

Online Predation:

A Linguistic Analysis of Online Predator Grooming

Honors Thesis

Presented to the College of Agriculture and Life Sciences, Social Sciences
of Cornell University

in Partial Fulfillment of the Requirements for the
Research Honors Program

by

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January 2011

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Acknowledgements

I would like to thank several people, without all of whom this project would not have been possible.

First, I would like to thank my adviser, Jeff Hancock. I have had the privilege of working with Professor Hancock since my freshman year at Cornell and I have learned so much from him. Not only has Professor Hancock instilled an incredible love for research within me, but he has also inspired and motivated me to take my work to the next level and never give up in the face of a challenge. This is something that I will take with me in future endeavors.

I would also like to thank Marc Silberman and Mark Thomas for their hard work and dedication in helping me prepare the chat transcripts for computerized text analysis. It was tedious at times and I truly appreciate the work they produced. Without them I would not have been able to prepare all of the files in such a short time.

A big thanks the entire Communication Department, as well, for making my time at Cornell an unforgettable experience. I truly enjoyed every course and that it is all because of each professor's passion and commitment to education and the communication field.

I want to also thank my parents, Marc and Denise Wollis, for all of their support, not only while completing this project, but throughout my entire time at Cornell. They instilled in me a desire to constantly work hard to achieve my goals and it is that perseverance that has helped me to be successful.

Lastly, I would like to thank the College of Agriculture and Life Sciences Research Honors Program Social Science Committee for granting me the opportunity to

carry out this research. Completing this project has been one of the most rewarding experiences of my Cornell career and it is something that I will remember forever.

Abstract

Current theory about online sexual predation suggests that predators engage in a grooming process with their victims. Grooming consists of three main stages: friendship and relationship forming, risk assessment and exclusivity, and sexual. This thesis examines whether predators utilized different patterns of language use across each of the stages that can be identified through computerized text analysis. The transcripts of 43 convicted predators were spliced into three equal sections according to word count and a computerized text analysis was performed to look at the different types of language that are expected in each stage based on grooming. The results reveal that predator language differs significantly throughout the three stages of grooming, and that the grooming stages can predict language patterns that are used most frequently in each stage. The theoretical and practical implications of these findings are discussed in terms of grooming theory and the use of computerized text analysis to identify predators and educate youth.

Introduction

With the continued growth and use of the Internet to communicate with people all over the world, the issue of sexual predation is a concern for many. A national survey conducted in 2001 shows that about one in five youth are solicited for sex annually online (Mitchell, Finkelhor, & Wolak, 2001). The survey also reveals that five percent of the surveyed youth received a sexual solicitation that made them very afraid or upset. Lastly, it depicts that three percent of the youth acknowledged getting messages requesting offline contact. A later study conducted by Mitchell, Finkelhor, & Wolak (2008) reveals that from their previous survey in 2001 to 2006 there was a twenty-one percent increase in the number of predators arrested for soliciting youth online for sex. These numbers have become progressively worse, with more than 700,000 registered sex offenders in the United States as of June 2010 (National Center for Missing & Exploited Children, 2010).

The Internet has transformed how people interact with one another. Particularly with the younger generations, it has become socially acceptable to form relationships with people online (Wolak, Mitchell, & Finkelhor, 2003). In terms of the relationships young people form online, a central concern is that people are masquerading as other individuals with similar backgrounds in order to establish a framework to gain access to the youth with the intent of sexually abusing them (Dombrowski, LeMasney, Ahia, & Dickson, 2004). According to the U.S. Department of Justice, more than 77 million children use the Internet and the Web provides potential access to them for sexual predators.

Not only does sexual abuse harm youth physically, but it can also have an adverse impact on a child's cognitive, academic, and psychological development (Dombrowski,

2003). For these reasons, it is important we understand the patterns that predators use in their interactions online and that children are educated about predators. The present study seeks to identify if the language predators use in online chat rooms matches a particular communication pattern called *grooming*.

Grooming & Luring

Do online predators communicate in a way that is distinct from other people?

Two communication theories suggest that online predators use distinct techniques in order to convince their victims to engage in a sexual relationship. The first theory, *Luring*, suggests that predators first must gain access to the victim, then they engage in a cycle of entrapment, followed by the predator communicating the desire for sexual acts, and finally the outcome is sexual abuse (Olson et al., 2007). The cycle of entrapment is key to the success of the predator. During this time the predator must create an element of deceptive trust. In order to accomplish this the predator will first groom, then isolate, and lastly approach the victim about sex (Olson et al., 2007). To facilitate grooming the predator desensitizes the victim to sexual contact. Sending a semi-sexual photograph or talking about watching children changing their clothes can achieve this. The predator will also suggest somehow that if the victim were to engage in sexual acts with the predator their life will be better for it. The predator then tries to isolate the victim both physically and mentally. The predator wants to separate the victim from their family and friends so they can step in to fulfill that role and wants to attempt to physically isolate the victim so they can meet up. The final step before initiating sexual contact is to approach the victim to see if sexual contact is possible. The predator may suggest different sexual things they

could do, such as foreplay. If there is a positive response from the victim, the predator will move forward (Olson et al., 2007).

The second theory, *Grooming*, suggests that predators entrap their victims by befriending them through instilling confidence and trust. Once the relationship is perceived to be strong enough, the predator will make sexual advances and attempt to meet with the victim (Gillespie, 2004; O'Connell, 2003). Researchers have debated the exact nature of grooming for several years. In 1995 Howitt suggested that grooming theory was similar to adult courtship. Later, Gillespie (2004) implied that grooming theory is when the predator befriends a child in an attempt to gain confidence and trust, enabling them to sexually abuse the child. Rachel O'Connell (2003) presents a five stage process that seems most probable: friendship forming, relationship forming, risk assessment, exclusivity, and sexual. The grooming stages that O'Connell presents are specific and provide clues about the types of language that one would expect predators to use.

Grooming

Grooming theory (O'Connell, 2003) suggests that it may be possible to use language to identify online sexual predators. According to O'Connell (2003, p. 6), Grooming theory is a course of conduct enacted by a suspected predator, which would give a reasonable person cause for concern that any meeting with a child arising from the conduct would be for unlawful purpose. This theory presents the claim that by applying affinity-seeking strategies, sexual desensitization, and information-seeking strategies the predator will be able to develop a relationship with a victim that results in need fulfillment (Harms, 2007).

There are five stages of grooming, each of which has clear differences in the patterns of behavior throughout each one (O'Connell, 2003). Although there are defining stages of the grooming process, it is not clear how predators move through them. Some predators spend more time in one stage than another, and as a result, the order and number of stages will vary. In many cases these differences are implications of the predator's motivations (O'Connell, 2003).

Friendship Forming Stage. The friendship forming stage comprises of the predator getting to know the victim. The time in this stage may vary greatly from predator to predator depending on how long it takes them to establish a relationship. Furthermore, this stage may be re-enacted a number of times depending on the level of contact the predator maintains with the victim (O'Connell, 2003). At this point it is reasonable to say that the predator may ask for a picture of the victim, but nothing sexual will be brought up.

Relationship Forming Stage. The relationship forming stage takes the friendship stage to the next level to form a deeper bond with the victim. During this stage it is expected that the predator will engage with the victim in discussing their friends, family, school and social life. Not all predators will necessarily spend time in this stage. Usually it depends on whether the predator is planning on remaining in contact with the victim over a period of time. If this is the case, the predator almost tries to become like the victims "best friend." If not, the relationship forming stage is brief and then scattered throughout the conversation (O'Connell, 2003).

Risk Assessment Stage. The risk assessment stage is the part of the conversation where the predator will inquire about the child's location and if there is anyone else

around (O'Connell, 2003). This is the predator's way of trying to decide the likelihood of getting caught by the victim's guardian. This stage is also where the predator starts to test the waters and see if they will be able to get the need fulfillment they are looking for from the victim (Harms, 2007).

Exclusivity Stage. The exclusivity stage usually demonstrates a turning point as far as the context of the conversation. At this point the predator tries to establish an element of trust with the victim. The predator attempts to make their interactions take on characteristics of mutuality (O'Connell). The predator wants the victim to feel like they can tell the predator anything and have no one else know about their relationship. This exclusivity makes the predator feel more comfortable that they will not get in trouble for their actions. When the predator is clear that the victim trusts them they typically move on to more intimate and sexual topics (O'Connell, 2003).

Sexual Stage. The sexual stage can be initiated with questions inquiring information about the extent of the victim's past sexual experiences. The introduction of the stage may feel harmless to the victim since there is typically a level of trust established between the victim and the predator, but the conversation can quickly get intense. Most children are not usually accustomed to conversations of this sort and therefore it can be difficult for them to navigate the conversation (O'Connell, 2003).

The sexual stage is where the most distinctive differences in conversational patterns occur (O'Connell, 2003). In several cases the direction of the conversation throughout this stage depends on whether the predator plans on continuing conversation with the victim. If so, the predator is more likely to ease into the sexual advances and focus on the sense of trust and "love" between the two of them (O'Connell, 2003). On

the other hand, some predators might jump right into asking if the victim would be willing to perform certain sexual acts on the predator. The predator may take on the role of a “mentor” who will guide the victim to a greater understanding of their sexuality (O’Connell, 2003). If the predator gets the impression that the victim is uncomfortable in any way it may mean that their relationship has been compromised. In this situation the conversation will change toward expressions of remorse and regret in order for the predator to try to re-establish the relationship with the victim (O’Connell, 2003). These sexual patterns of conversation are typically followed by a request for a face-to-face meeting. At this point the conversation turns to get information about when and where the predator will be able to meet up with the victim (O’Connell, 2003).

Computerized Text Analysis

Text analysis has its roots with Freud in the early 1900s. Early researchers, like McClelland, found that stories people told in response to certain prompts could provide important clues to their need for achievement. Trained raters would code the transcripts and tag words and phrases that related to what the researchers were studying (Tausczik & Pennebaker, 2010).

In the late 1960s Philip Stone and his colleagues produced the first computerized text analysis program in psychology. The program depended on a series of specially developed algorithms. Stone’s program adapted McClelland’s coding schemes to be applicable to any open-ended text. This program has helped distinguish mental disorders and evaluate speeches; however, it had its limitations (Tausczik & Pennebaker, 2010).

Several previous pieces of research have shown that it is possible to distinguish people based on the way they speak using the computerized text analysis approaches

described above, and these studies suggest it should be possible to do the same with predators. For example, a study by Woodworth, Hancock, and Porter (in press) looked at how language is related to psychological issues, such as psychopathy. Their study found that individual psychological differences can be detected in language patterns. The study analyzed and compared the language of felons convicted of homicide that were either classified as psychopathic or not psychopathic. Their results showed that psychopaths displayed an increased use of the past tense, suggesting that psychopaths are emotionally more distant from their crime than non-psychopaths. Furthermore, psychopaths used significantly more subjunctives and subordinating clauses (“as if” and “because”). An analysis of these phrases suggests that psychopaths have a more instrumental (planned) approach to their crime, while most other homicides are reactive (Woodworth, Hancock and Porter (in press)).

Another study by Stone and Pennebaker (2003) showed that people speak differently throughout their lifespan and that it is possible to estimate a person’s age group based on the language they choose. For instance, at different ages pronoun patterns appear to change. Their study shows that as age increases there is a sharp decline in the use of first-person singular pronouns. Furthermore, they found that with age the use of negative words declines and there is a large increase in the amount of positive emotion words used from ages 55-plus.

The Present Study

This study will analyze convicted predator chat transcripts to determine if predators speak in a way that makes them identifiable. In order to test this, a computerized text analysis will be done to see if predator language is consistent with

what the stages of grooming theory suggest. According to grooming theory, predators should use certain language at different times throughout their conversations. There are five stages of grooming, however, O'Connell (2003) makes it clear that in many cases the predator will engage in more than one stage simultaneously. Based on this observation, this study will use a three-stage model for analysis. There are three main hypotheses, one of which corresponds to each of the three stages. During the first stage, which consists of friendship and relationship forming, it is predicted that the predator will use language that makes it possible to gain information about the decoy's friends, family, and social life. Throughout the second stage, comprised of risk assessment and exclusivity, the predator's chatspeak should reflect their efforts of establishing need fulfillment and ensuring that they will not get caught for interacting with an underage individual. The final sexual stage proposes that the predator will make use of language that allows them to determine what specific sexual acts they will get from the relationship and arrange a meeting.

Method

Predator- Decoy transcripts database

The transcripts were gathered from a website managed by *Perverted-Justice*, a non-profit organization committed to catching and exposing online sexual predators. In 2003 they launched the website www.pervertedjustice.com where adult volunteers enter online chatrooms pretending to be adolescents. While in the chatroom the "decoy" waits to see if an adult initiates a conversation with them. If the conversation turns sexual the decoy plays along and sets up a meeting time and place with the individual, now "predator." The decoy then contacts the police to make the arrest. Once the predator is

convicted, Perverted Justice makes the chat transcripts public on their Web page. As of November 2010 Perverted Justice had made more than 500 convictions. In 2008 43 predator and decoy pairs were randomly selected and downloaded for analysis. All of the 43 predators are men whose ages ranged from 25 to 54 and were convicted all over the country.

Procedure

Once downloaded, the transcripts were manually separated into different text files: one with the predator's commentary and another with the decoy's statements. For the purpose of this study, we were only concerned with the predators' language. The transcripts from each predator were divided into three equal parts, based on word count, to represent the different stages of the grooming process. Even though theory suggests that there are five stages of grooming, O'Connell (2003) suggests that often predators will engage in multiple stages at one time. For instance, it is very plausible that the predator engages in friendship forming and relationship forming simultaneously and the same with the risk assessment and exclusivity, which is why the conversations were split into three parts. Splicing the text files into three equal parts is a rough but fast measure to test if the predator-decoy interactions follow the predicted patterns based on the grooming process.

In order to analyze the language from the chat transcripts, the files were run through a computer program called Linguistic Inquiry and Word Count (LIWC). LIWC is a program that counts words in psychologically meaningful categories. LIWC has two main components: the processing feature and the dictionary (Tausczik & Pennebaker, 2010). The processing feature opens several text files and goes through them word by

word. Each word is then compared to the dictionary. The dictionary is made up of a collection of words that represent particular categories. LIWC counts how many times words relevant to a particular language category are used in each document (Tausczik & Pennebaker, 2010).

Transcript Coding

For this study several different language categories were used to represent the different phases of grooming based on what we expect to see in each stage. During the Friendship and Relationship Forming stage grooming theory suggests that the predator engages the decoy in conversation about their life in an attempt to form a trusting bond. The language categories selected to analyze this stage include social, friend, family, leisure, positive emotion, achieve, you, and home. The predator should use words in these categories more so in this stage than others because they are trying to gain information about the decoy. *Table 1* below lists examples of the words in the LIWC dictionary for each of the language categories.

Table 1

Friendship and Relationship Forming Stage	
<i>LIWC Word Categories</i>	<i>Language Examples</i>
You	You
Friend	Friend, boyfriend, girlfriend, lover
Social	Adult, anyone, personal, party, outsider, fight, story, mentions, dating, helpful, phone, private, public, gossip
Family	Aunt, brother, mom, dad, sister, uncle, family, folks
Money	Income, store, value, rich, wealth, compensate
Religion	Church, God, heaven, hell, sacred, paradise
Work	Homework, office, school
Achieve	Best, better, confidence, control, important, work
Leisure	Art, bands, game, hangout, sport, television, movie
Home	Bedroom, family, home, neighbor, rooms, kitchen
Positive Emotion	Cares, casual, cherish, comfort, cute, nice, LMAO

Throughout the Risk Assessment and Exclusivity stage the predator wants to ensure that they will get the need fulfillment they are looking for from the decoy and that they will not get caught for connecting with an underage person. The predator will begin to introduce some sexual elements into the conversation to feel out what the decoy is comfortable with and how far they are willing to go sexually. Additionally, the predator wants to reaffirm the trusting relationship between the two of them and express that their relationship should be kept just between the two of them. Therefore the language categories considered for this phase consist of we, quantitative, negative emotions, negate, discrepancy, and sexual. *Table 2* below lists examples of words in each category.

Table 2

Risk Assessment and Exclusivity Stage	
<i>LIWC Word Categories</i>	<i>Language Examples</i>
Negate	Needn't, neither, no, never, nope, nothing, shouldn't, wasn't, won't
We	We
Quantitative	Greatest, lots, part, same, somewhat, single, several
Negative Emotion	Crap, cry, difficult, hate, heartbreak, tough, unimportant, punish, sad, lose
Discrepancy	Could, couldn't, desire, hope, need, normal, ought, prefer, rather, want, wish, would, wouldn't
Sexual	Hug, hump, makeout, love, penis, prude, pussy, sex, vagina, virgin, dick, breast, cock, fuck, orgasm

The Sexual stage is when the predator really gets into the sexual aspect of the relationship that they are looking for. Once the predator establishes what the decoy is willing to do they set up a meeting time and place. Language categories such as feel,

biology, body, health, time, motion, space, and relative are all relevant to the conversation throughout this stage. Even though this is the sexual stage, the sexual language category is excluded from analysis because by this stage the predator has already discussed general sexual things with the decoy. Instead, during this stage the predator is more concerned with specific details about what they will do with the decoy, which is why the feel, biology, body categories are used. *Table 3* shows several words used in each of these categories.

Table 3

Sexual Stage	
<i>LIWC Word Categories</i>	<i>Language Examples</i>
Feel	Caress, feel, grab, hot, rough, rub, squeeze, touch, wet
Biology	Erection, jizz, sex, foreplay, nipple, fucked, hug, condom
Body	Anal, ass, breast, chest, cock, dick, pussy, horny, tit, vagina
Time	After, anytime, date, early, evening, fast, hurry, immediately, whenever, today, tomorrow, tonight, soon, now
Motion	Appear, arrive, car, change, coming, drive, go, going, leaving, visit
Space	Anywhere, around, near, everywhere, street, map, where
Relative	Anytime, city, close, far, heading, rush, whenever, weekend

Results

The data analysis followed a multi-level approach, in which each of the three stages of the predator's conversation with their victim was nested within predator using the MIXED model in SPSS. Three models were computed, one for each language type (friendship/relationship related terms, assessment/exclusivity related terms, sexual terms)

entered as the dependent variable and stage in the grooming process entered as the independent variable. Descriptive statistics are presented in Table 4.

The first hypothesis was that friendship/relationship related terms should be used by predators most often in the first stage of the interaction with the victim as they seek to build up the relationship. This was the case, $F(2,84) = 3.50$, $p < .05$. Pairwise comparisons testing the difference between stage 1 and the other two stages revealed that stage 1 transcripts had significantly more friendship and relationship terms than either stage 2 ($p = .08$) and stage 3 ($p = .01$).

The following is one example of a predator (texassailor04) using friendship and relationship terms in the first stage:

```
“texassailor04: so what you do this past summer  
texassailor04: you ready for school  
lori_luvs_puppies: lol ya i liek skool most of da time  
texassailor04: so what grade you going to  
lori_luvs_puppies: 8  
texassailor04: dam that kool  
texassailor04: best time to be in jr high”
```

The next hypothesis was that the second stage would involve more terms related to assessing the risk and building an exclusive relationship with the victim than stages 1 or 2. The model revealed a significant effect across the stages, $F(2,210.7) = 6.93$, $p < .05$, however, the pairwise comparisons only partially support the hypothesis. Stage 2 significantly involved more risk assessment and exclusivity terms than stage 1 ($p = .007$) as predicted, but the difference between stage 2 and 3 did not achieve significance ($p = .39$), suggesting that stage 2 and 3 transcripts had approximately the same number of words related to risk assessment and exclusivity.

Below is an example of a predator (wellhungnwky) using risk assessment and exclusivity terms:

“wellhungnwky : is anybody going to bother us tonight?
 xjonalynx : no
 xjonalynx : my dad's in iraq
 wellhungnwky :ok
 xjonalynx : my mom's on a trip with her bf. (bitch)
 wellhungnwky : yes i know....hehe
 wellhungnwky : do u have any family that comes over?
 xjonalynx : no, we just moved here
 xjonalynx : we don't have family here”

The last hypothesis predicted that the third stage would involve more terms related to sex and arranging physical sex than the previous stages. This was the case, $F(2,208.3) = 4.38$, $p = .01$. Pairwise comparisons revealed that stage 3 transcripts involved more sex and arranging sex terms than either the first ($p = .01$) or second stage ($p = .01$).

Below is one example of a predator (aticloose) arranging a meeting for physical sex in the third stage:

“aticloose : so call me tomorrow by 3 to let me know for sure if we are meeting.
 k?
 jerri_lee_ann : u can come on over at 6
 aticloose : I would rather pick u up just in case someone comes home
 aticloose :that would be bad
 jerri_lee_ann :mom is gone for a couple days
 jerri_lee_ann : just me and her
 aticloose :where am I coming to
 jerri_lee_ann :my house
 aticloose : address silly
 jerri_lee_ann: giggle
 jerri_lee_ann :ok
 jerri_lee_ann : *edited out address*
 aticloose : u should answer the door topless”

Taken together, these data reveal that the hypotheses were generally supported.

The implications of the data are discussed below.

Table 4

Language Type	Stage				
	Stage 1 Friendship/Relationship <i>M (SE)</i>		Stage 2 Risk Assessment/Exclusivity <i>M (SE)</i>		Stage 3 Sexual <i>M (SE)</i>
Friendship/Relationship related terms	28.341	(1.411)	26.594	(1.411)	25.831 (1.411)
Risk Assessment/Exclusivity related terms	10.149	(.443)	11.387	(.443)	10.372 (.443)
Sexual contact related terms	32.184	(1.368)	31.479	(1.368)	34.689 (1.368)

Discussion

Assessment of research methods

The current work examined whether convicted online predators speak in a way that is identifiable based on the stages of grooming theory as applied by a computerized text analysis approach. Overall, the data suggests that grooming patterns are identifiable in the language of predators. Recall that O'Connell (2003) postulates several stages in the grooming process.

First the predator will engage in the friendship and relationship forming stage. This stage is when the predator first initiates contact and tries to establish an element of trust with the victim (O'Connell, 2003). Throughout the friendship and relationship forming stage the predators will seek out information about the victim's family, friends,

and social life. The results of this study reveal that throughout the first stage of the grooming process predators use more words relating to family (mom, dad, sister), friends (friend, boyfriend), social life (party, outsider, fight, date), home (bedroom, family, neighbors), work (school, homework), leisure (sports, hangout, television), etc., than they do throughout the second and third stages.

The second grooming stage, risk assessment and exclusivity, is when the predator establishes the need fulfillment they are looking for from the victim. The predator wants to ensure that the victim will provide them with sexual acts, and thus the predator will introduce sex into the conversation. In addition to need fulfillment, during the second stage the predator needs to make sure that the victim will not reveal their relationship to anyone else (O'Connell, 2003). This is for the predator's peace of mind, knowing that they will not get caught for soliciting a child. The current research shows results consistent with what grooming theory suggests; predators use more sexual words (hug, hump, makeout, love, penis), negative emotion terms (crap, cry, difficult, hate, heartbreak), and discrepancy words (couldn't, desire, hope, need, wouldn't) throughout the second stage compared to the first stage. The second stage did not significantly differ from the third stage on this language dimension. This is perhaps not surprising given the overlap on sexually related content predicted in both stages. The predator introduces sex into the conversation during the second stage and continues throughout the rest of the conversation.

The sexual stage is the final phase of grooming. It is at this point, when the predator feels that the victim is willing to engage in sexual acts, that the conversation turns to the specific sexual favors the predator wants and how to arrange a meeting to

accomplish them (O'Connell, 2003). In an online context, the predator needs to also arrange a face-to-face meeting in hopes of actually physically engaging in sexual acts with the victim. If the predator does not establish a meeting with the victim the entire grooming process will not result in the need fulfillment that the predator was seeking. Consistent with this, the results of this research show that the predators use the most language relating to body (breast, cock, pussy), feel (caress, feel, grab, rub), motion (coming, drive, arrive), space (near, everywhere, street), and time (close, far, heading, rush) during the final stage of grooming.

Research Contributions

This analysis, using rough estimates of the different stages of grooming throughout the transcripts, shows clear and significant patterns in predator chatspeak. This method represents an estimate of the language patterns used by predators because transcripts were split into three equal pieces to represent the stages of grooming. However, the stages of grooming vary in length depending on each predator's motives, so splitting the files equally into thirds may not be the most accurate way to identify the stages. Despite this rather simplistic method, grooming stages were evident as predicted across the three sections of the transcripts. Clearly, the advantages of this method are that it can be done quickly and can reveal patterns expected.

This research contributes to the previous literature by using a novel linguistic analysis approach. Previous work has speculated that predators speak in an identifiable way based on grooming theory, but has not used linguistic analysis to identify these patterns (Craven, 2006). Along with O'Connell's stages of grooming, Craven (2006) hypothesizes that predators use different types of language in order to physically and

psychologically groom victims. Physically grooming the victim involves gradually sexualizing the relationship. Craven (2006) suggests that while physically grooming predators introduce various sex terms and phrase the discussion as an education lesson. Psychological grooming consists of convincing the victim that it is normal for the two of them to engage in a sexual relationship, but that it must remain a secret between the two of them. Throughout psychological grooming Craven (2006) implies that predators use language that creates an element of trust and fear in the victim. Through the use of actual transcripts of convicted online predators, this study has been able to provide evidence of grooming theory and show that predators do in fact use different language throughout the different grooming stages, which is consistent with what previous work predicts (O'Connell, 2003) (Craven, 2006).

Practical Implications

The results of this study suggest that it may be possible to help keep children safe as they interact online by educating them about the grooming process and the types of language predators use when they are engaging in grooming. In 2003 a study used a survey to test how many adolescents had developed close relationships online. The age groups that expressed having closest relationships online were 13 to 17-year-olds. In fact, 25% of 15-year-olds, 16% of 14-year-olds, and 12% of 13-year-olds revealed such online relationships (Wolak, Mitchell, & Finkelhor, 2003). Moreover, even though the percentage is significantly less, 5% of 10 to 12-year-olds also reported forming close relationships online. These numbers reveal that millions of adolescents are forming relationships with strangers online. Although most of these relationships do not result in

sexual predation, online sexual predators are becoming more of a problem and children need to know how to protect themselves.

In order for adolescents to know how to protect themselves they must be educated about the dangers of interacting with strangers online. An educational program that teaches middle school children about online dangers and how to safely use the Internet is a way to do this. The findings from this study can be adapted to help create educational materials that inform children about online grooming and the different types of language that predators use when engaging in the different stages. Furthermore, the results from the current study can be used potentially to generate a schema of predator language for law enforcement to use when trying to identify and catch predators online. This material should include examples of coded transcripts that embody the language used in the different stages of grooming so that even those unfamiliar with grooming will be able to understand the theory and identify online users participating in it.

Limitations

One of the obstacles in completing this research is deciding how to identify the different stages of grooming throughout each of the predator transcripts. For the purposes of this study, the transcripts were split equally into three parts based on word count. This was a rough way of identifying the three stages of grooming. This method was successful in that it did reveal the results expected for each of the stages; however, hand coding would be a more precise way of identifying the three stages. In order to hand code each of the stages, trained coders would comb each transcript looking for clear changes in the language and direction of the conversation based on what grooming theory suggests one would expect to see in each stage. Using the hand-coded transcripts will be a better

representation of the actual grooming stages and in turn provide even more insight to the types of language predators use.

A second limitation that this analysis presents is that LIWC only recognizes the spelling of words that are in its dictionary. In almost all transcripts words are spelled wrong and net speak (ie. Lol, haha, btw) is used. These misspelling and Internet lingo are not recognized by LIWC and may skew the analysis. In order to alleviate this potential problem, trained coders will have to read through each transcript and correct any words that are spelled wrong, as well as write out all abbreviations and change any Internet lingo into plain English. Completing this process takes a great deal of time and will be something to consider in further work.

Future Studies

Future work in this area may consider hand coding each of the transcripts to identify the different stages of grooming as well as correct any misspellings and net speak. This will guarantee a closer analysis of predator language and whether or not they speak in congruence with what grooming theory suggests.

In addition to re-examining the analysis method, it would be advantageous to explore the decoys' roles in the conversations. One question that would be interesting to explore is if the decoys actually speak like the underage individuals they are masquerading as. Pennebaker & Stone (2003) conducted a study that shows that people identifiably speak differently throughout their lifespan. Based on their findings the adult decoys should generally speak differently than an adolescent. Thus, it is important to discover if the decoys are doing a good job portraying the underage individuals. If they are not speaking like a typical adolescent, it may be the case that the predator is aware

that the decoy is an adult whose fantasy may be pretending to be a child and so they go along with it. Due to a lack of a control group of adolescent chat transcripts this aspect could not be considered in this analysis, but in the future it is something to take into account. Furthermore, when reviewing the decoy transcripts it would also be interesting to consider the decoys' role in the conversations. For instance, is the topic of sex consistently brought up or do they just react to the predator when they bring it up? Also, do they push the element of a face-to-face meeting or do they let the predator do this?

The decoys are trying to do a noble thing by helping to catch predators and protect children online; however, intentionally or unintentionally there may be some elements of entrapment involved. If the decoys' sole purpose is to catch predators, their language may be phrased in a way that elicits the types of responses from the predators that they will be able to use to convict them.

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