childhood ones.	.390	.096	**.583**

Table 1. (continued)

| Item no.[a] | | Three-factor solution | | |
		Attachment to children	Discontent with adult life	Clinging to childhood
31	I was a loner as a child.	.268	.338	**−.549**
32	When I was a child, I always played with lots of other children.	−.208	−.372	**.537**
29	Most of my best memories are from my childhood.	.376	.094	**.500**
38	You never outgrow amusement parks.	.373	−.007	**.456**
22	Childhood was a difficult time for me.	.300	.309	−.356
36	I secretly love re-visiting my favorite childhood surroundings.	.313	.016	.351
21	I like to look through toy stores.	**.432**	−.044	.143
23	I love a good game.	.132	−.205	.208
16	I often wish I could be young again.	**.421**	.227	.246
30	I am afraid of growing old.	.301	.367	.124
34	I find children are a bother to have around when adults are trying to talk.	−.189	.375	−.023
28	Adults should listen to children more	.224	−.088	−.105
40	I hate playing children's games.	−.319	**.416**	−.036
27	I am unhappy with my life as it is.	.101	.340	−.113
39	You are never too old for the roller coaster.	.219	.049	**.418**
35	I dislike having children's toys around.	−.274	.212	−.019
6	I like to treat children as equal.	.352	−.138	−.104
18	I was an abused child.	.311	.217	−.317
12	Most parents are too strict with their children.	.351	−.019	−.070

Note. CIS-R = Child Identification Scale–Revised. Factor loadings over .40 appear in bold.
[a]Numerations of items refer to publication of original CIS-R scale by Wilson (1999).

preference, $\chi^2(6, 239) = 19.51$, $p = .003$, have a significant effect on predicting group membership. The parameter estimates show that having a pedophilic sexual preference increases the likelihood of being a mixed offender ($b = 3.38$), Wald $\chi^2(1) = 4.33$, $p = .04$. In addition, the interaction of a hebephilic preference score on Factor 1 of the

Table 2. Group Comparisons on CIS-R by Sexual Age and Gender Preference and Exclusivity of Sexual Preference for N = 239.

Sociodemographic data (%)	Sexual age preference[a]				Sexual gender preference[b]				Exclusivity of sexual age preference[c]		
	Pedophilia (n = 151)	Hebephilia (n = 65)	Teleiophilia (n = 23)		Attracted to females (n = 127)	Attracted to males (n = 94)	Attracted to females and males (n = 18)		Exclusive pedo-hebephile (n = 123)	Non-exclusive pedo-hebephile (n = 116)	
	n (%)	n (%)	n (%)	$\chi^2(2)$	n (%)	n (%)	n (%)	$\chi^2(2)$	n (%)	n (%)	$\chi^2(1)$
Years of education >10	74 (49.0)	33 (50.8)	9 (39.1)	0.95	61 (48.0)	49 (52.1)	6 (33.3)	2.16	62 (50.4)	54 (46.6)	0.35
Employed	106 (70.2)	51 (78.5)	18 (78.3)	1.90	97 (46.4)	66 (70.2)	12 (66.7)	1.47	87 (70.7)	88 (75.9)	0.80
Relationship	49 (32.5)	31 (47.7)	9 (39.1)	4.54	57 (44.9)	23 (24.5)	9 (50.0)	10.94**	36 (29.3)	53 (45.7)	6.86**
Has children	50 (33.1)	25 (38.5)	9 (39.1)	0.74	47 (37.0)	28 (29.8)	9 (50.0)	3.11	40 (32.5)	44 (37.9)	0.76
	M^a (SD)	M (SD)	M (SD)	$F(2, 236)$	M^a (SD)	M (SD)	M (SD)	$F(2, 236)$	M (SD)	M (SD)	$F(1, 237)$
Age	36.99 (11.08)	39.51 (11.05)	44.74 (12.19)	5.21**	38.98 (10.79)	37.59 (12.23)	38.83 (11.17)	0.42	38.78 (11.36)	38.04 (11.44)	0.25
CIS-R overall	19.83 (6.23)	17.74 (5.72)	15.96 (5.38)	5.78**	17.20 (5.74)	21.09 (6.14)	19.39 (5.37)	11.89***	19.96 (6.54)	17.75 (5.48)	8.02**
CIS-R Factor 1	5.54 (2.77)	4.49 (2.82)	3.78 (2.32)	6.16**	4.33 (2.61)	6.03 (2.84)	5.44 (2.48)	10.97***	5.89 (2.83)	4.22 (2.51)	23.19***
CIS-R Factor 2	2.98 (1.29)	2.83 (1.31)	2.35 (1.50)	2.44	2.65 (1.35)	3.18 (1.27)	2.94 (1.06)	4.46**	2.94 (1.37)	2.83 (1.27)	0.39
CIS-R Factor 3	3.21 (1.57)	2.89 (1.48)	3.00 (1.45)	1.05	2.83 (1.41)	3.48 (1.66)	3.11 (1.32)	5.04**	3.11 (1.54)	3.09 (1.53)	.01

Note. Group allocation for N = 239 participants based respectively on sexual age preference[a], sexual gender preference[b], exclusivity of sexual preference[c]. CIS-R = Child Identification Scale–Revised. Mean score differences between two groups are significant at *p < .05 or **p < .01, ***p < .005 (Bonferroni; post hoc).

Table 3. Group Comparisons on CIS-R by Lifetime Offense History.

	Lifetime sexual offenses against children (N = 239)					
	No offense (n = 30)	Child pornography offenses (n = 37)	Sexual offenses against children (n = 56)	Mixed offenses[a] (n = 116)	Df	χ^2
Sociodemographic data (%)						
Years of education > 10	15 (50.0)	19 (51.4)	23 (41.1)	59 (50.9)	3	1.64
Employed	23 (76.7)	27 (73.0)	38 (67.9)	87 (75.0)	3	1.19
Relationship	10 (33.3)	8 (21.6)	22 (39.3)	49 (42.2)	3	5.38
Has children	5 (16.7)	8 (21.6)	30 (53.6)	41 (35.3)	3	15.74**
	M (SD)	M (SD)	M (SD)	M (SD)		F(3)
Age	37.23 (13.95)	36.89 (10.04)	42.59 (11.58)	37.21 (10.59)		3.38*
CIS-R (Overall)	17.30 (5.40)	16.65 (4.77)	18.61 (6.44)	20.16 (6.31)		4.16**
CIS-R (Factor 1)	4.33 (2.75)	4.51 (2.38)	5.11 (2.71)	5.49 (2.95)		1.91
CIS-R (Factor 2)	2.53 (1.25)	2.51 (1.28)	2.93 (1.40)	3.07 (1.28)		2.50
CIS-R (Factor 3)	2.90 (1.37)	2.81 (1.71)	2.88 (1.36)	3.36 (1.57)		2.17

Note. CIS-R = Child Identification Scale–Revised.
[a]Sexual offending against children with additional child pornography offending.
*p < .05. **p < .01.

CIS-R reaches statistical significance, $b = 2.81$, Wald $\chi^2(1) = 5.85$, $p = .02$, for child pornography offending; $b = 2.36$, Wald $\chi^2(1) = 5.15$, $p = .02$, for sexual offending against children; and $b = 2.47$, Wald $\chi^2(1) = 5.23$, $p = .02$, for mixed offending. Inclusion of the overall CIS-R score did not contribute significantly to the prediction of the outcome.

Discussion

This study examined the construct of ECWC as measured by the CIS-R with respect to its factor structure and ability to differentiate groups according to aspects of sexual preference and sexual offending history. Results of the confirmatory factor analysis, conducted to validate the results presented by Wilson (1999), revealed ambiguous results concerning the model fit. An exploratory PCA was conducted revealing 13 factors, of which three factors were retained according to the Kaiser Criterion and scree plot. The three factors accounted for 30% of the variance. According to the items loading on the factors, the factors were labeled as follows: Attachment to Children, Discontent With Adult Life, and Clinging to Childhood. The first factor differentiated diagnostic groups of pedophiles, but failed to differentiate groups determined by past offense behaviors. Pedophiles scored significantly higher on the overall CIS-R scale and Factor 1 (Attachment to Children) when compared with teleiophiles; participants attracted to boys scored higher than participants attracted to girls; and exclusive

Table 4. Selected Results[a] of the Multinomial Regression Analysis.

			95% CI for odds ratio	
	B (SE)	Lower	Odds ratio	Upper
CPO vs. non-offenders				
Intercept	−.599 (1.74)			
Pedophilic preference	1.98 (1.81)	0.21	7.27	250.44
Hebephilic preference × CIS-R Factor 1	2.81 (1.16)*	1.71	16.65	162.53
SOC vs. Non-offenders				
Intercept	−1.25 (1.10)			
Pedophilic preference	2.18 (1.22)	0.82	8.84	95.83
Hebephilic Preference × CIS-R Factor 1	2.36 (1.04)*	1.38	10.62	81.83
Mixed offenders vs. Non-offenders				
Intercept	−2.53 (1.57)			
Pedophilic preference	3.38 (1.63)*	1.22	29.47	712.89
Hebephilic Preference × CIS-R Factor 1	2.47 (1.10)*	1.42	11.80	97.76

Note. R^2 = .24 (Cox & Snell), .26 (Nagelkerke). Model $\chi^2(21)$ = 65.56. CI = confidence interval; CPO = child pornography offenders; CIS-R = Child Identification Scale–Revised; SOC = sexual offenders against children.
[a]The results were selected based on the suggested way of reporting the beta values and their standard errors and significance value as well as the R^2 and goodness-of-fit statistics, the odds ratio, and its confidence interval and the constant (Field, 2009). Due to clarity of the table, only the variables and interaction that significantly contributed to the prediction of group membership are presented.
*p < .05. ***p < .001.

pedo-hebephiles scored higher than non-exclusives. Factor 1 also differentiated between pedophiles and hebephiles. The overall CIS-R score differentiated mixed offenders and CPO, with the first group showing higher scores. The single factors did not differentiate offender groups. A multinomial regression analysis found that attachment to children contributed differentially to offender group membership for different diagnostic groups. A pedophilic sexual preference was predictive of mixed offending, whereas a significant interaction of a hebephilic sexual preference and Factor 1 of the CIS-R, that is, Feeling Attached to Children, revealed an increased likelihood of having offended against children either with hands-on offenses, child pornography offenses, or both.

Comparability to Prior Studies

In general, the findings in this study are comparable with findings from prior studies. Across all group comparisons, significant differences were found for the overall CIS-R score, with individuals with more deviant sexual preference exhibiting the highest scores. This is in line with previous findings associating ECWC with high deviancy

(Fisher et al., 1999) or with a higher risk to reoffend (Hanson & Morton-Bourgon, 2005; McPhail et al., 2013). Also, the relatively low score of CPO compared with mixed offenders is somewhat comparable with prior research (Babchishin et al., 2011; Bates & Metcalf, 2007). In addition, values of the CPO were more comparable with non-offenders than with mixed and hands-on offenders. Besides an interpretation of CPO representing a subgroup of rather high-functioning pedophiles, this finding points at a need for different models to understand child pornography offending in comparison with sexual offending against children. The findings also partially support results of McPhail and colleagues (2014), who found ECWC to be connected to sexual preference and a blockage of adequate relationships with adults.

Factor Structure

In line with Wilson (1999), the results suggest that the CIS-R covers a heterogeneous rather than homogeneous construct. The confirmatory factor analysis did not entirely fit the results presented by Wilson (1999) and Wilson et al. (2011). It can be argued that, given the model fit indices in this study, Wilson's proposed factor structure could have been retained, as RMSEA and SRMR showed values exactly at the proposed cutoff for acceptable model fit. CFI was below the recommended cutoff as was χ^2 (Hu & Bentler, 1999).

Given the methodological concerns stated above for Wilsons's analysis, a re-analysis seemed to be in order. In comparing the factors found in the PCA in this study to those of Wilson's analyses, the results differ with respect to the number of factors, as well as their content. The first factor found in the present study includes items loading on the factor Immaturity as well as items loading on other factors in Wilson's study. Factors 2 and 3 cannot be ascribed to the factors in Wilson's study, but rather include items from all of the factors originally found (especially Start Life Over and Longing for Childhood). However, a similarity exists in the importance of items reflecting attachment to children (Factor 1 in the present study) and the inclination of subjects to interact with children on their level (Factor Immaturity (2) in Wilson's study). The different factor notations raise the questions as to what psychological construct might be covered by these core items of the measure.

Influence of Sample Composition

Wilson (1999) examined convicted child sexual abusers and included non-sexual offenders and sexual offenders against women as controls, that is, with variability in sexual age preference and criminal behavior. In contrast, the present study used a sample of priorly convicted and undetected men that varied in sexual behavior toward children and sexual age preference, whereas other criminal behavior was disregarded. This design was chosen to better reflect the construct typical of pedophilia and child sexual offending. For example, the wish to start life over by a man with a history of multiple non-sexual offenses probably stems from a different background than that of a pedophile who never offended in his life. Also, the

reliance on both convicted and undetected men represents a difference and possibly a strength over Wilson's study.

One might argue that omitting non-sexual offenders and non-offending non-clinical controls represents a constraint in heterogeneity, whereas excessively homogeneous samples may lead to an underestimation of latent factors (Fabrigar et al., 1999). However, Wilson's choice of sample does not necessarily represent greater heterogeneity than the one in the present study and can thus not fully explain the difference in the factors isolated.

Despite the different sample compositions used in the studies, items reflecting the wish to interact and connect with children (second factor Immaturity in Wilson, 1999; first factor Attachment to Children in the present study) represent significant factors. The question, whether these features might be representing the main idea of ECWC, should be addressed in future research.

Relation to Theoretical Construct of ECWC

As hypothesized, the results of the group comparisons showed that gender preference was associated with all three factors found in this study. The data at hand suggest that attachment needs are associated with aspects of sexual preference, thus supporting the idea of Finkelhor and Araji (1986) of two unidentical, yet linked components of pedophilia. Factor 1, Attachment to Children, was the only one of the three factors to differentiate with regard to exclusivity and maturity of the preferred body age. Pedophiles scored higher than hebephiles and teleiophiles on the factor Attachment to Children. Participants attracted to boys showed higher scores than participants attracted to girls, and exclusives had higher scores than non-exclusives.

According to McPhail et al. (2014), ECWC is connected with a sexual preference for children and a lack of fulfilling relationships with adults rather than with immaturity. There might thus be a group of pedo-hebephilic men, feeling sexually attracted to children without attachment needs, and another group with an additional wish to attach with children.

Relation to Risk

McPhail et al. (2013) suggest that ECWC may contain offense-irrelevant and offense-relevant elements and that items reflecting immaturity are related in particular to sexual offending (e.g., "Children remind me of myself," Beckett, 1987; "When I am with children, I feel like I am one of them," Wilson, 1999). Although the present study does not allow for the prediction of reoffending, results suggests that ECWC and attachment needs to children are differentially associated with past offending behavior. In the group comparison based on sexual offense, the only significant difference was found for the overall CIS-R score comparing CPO and mixed offenders with the first group reporting less emotional congruence with children. A clear association with offending behavior was thus not to be found.

On the other hand, the results of the multinomial logistic regression indicated that a pedophilic sexual preference per se was highly associated with mixed offending, whereas the interaction of sexual age preference and attachment needs toward children was of importance for risk in hebephilic individuals. These findings are well in line with previous findings associating ECWC with high deviancy (Fisher et al., 1999) or with a higher risk to reoffend (Hanson & Morton-Bourgon, 2005; McPhail et al., 2013). The present study could be interpreted as such, that both sexual attraction toward children and attachment needs contribute to sexual deviance and risk. Attachment to children would then be a facet of pedo-hebephilia that increases risk to directly offend against children when it is highly pronounced in hebephiles.

Study Limitations

The interpretability of the study's results suffered from several limitations. First, no independent control group was included in the study. In addition to teleiophiles contacting the project for various reasons, a normal control group would have been of use for further examination of the specificity of ECWC. Also, the inclusion of other measures of ECWC, especially the CSQ (Beckett, 1987), which has often been administered in the past, would have been useful for examining the construct of ECWC in the present sample. Furthermore, the data on sexual preference, sexual offense history, and ECWC were self-reported, thereby limiting the interpretability of results and comparability to previous research using external assessments. In addition, lack of phallometric assessment leaves some uncertainty as to sexual age preference of the teleiophilic group in this study. For example, some of them have committed sexual offenses against children but claim not to be sexually attracted by them, which potentially puts them into a "regressed pedophiles" group, following the taxonomy proposed by Groth, Hobson, and Gary (1982). Another limitation lies in the incompleteness of data concerning the comorbid disorders of participants and victim characteristics of offenders. As SOC are more likely to report fatherhood, this group could be composed of incest offenders, thereby depicting a specific subgroup. To date, the data presented do not allow examination of a three-way interaction of ECWC, pedophilic interests, and relationship to victims as suggested by McPhail et al. (2013), but only a two-way interaction of ECWC and pedophilic interests. Lastly, group allocation might lack specificity because contact groups cover a wide range of past behaviors ranging from having once fondled a child 20 years ago to having had recent sexual contact with a child on a regular basis. In general, the generalizability of the data gathered in a sample of self-identified pedophiles to sexual offenders in forensic samples may be limited. However, previous analyses have shown that undetected and detected offenders showed more similarities than differences (Neutze, Grundmann, Scherner, & Beier, 2012).

Conclusion

ECWC as measured with the CIS-R seems to be a rather heterogeneous construct in self-referring pedophiles with attachment to children, discontent with adult life, and

clinging to childhood representing the main factors of the measure. None of these factors differentiated participants with respect to their sexual offense history, whereas attachment to children in particular seems to be connected with facets of sexual preference (i.e., pedophilia, orientation to boys, exclusivity). The wish to emotionally connect with children can be more or less distinct in individuals sexually interested in children and increases the risk especially in hebephiles to offend against children.

The results indicate that feeling intimate with children might not be an independent risk factor in pedophilic and hebephilic men but a feature of their sexual interest in children. Further research could benefit from the inclusion of measures on intimacy in relationships to (externally) validate this finding and to specify the construct of ECWC to reach to a more selective definition.

Declaration of Conflicting Interests

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