



# Adults' Sexual Interest in Children and Adolescents Online: A Quasi-Experimental Study

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## Abstract

*We employed a quasi-experimental design, with researchers impersonating children and adolescents in online chat rooms. One was directed towards homosexual men, while the others were unspecified in this aspect. We investigated whether male chat room visitors would initiate a sexual conversation with children and adolescents, and whether they would suggest any means of continuing the communication after knowing the portrayed age (which we varied). The results from 257 discussions indicated that sexual interest rose as the impersonated age increased. A face-to-face meeting was suggested more often to impersonated persons above the legal age of consent (16 and 18 year olds), than to persons below the legal age of consent (10 – 14 year-olds). In 25.7% of the discussions with supposed 10 and 12 year olds (age suggestive of pedophilic sexual interest among adults), the contacts wanted to continue a sexual conversation after the portrayed age was revealed. This descriptive, quasi-experimental study shows that there is a large interest to engage in sexual conversations with children and adolescents among visitors of the three chat rooms included. However, the amount and quality of the sexual interest varied as a function of the age of the impersonated children and adolescents, and as a function of chat room.*

Keywords: Chat rooms, Adolescents online, Pedophilia, Sexual interest, Sexual solicitation, Grooming, Children.

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## Introduction

In previous studies it has been reported that online sexual or romantic relationships between adults and adolescents are often initiated in chat rooms (Briggs, Simon, & Simonsen, 2011; Malesky, 2007; Mitchell, Finkelhor, & Wolak, 2005, Quayle & Taylor, 2001, Webster et al., 2012). However, little is known about what happens between the adolescent and the adult during the initial online meeting in a chat room, and whether and how the adults suggest continuing the communication. The terms “online solicitation”, “online sexual solicitation”, and “unwanted online sexual solicitation” has been used by researchers when describing the process of an adult befriending a child or an adolescent for sexual purposes (Baumgartner, Valkenburg, & Peter, 2010; Seto, 2013; Ybarra, Espelage, & Mitchell, 2007). The definitions of these behaviors vary across research groups and the terminology is not always clearly defined. Some researchers use the term “online grooming” to define the manipulative aspect that is often present in online sexual solicitation, for example the adult making the adolescent feel special, and by using techniques to gain the trust of the young before introducing the sexual element (Choo, 2009).

As for the process of online sexual solicitation, it has been found to often be a lengthy one, sometimes stretching over months before the romantic or sexual intention of the adult is revealed (Webster et al., 2012). However, some adults called “hypersexualized groomers” in the European Online Grooming Project (Webster et al., 2012) introduced a sexual topic already during the first online meeting with the adolescent. For the sake of simplicity, the persons discussed within the present study (impersonating children and adolescents) were called “contacts”. As mentioned, online sexual solicitation is often a long process. Through the online communication the adult commonly attempts to normalize the intentions of a sexual outcome through psychological manipulation (Marcum, 2007) and persuasion techniques (Shannon, 2008). The sexual outcome motivating the adult’s behavior may be online only (e.g., engaging in cybersex), offline sexual contact, or both (Briggs, Simon, & Simonsen, 2011). Briggs, Simon, and Simonsen (2011) separated their sample of convicted chat room sexual offenders on the basis of whether they were “contact driven” (i.e. motivated by sexual contact offline) or “fantasy driven” (i.e. motivated by online sexual contact only).

### **1.1 Prevalence of Online Sexual Solicitation and Previous Research Methods**

In the EU Kids Online study (Livingstone, Haddon, Görzig, & Ólafsson, 2011), with a sample of more than 25,000 children and adolescents between the ages of 9 and 16 years from 25 European countries, 23% of the respondents reported having visited chat rooms during the past month. Older adolescents reported having visited chat rooms more often than younger children and adolescents. Of the participating children aged 9 to 12, 14% reported visiting chat rooms compared with 32% of the 13 to 16-year-olds (Livingstone et al., 2011). Social interaction activities reported by the younger participants compared with older adolescents, more often involved playing games and communicating through avatars. Research results indicate that the prevalence of online sexual solicitation of children and adolescents has decreased in the USA. According to the results from a study with 1500 adolescents in the US (Mitchell, Wolak, & Finkelhor, 2007), 19% of the participants reported that they had been victims of online sexual solicitation in 2000, compared to 9% in 2010 (Jones, Mitchell, & Finkelhor, 2012). The researchers concluded that the reduced frequency could be due to targeted prevention efforts. However, the researchers proposed

that the cases of so-called *aggressive solicitations*, which always involve offline contact, had not decreased (Jones, Mitchell, & Finkelhor, 2012). An increase in law enforcement activity and informative media coverage was also suggested to have deterred casual solicitors, whilst not affecting determined, compulsive sexual solicitors to the same extent.

Studies concerning online sexual solicitation of adolescents have mainly focused on surveys (Beebe, Asche, Harrison, & Quinlan, 2004; Mitchell, Finkelhor, & Wolak, 2001), police reports (Shannon, 2008) or by interviewing law enforcement agents (Wolak et al., 2004; Mitchell, Wolak, & Finkelhor, 2010). Some of the data originate from proactive investigations conducted by police officers posing as minors online (Mitchell et al., 2010). While the methods employed by these types of studies are valuable, they have limitations (e.g. unrecorded data when analyzing police reports or self-report bias in survey studies). Although many scholars have reached the conclusion that many cases of sexual solicitation of adolescents take place in chat rooms (Wolak et al., 2004; Malesky, 2007), experimental research is still lacking.

### **1.2 Adult Males' Sexual Age Preferences**

Previous studies have also reported that up to 99% of adults that have sexually solicited adolescents online, have been males (Wolak et al., 2008; Briggs, Simon, & Simonsen 2011). Another characteristic found is that online groomers more often report *hebephilic* (i.e. interest in pubertal persons) than *pedophilic* (i.e. interest in pre-pubertal persons) sexual interest (Seto, Wood, Babchishin, & Flynn, 2012). For the purpose of the present study, a brief review on theories on adult men's sexual age preferences from other than an online solicitation perspective is needed. It has been reported that irrespective of their own age heterosexual men generally show a naturally distributed age preference for females, with a peak around their late teens to their late twenties, with a gradual decline towards both younger and older females (e.g. Antfolk, Salo, Alanko, Corander, Sandnabba, & Santtila, in preparation; Kenrick & Keefe, 1992; Kenrick, Keefe, Bryan, Barr, & Brown, 1995; Quinsey & Lalumière, 1995). However, deviations in sexual age preferences and interests, as well as the generalized similarities, have been found throughout history and cross culturally (Rind & Yuill, 2012).

Homosexual men have been found to show similar age preferences as heterosexual men, with the minimum preferred age of partners being slightly younger than for heterosexual men (Kenrick et al., 1995). This distribution of age preferences predicts that the prevalence of *hebephilic* sexual interest (i.e. interest in pubertal children and adolescents) is higher than *pedophilic* sexual interest (i.e. interest in pre-pubertal children). The true base rate of *hebephilic* and *pedophilic* sexual interest in the adult population is not known. However, in a population based study (Santtila et al., submitted) it was found that out of 1310 adult men, 3.3% reported having had sexual fantasies of below 16-year-olds, and 0.2% of children below age 12 during the previous year. Amongst researchers it is assumed that less than 5% of men harbor *pedophilic* sexual interest, since this percentage represents adult participants in different studies that reported ever having had sexual fantasies about prepubescent children (Briere & Runtz 1989; for a review see Seto, 2007). The studies did not include all the criteria for the diagnosis *pedophilia*, such as the persistence of the fantasies. Therefore the actual percentage of *pedophilic* sexual interest in the population would be expected to be lower.

### ***1.3 Characteristics of Targets of Online Sexual Solicitation***

Baumgartner, Valkenburg and Peter (2010) conducted a large online population based survey in the Netherlands on unwanted sexual solicitation with adolescents of the ages 12 to 17 years and adults of 18 to 88 years. The researchers found that most reports on having been a victim were made by females aged 14 to 29. This finding has previously been supported by a number of other studies, which indicate that the victims are most often females of age 13 or older (Wolak et al., 2004; Mitchell et al., 2001; Seto 2007). However, adolescents younger than 13 have also been victims of online sexual solicitation (Mitchell et al., 2001; Wolak et al., 2004). Of the children and adolescents that reported having been solicited online, 23.1% were aged 10 – 13. Although younger children are less often solicited, they report being upset or afraid because of the experience in a higher degree than older adolescents (Mitchell et al., 2001).

It has been reported that 25% of the victims of online sexual solicitation of adolescents are male. Male adolescent who are either gay or uncertain regarding their sexual orientation are reportedly at higher risk of being solicited than their heterosexually oriented peers (Wolak et al., 2004). This might be because homosexually oriented male adolescents may visit sexually related online forums more often than their heterosexual peers, and are therefore subjected to adults with a sexual innuendo.

### ***1.4 Legal Aspects of Online Sexual Solicitation***

An extrinsic factor that may affect the behavior of adults is the legal age of consent. The Swedish penal code states that the legal age of consent is 15 (SFS, code 2005:90), and according to the Finnish penal code, the legal age of consent is set at 16 (RL, code 1998:563). There is a law against grooming adolescents under the legal age of consent in both countries. In Sweden it was criminalized in 2009 (SFS, code 2009:343), and in Finland in 2011 (RL, 2011:540). Should there be a deterring effect of legal reprimands, the legal age of consent should appear as a cut off, where the proportion of expressed sexual interest in persons below the legal age of consent would be markedly lower than sexual interest expressed towards adolescents above the legal age of consent (Ward, Stafford, & Gray, 2006). If the legal age of consent would have a deterring effect on adults' expression of sexual interest, another expected effect would be that an offline meeting would be suggested much more often to adolescents above the legal age of consent compared with suggestions to younger adolescents.

### ***1.5 The Present Study***

In the present research, we studied how adult male chat room visitors (contacts), reacted to children and adolescents in three chat rooms, one Swedish and two Finnish. With this quasi-experimental study we explored if the contacts initiated a sexual topic in conversations with children and adolescents between the ages of 10 and 18, by analyzing the contacts' behavior with the supposed child or adolescent. In the present study, researchers impersonated as children and adolescents of different ages, taking into account three major age cut offs. Firstly, age groups above the legal age of sexual consent (16 in Finland and 15 in Sweden), secondly, below the legal age of consent but above the age of 12, and ages 12 years or less (sexual interest in children below 12 is commonly accepted as indicative of a pedophilic sexual interest). Using this approach, it was possible to circumvent some of the limitations of the methods used in previous studies. The method of impersonating as children and adolescents in chat rooms was chosen on the basis of

results from previous studies that have listed chat rooms as a common venue for adults that wish to form a sexual relationship with adolescents.

### **1.6 Aims and Hypotheses**

We wanted to explore the effect of the age of the impersonated children and adolescents, and the effect of two different types of chat rooms (i.e. whether sexual conversations, nicknames and material was allowed, and whether the chat room was directed according to a sexuality orientation or not) on the degree and type of sexual interest expressed. Based on previous research on online sexual solicitation, adult men's sexual age preferences, and the assumption of the deterring effect of the legislations, we expected that:

- 1) The older the impersonated child, the more contacts would express sexual interest.
- 2) The older the impersonated child, the more contacts would suggest meeting offline.
- 3) The younger the impersonated child, the more contacts would end the conversation due to the stated age of the impersonated child.

Pertaining to the first hypothesis two separate predictions was made. First, based on the normal distribution of males' sexual age preferences; we predicted that more contacts would express a sexual interest in older impersonated adolescents. Second, based on the assumption of a deterring effect of a criminalization of online sexual solicitation, we expected that the sexual interest expressed by the contacts would be markedly higher for adolescents over the legal age of consent than children and adolescents below the legal age of consent. The second hypothesis was also based on the assumption of the deterring effect of the legal reprimands if convicted for online sexual solicitation, which we expected to result in more suggestions to meet offline to adolescents over the legal age compared to children and adolescents below the legal age of consent. The third hypothesis was based on the low occurrence of pedophilic sexual interest in the population, we therefore assumed that a majority of contacts would express a lack of sexual interest in 10 and 12-year olds and wanted to investigate how they would convey this.

## **2. Method**

A pilot study was conducted in 2006 using roughly the same method of conduct, and resulted in 244 discussions between researchers; impersonating adolescents aged 13, 14, and 15 years, with adult male chat room visitors. The predicted variables in the present study (see Table 1) were derived from the discussions in the pilot study. In the pilot study, the chat room visitors suggested different means by which they wanted to keep in touch with the supposed adolescents, which were then developed into the predicted variables in the study at hand. The research plan was approved at a Departmental Ethics Review Seminar at Abo Akademi University.

### **2.1 Design and Variables**

The predictor variables were characteristics of the impersonated child or adolescent: Age (10, 12, 14, 16 or 18 years), and kind of chat room (i.e. clearly sexual, oriented towards males with a homosexual orientation and two others, analyzed together, that were non-specified according to orientation and without sexual material or content in the general discussions). The different age conditions were allocated in a random order to the different chat rooms; while the portrayed gender was fixed according to chat room (the impersonated person always portrayed themselves as female in the chat rooms that were

not explicitly intended for homosexual males, and always as males in the chat room intended for homosexual males).

The responses of the contacts (predicted variables in all subsequent statistical analyses) were coded in accordance to whether the contacts expressed a sexual interest in the impersonated child or adolescent or not. The responses of the contacts were categorized into 10 categories of behaviors or statements. Responses that represented a sexual interest in the impersonated person were the means by which the contact wanted to continue the communication with the impersonated person after having received knowledge of the age of the impersonated person and having expressed a sexual interest. The contact could suggest multiple means by which they wanted to continue the communication. The reactions or statements that represented an absence of sexual interest were the different ways by which the contacts ended the discussion and why they ended it. These statements or behaviors were mutually exclusive. For all predicted variables which involved suggestions of future communication the same requirement had to be fulfilled: The contact had to imply or spell out that he wished to communicate about sexual matters or that he was sexually interested in the impersonated child or adolescent, after having received knowledge of the portrayed age. If no such implication was present, one of the variables suggesting an absence of sexual interest was used in the coding, depending on which alternative was the most suitable for the case in question. The researchers never initiated a sexual topic during the conversations. The variables are presented in Table 1.

**Table 1. Predicted Variables Used to Identify Behavioral Characteristics of Contacts**

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|                     |                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------|
| Chatting            | Suggested to continue the conversation in the chat room or meet in the chat room on another occasion |
| Webcam              | Suggested to use a webcam                                                                            |
| IM                  | Suggested using an instant messaging service                                                         |
| F2F                 | Suggested to meet offline                                                                            |
| Telephone           | Asked for the phone number of the impersonated person or suggested talking over the phone            |
| Picture             | Asked for a picture of the impersonated person                                                       |
| Stopped After Age   | Ended the conversation after the portrayed age was revealed                                          |
| Told Off            | Told off the impersonated person for being too young to visit the chat room                          |
| Stopped Sexual Tone | Continued the conversation after the portrayed age was revealed but not on a sexual topic            |
| No Sexual Tone      | There was no sexual tone during the conversation                                                     |

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*Note.* The shortened form of the variables will be used in all subsequent statistical analyses.

## 2.2 Procedure

The researchers followed a pre-agreed conduct during all the discussions in the chat rooms, allowing for minor variation in order to ensure flow of conversation. For an

account of the procedure in the chat rooms, see Table 2. The discussions between the contacts and the impersonated child or adolescent took place in 2008.

**Table 2. Researcher Conduct in the Chat Rooms (in Chronological Order)**

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1. The researcher chose a nickname from the list of typical names (20 per chat room) depending on country and gender of the impersonated person, and added the word "young".
  2. Logged in to the chat room.
  3. Wrote an open invitation in the general chat, seeking company (1 – 5 times) until the first contact responded, and invited the impersonated person to chat privately.
  4. Asked what the contact was looking for in the chat room.
  5. Asked where the contact lived, and claimed to be from the same city or nearby.
  6. Asked the age of the contact, or made a remark on the age if the contact's age was provided in his nickname.
  7. Revealed the portrayed age (i.e. 10, 12, 14, 16 or 18-years old).
  8. Registered the contact's behavior after he had received knowledge of the portrayed age.
  9. Gave an excuse for having to leave the chat room, e.g. "dinner time", or "mum came home".
  10. Registered the contact's reply.
- 

The impersonated person ended the discussion either by logging off or, by blocking the contact so that he was unable to communicate with the impersonated person privately. If the researcher continued chatting in the same chat room, they wrote a new open invite in the general chat room discussion. The discussions were then copied and saved as documents.

### **2.3 Subjects**

The reported mean age of the contacts ( $N = 257$ , chat room visitors with whom the impersonated persons discussed) was 31 years ( $SD = 9$ ), the youngest being 15 years old, and the oldest 60. All contacts alleged to be males. In the homosexually oriented chat room, the researchers had a conversation with 87 individuals that were on average 33 ( $SD = 12$ ) years old (see Table 3 for details on the chat rooms). In the two other chat rooms that were not sexually explicit or directed towards persons with a specific sexual orientation, the researchers had a conversation with 170 individuals, where the reported age of the contacts was on average 30 years old ( $SD = 7.5$ ). Of all contacts, 11.1% ( $n = 29$ ) refused to report their age when asked. Altogether, 10 of the contacts were younger than 18.

### **2.4 The Chat Rooms**

All three chat rooms were so called *monitored* chat rooms (Subrahmanyam, Smahel, & Greenfield, 2006), implying the presence of one or more administrators who followed the threads in the general discussion, whose purpose it is to moderate the content of the general discussion. The chat rooms did not require a fee or a registration in addition to choosing a nickname. Of all chat rooms in Sweden and Finland that were free and did not require registration, these three chat rooms were the most actively visited at the time of data collection. Swedish was spoken in the Swedish chat room and Finnish in the two

Finnish chat rooms. The most notable differences between the chat rooms are listed in Table 3.

**Table 3. Chat Room Characteristics**

| The chat rooms                                       | Finnish1 | Finnish2 | Swedish |
|------------------------------------------------------|----------|----------|---------|
| Maximum number of visitors at a time                 | 350      | 50       | 30      |
| Directed towards males with a homosexual orientation | 1        | 0        | 0       |
| Sexual nicknames forbidden                           | 0        | 1        | 1       |
| Pornographic material displayed                      | 1        | 0        | 0       |
| Links to pornographic material                       | 1        | 0        | 0       |
| Private simultaneous conversations possible          | 1        | 1        | 0       |

Note. 1 = Yes, 0 = No.

### 2.5 Statistical Analyses

SPSS 18.0 was used to conduct all statistical analyses (SPSS Inc., 2009). A Generalized Estimating Equations regression was conducted in order to take into account the effect of a possible dependency of the different researchers on the outcomes of the discussions held with the contacts. The inter rater reliability of the coding was examined by having two research assistants' rate 20 randomly selected discussions. The measure of agreement (Cohen's  $\kappa$ ) had a median value of .69, with the values for the different predicted variables all being significant with the exception of that for the variable *Picture*. Three variables, (*Telephone*, *No sexual tone*, and *No sexual tone after age*) occurred so infrequently that calculation of the  $\kappa$  values was impossible.

## 3. Results

The results will be presented in the order of the hypotheses.

### 3.1 The Effect of the Portrayed Age

As predicted, sexual interest in the impersonated persons had a significant positive association with increasing the age of the impersonated child/adolescent. The contacts wanted to engage in sexual communication with impersonated 10 year olds in 21.6% of the cases, with 12-year-olds in 29.8% of the cases, with 14 year olds in 45.5%, with 16-year-olds in 73.5%, and with impersonated 18 year olds in 91.1% of the cases. The proportions of different communication means suggested to the impersonated persons in the two kinds of chat rooms visited can be seen in Table 3. We conducted contrast estimations to measure if the proportion of suggestions made by the contacts differed as a function of the age of the impersonated person. By comparing the proportions of suggestions to the impersonated persons of an older age, with suggestions made to impersonated persons of the immediately younger age, we analyzed the effect of the portrayed age (e.g. comparing the proportion of IM suggestions to impersonated persons of 18 years with those made to impersonated 16-year-olds). The asterisks in Table 4 illustrate when the proportions of the suggestions to the older impersonated persons

differed from those made to the younger impersonated persons. Further, we conducted a rank order correlation analysis to check the direction of the correlations between the portrayed age of the impersonated person and the different behaviors' that the contacts engaged in. As can be seen in Table 5, not all of the different means by which the contacts' wanted to continue the sexual conversation, was as clearly positively correlated with increasing the age of the impersonated person.

**Table 4. Proportions of Behaviors the Contacts engaged In With The Impersonated Person of All Ages and Both Genders**

|                                          | <u>Impersonated Males</u>             |        |      |       |        | <u>Impersonated Females</u> |        |       |        |        |
|------------------------------------------|---------------------------------------|--------|------|-------|--------|-----------------------------|--------|-------|--------|--------|
|                                          | <u>Age of the Impersonated Person</u> |        |      |       |        |                             |        |       |        |        |
|                                          | 10                                    | 12     | 14   | 16    | 18     | 10                          | 12     | 14    | 16     | 18     |
| <u>Sexually Suggestive Behaviors</u>     |                                       |        |      |       |        |                             |        |       |        |        |
| Chatting                                 | .37                                   | .36    | .36  | .72** | .85*   | .13                         | .22    | .46** | .62+   | .82**  |
| Webcam                                   | .00                                   | .00    | .18  | .00   | .00    | .00                         | .00    | .27+  | .06+   | .03    |
| IM                                       | .05                                   | .12    | .23* | .22   | .08*** | .05                         | .19    | .27   | .32    | .35    |
| F2F                                      | .05                                   | .12    | .18  | .44+  | .69*** | .03                         | .00    | .05+  | .09*   | .32*** |
| Telephone                                | .00                                   | .00    | .05  | .00   | .00    | .00                         | .00    | .00   | .03*** | .03    |
| Picture                                  | .11                                   | .12*** | .14  | .17   | .00    | .00                         | .06*** | .11   | .09    | .06    |
| <u>Non-Sexually Suggestive Behaviors</u> |                                       |        |      |       |        |                             |        |       |        |        |
| Stopped After Age                        | .37                                   | .52*** | .36  | .11*  | .00+   | .44                         | .50    | .43   | .27+   | .03*** |
| Told Off                                 | .21                                   | .04**  | .00  | .00+  | .00+   | .23                         | .08*   | .05   | .00    | .00    |
| Stopped Sexual Tone                      | .00                                   | .00    | .00  | .00   | .00    | .03                         | .00    | .00   | .00    | .00    |
| No Sexual Tone                           | .05                                   | .00    | .00  | .00   | .00    | .10                         | .17    | .00*  | .03*** | .08*** |

Note. The asterisks in the table mark if the proportion of the suggestions or behaviors to the older impersonated person differed from the younger impersonated person. \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ , + $p < .10$ .

**3.2 Proportions of Suggestions made to Impersonated 16 – 18-Year-Olds in Comparison to Suggestions made to Impersonated 10 – 14-Year-Olds**

We analyzed if the proportion of sexual interest in impersonated persons above the legal age of consent (16 and 18-year-olds) was larger than the proportion of interest shown in persons below the legal age of consent. The results indicated this to be true only when the contacts suggested continuing the sexual conversation by chatting in the homosexually oriented chat room. Suggestions to communicate via telephone and meeting F2F were more often suggested in the non-sexually oriented chat rooms to impersonated females over the legal age of consent, than to younger ones. The different suggestions made to impersonated males in the homosexually oriented chat rooms are presented in Table 4 and

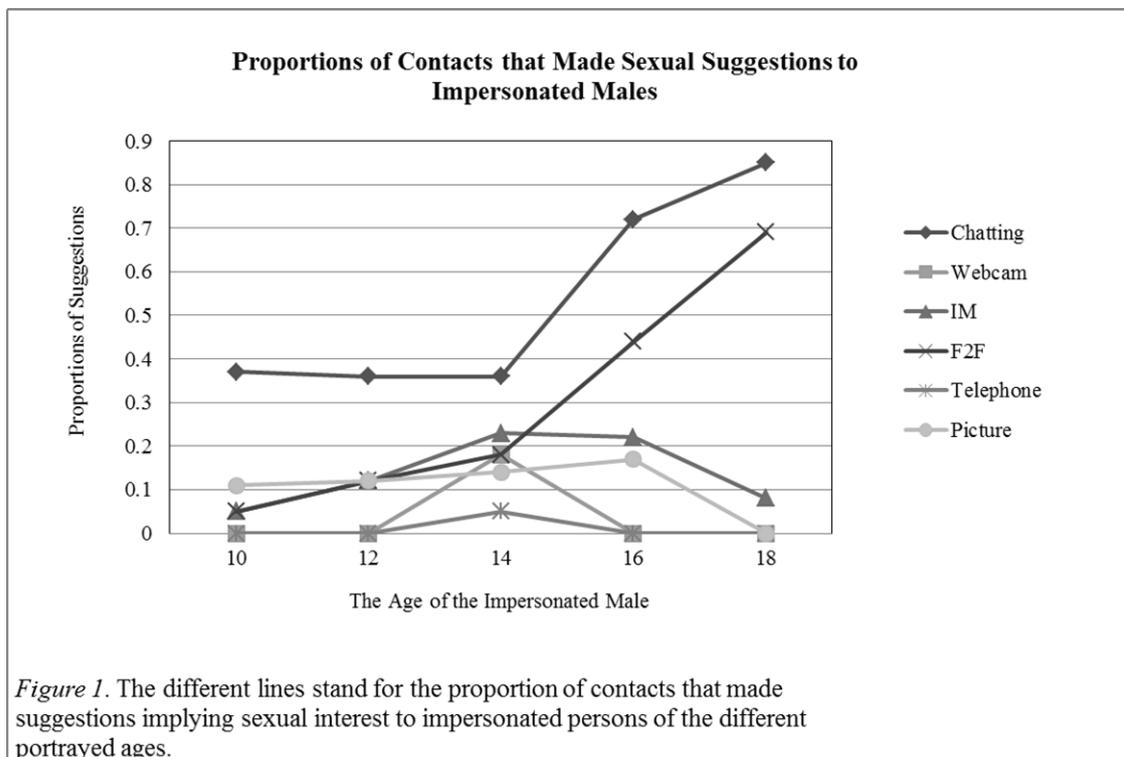
in Figure 1, and the suggestions made to impersonated females in the non-sexually oriented chat rooms are presented in Table 4 and Figure 2.

**Table 5. Correlations between the Proportions of the Contacts' Behaviors and Suggestions and the Age of the Impersonated Persons of Both Genders**

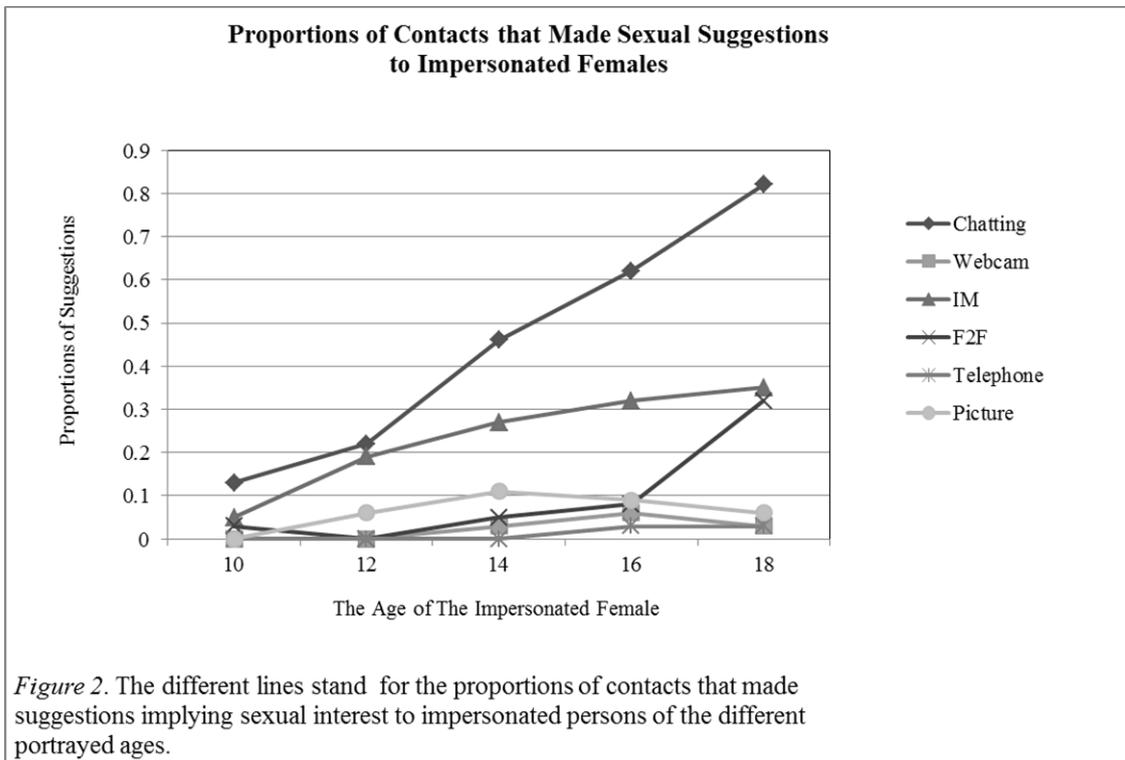
|                     | <u>Age of impersonated males</u>           | <u>Age of impersonated females</u> |
|---------------------|--------------------------------------------|------------------------------------|
|                     | <u>Spearman's rank <math>\alpha</math></u> |                                    |
| Chatting            | .39**                                      | .51**                              |
| Webcam              | .03                                        | .12                                |
| IM                  | .09                                        | .23**                              |
| F2F                 | .45**                                      | .33**                              |
| Telephone           | .02                                        | .12                                |
| Picture             | -.03                                       | .09                                |
| Stopped After Age   | -.36**                                     | -.28**                             |
| Told Off            | -.18                                       | -.29**                             |
| Stopped Sexual Tone | a.                                         | -.11                               |
| No Sexual Tone      | -.16                                       | -.10                               |

Note. When the behavior appeared it was coded as 1, and absent as 0. \*\*p < .01. a. = no cases.

**Figure 1**



**Figure 2**



**Figure 3**

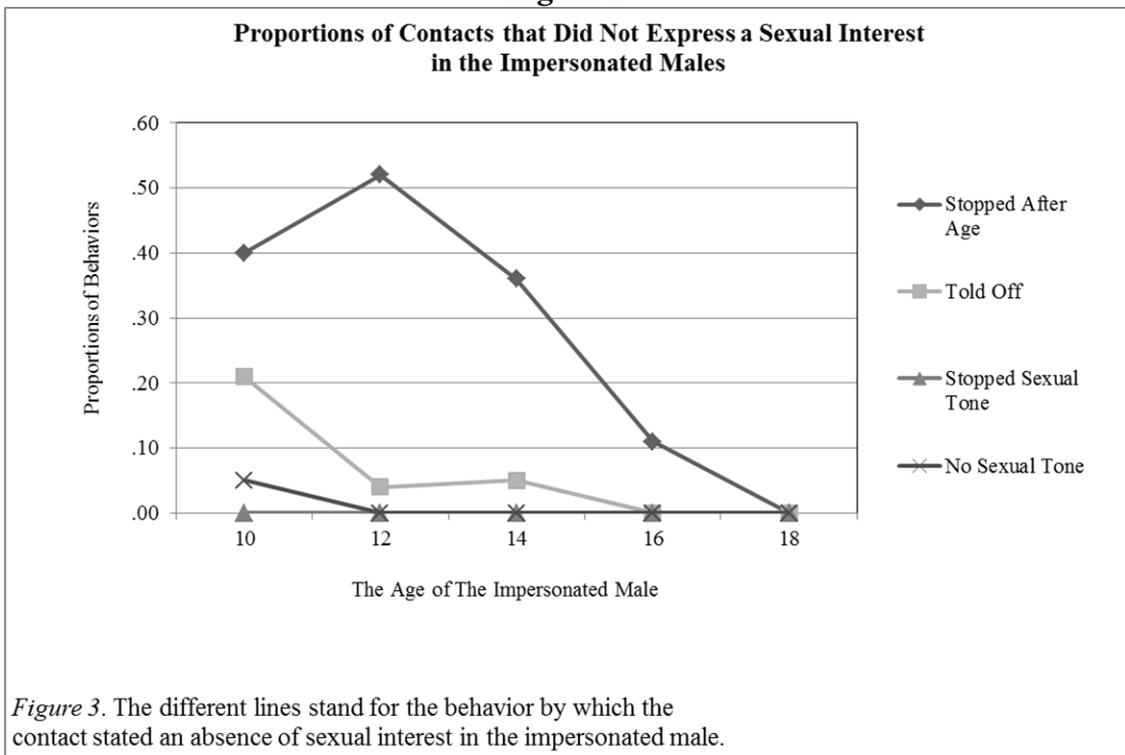
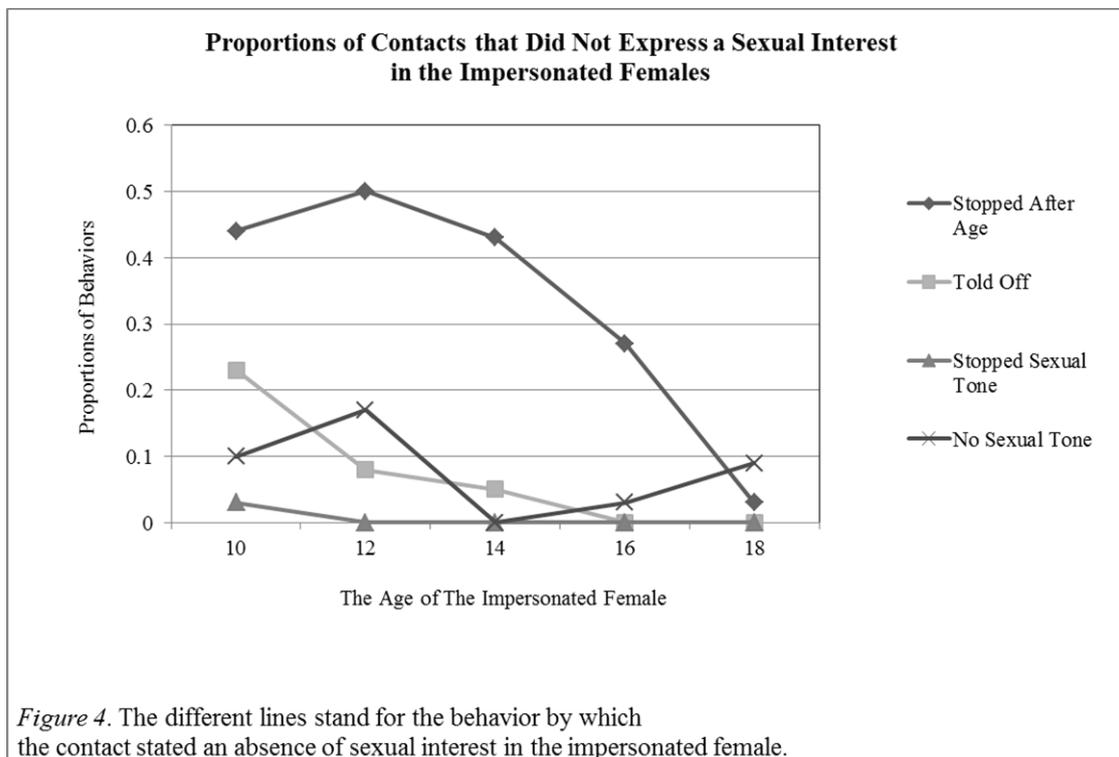


Figure 4



### 3.3 The Effect of Age on Suggesting to Meet Offline

F2F (a meeting offline) was suggested more often to impersonated persons in both the homosexually oriented chat room and the non-sexually oriented chat rooms when the age portrayed was 16 or 18 years (Table 4), compared with suggestions to impersonated 10 – 14-year-olds. We analyzed whether the larger proportions of suggested F2F meetings to older impersonated persons would correlate with a reduced number of suggestions of the other means of communication, as indicated in Table 4. When we analyzed which of the suggestions for further communication correlated with suggested F2F meetings, we found significant relationships amongst contacts that discussed with impersonated male persons aged 10 to 14 on chatting, Pearson’s  $r = .40, p < .01$ . When the contacts discussed with 16 to 18-year old impersonated males, suggesting IM correlated negatively with F2F suggestions, Pearson’s  $r = -.48, p < .01$ , as did asking for a picture  $r = -.36, p < .05$ . The suggestions made by contacts for chatting that discussed with impersonated females of the age 10 to 14 correlated positively with F2F suggestions, Pearson’s  $r = .27, p < .01$ . Suggesting chatting correlated positively with F2F suggestions also when the contacts discussed with impersonated females aged 16 to 18, Pearson’s  $r = .32, p < .01$ .

### 3.4 The Effect of Age on Ending the Conversation

We expected that a majority of the contacts would end the discussion in the chat rooms with impersonated 10 and 12-year-olds, and that the reason would be the portrayed age. In 46.5% of the cases where the researchers impersonated 10 and 12-year-olds the contacts behavior was best described and coded as the variable “Stopped after age”, while 26% of the contacts expressed a wish to continue a sexual conversation using one or more

means of communication mentioned in Table 3 with impersonated 10 and 12-year-olds. Presented in Figure 3 and Figure 4 are the proportions of different behaviors by which the contact demonstrated that they were not sexually interested in the impersonated person. The proportion of contacts who took an active stance against the impersonated children in both kinds of chat rooms by telling them off (Told off), was higher when the age of the impersonated child was 10 years, compared with discussions in which the researchers impersonated 12-year-olds. The contacts ended the discussion in the chat room (Stopped after age) after the age of the impersonated child was revealed most often in discussions with impersonated 12-year-olds (Table 3; Figures 3 and 4).

#### 4. Discussion and Conclusion

The researchers impersonated children and adolescents of different ages in three online chat rooms (one explicitly sexual, which was directed towards homosexual males and two chat rooms with no explicit target audience and no explicit sexual theme). We measured the proportions of male chat rooms visitors (contacts) that expressed sexual interest in impersonated children and adolescents of different ages. We were also interested in by which means the contacts suggested to continue the conversation, or at what point in the conversation they ended the discussion with the impersonated person, and why.

Our first hypothesis stated that the degree of sexual interest expressed towards the impersonated children and adolescents would increase as a function of the impersonated person's age. According to the results, the proportion of contacts that expressed a sexual interest was larger, the older the portrayed age of the female (i.e. conversations in then either non-sexual nor sexually oriented chat rooms), partly confirming the first fold of our first hypothesis (the same was true for impersonated males, however a slightly larger proportion of contacts expressed a sexual interest in 10- compared with 12-year-olds, although this was not significant). However, the sexual interest expressed towards 10 and 12-year-olds was surprisingly large, since 21.6% of the contacts that chatted with impersonated 10-year-olds expressed a wish to continue the sexual conversation, and 29.8% that chatted with impersonated 12-year-olds expressed the same wish (not taking the effect of the different chat rooms into account). These prevalence rates are significantly greater than the reported prevalence of pedophilic sexual interest in the population (which is thought to be below 5%, Seto 2007). Therefore, a likely explanation would be that a large proportion of these contacts were not sexually interested in the impersonated persons of 10 and 12 years of age. To expand upon this, many visitors of these kinds of forums may treat information given by others (e.g. age), as irrelevant since the controllability of the truthfulness is practically non-existent. Therefore, one could argue that the characteristics of the other person in these forums are of much less importance than they would be in real-life situations. The percentages of contacts that suggested meeting impersonated 10 and 12 year olds offline were significantly lower, which could imply that online sexual contact is regarded as something entirely different from offline sexual contact.

With the second fold of the first hypothesis, we wanted to examine whether contacts would be noticeably affected by legal deterrence, and therefore not engage in sexual conversations or suggest any means of continuing a sexual communication with impersonated persons under the legal age of consent. The results show that a larger proportion of the contacts made a suggestion to continue the sexual conversation in the chat room (Chatting) to impersonated males above the legal age of consent. A larger

proportion of the contacts suggested using a telephone, and to meet F2F to impersonated females over the legal age of consent than to younger females. However, we only found partial support for this hypothesis as the contacts did not express an increased interest in all means of communication to older adolescents. No significant effects on the proportion of suggestions to use webcam, communicate via telephone or requests for a picture were found. Since we did not find support for a deterring effect of the legal age of consent on several variables, we concluded that the hypothesis based on the assumption of age preferences being normally distributed in the population provided a better explanation for the results from the study at hand.

A larger proportion of the contacts suggested meeting F2F to impersonated persons (of both genders) above the legal age of consent. We wanted to explore if the larger proportion of suggested F2F meetings could explain why other suggested means were not present in more cases with impersonated 16 and 18 year olds, compared to cases with 10 – 14 year olds. The increase in suggestions to meet F2F to impersonated persons above the legal age of consent correlated negatively with other suggestions only when the impersonated persons were male on IM and picture, suggesting a possible trade off for these variables (Table 5). Since the homosexually oriented chat room seemed to be used as a setting facilitating sexual encounters both online and in real-life, one could interpret the results as indicative of a preference for a real-life sexual encounter over online encounters, when possible. Since the impersonated person always portrayed to live in the vicinity of the contact, this would be a likely scenario.

In 46.5% of the cases when the contacts discussed with impersonated 10 and 12 year olds, the contacts ended the discussion after the portrayed age was revealed. Our third hypothesis was therefore supported, since it stated that more contacts would end the discussion with 10 and 12 year olds. Additionally, in 22% of the cases (not taking the gender of the impersonated person into account) when the contacts conversed with an impersonated 10 year old, the contact told off the impersonated person for being too young to visit the chat room. This could be seen as a sign that not only the chat room administrators, but the visitors as well try to impose safety recommendations and regulations in the chat rooms.

Carroll (2005) studied online social forums, and found that explicit sexual content was always present in homosexually oriented chat rooms (directed towards males) and that flirting often occurred in the general discussions in chat rooms directed towards both genders. The results from the present study showed that a large proportion of contacts most likely entered the chat rooms for a sexual purpose. The contacts that conversed with impersonated 18-year-olds introduced a sexual topic in 91.1% of the conversations, which illustrates that the climate in the chat rooms was highly sexual. The sexual motivation could provide an explanation for the large sexual interest expressed towards impersonated 10 to 14 year olds (32.3%), as arousal has been shown to decrease sexual restrictiveness in men (Ariely & Loewenstein, 2006). Due to the climate in the chat rooms, it is possible that at least some of the contacts were sexually aroused while logged in.

Previous studies have reported that adolescents who are sexually solicited online are most often females, of 13 years or older (Baumgartner et al., 2010; Wolak et al., 2004; Mitchell et al., 2001). That previous studies have not reported many cases of younger adolescents and children as being typical victims of online sexual solicitation might be due to either chat room visitors not harboring sexual interests in children less than 13 years, or restraining from expressing such interest to a larger degree. Other explanations could lay

in the fact that children compared with adolescents visit chat rooms less often (Livingstone et al., 2011), or that children do not report experiences of online sexual solicitation as often as adolescents. The method of the present study allowed us to control for the availability of children and adolescents of all the portrayed ages. The results show that there was a proportion of chat room visitors that expressed a sexual interest in children younger than 13 years, but supported earlier study results that older adolescents are at higher risk of being solicited online (Mitchell et al., 2001).

### **5. Limitations: Methodological and Ethical Considerations**

Firstly, the information on the contacts was based on self-reports, which could not be verified. This affects the interpretation of the results since ever having portrayed to be of the opposite gender in a chat room was reported 28% of the male participants and by 18% of the females in a study by Whitty (2002). Approximately 60% of the participants had lied about their age (Whitty, 2002). In addition, we were unable to control whether or not, the contacts were serious in their suggestions to continue the conversation with the impersonated child or adolescent. However, given the anonymous setting, and that the participants were not aware that the conversations were used for the purposes of a study; it could also be argued that the incentives to lie would be lower than in a conventional study setting. No published data on the prevalence of adolescents of the impersonated ages in the chat rooms visited were available, and it is highly likely that especially 10 and 12 year olds are not frequent visitors in these chat rooms. In a European project, 14% of boys and girls aged 9 – 12 had visited a chat room during the last month. Amongst 13 to 16 year-olds, 35% of male adolescents had visited a chat room during the last month and 28% of the female adolescents (Livingstone et al., 2011).

Secondly, the contacts were treated as independent of each other in the statistical analysis, though there were a few contacts that the researchers may have discussed with on two occasions. It is possible that frequent visitors used several nicknames in the chat rooms. Also, we chose to investigate males' online sexual interest and behaviors, based on previous studies that have reported that up to 99% of adults who have solicited adolescents online, have been males (Wolak et al., 2004). We directed our attention towards males by always impersonating females in the non-sexually oriented chat rooms and males in the homosexually oriented chat room (directed towards males). Furthermore, the method used in the present study was such that chat room visitors, who were seeking young persons in the chat rooms, were more likely to initiate a discussion with the impersonated person since the nickname involved the word "young". Therefore the results from the present study should be treated with the quasi-experimental research design in mind.

An ethical concern that needs to be raised in the context of the study is that while we were aware of giving potential misinformation about the presence of children and adolescence in the chat rooms, we deemed that the value of the results from the present study would be higher than the possible harm. The deceptive nature of the present study was discussed, and the authors agreed that the level of deception would not greatly exceed that of what is expected in standard chat room discussions (Whitty, 2002). These issues were raised and approved at a Departmental Ethics Review Seminar prior to the commencement of the study. Also, it should be noted, that we had no means of (nor any interest in) gaining any information that could lead to a positive identification of those engaging in conversation, thus ensuring absolute anonymity in the study.

A last important consideration to keep in mind is a probable confounder that has been addressed by researchers in previous studies (Briggs et al., 2011; Fulda 2002; Mitchell et al., 2005), which is that of the identity of the solicited. For example, Mitchell et al. (2005) noted that the offenders convicted for having solicited adolescents online differed on several individual and situational factors depending on whether they had solicited an actual adolescent, or if they solicited an undercover law enforcement agent posing as an adolescent online in so called “Internet sting” operations. The offenders that had solicited a law enforcement agent posing as an adolescent had shorter length of communication, had more seldom committed prior offences, both sexual and nonsexual, and were more likely to be employed full-time than the offenders with actual adolescent victims. Although trained in conduct and language, the law enforcement agents, and the researchers in the present study possibly evoked somewhat different responses than actual adolescents would. One of the possible reasons for the differences probably stem from the kind of chat room utilized in the investigations. The offenders that were arrested through proactive investigations had more often conversed with their target through sexually explicit chat rooms, compared with actual adolescent solicitors that more often used non-sexually oriented chat rooms intended for teenagers. Although part of the present study was conducted in two chat rooms that were not explicitly sexual or sexually oriented, a large proportion of the contacts initiated a sexual topic in these chat rooms.

### Acknowledgements

*This study was realized within the MiKADO project, funded by the German Federal Ministry of Family Affairs, Senior Citizens, Women and Youth. The first and fourth author received their funding from the MiKADO project.*

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