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**On the Usefulness of Pretesting Vignettes
in Exploratory Research**

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Abstract

Survey methodologists use vignettes as an evaluative tool for pretesting survey questionnaires. However, these fictional scenarios also lend themselves to exploratory, applied research about the topics upon which surveys are based. In this paper, I discuss the psychological framework for why vignettes are a useful tool for uncovering people's judgments and decision-making processes. Researchers across multiple disciplines have used vignettes to determine how people make judgments and decisions across a variety of complex situations and potentially sensitive topics. As an example of how to use vignettes as an exploratory tool, I interpret findings from pretesting vignettes in light of what they reveal about judgments and decision making. More specifically, I present evidence that preliminarily reveals information about how kids and teens think about activities that are relevant to their vulnerability to Internet predators. These findings suggest several key variables for researchers to explore in an effort to improve education about internet crimes against children.

On the Usefulness of Pretesting Vignettes in Exploratory Research

In survey methodology, researchers tend to use a variety of methods to develop and refine data collection instruments. These methods include, but are not limited to, expert review, focus groups, cognitive interviews, behavior coding, and respondent debriefings. These methods function as a means to an end in the lengthy process of survey development. However, such evaluative methods, although often small in scale, can be an end in themselves when they lead to the development of applied research. More specifically, because these methods tend to elicit rich self-reports, narratives, and behavioral observations, they have the potential to provide fertile ground for developing exploratory research questions.

The current paper attempts to illuminate the usefulness of pretesting methods for developing research questions that explore the constructs upon which researchers formulate their survey questions. I limit my focus to a specific pretesting method, vignettes. Vignettes are fictional scenarios that describe people, behavior, and situations. In questionnaire pretesting, survey methodologists use these fictional scenarios to evaluate people's understanding of question terminology and question intent. The modal model for these evaluations involves vignettes depicting situations that fall within the scope of the data the survey will collect. Participants in these evaluations use that information to arrive at answers to the relevant survey questions. The benchmark is whether participants can correctly answer the survey questions for the situations the vignettes depict. If participants cannot correctly answer the questions, then the survey methodologists have evidence that the questions are either unclear or unable to capture the complexity of certain situations. The survey methodologists can then work to revise the questions to maximize their applicability and accuracy.

Vignettes also provide a way for survey methodologists to study a variety of different situations in an efficient and cost-effective way. Because of practical constraints on time and resources, it is not often the case that survey methodologists are able to locate and recruit a sample of pretesting participants that reflect all possible real world situations a given survey will capture. Vignettes allow survey methodologists to test survey question on rare situations or difficult-to-recruit populations.

However, the functionality of vignettes can extend beyond questionnaire evaluations. In this paper, I put forth a framework for understanding the judgment and decision-making processes that make vignettes a powerful tool in applied research. I do not intend this paper to function as a review and discussion of vignettes and their use in survey methodology or questionnaire evaluation, as other researchers have covered this perspective (see Martin, 2004, for an example of such a review). Instead, I present an interpretation of this

pretesting method from a cognition-based perspective and discuss the usefulness of the findings from this method in exploratory research relevant to survey subject matter. I then present, as a case study, an interpretation of findings from vignettes in a questionnaire evaluation to demonstrate their value in revealing important concepts and themes.

Information Processes and Reconstructive Biases

Vignettes are a powerful research tool because they capitalize on basic, human information-processing principles that psychologists have systematically validated for over five decades (see Mandler, 2002; Miller, 2003, for a historical perspective on cognitive psychology). Vignettes are a medium for capturing people's expectations, inferences, heuristics, and biases in processing, encoding, and recalling information. In this section, I will review the literature on how people process verbal information, as those principles underlie people's responses to vignettes.

One of the most basic forms of expectations, inferences, and processing biases is a schema. Schemas are general knowledge representations for events (Nickerson & Adams, 1979; Rummelhart & Norman, 1985; Schank & Abelson, 1977). Schemas apply to events as simple as pressing a pedal to events as complex as driving a car. Schemas are experiential. People formulate schemas based on personal experiences, making them both mutable and flexible. As people's experiences change, so do their schematic representations.

Schemas are useful because they allow people to make sense of experiences, form expectations, and make predictions about ambiguous events. In a classic study, Bransford and Johnson (1972) presented their participants with a passage depicting an ambiguous event. After reading it, participants rated the passage for ease of understanding and later attempted to recall the sentences in the passage. When participants knew the passage was about washing clothes, they rated the passage very easy to understand and were able to recall nearly twice as much of the passage than participants who did not have that knowledge. Participants who knew the passage was about clothes washing were able to use their schematic knowledge to parse the complex and vague text and improve their retention.

However, people can derive benefits from schematic processing outside of situations that are contextually ambiguous. Other research supports the premise that schemas are useful for increasing comprehension and retention, even in the absence of ambiguity. When people had information that provided a schematic interpretation of a story depicting a day in the life of a college student, Nancy, they were more likely to correctly remember the events of the story (Owens, Bower, & Black, 1979). Although participants sometimes

misremembered or falsely recalled details about the story, these errors were schematically consistent. For example, at the beginning of the story, Nancy expressed a worry that she might be pregnant. As part of her daily routine, she has a routine doctor's appointment. Participants tended to falsely recall the doctor informing Nancy she was pregnant. This error, and other recall errors participants made were not "wild guesses," but instead were plausible inferences, given the context they had for interpreting the story.

Similarly, changing the schematic context through which people recall events can boost recall. Pichert and Anderson (1977) asked participants to read a story about two boys skipping school and going to one of their houses. As the boys walk through the house, they made comments about its structure and décor. Before reading the story, some participants received instructions to read the story from the perspective of a burglar, while other participants received instructions to read the story from the perspective of a home buyer. When free recalling the story, participants were able to recall more sentences in the story that were consistent with the perspective through which they encoded it than sentences consistent with the other perspective. When participants had to free recall the sentences in the passage a second time from the *other* perspective, they remembered more of the sentences that were congruent with the other perspective, despite never having encoded the passage from that perspective (Anderson and Pichert, 1978). Activating the other schema, which was consistent with some of the story details, enhanced participants' recall of perspective-congruent information.

While schemas can enhance processing or verbal information, they also can interfere with comprehension and recall. Sir Frederick Bartlett (1932) was one of the first researchers to investigate how schemas, in the form of cultural expectations, can have a negative affect on people's ability to comprehend and accurately remember verbal information. In his classic study, Bartlett had his upper-class British participants read an oral tale from a Canadian Indian tribe. The tale contained a number of unique and bizarre elements that were highly incongruent with the cultural schemas and story-telling conventions of Bartlett's participants. The tale depicted Indian warriors encountering other ghost warriors, a resulting battle, and the mysterious death of one of the human warriors. As a result of the vast differences between the cultural expectations of the participants and the elements of the story, when recalling the story, participants tended to distort it in ways that were more consistent with their cultural schemas. They also tended to leave out and ignore the details that were the most inconsistent with their schematic expectations. They responded to and reconstructed the passage in ways that were consistent with their own understanding of typical war battles.

In a more controlled experiment, Spiro (1980) was able to determine the conditions under which people engaged in these types of reconstructive processes. Spiro had participants read a story about a fictional couple, Bob and Margie. The story contained details about their relationship and their engagement. In part of the story, Bob had something serious he wanted to discuss with his fiancée: the fact that he definitely did not wish to have children. For half of the participants, the story ended with a statement about Margie's desire to have children. For the other half of participants, the story ended with a statement about Margie's agreement with not wanting children. Participants in both groups then either learned that Bob and Margie stayed together or that they broke up. In the case where the Bob's and Margie's agreement about having children was inconsistent with the outcome of the relationship, participants tended to engage in accommodative reconstruction. They were more likely to misrecall additional content to the story that attempted to explain and justify (accommodate) the seemingly contradictory outcome of the relationship. For example, when participants read that Margie did indeed want children, but the couple stayed together, participants tended to falsely remember sentences about how Margie found out she could not have children, that Bob didn't feel very strongly about not wanting children and changed his mind, or that Margie ultimately changed her mind and decided she didn't want children. In effect, participants were altering the text of the story in ways that accommodated the unexpected outcome of the relationship surviving. Participants only engaged in this kind of reconstruction when the outcome was incongruent with their expectations about the outcome of the relationship. To make the outcome more plausible, they altered their memory of the story.

In addition to making accommodations for incongruent events, people also engage in processing biases that simplify memory and account for counter-schematic events. Stereotypes are heuristic generalizations about people and their behavior. Because stereotypes facilitate rapid information processing, people tend to use them when they are not able to engage in effortful processing (Sherman & Bessenoff, 1999). In such situations, people will rely on stereotypes to guide their decision making. For example, when making quick judgments about the actions of two individuals, a Skinhead and a Catholic priest, people were more likely to use stereotypical expectations. After reading a list of positive and negative behaviors that described each individual, participants had to make rapid judgments about which behaviors originally described the Skinhead and which behaviors originally described the priest. People tended to misattribute the Skinhead's positive behaviors to the priest and the priests' negative behaviors to the Skinhead. People relied heavily on their schematic assumptions to make their decisions about which person performed which behavior.

People also engage in behavior that validates their own opinions, preferences and choices. Mather, Shafir, and Johnson (2000) demonstrated how people engage in choice-supportive source monitoring to bolster their preferences. Mather et al. had participants make choices between sets of options for roommates, job candidates, and blind dates. To make their choices, participants read a series of attributes, both positive and negative, that described each choice. When later recalling the attributes that described each option, overall, people tended attribute more of the attributes to their preferred option. This asymmetrical attribution was the result of participants' over attributing of the positive attributes to their preferred choice. In other words, after choosing job candidate A, when recalling which attributes originally described that candidate, people tended to attribute more of the desirable qualities to that candidate. They did not misaatribute the negative attributes to their preferred option. They "pulled" the positive qualities away from the rejected candidate and "gave" them to the desired candidate. They remembered the candidate in a more favorable light, perhaps in an attempt to justify and validate their choice.

In a similar study, Gordon, Franklin, and Beck (2004) were able to demonstrate that people engage in wishful thinking when it comes to making decisions that affect highly desirable outcomes. When people encountered highly desirable events, they altered their memory for events that made the desirable outcome more likely. People tended to attribute desirable events to an accurate psychic and attribute undesirable events to an inaccurate psychic, regardless of who originally made the prediction. Through this wish-consistent bias people made the desirable events more likely to come true. This bias exists even when the psychics making the predictions are equally accurate. When faced with highly desirable predictions from one of two equally accurate psychics, people attributed more past accurate predictions to the psychic who later predicted a highly desirable event. Participants were making the psychic more accurate than she originally was, presumably in an effort to make their wish more likely to come true. People were rewriting their memory in a way that was consistent with their wishes for the outcomes of events.

From this discussion, it should be clear to the reader that people respond to seemingly neutral stimuli in ways that reflect biases in how they encode, process, and remember information. Given these powerful reconstructive biases, it is not unreasonable to expect that people also engage in these biases when encountering vignettes. It is the potential for such biases to emerge that make vignettes a valuable research tool. Although vignettes are a tool for survey methodologists to evaluate survey questions, in other disciplines, vignettes are a way to explore complex, difficult to replicate, or sensitive attitudes and behaviors.

Applying Information Processing to Vignettes

Vignettes are a powerful methodological tool because, at the most basic level, they are neutral stimuli that allow researchers to study people's judgments and decision-making processes in a controlled context. Researchers have used vignettes to control extraneous factors that influence behavior while systematically isolating and manipulating the very behaviors they wish to observe. In judgment and decision-making research Kahneman and Tversky used vignettes to demonstrate how people make real-world decisions (see Kahneman, Slovic, & Tversky; Kahneman & Tversky, 2000, for comprehensive reviews of this research). They focused their research on clinical and diagnostic predictions, subjective probability, and reasoning heuristics. The use of fictional scenarios to depict events of differing probabilities in differing contexts allowed these researchers to isolate the factors behind the seemingly irrational way with which people perceive and weigh information and make decisions. Based on the success of this method, other researchers also have adopted the use of these vignettes to study risk assessment and clinical decision making in an applied setting (see Taylor, 2006, for a detailed analysis of how to use this technique in an applied setting). For example, Falzer & Garman (2009) used vignettes to determine how psychiatry interns recognize and make diagnostic decisions. They discovered that when the vignettes depicted straight-forward diagnoses with typical symptoms and behaviors, the clinicians-in-training used simple, predictable diagnostic strategies. When the cases were complex, the clinicians often used inconsistent strategies for identifying and diagnosing the patient. Other researchers have extended this use of vignettes beyond a simple understanding of how clinicians make decisions. They have used vignettes as a tools for evaluating clinical performance (Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2009; McNeil, Fordwood, Weaver, Chamberlain, Hall, & Binder, 2008).

Researchers across a variety of disciplines also have used vignettes to conduct empirical studies on attitudes and beliefs (see Wallander, 2009, for a review of vignette usage in the social sciences). Attitudes and beliefs can be difficult to investigate in a naturalistic environment. Attitudes and beliefs can often change in response to contextual variables. If researchers wish to isolate a specific set of attitudes, then using vignettes is a way to control extraneous variables and manipulate the desired variables. For example, researchers have looked at people's attitudes toward capital punishment (Boots, Cochran, & Heide, 2003). Directly asking people about their attitudes toward capital punishment yielded different results than presenting scenarios depicting the nature of the crime, and information about the victim, the offender, and the offender's life circumstances. People were less willing to support the death penalty for someone when they were able to consider the contextual

factors that surrounded a given capital crime. The direct attitude question was not able to account for these important factors that underlie a person's support of capital punishment.

Vignettes also serve another function in attitudinal research: as a bogus pipeline. The bogus pipeline was a technique that psychologists used to tap people's "true" attitudes and beliefs on sensitive topics. When directly reporting attitudes and behaviors, people can show a social desirability bias, or an unwillingness to disclose negative attitudes and beliefs. In a classic study, Jones and Sigall (1971) attempted to eliminate the social desirability bias. They lead some of their participants to believe that they were hooked up to a device, the bogus pipeline, that would measure their actual attitudes and beliefs through galvanic skin conductance. The device was, in fact, non-functioning. However, because participants believed that there was an external device able to tell the "truth" of their attitudes, they tended to report more negative attitudes toward racial minorities than people who were not hooked up to the bogus pipeline.

Similar to the bogus pipeline, vignettes provide a neutral psychological anchor for validating and revealing judgments outside of self-serving biases. People may be unwilling to directly express negative attitudes. However, they may be more willing to express those attitudes and beliefs toward fictional people in fictional situations. Accordingly, researchers have looked at a variety of negative attitudes and beliefs using vignettes. For example, researchers have looked at racial prejudice and criminal victimization (St. John & Heald-Moore, 1996). These researchers suspected that racial attitudes were an underlying factor in people's fear of being victimized, but that they simply were not reporting those concerns. St. John and Heald-Moore used a series of vignettes that varied across different variables that might affect fear of victimization, such as the race, age, and sex of the potential offender, the race age and sex of the potential victim, the characteristics of the neighborhood, and time of day. The vignettes revealed that the most important factor in fear of victimization with Whites was the race of the offender. They interpreted more danger in the vignettes that depicted a White potential victim and a Black potential perpetrator, regardless of the other situational variables. These vignettes allowed the participants to express potentially negative racial attitudes that they otherwise may not have directly revealed.

Similarly, Emerson, Yancey, & Chai (2001) were interested in the reasons why Whites chose to live in primarily White neighborhoods. They hypothesized that Whites tend not to cite racial composition as a reason for house selection because they were unwilling to directly express a desire not to live in Black neighborhoods. Emerson et al. used vignettes depicting houses in different neighborhoods that varied in crime, racial

composition, school quality, and other relevant home-buying concerns. The results indicated that for Whites, the most important factor in selecting a home was the racial composition of the neighborhood. More specifically, they chose to avoid largely Black neighborhoods, but not Asian or Hispanic neighborhoods. In general, people report different racial attitudes when discussing these fictional depictions than they report in direct, opinion-based questions. Additionally, vignettes allow researchers to measure perceptions and attitudes when the topic is sensitive, as people otherwise might be unwilling to personally disclose certain information (Lee, 1993). People may be unwilling to talk about sensitive topics unless they can do so in "third-person" through the vignettes.

In general, vignettes allow researchers to more precisely measure attitudes and opinions that contextual variables and social desirability can often alter. Given the diverse applications of vignettes, the findings that this method yields can become a powerful tool for uncovering a broader understanding of substantive survey topics. The vignette can function as a way to reveal people's relatively unbiased judgment and decision-making processes as they relate to the topic of the survey. In this way, researchers can treat vignettes as neutral stimuli that can elicit a person's attitudes and behavior, and interpret them accordingly.

A Case Study in Interpreting Pretesting Vignette Findings

In the remainder of this paper, I present a case study on how to interpret findings from vignettes in a questionnaire evaluation study. These vignettes were part of an evaluation of survey questions about internet predation. As previously discussed, vignettes are not only useful for revealing information about general attitudes and behaviors, but also the attitudes and behaviors on sensitive or difficult-to-explore topics. Internet predation is one such topic.

There is a body of literature on the prevalence of online victimization. Much of this extant literature provides summary statistics and demographic characteristics of both the predators and the victims (U.S. Department of Justice, 2001). However, there is a paucity of research investigating the underlying mechanisms that lead to exposure to online victimization. A significant reason for the lack of research on the mechanisms and vulnerabilities from the child's perspective lies in the fact that victims may be unwilling to participate in research that explores their victimization experience. In addition to victim reticence, children generally may be unwilling to report or talk about their own risky online behavior, even if they are not victims. Such self-disclosure would be too personal and potentially incriminating.

However, children may respond to vignettes that depict victimization in ways that reveal their perceptions of such experiences without as much discomfort or the potential for self-incrimination. Adults and children often take advantage of schemas when faced with situations where they need to make decisions about new information. Although vignettes are not as lengthy and detailed as the fictional stories typical of schematic research, they may serve a similar function. Vignettes may activate peoples' schemas for events, leading them to express attitudes and reactions that are consistent with those expectations. When responding to the pretesting vignette, people will reveal their schematic assumptions about the depicted situation at the most basic level. In terms of the current study, participants would answer questions about the vignettes that focus on their particular interpretation of the situations. Like all schemas, this interpretation would be the result of personal experiences and knowledge. Therefore, the vignettes would uncover how participants perceive and conceptualize online activities and interactions at the most basic level. In addition to capitalizing on the processing benefits of schemas, the vignettes would also reveal some of the biases and misinterpretations that participants may have about online activities. Participants would misinterpret some aspect of the depictions and possible engage in reconstructive biases that would reinterpret certain aspects of online activities.

Method

Participants. The participants in this study were part of a larger pretesting evaluation of Internet predation survey questions (Beck & DeMaio, 2007; 2008). Twelve children participated in the pretesting evaluation. These participants were all school-aged kids and teens between the ages of 12 and 17. Participants were a convenience sample that researchers at the Census Bureau recruited and interviewed in the metropolitan Washington D.C. area. Table 1 provides a description of these participants.

Table 1. Demographic Characteristics of Participants

Age		Sex		Race and Ethnicity			
_12-14_	_15-17_	_Male_	_Female_	_African American_	_Asian_	_White_	_Hispanic_
6	6	6	6	4	0	6	2

Materials. The vignettes in this study were part of a larger effort to develop and evaluate questions that would measure children's exposure to and participation in contact with online strangers. These questions were intended to be part of a larger national survey that collects information on crime and crime victimization. Because the questions asked respondents to provide detailed information about online victimization, thoroughly testing the questions would have required locating and interviewing teens who had experienced different types of victimization. Such recruitment requirements were not practical for the small, quick evaluation. Therefore, as part of the pretesting activities, I developed a set of hypothetical vignettes to gather information about how teens think about online communication. These vignettes, which depicted different online interactions, were a way to gather details about constructs that we otherwise would have been unable to explore.

There were 13 vignettes. Each vignette varied on a set of key criteria: the mode of the contact, whether the contact involved other people in addition to the subject, the level of complicity, and if the contact developed into "offline" channels. It also should be noted that I constructed these vignettes to be sufficiently vague to encourage participants to engage in their own processing of the situation. The intent was not to develop a set of materials that counterbalanced or fully crossed these variables as with typical applied studies that use vignettes. The goal was to represent situations that might be common online experiences, most of which would fall within the scope of the survey data collection. Half of the participants only saw 11 of the hypothetical vignettes. To further pretest some potential problems that appeared during earlier interviews, we decided to add two additional hypothetical situations that depicted potentially problematic online encounters. Appendix A contains the vignettes and notes which vignettes we added later in the pretesting.

Procedures. Because these vignettes were part of a pretesting procedure, participants first answered the survey questions about contact with online strangers. After the respondent answered the survey questions, the interviewer then presented him or her with a stack of note cards. Each note card had one vignette printed on it. Participants read through each vignette and decided if they felt it fell within scope or out of scope with a survey about contact with online strangers. For each vignette, participants then described their reasoning for classifying the vignette as within or out of scope. The interviewer followed-up with any necessary questions to determine the participant's interpretation of each hypothetical situation. It was the rationale behind the participants' decision that the vignette depicted an in-scope or out-of-scope interaction that I present in this paper.

Results

In this section of the paper, I present findings that revealed important substantive information on how children perceive online activities and the associated vulnerability to internet predation. The findings are based on an amalgamation and summary of participants' schematic reactions to the pretesting vignettes. There were several key findings that suggested areas of potential substantive exploration based on participants' reconstruction and interpretation of the vignettes.

Intrusions. Similar to the schematic intrusions discussed in the previous section, participants in this study also tended to engage in similar reconstructive processes. The first salient finding was the extent to which participants made intrusions and false assumptions about the information in the vignettes. More specifically, they tended to "read beyond the story" in ways that were thematically consistent with their global perceptions of online interactions. It was through this process that the vignettes revealed the most informative aspects of participants' schemas about the danger of online interactions.

It was not uncommon for participants to make inferences about what the interactions might entail or where they might lead in the future. These intrusions were both negative and positive. When participants made negative intrusions, they tended to be about future danger should the contact continue to escalate. For example, one vignette depicted Jessica's email interaction with an online stranger, Mary, who claimed to be Jessica's age. Both Jessica and the online stranger were unhappy in their lives. The online stranger made plans to run away and wanted Jessica to join her. Participants often expressed a fear that Jessica could be kidnapped, killed, or left alone in a strange city. The vignette contained no information about the online stranger using a false identity, where the teens planned to meet, or even if Jessica decided to run-away with Mary. Participants were making thematic intrusions based on assumptions about what would happen after Jessica met up with the stranger.

There were similar concerns for the vignette depicting David's interaction with a research professor through a social networking site. The professor was recruiting children for a research study and wanted David to submit a school picture that would be part of the study. Some participants thought it wouldn't stop with one contact and that the professor's requests would escalate into requests for suggestive photos. They also made assumptions about the nature of the pictures that kids would be viewing as part of the study. Some participants thought the professor was going to trick David into viewing pornographic pictures or that she would use David's picture in a pornographic manner. These types of intrusions suggest that teens most likely have some awareness of the dangers of online communication, as certain scenarios elicit those schematic assumptions.

They indicated awareness of the potential dangers of meeting with an online stranger. The degree to which participants made thematic intrusions and the type of intrusions they made shed light on their perceptions of certain online interactions. In the next section, I explore the themes of these participants' intrusions and interpretations of the vignettes.

Mode of contact. In addition to intrusions, another theme to emerge in participants' responses to the vignettes was the importance of mode of contact. Mode of contact was a two-pronged factor. First, participants expressed awareness of the differences between actual online stranger contact and mass emails or pop-ups, even if they contained content with a sexual connotation (i.e., sexual enhancement drugs, or an adult website). There were two vignettes that depicted a child receiving a mass email and one vignette depicted a child encountering an x-rated pop-up ad. Participants largely seemed aware that these experiences were similar to junk mail, spam, and mass advertising. They also were aware of the "actorless" aspect of the experiences. Because the emails appeared to be mass-distributed, participants showed awareness that an actual "online stranger" was not necessarily behind the email. Even in the case where the respondent accidentally opened the x-rated pop-up add, participants still viewed this as unintentional and "actorless." These findings suggest that as long as kids perceive that there is not an actor beyond the contact, as in the case of random emails and ads, they do not view these types of online interactions as particularly dangerous or worrisome. However, it is worth noting that one participant expressed some irritation at how common such emails and ads were, suggesting that kids may be desensitized to these types of contacts. This desensitization may contribute to the perceived "harmlessness" of such online experiences.

Mode also was important when there was also some ambiguity about the exposure to sexual content. Specifically, one vignette depicted a kid named Sam receiving a message from a fellow online gamer. The instant message contained an x-rated link. When Sam unknowingly clicked on the link, he realized it was an x-rated site. Because the online stranger did not directly expose Sam to the explicit content, some participants disagreed that this situation represented something harmful. The ambiguity of this exposure may suggest that unless an online stranger directly sends explicit content that does not require clicking on links or having direct personal contact when viewing the material, kids may not view this type of activity as potentially dangerous.

Similarly, certain modes seemed to be more important than other modes, as participants assumed there was some level of safety from certain websites. Specifically, responses to the vignettes containing social networking site interactions suggested a schematic understanding of those sites that legitimated contact with

online strangers. Some participants seemed to feel that Facebook was a "safe" social networking site because "you had to know someone" to be able to have a page. In other words, in order to have a personal page on this site there was some sort of validation process for the individual's identity as a requirement to create a page. This fundamental misunderstanding of social networking sites suggests that kids may have a false and potentially dangerous sense of security when interacting with online strangers on social networking sites. Such a false sense of safety is particularly alarming, given the widespread popularity of such websites among the younger age demographic. A recent study indicated that 55 percent of online kids and teens have a page on a social networking site (Lenhart, Madden, Smith, & Macgill, 2007). Although two-thirds of these teens limit the global online community's access to their profiles, the propensity to do so, to some degree, is most likely related to an understanding of the safety of those types of sites. These findings suggest that teens may need more awareness training about social networking sites. These findings also might point to other mitigating factors in the interaction that contribute to this false sense of safety that future research should explore. A small number of teens on social networking sites use this online platform for flirting (Lenhart et al., 2007). The desire to engage in such behavior may lead teens to justify the safety of that behavior.

   Intention. The intention of both the online stranger and the kids involved in the interactions emerged as another key theme. Participants' assumptions about intent played a significant role in how they evaluated and reacted to specific vignettes. When interpreting the behavior of the online stranger, assumptions about the intent of that person seemed to be important to determining if the situation could be dangerous. More specifically, participants interpreted some of the comments from online strangers as flirtatious banter, despite the fact that it had a sexual connotation. For example, in one vignette, an online stranger in a chat room asked Jeremy if he has "sexy muscles." In another vignette, an online stranger made suggestive comments to a girl named Courtney, mentioning how he was training to be able to "really please the ladies." Participants sometimes viewed these types of comments to be innocent remarks without predatory intent. While participants largely interpreted Jeremy's interaction to be uncomfortable, there were some interpretations that indicated that the comments were not overly sexual or overly inappropriate. These interpretations suggest that children may view flirtatious conversations with online strangers as something harmless. Participants seemed to be engaging in choice-supportive bias when interpreting the online stranger's intent, making it more consistent with their acceptance of online flirting. Such a processing bias is potentially dangerous, as research suggests that online predators often use this type of behavior to gain the trust of their online victims (Marcum, 2007).

Interestingly, some participants tended to wonder about the sex of the online stranger in Jeremy's interaction. The vignette did not indicate the sex of the online stranger. Most participants expressed the desire to know the sex of the online stranger because it factored into their assumptions about the intent of the contact. If the online stranger were a woman, it would make the contact far less sinister. If the online stranger were a man, it would make the contact "creepy" and "gross." Participants did not share the same concern in Courtney's situation because the vignette made it clear that the online stranger was male. Participants tended to view this interaction as "harmless flirting." Some participants went as far as to indicate that they didn't feel that the online stranger meant the comment to be sexually explicit, and that Courtney may have misinterpreted the remark. These responses suggest that participants had different schematic interpretations of the interactions depending on the sex of the online stranger. Members of the opposite sex having such a conversation did not carry nearly as negative a connotation as a man making those comments to a young male. In this situation, participants, showed an awareness and potential bias against same-sex conversations that are potentially suggestive.

Differences in the interpretation of these two vignettes reveal an important shortcoming in kids' schemas of online predators. In the case of Jeremy's situation, participants made the assumption that a male online stranger communicating with another male increased the probability that the online stranger was an internet predator. Conversely, they assumed that similar conversations between an online stranger and a member of the opposite sex carried the intent of flirting or was completely harmless. However, these interpretations of the interactions are in direct contradiction to the prior probability of online victimization. Overwhelmingly, internet predators tend to be male and their victims tend to be female (Lamb, 1998; Malessky, 2007; Marcum, 2007; U.S. Department of Justice, 2001; Wolack, Finkelhor, & Mitchell, 2004). Therefore, participants showed a lack of awareness to the potential dangers of a male online stranger talking to a young female. It is the assumption that such situations are less likely to be dangerous that could lead to increased online victimization. Future investigations should explore the tenacity of these assumptions and under what conditions participants would change their perception of these types of online communications.

Complicity. A final key theme that emerged from the qualitative interviews was complicity. The degree to which the kids appeared to engage in and encourage further conversation with the online stranger had an effect on how participants evaluated the potential danger of a situation. If the teen appeared to be engaged willingly in the contact, participants interpreted the interaction in a positive manner. In other words, they thought it indicated a friendly and safe relationship. It also indicated that participants were interpreting the actions of the

actors to be harmless simply because they felt the individuals must have something in common. Similar to

Spiro's (1970) participants, these kids were making accommodations for seemingly contradictory outcomes. If

the interactions continued, then the online stranger must not be dangerous. If the stranger were dangerous, it

would contradict the outcome of continued communications. As one respondent indicated, the girl in the

vignettes would not be talking to the male online stranger if the male online stranger were dangerous.

Participants also tended to use the amount of back-and-forth interaction to anchor their accommodative

interpretation of safety. As contact increased, so did participants' perceptions that the interaction was safe.

An important mitigating factor in this accommodative reconstruction was the perception of romantic

interest. Two of the vignettes depicted a romantic relationship growing out of a teen's interaction with an online

stranger. In both scenarios, the teen and the online stranger were equally engaged in starting the relationship. In

these situations, participants' assumptions about flirting and the current status of the relationships tended to

skew perceptions of the online relationship. Participants also tended to focus on the apparent "common ground"

that the kid seemed to have with the online stranger. It is the interpretation of the remarks as friendly and the

assumption of common ground that lead to the complicity that participants justified in their interpretations of the

scenarios.

Also, the more the kid interacted with the strangers, the less dangerous the situation became and the

more culpable the child became. Participants indicated that if anything did happen to the child, he or she would

be partially culpable, as they were complicit in the interaction. These perceptions were particularly salient when

the interaction occurred when the contact progressed into offline contact. When the kid appeared complicit in

escalating the contact with the online strangers, participants showed some awareness of the potential dangers,

particularly when the contact escalated to offline modes of communication. However, as previously mentioned,

this perception of the harmlessness of interactions once they reach a certain level is consistent with findings

about how predators lure their victims. Predators tend to slowly gain the trust of their victims by feigning interest

and common ground (Wolack, Finkelhor, & Mitchell, 2004). This lack of awareness of the dangerous of flirtatious

relationships with online strangers suggests that research might need to focus on how to educate teens to be

suspicious of such relationships.

Conclusions

Although vignettes are an evaluative survey methodology tool, they can often lead to the development

of substantive research to explore applied research topics. Because vignettes are especially powerful for

eliciting people's expectations, assumptions and biases in attitudes and behaviors, they provide fertile ground for developing and furthering research on survey topics. This paper presented findings from vignettes that were part of a pretesting evaluation. In particular, vignettes proved to be a valid tool for collecting information on how children perceive online communication and online victimization. Because of the sensitive nature of the topic, the vignettes were important to collecting information that participants might not want to disclose. Participants provided detailed information on their attitudes toward specific online behaviors. These findings revealed some important information on how children perceive online communication that suggests a need for further substantive research. Those findings will hopefully inform future survey development. I also hope that this paper inspires other methodologists to build in and develop these research questions into their survey pretesting because of the value of the results that vignettes can produce.

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Appendix A

1. While checking his e-mail Danny notices he had received an email asking if he would like to try Viagra. He opens the e-mail, reads it, and then deletes it.

2. While checking her email, Erica notices that she has received an offer to enter and win a dream vacation. She opens the e-mail, reads it, and then deletes it.

3. While doing a Google search to get information for a school project, Beth accidentally misspelled a word and a "pop-up" for an x-rated website appeared on screen. When she clicks on the pop-up to close it, it actually opens up into the x-rated website.

4. Sam is checking his e-mail when he receives an Instant Message alert from "JoshSmith," someone he met through an online gaming site. "JoshSmith" writes that he just saw a great website that he thinks Sam will really like and copies the link into his message. Sam sees that the link is to a website called "playfulbunnies.com". Sam clicks on the link and realizes that it is an adult website containing pictures of women without clothing.

5. Jeremy is in a chat room for fans of his favorite TV show, Lost. He is talking back and forth with another fan with the screen name "LostRules07." While chatting with this fellow fan about how attractive some of the cast members are, LostRules07 writes that some of the men have "sexy muscles" and asks Jeremy if he also has "sexy muscles."

6. David received a message on his MySpace page from someone named Nicole. Nicole sent out a message saying she was a professor working on a research project at a local University and was looking for kids in his age range to participate in the project. David thought the project sounded interesting so he decided to respond to Nicole's message. The research project involves visiting a website, looking at photos of kids in his age group, and rating how friendly each person looks. Nicole told David he would need to submit a recent photo of himself to participate in the study. She asked David to email her a photo of himself.

7. Sophie received a message on her MySpace page from someone named Frank. He sent out a message saying he was new in town and wanted to meet people. Sophie was curious so she wrote back to him and tried to find out more about him. Frank is 21 and goes to college. He noticed that Sophie had pictures of the beach on her page and asked about them. Sophie told him they were from a recent family vacation to Hawaii. Frank said he bet she looked good in a bathing suit and asked Sophie to send him a photo of herself on the beach in her bathing suit.

8. Courtney is a member of an online message board for runners. She sometimes posts comments back and forth with other members about racing and training techniques. One day, Courtney was talking with another member about how to train for a 5k, who writes that his training has given him enough endurance to "really please the ladies."

9. Chad received a "friend" request on his MySpace page from a girl named Katie. He didn't know Katie but thought she was "cute" in the pictures on her page and decided to "friend" her. Her page says she attends a private school in the same neighborhood as his public high school. They chatted back and forth for a while over MySpace until one day Katie asked if she could call him. Now Chad and Katie talk on the phone and sometimes hang out together after school.

10. Jessica is having a hard time at school. No one seems to like her and she feels alone. One night in her room, Jessica comes across someone's online blog, "Unhappy Mary". Mary seems to feel just like her, so Jessica sends her an e-mail. They seem to have a lot in common. They begin regularly writing back and forth. After a few months, Mary says she is so unhappy that she is going to run away to New York and asks Jessica to come with her.

11. Gary met Anna while in an online chat room on Yahoo. Gary and Anna started exchanging flirty e-mails. In one of these e-mails Anna asked Gary if he would like to meet her at a hotel the following weekend.

We added the following two scenarios for the final set of interviews.

12. Matt recently joined the MySpace page for his favorite group, Danger Kitty. He often visits their page to get news on the band and free music downloads. One day a girl named Carrie posts a message with her e-mail address, saying she has some of their live music. Matt sends an e-mail to Carrie. Matt and Carrie begin writing back and forth. Matt really likes Carrie, so one day he gets up the nerve to ask her out on a date to the upcoming Danger Kitty show. Carrie accepts the invitation.

13. Rick is really into gaming. He often spends hours at a time playing his favorite game, World of Warcraft. During one game, while Rick was planning a move with another character, the player mentions that he lives in Pittsburg and then asks Rick where he lives.