# Influence of cumulated sexual trauma on sexual life and relationship of a patient

Jerzy A. Sobański<sup>1</sup>, Katarzyna Klasa<sup>2</sup>, Katarzyna Cyranka<sup>1</sup>, Łukasz Müldner-Nieckowski<sup>1</sup>, Edyta Dembińska<sup>1</sup>, Krzysztof Rutkowski<sup>1</sup>, Bogna Smiatek-Mazgaj<sup>1</sup>, Michał Mielimąka<sup>1</sup>

<sup>1</sup>Department of Psychotherapy Jagiellonian University Collegium Medicum Acting Head of the Department: dr hab. n. med. Krzysztof Rutkowski <sup>2</sup>Department of Psychotherapy, University Hospital, Krakow, Poland Head of the Department: dr hab. n. med. K. Rutkowski

#### Summary

Aim. The assessment of links of accumulated traumatic events of a sexual nature, recollected from the past, with the current functioning of the patients in the area of sexual life and relationship.

**Material and methods.** Comorbidity of memories of traumatic sexual events from childhood and puberty in patients with the features of their current partner relationships and sexual life were analyzed on the basis of Live Inventory completed by 2,582 women and 1,347 men, before treatment in day hospital (years 1980-2002). The accumulation was evaluated for a combination of two or three selected events.

**Results**. The presence of relatively numerous traumatic events in the field of sexuality – early initiation or enforced initiation, incest or its attempt, sub-optimal sexual education and punishment for masturbation was indicated. In some patients, these events occurred simultaneously. Especially in women, the presence in the same person of two or three aggravating circumstances of life was associated with a higher risk of among others fleeting, casual sexual contacts, marriage under the influence of environment pressures, reluctance to partner.

**Conclusions**. Increased accumulation – the presence in the same patient of more than one adverse circumstances associated with sexual development – leads to a higher incidence of interference in relationship with a partner including the elements of sexual dysfunction. The obtained results are generally consistent with clinical observations and literature despite different, simplified methodology of the study based on the analysis of single variables from questionnaire interviews. Finding fewer links in the group of men can be explained by their much lower number in the study group and less frequent burdening with certain traumatic events or different experiencing.

**Key words**: childhood and adolescence sexual adversities, partnership relation, sexual functioning, cumulative effect of traumas

# Introduction

Clinical practice and the results of numerous studies indicate that in childhood of patients suffering from mental disorders (especially women) often occurred various traumatic events, mostly on the type of sexual abuse. Extensive, including the dimension of time, health effects of sexual violence are undoubtful and are continuously raised in the literature (e.g., 1, 2]). Difficulties in relationships [e.g., 2]), sexual disorders (e.g., [6]), "cognitive deficits", the spectrum of anxiety disorders and depressive disorders, self-harm, substance abuse, and also disorders associated with hormonal regulation of response to stress, obesity or child abuse and worse development in the next generation [7, 8] are mentioned. Some authors believe the trauma from childhood to be a factor predicting later psychosis (e.g., [9-11]).

Sexual violence is often accompanied by mental and/or physical one, but this aspect of cumulative trauma is still not fully explored, and the most commonly derived conclusions are: "the more trauma the worse to health". Of course, such a view is a simplification, due to the presumably unequal significance of particular types trauma (indicated in studies), as well as their different effect on the individual person, the need to consider other biographical factors from the whole life and not only the childhood (e.g. [12]).

Another important aspect is the accumulation of different burdens in the same person, while it shall be indicated (e.g., [13]) that the experienced different types of abuse are often linked together in time, for example sexual abuse in childhood is associated with increased susceptibility for subsequent sexual risk behaviors, which also increases the risk of various types of violence from strangers, or specifically chosen partner [14-16]). Similar findings were obtained for the risk of symptoms in people exposed to several traumatic circumstances in Polish studies [17].

Studies also show accumulation of injuries by proving the specific effect of additional circumstances: the number of perpetrators of incest, disclosure of abuse, physical injury and others, resulting in less optimism about the future and poorer coping strategies (e.g. [18]).

The researchers have already succeeded in defining some rules on the accumulation of trauma e.eg Dennerstein et al [2] found that sexual abuse accumulated with physical are associated with lower incidence of sexual activity and combined with the penetrationwith a significantly shorter duration of relationships and significantly fewer offspring.

Exposure to sexual abuse in childhood is associated with the risk of sexual trauma in adolescence and this in turn increases the further accumulation of trauma and the risk of re-victimization of adults as noted for example by Kimerling et al. [8] A likely mechanism of exposure to sexual assaults in adolescence is according to Niehaus et al [20] smaller sexual inhibition and lower "romance" in the sexual experiencing themselves by the victims, which may also be responsible for some variations of the formation of relationships. Bramsen et al [21] differently described the impact of childhood abuse on sexual trauma in adolescence, including those that occur between peers, where they have taken into account the number of partners, risky behaviors and setting

boundaries in sex, proving the intermediate impact of current social interactions with peers than the earlier injury.

An offender is an important aspect of cumulative trauma: incest perpetrator or as described by Golding [22] perpetrator-partner increases the risk of many psychiatric disorders (depression, suicide attempts, substance abuse and PTSD), and for depression and PTSD it was even possible to find a pattern of the curve – dose-response, namely increasing the risk along with the accumulation of violence. Research by Lilly et al [23] also show that the greater violence from sexual partners of adult women is associated with a greater risk of PTSD, especially with the dominant focus on the emotions. Re-victimization and accumulation of aggravating events occur particularly often in women, as evidenced by the many thousands research groups by Kimerlinga [8], showing that physical or sexual abuse in childhood is associated with a multiplied risk (OR 5.8) of physical or sexual re-victimization in adulthood, with subsequent symptoms of anxiety, depression and PTSD. However Aosved et al [24] showed in a group of more than a thousand students, the risk of another sexual assault on adult also applies to men, with consequences similar to that in women (post-traumatic stress, depression, and difficulty to adapt). Similar conclusions drew Turchik [25], pointing to the increased consumption of alcohol, tobacco, higher incidence of risky sexual behaviors and difficulties in sexual life in victims of rape or sexual violence. Walker et al [26], based on the research of more than 10,000 couples, reported a greater exposure of men to the effects of childhood sexual abuse for their entering into partner relationships.

Lau and Kristensen [27] demonstrated a higher risk of re-victimization for the abuse involving penetration and with multiple perpetrators, but stressed that it is unknown whether burdening of the victims with stress, anxiety, distrust is the result or the cause of exposure to trauma in adulthood. Watson et al [28], using more strict methodology in a four-year prospective cohort study of almost 10,000 young women in Australia demonstrated strong links of early start of sexual activity (first intercourse before 17 year of age) with subsequent partner violence (the earlier the intercourse the stronger this link was: OR in the range 7-14). In this study, it was observed that 32% of women who had premature sexual initiation (before 14rż) experienced violence in a relationship with a partner, while in women who began intercourse at a later age (after 18rż) the rate was only 5%. Australian researchers have also shown that women who as consequence of premature sexual initiation got pregnant during the teenage age significantly more often experienced later violence partner relationship compared to women whose first birth occurred after 18 year of age.

A slightly older woman (students) also proved according to Lemieux et al [29] exposed to the risk of sexual dysfunction as a result of former sexual abuse in childhood, but the severity of trauma in childhood had to exceed only touching (petting) and include penetration (or its attempt) and only then it was associated with the risk of re-victimization, casual practicing sex, sexual intercourse without protection or on the contrary – voluntary sexual abstinence (avoiding sex) as well as smaller satisfaction with sex with higher "costs" in the experience and reduced self-esteem (in terms of sexuality) seeming to be a key intermediary mechanism. Not all authors recognize

741

the sexual disorders in adults as the result post-traumatic disorders caused by abuse in childhood, e.g. Zolman et al [30] highlight the impact of the daily stress.

A separate stream of understanding the consequences of sexual abuse in childhood, in women seem to be theories rooted in feminism (e.g., [31]), which emphasize next to the already described, also other mechanisms of interference of adult sexual functioning of the victims, namely the fear of being "normal" or living according to the cultural standards, the inequality of power in sexual relationships, low economic status of women and their limited access to health care and sexual education

The severity and the excessive duration of consequences of sexual abuse in childhood confirm studies of individual cases: describing long and multiple abuse with the effects in the form of somatization symptoms, pain, fibromyalgia, and depression as well as difficulties in close relationships and trust in others, being victims of school persecution and worse students. The main conclusion from these studies is not passing of the effects of trauma over time and "suffering in silence and denial" [32].

For the previously mentioned risk of re-victimization probably is responsible disturbed regulation of emotions in victims [33, 34]. Abuse is also associated with dysfunctional patterns of rejection/untying and as a result with a greater number of sexual partners and other risk behaviors (e.g., [35]).

Greater connection with the presence of long-term effects of sexual abuse in childhood, than the severity of childhood sexual abuse, have family characteristics during this period, which could as well as be responsible for differences in "susceptibility" of the victims on long-term effects of trauma [36]. Long-term effects of child abuse such as adaptation and psychological functioning, particularly self-esteem, were associated, according to research Arboledy et al [37], with the type of abuse (but not its continuity/duration), but also – and more strongly – with the favorable features of the families such as the expression of positive emotions, achievement orientation and relaxation. Risk of co-occurrence of abuse in the form of touching in the period of before puberty is greater when a parent or parents of respondents were in institutions, they were singles or divorced. [38]

# Aim:

Assessment of links between cumulated traumatic circumstances from childhood and adolescence and perceived by the patient characteristics of their relationship or marriage.

# Materials and methods:

As a source of information about recollected by the patient life circumstances Life Inventory was used [39] (version of the tool and the data from the years 1980 to 2002), filled before the stay in the day hospital. Qualification for treatment included psychiatric and psychological examination and a battery of several questionnaires, allowing for exclusion among others affective disorders, schizophrenic, exogenous or pseudo-neurotic and severe somatic diseases [40]. Most of the 3929 examined persons

had identified one of the neurotic disorders or personality disorder and secondarily occurring neurotic disorder (Table 1), see also [41]). Information about the selected socio-demographic characteristics of the studied group are provided in Tables 1 and 2 The data obtained from routine diagnostic tests were used with the consent of the patients and were stored and developed anonymously. Estimates of odd ratio (OR) for the coexistence of the two nominal variables (life circumstances) were done by logistic regression. a licensed package STATISTICA PL was used.

	Females (n=2582)	Males (n=1347)
Global Symptom Level score:		
mean±SD (median)	394±152 (387)	349±151 (336)
ICD-10 diagnosis (primary)		
F44/45 Dissociative and somatoform disorders	29%	25%
F60 Personality disorders	23%	29%
F40/F41 Anxiety disorders	17%	16%
F48 Neurasthenia	7%	14%
F34 Dysthymia	7%	5%
F50 Eating disorders	5%	0%
F42 Obsessive-compulsive disorder	2%	2%
F43 Reaction to severe stress, and adjustment dis.	1%	2%
Other	3%	2%
No data	6%	6%

# Table 1. Severity of symptoms and type of disorder according to ICD-10

Table 2. Socio-demographics featu	res
-----------------------------------	-----

	Females (n=2582)	Males (n=1347)
Age in years		
mean±SD (median)	33±9 (33)	32±9 (28)
Education		
None/Primary school Secondary school (including students) University	9% 57% 34%	12% 56% 32%
Employment Is working Is not working Including pensions Students	59% 41% 10% 23%	70% 30% 7% 24%

OWK – the total value of the symptom checklist – sum of the weights assigned to answers to questions about the nuisance of individual symptoms (labeled a-b-c shown at the Likert scale).

	Females (n=2582)	Males (n=1347)
Marital status/relationship		
Stable relationship/marriage	43%	47%
Unstable relationship/marriage	26%	21%
Not in a relationship	31%	32%
Has no sexual contacts	40%	35%
Has sexual contacts	60%	65%
Long-term sexual relationship	55%	53%
Temporary, occasional	3%	7%
Both occasional and long-term	2%	5%

Table 3. Information about relations and sexual

# Results

Data on the prevalence in patients of traumatic circumstances related to education and the first experiences in the field of sexuality are discussed elsewhere [42], in the following paper there has been included from the publication only Table 9, in the Annex, with information about the occurrence of these circumstances in the groups of women and men. Similarly, in this paper information on the functioning of patients in relationships or marriages, and the circumstances of the formation of these relations more broadly discussed in the previous publication, has been omitted [43], this work is limited to presenting only relevant data concerning connections for the malfunctioning and the traumatic circumstances, and analyses of cumulative strength of these connections, bypassing favorable circumstances (for example harmonious functioning of the relationship, a healthy motivation for its creation, etc.). Analyses were performed separately for both sexes, but for men most of them turned out to be infeasible and/or impossible to interpret due to the too small number of subgroups formed - therefore in Tables 4 and 5 only the results of women are included It turned out that both for female victims of incest (or its attempt) as well as of sexual initiation recognized by the persons as rape (it is not possible to determine whether it was one and the same event because of the construction of the Inventory) striving to create the current relationship significantly more often they assigned to themselves, wherein the cumulative effect is described by higher ratio index of likelihood of asymmetric strive of women to create relationship (OR=3.51), whereas for same incest it was lower (OR=2.49) and for same initiation by rape alone was not associated with a statistically significant risk The reason for relationship/marriage in this subgroup of patients was significantly more fear of loneliness (OR=4.83), the impact of which for both traumas analyzed separately were statistically insignificant. Similarly, the desire to become independent as a reason for the relationship only after taking into account both trauma factors was significantly connected (OR=4.55).

The frequency of sexual intercourse (in the last few months) with significantly higher probability was "less than once a month" (OR=3.80), and for victims of rape during an initiation the correlation with this behavior was significant but much weaker for victims of incest (only as a trend on the border of statistical significance). However, no significant relationship for the perceived quality of sexual intercourse, as well as ways of resolving conflicts with a partner was found

Towards partner the examined female patients significantly more frequently felt reluctance (OR=4.17, more strongly associated than for the factor of rape alone, and unrelated significantly with the incest itself) or hate (but somewhat less significantly related), from the partners' side also more often perceived reluctance (OR=6.90), with a much higher probability than in the case of rape as a separate factor. Their current sexual contacts were more often described as fleeting or accidental (OR=7.46), the link is very strong – corresponds roughly to the "sum of values" of ratios for both situations analyzed separately. Power in relation the female patient – the victim of cumulative traumas of incest and rape during initiation – significantly more often attributed to "another person" (OR=12.15) this relationship was not indicated before accumulating these factors. They also attributed significantly more frequently greater involvement in relationship to themselves than to the partner (OR=4.47), which turned out to be a much stronger linkage than indicated for same initiation of rape (Table 4).

	Incest or its attempt	Initiation by rape	Accumulated incest (or its attempt) and initiation by rape			
Striving to the establish the current relationship (or marriage)						
Mainly the patient	**2.49 (1.50; 4.13)	ns	*3.51 (1.12; 10.96)			
Reasons for marriage						
Fear of being lonely	ns	ns	*4.83 (1.36; 17.19)			
Pressure and coercion	**3.81 (1.57; 9.22)	**3.77 (1.56; 9.13)	ns			
The desire to become independent	*2.33 (1.21; 4.47)	*2.31 (1.20; 4.42)	*4.55 (1.28; 16.16)			
The frequency of sexual inter	The frequency of sexual intercourse (last few months)					
Less than once a month	1.50 (0.95; 2.38) *1.83 (1.18; 2.83) *3.80 (1.41; 10.26)					
Feelings towards partner / (or spouse)						
Reluctance	ns	**2.24 (1.29; 3.90)	*4.17 (1.33; 13.06)			
Hatred	ns	**5.41 (2.01; 14.58)	*4.17 (1.33; 13.06)			
Perceived feelings from the partner/(or spouse)						
Reluctance	ns	**3.22 (1.62; 6.42)	**6.90 (1.93; 24.70)			
The nature of current sexual contacts						
Fleeting, accidental	**3.11 (1.51; 6.41)	***3.50 (1.75; 7.01)	**7.46 (2.08; 26.73)			

 Table 4. Link between accumulated traumatic events – incest or its attempt, and initiation by rape and subsequent interference in close relationships amongst women

table continued on the next page

Jerzy A. Sobański et al.

The perception of permanence of relationship (or marriage) and the reasons for its risks				
The relationship currently falling apart	ns	***2.89 (1.82; 4.57)	2.87 (0.92; 8.97)	
The perception of the separa	tion of powers in relation	on (or marriage) of pati	ents	
Another person	ns	ns	*12.15 (1.50; 98.46)	
Overall assessment of relationship (or marriage)				
Rather bad in relationship	ns	*1.74 (1.09; 2.78)	2.72 (0.94; 7.86)	
Very bad in relationship	ns	***2.80 (1.65; 2.76)	ns	
The proportions of involvement in previous emotional relationships				
The patient	ns	*1.69 (1.15; 2.49)	*4.47 (1.44; 13.92)	

\*p<0.05, \*\*p<0.005, \*\*\*p<0.0005

# Table 5. Link between initiation by rape simultaneous premature initiation with subsequent interference in close relationships amongst women

	Initiation by rape	Early initiation	Accumulated incitation by rape and early initiation			
Striving to the establish the current relationship (or marriage)						
Mainly the patient	**2.49 (1.50; 4.13)	**2.49 (1.50; 4.13) ns				
Family and friends	ns	ns	**6.52 (1.91; 22.28)			
Reasons for marriage						
Being accustomed	2.13 (0.96; 4.73)	ns	*3.80 (1.31; 11.02)			
Pressure and coercion	**3.77 (1.56; 9.13)	ns	***7.83 (2.64; 23.20)			
Liabilities to partner	ns	**9.21 (2.05; 41.31)	*6.75 (1.53; 29.86)			
Overall assessment of sexual inte	Overall assessment of sexual intercourse					
In general failed	**2.37 (1.44; 3.89) *2.71 (1.08; 6.77) *2.72 (1.23; 6.04)					
Feelings towards partner / (or spo	Feelings towards partner / (or spouse)					
Reluctance	**2.24 (1.29; 3.90) ns ***4.25 (1.97; 9.18)					
The nature of current sexual cont	acts					
Fleeting, accidental	***3.50 (1.75; 7.01)	**5.67 (1.91; 16.81)	***6.68 (2.70; 16.55)			
The perception of permanence of relationship (or marriage) and the reasons for its risks						
The relationship currently falling apart	<sup>J</sup> ***2.89 (1.82; 4.57) ns *2.48 (1.12; 5.5					
Overall assessment of relationship (or marriage)						
It goes very bad with the partner	***2.80 (1.65; 2.76)	ns	***4.54 (2.10; 9.82)			

p<0.05, p<0.005, p<0.005, p<0.0005; in brackets there are values of 95% of confidence intervals estimated for the odds ratios coefficients

747

Subsequent analyses results (presented in Table 5) apply to the accumulation of initiation recognized by the victims as rape and also made before 17 year of age (groups before 14 and 14-16 years of age were combined due to the small size). Patients after suffering such cumulative trauma significantly more often sought to create the current marriage/relationship (OR=2.55), but the risk does not deviate practically from estimated for the rape itself. Even more likely, it turned out that it was the family or friends who strived for marriage (OR=6.52) and moreover this effect of significant relationship was revealed only for subgroups with cumulative burden of early initiation and rape. Among the reasons for marriage in this group of female patients appeared significantly more frequently being accustomed (OR=3.80) - evident only after accumulation of above mentioned circumstances. Even more strongly associated with cumulative trauma cause for marriages were pressures and coercion (OR=7.83) significantly enhancing its single (significant) link after connecting it with (seemingly unrelated) the circumstances of the young age of initiation. Unusual cumulative effect reveals the link of commitment to a partner (OR=6.75) decreasing compared to the young age of initiation after connecting it with the impact of rape itself (same early initiation OR=9.21).

No frequency of sexual intercourse (in the last few months) was significantly connected in the group of victims with the analyzed traumatic factors, and the overall assessment of satisfaction with sexual intercourse was significantly associated with the most negative option "in general failed" (OR=2.72) – this association however did not differ from estimated separately for the young age of initiation – there was no cumulative effect.

The most likely feeling towards the partner (or spouse) was in victims of cumulative trauma reluctance (OR=4.25), which was stronger linkage than for the rape during initiation itself (OR=2.24). The current sexual contacts significantly more frequently were described as fleeting or accidental (OR=6.68) and the link was stronger than for both factors analyzed separately. Relationship of female patients was experienced significantly more frequently as now falling apart (OR=2.48), although this effect was not subjected as it seems to accumulation with the effect of the age of initiation. Significantly more frequent was the assessment that the relation with partner as very bad (OR=4.54), the risk of which was increased by attaching to the impact of rape itself – the effect of age – not previously linked.

Tables 6A and 6B present the results of analyzes of linkage of incest and early initiation (before 17 year of age) carried out for both sexes (although data for male should be due to the small frequency of traumas interpreted cautiously). It turned out that among the reasons for marriage women – victims of trauma – reported significantly more frequently fear of loneliness (OR=3.66), not disclosed during the analysis of the factors of incest and early initiation separately), pressure and coercion (OR=7.67 for which significantly grew strength of the link after taking into account both traumatic factors), and the desire to become independent (OR=3.44), less related separately. Men (Table 6B) being victims of cumulative trauma (incest and early initiation) reported as the reason for marriage commitment to partner (OR=5.42) and also saw themselves as more involved (OR=5.58).

More often perceived by the female patient feeling on the part of the partner was reluctance (OR=3.72) while this effect became visible after accumulation of both factors. The current sexual contacts female patients more often described as a fleeting/ accidental (OR=7.52), which showed a clear accumulation – of the weaker but significant influences. Among men, the current relationship or marriage were significantly more frequently now referred to as being falling apart (OR=4.51), which illustrates the cumulative effect – adding to a slightly weaker impact of incest the implicit separately effect of age.

	Incest or its attempt	Early initiation	Accumulated incest (or its attempt) or early initiation	
Reasons for marriage				
Fear of being lonely	ns	ns	*3.66 (1.24; 10.75)	
Pressure and coercion	**3.81 (1.57; 9.22)	ns	**7.67 (2.22; 26.48)	
The desire to become independent	*2.33 (1.21; 4.47)	***5.75 (2.28; 14.51)	*3.44 (1.17; 10.10)	
Perceived feelings from the partner / (or spouse)				
Reluctance	ns	ns	*3.72 (1.10; 12.62)	
The nature of current sexual contacts				
Fleeting. accidental	**3.11 (1.51; 6.41)	**5.67 (1.91; 16.81)	***7.52 (2.77; 20.39)	

Table 6A. Link between incest (or its attempt) and simultaneous premature initiation with subsequent interference in close relationships amongst women

\*p<0.05, \*\*p<0.005, \*\*\*p<0.0005; in brackets there are values of 95% of confidence intervals estimated for the odds ratios coefficients

Tabela 6B. Link between incest (or its attempt) and simultaneous premature initiation with subsequent interference in close relationships amongst men

	Incest or its attempt	Early initiation	Accumulated incest (or its attempt) or early initiation	
Reasons for marriage				
Liabilities to partner	*3.39 (1.27; 9.02)	**6.38 (2.03; 20.00)	*5.42 (1.12; 26.10)	
The perception of permanence of relationship (or marriage) and the reasons for its risks				
The relationship currently falling apart	ns	ns	*4.51 (1.15; 17.70)	
The proportions of involvement in previous emotional relationships				
Patient	*2.16 (1.12; 4.19)	ns	*5.58 (1.18; 26.43)	

\*p<0.05, \*\*p<0.005, \*\*\*p<0.0005

Again, only for the group of in women an analysis of impact (Table 7) of being burdened with incest (or its attempt) and rape during early sexual initiation was carried out (the group of men turned out to be too few).

748

For a sense of getting marriage due to the desire to become independent, cumulative effect of all three essential but "weaker separately" factors was observed (OR=7.40). Similarly, the current sexual contacts were significantly more often defined as fleeting or accidental (OR=7.10) and also the effect of three factors accumulation appeared for them. As reasons for not establishing emotional relationships more often were reported difficulties on the part of parents, guardians or other persons (OR=8.47), interestingly, this effect appeared with considerable force when added previously elusive statistically links for the three analyzed traumatizing factors treated separately.

	Incest or its attempt	Initiation by rape	Early initiation	Accumulated incest and early initiation by rape
Reasons for marriage				
The desire to become independent	*2.33 (1.21; 4.47)	*2.31 (1.20; 4.42)	***5.75 (2.28; 14.51)	*7.40 (1.94; 28.25)
The nature of current sex	ual contacts			
Fleeting, accidental	**3.11 (1.51; 6.41)	***3.50 (1.75; 7.01)	**5.67 (1.91; 16.81)	*7.10 (1.51; 33.44)
Reasons for not making emotional relationships with the opposite sex				
Parents or others hampered	ns	ns	ns	*8.47 (1.05; 68.33)

 Table 7. Link between simultaneous occurrence of incest (or its attempt), initiation by rape, and early initiation with subsequent interference in close relationships amongst women

\*p<0.05, \*\*p<0.005, \*\*\*p<0.0005; in brackets there are values of 95% of confidence intervals estimated for the odds ratios coefficients

As the last the combination of two other biographical factors: a sense of lack of sexual awareness (lack of sex education) and the punishment for masturbation/sex plays was analyzed.

The data presented in Tables 8A-8B (results of the analyzes are presented for both sexes) suggest that the person sexually not educated before 18 year of age at the same time punished for masturbation, are burdened with significantly higher (cumulative) probability of co-occurrence of some of the dysfunctional aspects of the current relationship or marriage: in the group of women (Table 8A) these were links with the desire to the establish the current relation on the side of female patients (OR=2.57) among men – on the side of their partners (OR=2.99) – among men stronger cumulative effect was observed. Women sexually not educated and punished for masturbation were characterized also with higher probability to report as a reason for getting marriage the desire to become independent (OR=2.75) more strongly associated than for the lack of sexual education itself. Significantly more frequent assessment of sexual intercourse by the not sexually educated female patients and punished for masturbation led to the disclosure of the impact of previously elusive factor of punishment for masturbation. In the subgroup of women significantly more frequent ways of resolving conflicts

with a partner were quarrels or fights (OR=2.79), their risk increased compared to the sexually uneducated group. Women assessed the current sexual contacts more often as fleeting or accidental (OR=3.51), with the previously elusive – here attached – influence of lack of sexual education. The perceived power in the current relation (or marriage) women more often attributed to themselves (OR=2.01) – accumulation of lack of sexual education with the influence of punishment – previously undisclosed. They also considered themselves more often to be better and stronger than partners (OR=2.99) – this link remained hidden until taking into account both traumatic factors. Not establishing emotional relationships they significantly more often attributed to difficulties on the part of parents, guardians or other persons (OR=4.44), previously only "trend" of relationships female patients significantly more often attributed to themselves (OR=4.12), with a small accumulation of previously unseen effect of punishment, whereas men (Table 8B) significantly more often described partners as a more involved (OR = 3.35), which was not revealed until in the analysis of accumulation.

Table 8A. Link of combined: lack of sex education and punishment for masturbation
(or sexual plays), with subsequent interference in of close relationships amongst women

	Lack of education about sex (before 18 year of age)	Punished for masturbation or sexual plays	Accumulated lack of education about sex and punishment for masturbation (or sexual plays)			
Striving to the establish the current relationship (or marriage)						
Mainly the patient	ns	**2.06 (1.27; 3.36)	*2.57 (1.17; 5.64)			
Family and friends	*2.45 (1.27; 4.73)	ns	3.57 (0.83; 15.35)			
Reasons for marriage						
The desire to become independent	**1.89 (1.29; 2.78)	ns	*2.75 (1.06; 7.15)			
Overall assessment of sexual intercourse						
Only exceptionally successful	**1.47 (1.15; 1.87)	ns	*2.31 (1.17; 4.57)			
Ways of resolving conflicts wi	th a partner					
Quarrels	*1.29 (1.01; 1.64)	ns	**2.79 (1.45; 5.37)			
Interventions of police becaus	se of the quarrels with p	artner				
Occurred	***2.54 (1.77; 3.63)	ns	**2.79 (1.45; 5.37)			
The nature of current sexual	The nature of current sexual contacts					
Fleeting, accidental	ns	**2.79 (1.40; 5.54)	*3.51 (1.22; 10.09)			
The perception of the separation of powers in relation (or marriage) of patients						
Patient	***1.70 (1.35; 2.15)	ns	*2.01 (1.02; 3.97)			
Position of patients in their relationship (or marriage)						

table continued on the next page

Better, stronger	ns	ns	*2.99 (1.23; 7.22)				
Reasons for not making emotional relationships with the opposite sex							
Parents or others hampered	ns	2.80 (0.97; 8.14)	*4.44 (1.02; 19.28)				
The proportions of involvement in previous emotional relationships							
Patient	***1.50 (1.24; 1.82)	***1.95 (1.37; 2.78)	***4.12 (2.06; 8.26)				

\*p<0.05, \*\*p<0.005, \*\*\*p<0.0005; in brackets there are values of 95% of confidence intervals estimated for the odds ratios coefficients

Table 8B. Link of combined: lack of sex education and punishment for masturbation (or sexual plays), with subsequent interference in of close relationships amongst men

	Lack of education about sex (before 18 year of age)	Punished for masturbation or sexual plays	Accumulated lack of education about sex and punishment for masturbation (or sexual plays)		
Striving to the establish the current relationship (or marriage)					
Mainly partner	*1.54 (1.08; 2.19)	*1.89 (1.04; 3.43)	*2.99 (1.21; 7.38)		
The proportions of involvement in previous emotional relationships					
Partner	ns	ns	*3.35 (1.36; 8.28)		

\*p<0.05; in brackets there are values of 95% of confidence intervals estimated for the odds ratios coefficients

# Discussion

The results confirm the phenomenon of increased risk of a variety of dysfunctions of relationships in these patients, who were exposed to multiple traumatic events (or unfavorable life circumstances) in childhood and adolescence. This observation is consistent with our previous assumptions and with the results of many of the referred in the literature research carried out using a variety of methods (e.g. [12-14].

These studies, discussed briefly earlier, included however often (though not always) smaller groups of respondents, were also based on different methodologies sometimes specifically designed, using sets of questionnaires, structured interviews as well as direct interviews, and large-group prospective studies. Accumulation of being burdened with traumas as well as effects of their interaction were assessed variously in the literature, objectified and verified, while our present study obtained similar results with maximally simplified methods – based on data from single life inventory variables These data are similar to the interview known to every physician, psychologist or psychotherapist from daily practice, and their way of analysis – correlation of co-occurrence – is analogous to the intuitive reasoning of the clinician (and not the researcher using the developed statistical distributions of entire sets of scales, etc.). The consequence of adopting

such a research model is indeed the apparently different analysis of risk/co-occurrence of symptoms and circumstances connected with smaller internal relevancy, however bringing highly consistent with the obtained with more sophisticated methods results Of course very simple tools such as the used in the present study a structured interview, approximate only selected aspects of the relationship, which on the one hand can be considered limitation of the study, on the other - by structuring allow unambiguous choices made by patients and collecting considerable size of studied group. Other limitations are related to unavailability of many important data on individual courses of reaction of patients to trauma, differences in terms of support obtained from the environment (sometimes many years before coming to psychotherapy), various important features of both perpetrators and victims of trauma. Significant extension of the period of data collection (from patients treated over several decades) at different ages of patients and the time of exposure to trauma and various severity prevents the inclusion in this publication, the impact of variables such as socio-cultural changes (especially observed in the turn of 1980-1990), gradually reduction of the impact of religiosity, greater acceptance of moral freedom, free relationships, separation associated with emigration and many others

The results of this study show the cumulative effects with regard to women – especially in the range of impact on various aspects of the relationship with the partner, the division of power in relationship, its history (to a lesser extent in respect to the frequency of sexual life); its disclosure is much more difficult in the less numerous group of men. The analyzes revealed negative reasons for the establishment of relationship (in the current evaluation of patients): coercion and pressure, liabilities to a partner, as related to previous traumatic experiences (while on the contrary, a positive aspect - the feeling that the relationship was concluded with love - was associated with the absence of dysfunctions). Another aspect relating to the perception of the current dysfunctions of a relationship is the feeling of being indifferent to or for the partner (and reluctance or hatred towards or from his side). The results of this study confirm the observations of Makara et al [44, 45] stating that the main pattern of relationships typical for neurotic patients are the relations of dependence and subordination - this is particularly evident for the asymmetry of various aspects including power in relationships of male and female patients - the more frequent the greater the accumulation of traumas. From the systemic point of view of power in relation in the subjective feeling of patients optimally should be shared between the partners, possibly for cultural reasons can be "assigned" to the man, less beneficial for the same cultural reasons seem to be assigning it to a woman.

Especially dysfunctional seems to be the feeling of patient that the relationship is governed by a third person and not one of the partners, the situation is significantly more common in victims of cumulative incest and initiation by rape (see Table 3). From clinical practice it is known that inadequate excessive pressure from generational family member on the procreative one is usually the effect of a father, stepfather or grandfather (who often hurt the female patient in childhood), sometimes the impact is imposed by the mother of the victim of incest inducing her feeling of guilt for "treason. Yet another variant may be non-assertiveness of victims of abuse against their in-laws.

Relationship with partner seem to further deteriorate in relation to the experiences with relatives probably causing, putting it in psychodynamic theory, negative transference feelings (or inability to be in relationships with partners caused by incorrect configuration of cognitive constructs in this regard – describing it by language of cognitive theory).

Ways to resolve conflicts recognized as fights and escalation of conflicts requiring calling the police turned out to be the next dysfunctions connected to the earlier, cumulative traumas. In terms of history of the relationship establishing, the results turn out to be also consistent with the clinical observation of the fact that one of the effects of trauma which is incest may be premature and inadequate desire to become independent at all costs, leading to hasty decision to start a relationship or marriage, the risk of which increases if additional traumatic factor is rape during initiation (unfortunately it is not known whether it was the same event, although in clinical practice, also with patients from the studied group – it was so in quite a few cases).

Intercourse incitation is by far one of the most important milestones of psychosexual development – in this study an argument which allows proving the harm of cumulative trauma in the form of initiation recognized by the victims as rape and at the same time made before 17 year of age for the subsequent formation of a relationship with a partner were obtained. As mentioned, the group of patients after initiation before the 14 year of age and at the period of 14-16 years were combined due to the small number of early initiations, moreover, similar age limit, close to the legal limits, in many countries was also set by other authors [28]).

Unusual effect of "reverse" accumulation of rape and the young age of initiation for a smaller probability of marriage because of a sense of liability to a partner can be explained by lower tendency to attachment to the person similar to the perpetrator (in gender).

One not included in this analysis factors affecting the course of the establishing relationship/marriage is religiousness, it is worth to note, however, that without a doubt it modifies attitude to separation/divorce, commitment to the relationship, and even the use of therapy [46]. Also the analysis of masculinity and femininity patterns [47] was omitted – probably changing over the years. The link between the partners has long been understood as an systemic interaction, which is why the results of this study are affected by serious lack of information from the other partner as well as the lack of data from observation of pair / family. It can be assumed, however, that sexual dysfunction and the interaction between the partners are related to a large extent with the ways of determining of the influence and power and of exchanging information. Poor individuation or differentiation even one of the partners may lead to the avoidance of sexual activity lowering sexual desire etc., and indirectly to control and thus to the exercise of power [48]. There is also no data on the presence of complementary disorders in partners – the aspect of the selection and stability of pairs described, inter alia, with regard to combining anxiety disorders and antisocial personality, substance abuse, and generalized anxiety disorder) [49]. On the subjective assessment of marriage relationship also influence other variables not taken into account such as the use of alcohol, including compliance of pair in this field [50], the tendency for the expression of negative feelings towards their partner. [51] All these aspects still remain out of reach of the currently referred analyzes. Of course, also for the determination of the presence of trauma (e.g., sexual abuse in childhood) there are methodological difficulties (e.g., [52]) that could account for the discrepancy of observations reported by different authors.

# Conclusions

- 1. The results of the study revealed the presence of relatively numerous traumatic events in the field of sexuality early or forced initiation, incest or its attempt, sub-optimal sexual education during childhood and adolescence. In some patients, these events occurred simultaneously.
- 2. The occurrence in a patient of more than one event of the type of sexual trauma was associated with more frequent interference in relationship with a partner including disturbances in sexual functioning.
- 3. The results are consistent with clinical knowledge and literature and also confirmed the possibility of using a structured interview (Life Inventory) despite the general nature of the items to assess the presence of individual and cumulative risk factors and to a prepare treatment plan.

The results were partially presented at conferences: Neurotic disorders. Therapy, research and teaching. 30th anniversary of the Department of Psychotherapy, Jagiellonian University (Krakow, 10-11 June 2006); II International Scientific-Training Conference Modern diagnosis in psychiatry. Pharmacotherapy and psychotherapy. One goal, two paths. (Wisła, 11-13 December 2008); 40th SPR International Annual Meeting (June 24 to 27, 2009, Santiago de Chile) and XLIII and XLIV during the Congress of Polish Psychiatrists.

Acknowledgements: Statistical consultation: Dr. Maciej Sobański. The study was partially implemented in the framework of grants: K/ZDS/000422 and 501/NKL/270/L (Dr. JASobański) K/ZDS/002310 (dr hab. K. Rutkowski) and K/DSC/000018 (dr Ł.Müldner -Nieckowski). Address for correspondence: Jerzy A. Sobański, Department of Psychotherapy, Jagiellonian University. Lenartowicza 14, 31-138 Krakow, molocko@poczta.fm. Conflict of interest: None.

# References

- 1. Jina R, Thomas LS. *Health consequences of sexual violence against women*. Best Pract. Res. Clin. Obstet. Gynaecol. 2013; 27(1): 15–26.
- 2. Dennerstein L, Guthrie JR, Alford S. *Childhood abuse and its association with mid-aged women's sexual functioning*. J. Sex Marital Ther. 2004; 30(4): 225–234.
- Leclerc B, Bergeron S, Binik YM, Khalife S. *History of sexual and physical abuse in women with dyspareunia: Association with pain, psychosocial adjustment, and sexual functioning.* J. Sex. Med. 2010; 7(2): 971–980.

- Kendra R, Bell KM, Guimond JM. The impact of child abuse history, PTSD symptoms, and anger arousal on dating violence perpetration among college women. J. Fam. Violence. 2012; 27(3): 165–175.
- McCartan LM, Gunnison E. Individual and relationship factors that differentiate female offenders with and without a sexual abuse history. J Interpers. Violence. 2010; 25(8): 1449–1469.
- Negriff S, Noll JG, Shenk CE, Putnam FW, Trickett PK. Associations between nonverbal behaviors and subsequent sexual attitudes and behaviors of sexually abused and comparison girls. Child Maltreat. 2010; 15(2): 180–189.
- Trickett PK, Noll JG, Putnam FW. The impact of sexual abuse on female development: Lessons from a multigenerational, longitudinal research study. Dev. Psychopathol. 2011; 23(2): 453–476.
- Kimerling R, Alvarez J, Pavao J, Kaminski A, Baumrind N. Epidemiology and consequences of women's revictimization. Womens Health Issues 2007; 17(2): 101–106.
- Elklit A, Shevlin M. Female sexual victimization predicts psychosis: A case-control study based on the Danish Registry System. Schizophr. Bull. 2011; 37(6): 1305–1310.
- Lataster J, Myin-Germeys I, Lieb R, Wittchen HU, van Os J. Adversity and psychosis: a 10-years prospective study investigating synergism between early and recent adversity in psychosis. Acta Psychiatr. Scand. 2012; 125(5): 388–399.
- Shevlin M, O'Neill T, Houston JE, Read J, Bentall RP, Murphy J. Patterns of lifetime female victimisation and psychotic experiences: a study based on the UK Adult Psychiatric Morbidity Survey 2007. Soc. Psychiatry Psychiatr. Epidemiol. 2013; 48(1): 15–24.
- Scott-Storey K. Cumulative abuse: Do things add up? An Evaluation of the conceptualization, operationalization, and methodological approaches in the study of the phenomenon of cumulative abuse. Trauma Violence Abuse 2011; 12(3): 135–150.
- Lacelle C, Hebert M, Lavoie F, Vitaro F, Tremblay RE. Child sexual abuse and women's sexual health: The contribution of CSA severity and exposure to multiple forms of childhood victimization. J. Child Sex. Abuse 2012; 21(5): 571–592.
- Campbell R, Greeson MR, Bybee D, Raja S. The co-occurrence of childhood sexual abuse, adult sexual assault, intimate partner violence, and sexual harassment: A mediational model of posttraumatic stress disorder and physical health outcomes. J. Cons. Clin. Psychol. 2008; 76(2): 194–207.
- Gobin RL. Partner preferences among survivors of betrayal trauma. J. Trauma Dissociation 2012; 13(2): 152–174.
- Becker KD, Stuewig J, McCloskey LA. Traumatic stress symptoms of women exposed to different forms of childhood victimization and intimate partner violence. J. Interpers. Violence 2010; 25(9): 1699–1715.
- Sobański JA, Müldner-Nieckowski Ł, Klasa K, Dembińska E, Rutkowski K, Cyranka K. Traumatic childhood sexual events and secondary sexual health complaints in neurotic disorders. Arch. Psychiatr. Psychother. 2013; 15(3): 19–32.
- Easton SD, Coohey C, O'leary P, Zhang Y, Hua L. *The effect of childhood sexual abuse on psychosexual functioning during adulthood.* J. Fam. Violence 2011; 26(1): 41–50.
- 19. Lacelle C, Hebert M, Lavoie F, Vitaro F, Tremblay RE. Sexual health in women reporting a history of child sexual abuse. Child Abuse Neglect 2012; 36(3): 247–259.
- Niehaus AF, Jackson J, Davies S. Sexual self-schemas of female child sexual abuse survivors: relationships with risky sexual behavior and sexual assault in adolescence. Arch. Sex. Behav. 2010; 39(6): 1359–1374.

- Bramsen RH, Lasgaard M, Koss MP, Shevlin M, Elklit A, Banner J. *Testing a multiple mediator model of the effect of childhood sexual abuse on adolescent sexual victimization*. Am. J. Orthopsychiatry 2013; 83(1): 47–54.
- 22. Golding JM. Intimate partner violence as a risk factor for mental disorders: A meta-analysis. J. Fam. Violence 1999; 14(2): 99–132.
- Lilly MM, Graham-Bermann SA. Intimate partner violence and PTSD: The moderating role of emotion-focused coping. Violence Victims 2010; 25(5): 604–616.
- Aosved AC, Long PJ, Voller EK. Sexual revictimization and adjustment in college men. Psychol. Men Masc. 2011; 12(3): 285–296.
- 25. Turchik JA. Sexual victimization among male college students: assault severity, sexual functioning, and health risk behaviors. Psychol. Men Masc. 2012; 13(3): 243–255.
- Walker EC, Sheffield R, Larson JH, Holman, TB. Contempt and defensiveness in couple relationships related to childhood sexual abuse histories for self and partner. J. Marital Fam. Ther. 2011; 37(1): 37–50.
- 27. Lau M, Kristensen E. Sexual revictimization in a clinical sample of women reporting childhood sexual abuse. Nord. J. Psychiatry 2010; 64(1): 4–9.
- Watson LF, Taft AJ, Lee C. Associations of self-reported violence with age at menarche, first intercourse, and first birth among a national population sample of young Australian women. Womens Health Issues 2007; 17(5): 281–289.
- 29. Lemieux SR, Byers ES. *The sexual well-being of women who have experienced child sexual abuse*. Psychol. Women Quart. 2008; 32(2): 126–144.
- Zollman G, Rellini A, Desrocher D. *The mediating effect of daily stress on the sexual arousal function of women with a history of childhood sexual abuse*. J. Sex Marital Ther. 2013; 39(2): 176–192.
- 31. Hall K. *Childhood sexual abuse and adult sexual problems: a new view of assessment and treatment.* Fem. Psychol. 2008; 18(4): 546–556.
- 32. Sigurdardottir S, Halldorsdottir S. *Repressed and silent suffering: consequences of childhood sexual abuse for women's health and well-being*. Scand. J. Caring Sci. 2013; 27(2): 422–432.
- Walsh K, Galea S, Koenen KC. Mechanisms underlying sexual violence exposure and psychosocial sequelae: a theoretical and empirical review. Clin. Psychol. Sci. Pract. 2012; 19(3): 260–275.
- Messman-Moore TL, Walsh KL, DiLillo D. Emotion dysregulation and risky sexual behavior in revictimization. Child Abuse Neglect 2010; 34(12): 967–976.
- 35. Roemmele M, Messman-Moore TL. *Child abuse, early maladaptive schemas, and risky sexual behavior in college women.* J. Child Sex. Abuse 2011; 20(3): 264–283.
- Fassler IR, Amodeo M, Griffin ML, Clay CM, Ellis MA. Predicting long-term outcomes for women sexually abused in childhood: Contribution of abuse severity versus family environment. Child Abuse Neglect 2005; 29(3): 269–284.
- Arboleda MRC, Canton-Cortes D, Duarte JC. Long term consequences of child sexual abuse: the role of the nature and continuity of abuse and family environment. Behav. Psychol. 2011; 19(1): 41–56.
- Leung P, Curtis RL, Mapp SC. Incidences of sexual contacts of children: Impacts of family characteristics and family structure from a national sample. Child. Youth Serv. Rev. 2010; 32(5): 650–656.
- Aleksandrowicz JW, Bierzyński K, Kołbik I, Kowalczyk E, Martyniak J, Miczyńska A. i wsp. Minimum informacji o pacjentach nerwicowych i ich leczeniu. Psychoterapia 1981; 37: 3–10.

- Sobański JA, Klasa K, Rutkowski K, Dembińska E, Müldner-Nieckowski Ł. Kwalifikacja do intensywnej psychoterapii w dziennym oddziale leczenia nerwic. Psychiatr. Psychoter. 2011; 7(4): 2–34.
- Sobański JA, Müldner-Nieckowski Ł, Klasa K, Rutkowski K, Dembińska E. Objawy i problemy z zakresu zdrowia seksualnego w populacji pacjentów dziennego oddziału leczenia zaburzeń nerwicowych. Psychiatr. Pol. 2012; 46(1): 35–49.
- 42. Sobański JA, Klasa K, Müldner-Nieckowski Ł, Dembińska E, Rutkowski K, Cyranka K. Seksualne wydarzenia urazowe a obraz zaburzeń nerwicowych. Objawy związane i niezwiązane z seksualnością. Psychiatr. Pol. 2013; 47(3): 411–431.
- Sobański JA, Klasa K, Müldner-Nieckowski Ł, Dembińska E, Rutkowski K, Cyranka K, Mielimąka M, Smiatek-Mazgaj B. Seksualne wydarzenia urazowe a życie seksualne i związek pacjenta. Psychiatr Pol. 2014; 48(3): 573–597.
- 44. Makara-Studzińska M, Rudnicka-Drozak E, Kulik TB. *The type of relationship in marriages of patients with neurotic disorders*. Ann. Univ. Mariae Curie Skłodowska Med. 2004; 59(1): 292–296.
- 45. Makara-Studzińska M. Zaburzenia nerwicowe a relacje małżeńskie. Lublin; Wydawnictwo UMCS: 2000.
- Sullivan KT. Understanding the relationship between religiosity and marriage: an investigation of the immediate and longitudinal effects of religiosity on newlywed couples. J. Fam. Psychol. 2001; 15(4): 610–626.
- 47. Bradbury TN, Campbell SM, Fincham FD. *Longitudinal and behavioral analysis of masculinity and femininity in marriage*. J. Pers. Soc. Psychol. 1995; 68(2): 328–341.
- Czyżkowska A. Zaburzenia seksualne z perspektywy terapii systemowej. Przegl. Seksuol. 2009; 18: 28–35.
- 49. Galbaud du Fort G, Bland RC, Newman SC, Boothroyd LJ. *Spouse similarity for lifetime psychiatric history in the general population*. Psychol. Med. 1998; 28(4): 789–802.
- 50. Homish GG, Leonard KE. *The drinking partnership and marital satisfaction: The longitudinal influence of discrepant drinking*. J. Consult. Clin. Psychol. 2007; 75(1): 43–51.
- 51. Huston TL, Vangelisti AL. Socioemotional behavior and satisfaction in marital relationships: a longitudinal study. J. Pers. Soc. Psychol. 1991; 61(5): 721–733.
- 52. Herrera CR, Parra AF. *Child sexual abuse: an evidence-based review*. Behav. Psychol. 2011; 19(1): 7–39.

Address: Jerzy A. Sobański Department of Psychotherapy UJ CM 31-138 Kraków, Lenartowicza Street 14

# ANNEX

# Table 9. Dysfunctional upbringing and other sexual traumas

	Females (n=2582)	Males (n=1347)
Sexual awareness before 18 years of age		
65.1. Completely aware	23%	22%
65.2. Partially aware	*30%	*27%
65.3. Rather not aware	26%	28%
65.4. Totally not aware	21%	23%
Attitude of caregivers to masturbation or sexual plays		
66.0. There was no masturbation or sexual plays	***69%	***34%
66.1. Did not punish although knew about the behaviors	***26%	***61%
66.2. Punished for masturbation or sexual plays	5%	5%
72.0. Has not had sex yet	**14%	**18%
72.1. Initiation before13 year of age	1%	1%
72.2. Initiation at the age 14-6	*6%	*8%
Assesmet of sexual initiation		
73.1. Rather wanted initiation	***64%	***76%
73.2. Rather unwanted initiation	***17%	***4%
73.3. Initiatiod had the character of rape	***4%	***1%
Incest of an attempt of incest		
74.2. An incest or its attempt did occur	4%	3%

\*\*\*p<0.0005, \*\*p<0.005, \*p<0.05 two-tailed test for two stratum weights (percentages) see [41, 42]