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. These fictional scenarios also lend themselves to exploratory research about topics upon which surveys are based. Researchers across multiple disciplines have used vignettes to determine how people make judgments and decisions in complex situations or about sensitive topics. This paper discusses the psychological framework for why vignettes are a useful tool for uncovering judgments and decision-making processes. As an example of how to use vignettes as an exploratory tool, I interpret findings from vignettes in light of what they reveal about teens' perceptions of risky online behaviour. These findings suggest several key variables for researchers to explore in an effort to improve education about internet crimes against children.

Key Words: vignettes, decision making, online activities

1. Introduction

Survey methodologists tend to use a variety of methods to develop and refine surveys. These methods include, but are not limited to, expert review, focus groups, cognitive interviews, behaviour coding, and respondent debriefings. These methods function as a means to an end in the process of survey development. However, such 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 behavioural observations, they have the potential to provide fertile ground for developing exploratory research questions.

This paper illuminates the usefulness of pretesting methods for developing research questions that explore the constructs upon which researchers formulate survey questions. I limit my focus to a specific pretesting method; vignettes. Vignettes are fictional scenarios that describe people, behaviour, and situations. In questionnaire pretesting, survey methodologists use vignettes to evaluate people's understanding of question terminology and question intent. Typically, the vignettes depict situations that fall within the scope of the data the survey will collect. Participants use the information in the vignette to answers the relevant survey questions. The benchmark is whether participants can answer the survey questions correctly for the situations depicted in the vignettes. If participants cannot correctly answer the questions, it suggests that the questions are either unclear or unable to capture the complexity of those situations.

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

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and resources, survey methodologists are not always able to locate and recruit a sample of pretest participants that reflect all possible real world situations a given survey may capture. Vignettes allow survey methodologists to test survey questions 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 that other researchers have covered previously (see Martin, 2004, for 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.

1.1 Information Processes and Reconstructive Biases

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

One of the most basic sources of inference and processing bias is a schema. Schemas are general knowledge representations (Nickerson & Adams, 1979; Rummelhart & Norman, 1985; Schank & Abelson, 1977). People can have schemas for events as simple as pressing a pedal to events as complex as driving a car. Schemas also are experiential. People formulate schemas based on personal experiences, making them both dynamic 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, particularly when facing ambiguity. 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 before reading it, 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 before reading it. Participants who knew the passage was about clothes washing were able to use schematic knowledge to parse the complex, vague text and improve their retention.

However, people make use of schematic processing 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 with the story. For example, at the beginning of the story, participants read that Nancy was worried that she might be pregnant. Later in the story, she had a routine doctor's appointment. Participants tended to falsely recall the doctor informing Nancy she was pregnant. This recall error, among others, was not a "wild

guess," but instead was a plausible inference, given the context participants had for interpreting the story.

Other research indicates changing the schematic context through which people recall events can boost retention. 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 walked 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 potential 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. For example, participants who read the story from the perspective of the burglar were more likely to recall sentences about home electronics and other valuables than participants who read the story from the perspective of the home buyer. When participants had to recall the sentences in the passage a second time from the other perspective, they remembered more of the sentences that were congruent with this 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, they also can interfere with comprehension and recall. Bartlett's (1932) seminal research demonstrated how schemas, in the form of cultural expectations, can affect people's ability to comprehend and accurately remember verbal information. Bartlett had his upper-class British participants read an oral tale from a Canadian Indian tribe. The tale, which depicted Indian warriors encountering ghosts, a resulting battle, and the mysterious death of one of the warriors, contained a number of unique and bizarre elements that were highly incongruent with the cultural schemas and story-telling conventions of Bartlett's participants. 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 made it more consistent with their cultural schemas. They tended to leave out the details that were the most inconsistent with their schematic expectations and reconstruct the passage in ways that made it consistent with their own understanding of typical war battles.

Spiro (1980) was able to determine the conditions under which people engaged in these types of reconstructive processes. Spiro's participants read a story about a fictional couple, Bob and Margie. The story contained details about their relationship. In 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 explained or justified (accommodated) the seemingly contradictory outcome of the relationship. For example, when participants read that Margie wanted children, but the couple stayed together, participants tended to falsely recall sentences about how Margie found out she could not have children, how Bob changed his mind and decided he wanted children, or how 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 survival of the relationship. Participants only engaged in this kind of reconstruction when the outcome was incongruent with their expectations. To make the outcome more plausible, they altered their memory.

In addition to making accommodations for incongruent events, people also engage in processing biases that simplify decision-making processes. Stereotypes are heuristic generalizations about people and their behaviour. Because stereotypes facilitate rapid information processing, people tend to rely on them when they are not able to engage in effortful processing during decision-making (Sherman & Bessenoff, 1999). 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 to guide their responses. After reading a list of positive and negative behaviours that described each individual, in a recognition task, participants had to make rapid judgments about which behaviours originally described the Skinhead and which behaviours originally described the priest. People tended to misattribute the Skinhead's positive behaviours to the priest and the priest's negative behaviours to the Skinhead. People relied heavily on heuristic processing to make their decisions about which person performed which behaviour.

People also engage in reconstructive biases that validate their own preferences and choices. Mather, Shafir, and Johnson (2000) demonstrated how people engage in choice-supportive memory processes to bolster their choices. Mather et al. had participants make choices between sets of candidates for a roommate, a job, and a blind date. To make their choices, participants read a series of attributes, both positive and negative, that described each choice. Later, participants had to remember which qualities originally described each candidate. Overall, participants tended to attribute more of the descriptive qualities to their preferred choice for the roommate, job, or blind date than to the other candidate. This asymmetrical attribution process was the result of participants' over attributing all of the positive qualities to their chosen candidate, and misattributing the chosen candidate's negative qualities to the rejected candidate. For example, after choosing job candidate A, participants tended to remember that more of the desirable qualities originally described that candidate, even if the desirable quality originally described the rejected candidate. They "pulled" the positive qualities away from the rejected candidate and "gave" away the undesirable qualities, remembering the desired in a more favourable, self-validating light.

Gordon, Franklin, and Beck (2005) demonstrated that people engage in similar self-validating or "wishful thinking" when it comes to making decisions that affect desirable outcomes. When people encountered highly desirable events, such as winning the lottery, they altered their memory in ways that made the desirable outcome seemingly more likely. Participants in these studies read a series of predictions about desirable or undesirable events from two psychics. In the first study, one psychic was more accurate than the other. When later attempting to remember which psychic made each prediction, participants tended to misattribute more of the desirable events to the accurate psychic and misattribute the undesirable events to an inaccurate psychic, regardless of who originally made the prediction. Through this wish-consistent bias, participants made the desirable events seemingly more likely to come true. The bias exists even when the psychics making the predictions are equally accurate. In the second study, when the psychics were equally accurate in their predictions, participants misattributed more past accurate predictions to the psychic who later predicted a highly desirable event,

regardless of the desirability of those earlier predictions. Participants were making the psychic predicting this highly desirable event more accurate than she originally was, presumably in an effort to make their wish more likely to come true.

From this discussion, it is clear that people respond to seemingly neutral stimuli in ways that reflect biases in how they process and remember information. Given these powerful processing biases, it is reasonable to expect that they emerge when people encounter vignettes. It is the potential for such biases to emerge that make vignettes a valuable research tool.

1.2 Applying Information Processing to Vignettes

Vignettes are a powerful methodological tool because 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, while systematically isolating and manipulating the factors they wish to observe. In judgment and decision-making research, fictional scenarios depicting events in differing contexts allowed researchers to study the factors behind the seemingly irrational way with which people perceive and weigh information about the probability of events when making decisions (see Kahneman, Slovic, & Tversky, 1982; Kahneman & Tversky, 2000, for reviews). Based on the success of this method, other researchers have adopted the use of vignettes to study risk assessment and clinical decision making in an applied setting (see Taylor, 2006, for an analysis of how to use this technique in applied settings). For example, Falzer & Garman (2009) used vignettes to determine how psychiatry interns recognize and make diagnostic decisions for simple and complex illnesses. Other researchers have extended this use of vignettes to assess psychiatrists' clinical skills (Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2009; McNeil, Fordwood, Weaver, Chamberlain, Hall, & Binder, 2008).

Researchers across a variety of disciplines also have used vignettes in empirical studies on attitudes and beliefs (see Wallander, 2009, for a review of vignettes in the social sciences). Attitudes and beliefs can be difficult to investigate in a naturalistic environment because they are vulnerable to contextual influences. If researchers wish to isolate a specific set of attitudes, then using vignettes is a way to control these extraneous influences. 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 (Jones and Sigall, 1971). When directly reporting attitudes and behaviors, people can show a social desirability bias or an unwillingness to disclose negative attitudes and beliefs. The bogus pipeline was a methodology for assessing "true" attitudes and beliefs on sensitive topics. In a classic study, Jones and Sigall led some of their participants to believe that they were hooked up to a device (the bogus pipeline) that was capable of measuring 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 assess the "truth" of their attitudes, they tended to report more negative attitudes toward racial minorities than people who were not hooked up to the device.

Like the bogus pipeline, vignettes provide a source for revealing "true" attitudes outside of self-serving biases. While people may be unwilling to directly express negative attitudes, 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, St. John and Heald-Moore (1996) used vignettes to study racial prejudice and criminal victimization. These researchers suspected that racial attitudes were an underlying factor in people's fear of being victimized, but that people simply were not reporting those concerns. They used a series of vignettes that manipulated 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 home-buying concerns. The results indicated that for Whites, the most important factor in selecting a home was the racial composition of the neighborhood, as Whites chose to avoid largely Black neighborhoods, but not largely Asian or largely Hispanic neighborhoods. Participants reported different racial attitudes when discussing these fictional depictions than they reported 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 (see Lee, 1993, for an example of this method). People may be unwilling to talk about sensitive topics. Responding to fictional scenarios allows the person to report attitudes toward and beliefs about sensitive topics in "third-person."

In general, vignettes allow researchers to more precisely measure attitudes and opinions that are subject to undesirable contextual influences. Given the diverse applications of vignettes, the findings that they yield can be a useful tool for uncovering a broader understanding of substantive survey topics. The vignette can reveal a less biased snapshot of people's judgment and decision-making processes as they relate to the topic of the survey.

2. 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 and risky online behavior, a potentially

sensitive topic. As previously discussed, vignettes are useful for revealing attitudes and behaviors on sensitive or difficult-to-explore topics.

Much of this extant literature on online victimization provides summary statistics and demographic characteristics of both the predators and their victims (U.S. Department of Justice, 2001). There is a paucity of research investigating the underlying mechanisms that lead children to engage in behavior that exposes them to online victimization. A potential reason for this lack of research from the child's perspective lies in the fact that victims may be unwilling to participate in research that explores their victimization experience. Additionally, 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 personal and potentially self-incriminating. However, children may respond to vignettes that depict risky behavior or victimization in ways that reveal their perceptions of such experiences without as much discomfort or the possibility of self-incrimination.

As I discussed earlier, people 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 function similarly. Vignettes activate peoples' schemas for events, leading them to express attitudes and reactions that are consistent with those expectations. In terms of the current study, children's reactions to the vignettes would reveal their particular interpretation of and expectations about online activities and risky behaviors. Like all schemas, these interpretations would be the result of personal experiences, knowledge, and beliefs. Therefore, the vignettes would uncover how children perceive and conceptualize online activities and interactions with online strangers. The vignettes also might reveal some of the biases and misconceptions that children may have about risky online behavior, as children might engage in reconstructive biases that would reinterpret certain aspects of online activities. Based on the potential for these processing biases to emerge, I interpreted the findings from a pretest evaluation of questions about online activities to reveal information about how children view risky online behaviour.

2.1 Method

2.1.1 Participants

The participants in this study were part of a pretesting evaluation of Internet predation survey questions (Beck & DeMaio, 2007; 2008). Twelve children between the ages of 12 and 17 participated in the evaluation. They were a convenience sample that researchers at the United States 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

2.1.2 Materials
The vignettes in this study were part of the 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 kids and teens who were victims of internet predation. 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 online interactions between children and strangers, were a way to gather details about constructs that we otherwise would have been unable to explore through traditional cognitive interviewing.

There were 13 vignettes. Each vignette varied on a set of key criteria: the type the online activity, whether the contact involved other people in addition to the subject, the level of the subject's complicity, and if the online communication developed into "offline" channels. 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 might be typical to an empirical study. 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 vignettes. To further pretest some potential problems that appeared during earlier interviews, we added two additional hypothetical situations that depicted potentially problematic online encounters. Appendix A contains the vignettes.

2.1.3 Procedures
Because these vignettes were part of a cognitive interviewing 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. Participants then described their reasoning for classifying the vignette as within or out of scope. The interviewer asked questions to determine the participant's interpretation of each hypothetical situation. It was this rationale behind the participants' decision that the vignette depicted an in-scope or out-of-scope interaction that I describe in the results.

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

2.2.1Intrusions
Similar to the schematic intrusions found in lab studies, 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. Generally, participants 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 information about participants' perceptions of the danger of online interactions.

It was not uncommon for participants to make inferences about what the interactions with an online stranger 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, participants made negative inferences about the vignette depicting Jessica's email interaction with an online stranger, Mary. Both Jessica and the online stranger were unhappy. The online stranger made plans to run away and wanted Jessica to join her. Participants 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 their own fears about what would happen should Jessica meet 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 that the "professor" would continue to contact David and that her 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 or sharing personal photographs. 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 sections, I explore the themes of these participants' intrusions and interpretations of the vignettes.

2.2.3 Themes: 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 the online activity and contact played two different roles. 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 (e.g., sexual enhancement drugs, or an adult websites). There were two vignettes depicting a kid receiving a mass email and one vignette depicting 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 ad, 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 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, as Sam had to click on it to view the content, some participants felt that this situation did not represent 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 online modes seemed to be more important than other online modes, as participants assumed there was some level of safety in 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 a validation process for the individual's identity as a requirement to create a page. This validation process made the online stranger "less" of a stranger. This fundamental misunderstanding of social networking sites suggests that kids may have a false, 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 that 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 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 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.

2.2.4 Themes: Intention
The intention of both the online stranger and the teen 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. 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 comments to be innocent remarks without predatory intent or "harmless flirting." Some participants went as far as to indicate that, in Courtney's interaction, they didn't feel that the online stranger meant the comment to be sexually explicit, and that Courtney may have

misinterpreted the remark. These interpretations seem to reflect a choice-supportive bias, making it more consistent with their acceptance of online flirting as harmless. 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. 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, the contact seemed more like acceptable, harmless flirting. If the online stranger were a man, it would make the contact "creepy" and "gross." In this situation, participants, showed an awareness and potential bias against same-sex conversations that are potentially suggestive. Participants did not share the same concern in Courtney's situation because the vignette made it clear that the online stranger was male. The differences in the interpretation of these two vignettes reveal an important shortcoming in childrens' schemas of online predators. In 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 harmless flirting. However, these interpretations of the interactions are in direct contradiction to tactual online victimization statistics. Overwhelmingly, internet predators tend to be male and their victims tend to be female (Lamb, 1998; Malesky, 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 and an over awareness of the dangers of a male online stranger talking to a young male. These assumptions could lead to increased vulnerability to 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.

2.2.5 Themes: Complicity
A final key theme that emerged from the vignettes was complicity. The degree to which the teen 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. Participants were interpreting the actions of the actors to be harmless simply because they felt the child and the online stranger must have something in common. Similar to Spiro's (1970) participants, these teens were making accommodations for seemingly contradictory outcomes. If the interactions continued, then the online stranger must not be dangerous. It would not make sense for the teen to continue to talk with the online stranger if he or she were dangerous. Participants also tended to use the amount of back-and-forth interaction as an indicator of safety. As the number of contacts 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 teen 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. 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 dangers of flirtatious relationships with online strangers suggests that research might need to focus on how to educate teens to be suspicious of such relationships.

Finally, the more the teen interacted with the stranger, the less dangerous the situation became and the more culpable the teen became. Participants indicated that if anything did happen to the teen from meeting up with or having contact with the online stranger, the teen would be partially culpable, as they were complicit in the interaction. These perceptions were strongest when the interactions progressed into offline contact. When the teen 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.

3. Conclusions

Although vignettes are one of many survey methodology tools, because they are especially powerful for eliciting people's expectations, assumptions, and biases in attitudes, beliefs, 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 useful tool for discovering how children perceive risky online behaviors and online victimization. Because of the sensitive nature of the topic, the vignettes were important to collecting information that participants might not have wanted 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 substantive findings will hopefully inform future survey content 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.

Acknowledgements

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Appendix A: Vignettes

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.

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.

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.

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.

Jeremy is in a chat room for fans of his favourite 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."

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.

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.

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."

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 neighbourhood 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.

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.

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.

Matt recently joined the MySpace page for his favourite 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.

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.