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Running Head: PERCEIVED CHILD WITNESS CREDIBILITY

Perceived Credibility of Child Witness Statements Based on Age and Gender

by

Beverly M. Griffor

Thesis

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Thesis Committee:

James Todd, Ph.D., Chair

Rusty McIntire, Ph.D

Natalie Dove, Ph.D

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Dedication

There are several people without whom I would not have been able to complete this thesis, and to whom I dedicate this work.

To my parents, Ray and Kathy Brown, who have always respected my individuality and encouraged my strength. Thank you for being there for me when I needed you.

To my sister, Erica, who reminds me to keep my feet on the ground. On days when this all seemed too big to handle, you helped me remember there is so much more to life. Thank you.

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Abstract

Although a great deal of empirical research and theoretical analysis has been done on in relation to jury perception of the credibility of child witnesses, virtually none of it has focused on the impact of age and gender of child witnesses alone on juror perceptions. This study expands on the existing body of knowledge on juror bias by exploring the connection between the perceived credibility of a child witness and the age or gender of that witness. Participants were given a choice between two children of different ages and/or genders. The participants were asked about the believability of the identified children. The main hypotheses involved the relationship between age, gender and perceived credibility. The data show that both age and gender had an impact on the perceived credibility of the identified children. This information can be used to make determinations about impactful witnesses and inherent juror bias.

Keywords: *credibility, testimony, age, gender, child witness, juror*

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Introduction

Friedrich Nietzsche (1886) once explained that “all credibility, all good conscience, all evidence of truth come only from the senses” (p. 134). This describes the struggle for those who must gain information using second-hand sources, such as the testimony of others. Determining the credibility of transmitted information has long been an important and fundamental problem for those seeking truth and understanding. Each day, as they interact with the world around them, individuals are faced with a wide variety of new items of information from many external sources. This second-hand information can come in many forms, from authoritative reports created by known sources of high reliability to offhand comments overheard from strangers. Of fundamental importance is how to weigh this information, of which one would normally seek direct, factual, firsthand knowledge. While it may be wise not to simply trust or distrust such information presented as if by intuition, there are many instances where such restraint is not possible. Indeed, in some instances, it is all that can be done. One of these contexts is the modern courtroom – where the fundamental operating premise is that the fact finder (i.e., usually a jury or judge) must not have had direct experience of the events in question but instead must rely on the reports of others. Academics might find such a situation strange. For them, the best decision maker would be the person with the most direct knowledge and experience.

If personal experience and knowledge is the main method by which we to come to assess the veracity of something, but this is forbidden to be used in the courtroom, what must jurors do in order to render an accurate verdict? They can rely upon information upon which all the parties agree. They can hear the arguments of the advocates, and take the instruction of the judge. But, even when the facts are presented to them, the most difficult part of their task must be weighing the credibility of each witness and deciding who to believe. In fact, what might be considered

“ad hominem” in a scientific argument—judging a claim based on the apparent believability of the individual making a statement—is a formal aspect of the legal process. Statements surrounding credibility are ordinary and acceptable in the law. Federal Judge John L. Kane explains “Because the entire trial process rests on persuasion, determining credibility is more than evaluating testimony. Although it is customary to speak of the credibility of witnesses and the persuasiveness of counsel, both deal with the same thing: the degree of belief we attach to what we see and hear.” (Kane, 2007).

When exploring the role of the age and gender of a child on perceived witness credibility, there is a gap in the existing literature. This is a gap that not many consider because of the complexities and assumptions underlying jury work, which do not adequately consider concerns relating to people’s base perceptions of children. This is true despite that potential juror bias rooted in witness age has been on legal and psychological professionals’ radar for decades (Goodman, Golding, & Haith, 1984; Kassin & Wrightsman, 1983). The current study attempts to understand the relationships between the age and gender of child speakers and the believability assigned to them by potential jurors. The goal of this research is to assess what biases people harbor as to credibility before they set foot in the jury box, before their decisions contain case-specific context. This will provide legal and psychological professionals additional information about inherent juror bias and predictability. The causes of any such biases are not considered in this study, only their existences.

The rudimentary question is whether people place more or less weight on the accounts of children according to varying genders or age groups when this is all the information they have received. If they do, it would be important to know the scope of this effect in order to use that knowledge to make practical judgments, such as those involving trial practice. The perceived

veracity of the witnesses is, in many cases, a deciding factor that is relied upon heavily by juries. Accounting for how much credence the average listener will give to a child speaker is a key element in evaluations and trial-based decision making. If there is a disparity between the perceived credibility of juvenile speakers based on their ages or genders alone, such a finding would have significant impact upon litigation decisions. This would particularly be the case in juvenile courts or in cases where eye witnesses or victims are children. Knowing which age group of minors was considered the most credible would allow attorneys to call the most appropriately-aged child witness available to more efficiently sway a jury. This would also support professionals in times when they might consider sparing a child from the burdens of difficult trial testimony.

Based on the research available to date, detailed in the Review of the Literature below, several questions were explored herein. It was believed that the youngest and oldest of the child communicators would be viewed as more credible than the child communicators of other ages. It was not believed that the reported gender of the child communicator would have an influence on perceived credibility. Because of this, an interaction between age and gender was not expected.

A Review of the Literature

The perceptions of adults about the credibility of children has been an area of interest for psychological and legal professionals for decades, especially as related to juror bias. In 1984, Goodman, Golding, and Haith published a pioneering work exploring and reviewing juror bias to that date, explaining that “[w]henver a child testifies in a court of law, jurors face a difficult task” (p. 139). Goodman and colleagues discussed several factors that could impact a potential juror’s base perception of child witness credibility. They detailed one aspect of the importance of this kind of juror bias by observing that the “mere presumption that a child will not be believed may persuade parents and attorneys not to pursue a case or to bring charges” (p. 141). It is for this reason, and others, that the continued study of juror bias focusing on perceived child witness credibility is so important.

As this work has continued, the change in juror bias assessment and exploration began to focus more on the social cognitive and social influence processes (Kovera & Austin, 2016). Exploring considerations in relation to juror bias in this work and others has become an expansive project, focusing on the juror’s characteristics and perspectives, characteristics of witnesses, and the cognitive processes of the juror. This style of research casts a wide net, akin to the study described by Goodman and colleagues (1984). This idea that jurors have multiple sources of bias, including their own “enduring personal characteristics,” was raised by Kassin and Wrightsman (1983) during their attempt to develop a measure for juror bias. While this kind of intricate exploration of juror bias in relation to young witnesses is encouraging and a necessary task, there may be easier ways to better understand the aspects of this relationship in regard to such biases. For this reason, the isolation and study of particular aspects of this bias is necessary.

The problems of inherent bias and credibility assessment become particularly difficult when the individual providing the critical information is a child. This is because people's ordinary expectations about reliability and consistency of information often do not seem to apply to children who are viewed at times as "little devils" or little beasts" (Kehily, 2004). Indeed, considerations are built into the law that recognize the special nature of child testimony, especially because the credibility of a child witness may influence the outcome of a legal case (Quas, Thompson, & Clarke-Stewart, 2005). Overall, assessing the credibility of a child is a daunting task when taking into consideration the multiple facets used to assess credibility (Nunez, Kehn, & Wright, 2011).

When a person such as a juror hears statements from a child, there are a number of key pieces of information they seek to determine and evaluate. The juror may be watching the demeanor of the individual, and may become particularly attuned to the way in which the events are relayed (Bruck, Warren, & Brigham, 2004). Emotionality and appropriate affect are important pieces weighed by people when they are making veracity assessments in relation to statements they hear (Kaufmann, Drevland, Wessel, Overskeid, & Magnussen, 2003). The listener may also be interested in how much detail the individual can recall and how consistently the speaker can repeat or explain portions of their story in response to further questioning (Liu, et al., 2010). While on the surface these behavioral markers seem appropriate, they can be misinterpreted by an observer at times (Saywitz, Nathanson, & Snyder, 1993). Furthermore, detail in testimony is often confused with veracity (Liu, et al., 2010). Appearance can make a difference; while seeming confident can enhance credibility, "too much" confidence might undermine it (Tenney, MacCoun, Spellman, & Hastie, 2007). Inconsistency in a story might actually be due to the witness being nervous and forgetful, rather than being dishonest (Caso,

Gnisci, Vrij, & Mann, 2005). This concern is compounded, of course, by the knowledge that not all persons who relay information are truthful, some are unknowingly mistaken, and some might have few critical facts--but perhaps not enough to create a credibly coherent account. A psychologist might judge all of this as a highly problematical method of seeking the "truth." But, the court is not a science experiment, and its participants are not required to discover an empirical truth, but a legal one. Hopefully, the two are the same, but may ultimately not be. With all of these variables inside the courtroom when testimony is observed, it would be useful to know what baggage people bring into the jury box in the first instance. This would help professionals to more fully explain the cognitive processes of a potential juror when working with a young witness.

Assessing child credibility is fraught with more difficulties than with adults, especially as many people have personal experience with this challenging truth. As noted above, most parents understand that children often have difficulty with the lines between reality and fantasy (Taylor & Howell, 1972). It is this imagination of children paired with the malleability of their perceptions that likely makes the assessment of children's veracity a more complicated task, even for the most experienced evaluators. This is because ordinary expectations about reliability and consistency of information may not apply to children (Woolley & Ghossainy, 2013). Young children simply do not understand how adults expect statements to correspond to reality, and there may be little or nothing in their affect to suggest they are hiding something, even when they are not (Flavell, Flavell, & Green, 1983). Plus, once all these considerations are made, we can take all of these issues and run them through the often distorted lens of adults' understanding of children's language and cognition (Astington & Jenkins, 1999). In addition, cognitive ability and honesty fail to follow a logical and linear trajectory through childhood development (Wright,

Hanoteau, Parkinson, & Tatham, 2010). Why should children expect this? We tell them about nighttime creatures that leave gifts on holidays, and talk about what happened “at work,” a place they have never seen and for which there is actually less evidence than for the Easter Bunny, who left a basket of delicious candy as evidence of his reality.

It is for this reason that perceived credibility of children depends on whether honesty or cognitive ability is the most important factor at issue (Ross, Jordan, Lindsay, & Kenney, 2003). Children may also have difficulty making themselves understood due to a more limited vocabulary and limited concern for organizing the information conceptually or temporally, as adults might expect from one another (Punch, 2002). Children may also not draw common sense generalizations in their reports of events. “A child may answer ‘no’ to the question, ‘Were you in the man’s house?,’ but ‘yes’ to the question, ‘Were you in the man’s apartment?’” (Goodman et al., 1984, p. 144). Children’s cognitive abilities may also be insufficient to encompass the comprehensive details of an event, failing to understand what aspects are important and which are incidental. In short, children are less likely than adults to understand what is going on around them, and be less well equipped to accurately relate what they do comprehend. If potential jurors have personally experienced any of these phenomena, then it is no surprise that they may view the believability of children differently than the believability of adults. Additionally, most jurors and judges are not child psychologists, and they are not permitted to take their own knowledge into the evaluation of a case. Therefore, they will make decisions about children that cannot be supported by the most current science.

In the assessment of perceptions of child credibility, it is also important to remember that children are suggestible creatures (Ceci & Bruck, 1993). In addition, children often engage in purposeful deceptions (Genyue & Lingfeng, 2006; Talwar, Lee, Bala, & Lindsay, 2004). Even

child psychologists are often unable to make accurate identifications about child truthfulness (Gore-Felton et al., 2000). Given this, the notion that children do not lie, or do not have things to hide from adults, is a belief that is unsustainable both in science and the experience of any non-gullible parent. Determining when these phenomena have occurred is often a challenge. This concern is substantiated by additional work which demonstrated that a common mistrust of young witnesses existed, especially based on the specific potential to make false reports (Cashmore & Bussey, 1996). Separate from the actual veracity of a child, it is also important to explore when children are perceived as credible to those around them. Parents, professionals, and lay people hold different biases about the truthfulness of children which they take with them each time they must make a new assessment (Leach, Talwar, Lee, Bala, & Lindsay, 2004). Cashmore and Bussey (1996) studied judges and found that they thought young children (under seven) were not reliable but children about the age of 12 were competent witnesses, with girls being seen as competent sooner than boys.

Many studies have been done to determine the malleability of information transmitted and retained by children (Ceci & Bruck, 1993; Johnson, 1991; Castelli, Goodman, & Ghetti, 2005; Lampinen & Smith, 1995). This kind of research became very popular in the aftermath of several instances of false allegations of sexual abuse made against elementary school teachers and day care providers by young children in the late 1980s and early 1990s (Jones, 2004; The Berkshire County District Attorney's Office, 2009; Osumami, McHugh, & Ferran, 2010). In many cases these accusations were, unfortunately, not recognized as being false at the time, resulting in convictions and other legal actions that have now become lessons about what not to do in such circumstances. These studies examine topics such as how easily a child's story can be created and altered by suggestion, how accurate children's memories for an incident can be, how

likely a child is to alter his or her story for the sake of others (Huffman, Warren, & Larson, 2002), and how difficult it is for adults to tell the difference between real and fabricated information (Leach et al., 2004).

Research has also been done to examine how a child's age relates to their suggestibility (Ceci & Bruck, 1993). The primary question has been whether younger children are more or less suggestible than older children, given adults' possibly erroneous belief that suggestibility is exclusively the domain of the very young, including perhaps those with cognitive challenges. In this regard, Burt and Gaskill (1932) found that college students were significantly less suggestible when asked leading questions than fourth graders (as cited in Ceci & Bruck, 1993). However, that did not mean the young adults were not suggestible; they were sometimes significantly so. Some of this research has also claimed that girls, especially pre-pubescent girls, were more receptive to suggestion than boys of the same age (Johnson, 1991), as cited in Ceci & Bruck, 1993). Most of the research done involving age of the child testifying has focused on the interaction of age with other factors (Ruva & Bryant, 2004). At least one early study tended to show that older children were more credible than younger children (Goodman et al., 1984). Other studies have not focused on wide age ranges, and have therefore have not found a relationship (Castelli et al., 2005). Additionally, Morsanyi and Handley (2008), found that analytic processing capacity actually decreased between 6 and 10 years of age, which impacts their judgment and perhaps their credibility.

Lampinen and Smith (1995) also studied how the source of a potential suggestion impacts a child. Their research tended to show that only suggestions from credible adults significantly influenced their later responses to questions about a scene they had witnessed. This is an important factor to consider, as observers may change their opinions of credibility based on

how they believe the child received the information that they are relaying (Lampinen & Smith, 1995). The child may be reporting the information correctly, but this is irrelevant if they received their information from an unreliable or perhaps even dishonest source. As a result, any context-based study of the credibility of children's veracity should be based on firsthand knowledge acquired by the child him or herself.

The concerns about child testimony are complicated by the fact that children are also capable of purposeful deception. Hardly a child has grown up without explicit training in this – as when a grandmother says to the child who has been forbidden sweets, “Well, we just won't tell your mother about the trip to the ice cream store.” Genyue and Lingfeng (2006) demonstrated that children from age 7 to 11 will tell deliberate falsehoods when doing so will benefit a group or collective rather than an individual. It has also been shown that children will temper their responses in a self-serving way, aiming to manage the impressions others acquire of them and those around them (Ross, Jordan, Lindsay, & Kenney, 2003). Children also tend to lie more frequently in order to hide or minimize their own transgressions or the transgressions of their parents, even when the lie makes little to no sense. A child saying “Doggie did it” in response to an inquiry about missing cookies would not surprise most parents (Talwar, Lee, Bala, & Lindsay, 2002; Talwar, Lee, Bala, & Lindsay, 2004). Often, adults report looking for the opinions of professionals in order to support their assessment of child veracity (Goodman-Delahunty, Cossins, & O'Brien, 2010). When children engage in active deception, adults and trained professionals are not able to tell when children are telling the truth or lying. This is true even when professionals rated their ability to identify deception higher than others (Leach et al., 2004). In many cases, even the child's own parents were unable to differentiate between lying

and truth-telling behavior (Talwar, Lee, Bala, & Lindsay, 2006). The fact is that adults are simply not reliable judges of child truthfulness.

One area where the study of credibility is very important involves the statements made by children for legal proceedings. A single statement from a believable five-year-old might literally mean life or death for a criminal defendant in a capital case. This issue is compounded by the enhanced seriousness attached to many offenses when they are perpetrated against or directly involve children. A possible sexual assault necessarily requires a deliberate and speedy response. If such a crime involves a child, the special circumstances will often weight much more heavily against the accused in terms of the types and severity of charges, bail conditions, receptivity to plea agreements, and perceptions of guilt. The questions often seem simple: How reliable is the child's testimony? Will the child be truthful? Is the child capable of understanding what is being said? Were the child's statements influenced by a third party (Ceci & Friedman, 2003)? However, these questions are not simple to answer at all, and even appear require much greater care in analysis than the answers to those same questions involving average adults.

Given its importance, it is necessary to study the preconceived notions of believability jurors may possess in relation to the testimony of children prior to joining a jury. In 2003, Ross, Jurden, Lindsay, and Kenney evaluated studies that seemed to indicate that younger children were seen by mock jurors as less credible witnesses – unless the case involved sexual assault. In sexual assault matters, it seemed that the perception of the child's honesty and gender, rather than age or cognitive ability, was indicative of their decisions made by the mock jurors (Ross et al., 2003). This same review also explained that in many of the studies that found no age effect for credibility, the observers were relying on external cues to make their evaluations, such as confidence or speech style. (We must remember, of course, that fact finders with actual

documented expertise in such an evaluation would have been excluded.) A category of studies also examined the ability of mock jurors to assess the veracity and reliability of children's statements, with mixed results (Ross et al., 2003). Jurors also base the credence given to child testimony on the quality of the initial interview and the demeanor of the child testifying (Bruck, Warren, & Brigham, 2004; Sumner-Armstrong & Newcombe, 2007). Again, something that is difficult for people to judge under controlled laboratory conditions, much less in a courtroom or other similar circumstance. Juries also tend to use the age of the child in conjunction with emotional displays in order to make judgments as to child witness veracity (Cooper, 2011; Quas, Bottoms, Haegerich, & Nysse-Carris, 2002).

Given these facts, it is important to understand the methods used in child interviewing and child witness questioning as well as courtroom tools, such as visual aids or demonstrative models (Crossman & Caron, 2006). Mock jurors also rely heavily on opinions of expert witnesses in order to make decisions as to child veracity (Goodman-Delahunty et al., 2010). Of course, the veracity of the expert is going to make a difference, and that judgment will include factors separate from various facts, such as whether the expert might seem to care about the child or children in general. This makes it even more necessary to understand how mock or actual jurors begin to evaluate or consider child testimony.

A number of studies have been conducted in an effort to understand the impact of a number of variables on juror assessment of child testimony. The majority of the studies involve the question of accuracy: How often can the observer correctly identify truth telling from lies, accuracy from inaccuracy, or if they are avoiding judgments of troublesome intent or consequences? In these studies, the observer hears or reads a child's statement and decides whether or not the child's statement was truthful or accurate. These studies look at either the

characteristics of the observer or the differences in the presentation of the statement in attempt to determine which are related to more accurate identification of truth-telling behavior. These studies must deal with the potential for inconsistencies in the story told, as it is unlikely that two people will describe a shared experience exactly the same way even if both are good reporters and describing it as accurately as they can. This means the observers will be looking for cues in the behavior or speech patterns of the communicator that indicate truth telling or untruthful statements. Little exploration has been done eliminating the variability of such cues and using only age or gender as variables. In studies that attempted to include this type of question in some form, conflicting reports have been given in regards to whether characteristics of the child alone influenced observer accuracy.

The second class of studies looks not at whether the observer can accurately identify truth-telling behavior, but instead looks at how credible the observer found the statement of the communicator. In this type of research, it is not accuracy of the response or statement that is the measure, but rather how believable the statement appeared without relation to its veracity. McCauley and Parker (2001) examined a number of factors to assess the perceived level of credibility accorded to certain statements attributed to children, including the type of interaction or crime that was detailed in the statement, the age of the communicator, and the gender of the observer. As noted earlier, their findings seemed to indicate that the statements viewed in relation to sexual assault of a child were rated as more credible. Female observers also tended to view all the statements of the children as more credible than did their male counterparts (McCauley & Parker, 2001). Their findings indicate that variables outside of the statement's content or delivery can have an impact on the perceived credibility of the statement. While age is

not ignored in many of these studies, no research has been done isolating age as a variable in relation the credibility or believability.

Understanding the details of juror perception of testimony given by younger children is clearly valuable for those working with children in courtroom settings. When making trial decisions, attorneys often work with psychologists as they seek to weigh the potential positive impact of the young person's testimony against the potential damage that could also result, either to the case, or the child. Bad decisions will likely be harmful to someone. An example of this is asking a young teen to testify as the victim of a sexual assault. The impact made by the teen's testimony, if viewed as credible, is undeniable. But what is the probability that the teen's statements will be viewed as credible? At what point is the credibility low enough that it raises questions as to the value of putting the teen through the difficulty of testifying as well as the potential stress and embarrassment of cross-examination? In addition, a witness who appears less than credible for whatever reason can harm an otherwise supported case. This type of situation might even involve a highly credible witness with bad information—either intentionally or unintentionally.

As difficult as it might be to accept in the abstract, prosecutors and defense attorneys must make real-world decisions about the probability of convictions based on the strength of witnesses. These are usually not decisions that can be deferred, as an innocent accused person might literally be in jail waiting for trial, or a dangerous person might be free to commit more crimes. Sometimes professionals must decide whether the likely trauma or other challenges brought on by a trial might make matters even worse. This is especially true given that a “not guilty” verdict often eliminates the possibility of future prosecution. Attorneys involved in custody disputes, injury cases, and many other matters have similar concerns about how the

jurors will see their young witnesses. We should also not forget that testimony does not just determine guilt or innocence in court, but affects sentencing, and, with much lower standards, whether there is probable cause to bring a person to trial or serve as the basis of a contempt citation. For example, in the Wendrow case in Bloomfield Hills, Michigan, Julian Wendrow was jailed without bail when an aide held his daughter's hand to "facilitate" claims that he had secretly visited the child and planned to escape to South Africa (Alexander, 2009). That means the court believed statements supposedly made by an entirely non-verbal girl being guided by an untrained school aide using a discredited communication method.

Knowing the impact of child witness testimony will allow attorneys and jury consultants to work together to utilize courtroom tools to better present their cases and properly support the testimony of a child witness. This includes the use of video testimony and closed circuit television (Landstram, Granhag, & Hartwig, 2007; Orcutt, Goodman, Tobey, Batterman-Faunce, & Thomas, 2001), technologies which can both enhance and obfuscate information for those it is intended. These are witnesses whose credibility is going to be altered by the lack of audience reaction to statements. Knowing the predispositions of potential jurors will also will help attorneys determine whether the age of their witness should warrant more carefully constructed jury instructions about credibility. Potential jurors familiar with televised depictions of court activity, which typically concentrate of the drama of attorneys confronting witnesses, may be at risk for underestimating the degree to which jury instructions from a judge can, and often should, affect a case outcome. Additionally, it will provide litigators and psychological professionals the ability to anticipate the position their opponents will take and allow them the ability to properly respond. A study exploring baseline and context-free credibility will allow professions to explain or challenge a witness based on baselines of perceived credibility.

A number of factors discussed herein have lead to the research questions explored in this study. First, younger children are thought to be more suggestable than older teens but are not as likely to deceive. Next, children a bit older do engage in purposeful deception and are also more suggestable than their teenage counterparts. The children in this age group also appear to have analytical processing decreases as compared to their six-year-old counterparts. Finally, older teens are viewed as less susceptible to suggestion but still may deceive to protect those around them. Older teens are also presumably seen as more capable of communicating their knowledge as adults would expect. Based in part on this information, it was believed that the children in the middle age group (herein represented by 11-year-olds) would be seen as overall less credible than the younger and older age groups.

Methods

This study involved presenting, via an electronic survey, a series of questions about child credibility to people similar to those selected for juries. The questions varied in content to reflect only age and gender factors, which might bias a typical jury member's belief in the credibility of the child witness. The main dependent measures were the age and gender of the child in question. The age category was comprised of three groups: 5 years, 11 years, and 17 years. These ages were chosen to create clearly demarcated categories of child, youth, and adolescent witnesses with little likely overlap in developmental characteristics. The ages and genders of the children were indicated by written identification only. No photos or names were used, as to do so might have further complicated the analysis due to various factors, such as perceived attractiveness and racial or ethnic group membership.

The participants were presented with questions that asked them to compare or rank order various individuals according to credibility, as well as indicate their confidence in each listed child's believability. This allowed the data to be examined for relationships using multiple methods. Although this method did not explore responses to direct testimony of children, it tapped the question of perceived reliability, eliminated concerns regarding developmentally appropriate language for children of differing ages, and could be applied to courtroom situations.

Data were collected through an internet survey hosted on Survey Monkey. The order of the paired questions and potential responses were randomized for each participant. The complete ranking and confidence questions always appeared last to minimize their impact on the prior responses. The problem of attrition was resolved by leaving the survey open until a minimum number of survey takers had completed here, 200 completions were achieved.

Participants

The population targeted for this study was men and women between the ages of 18 and 65, as this is the group of people most frequently involved in jury duty. As an internet-based survey, all participants needed to have access to the internet. Thus, there was a bias toward relative affluence, or at least sufficient affluence for computer and internet access. The study also must acknowledge that some subjects who would be prohibited from serving on juries or would be unlikely to serve on juries were not specifically excluded from the study. This was due to the complexity and length of the demographic information that would be required as compared to the number of existing study questions in order to weed out those who would not qualify to sit on a jury. Existing research indicates that with the number of options available for selection in this study, in order to achieve a nominal power of between .8 and .9 a sample size of 140 was appropriate to detect a main effect for age and gender (Wang, Chen, & Chow, 2003). Data collection here did not conclude until 200 participants were included in the sample, meeting this requirement.

Ultimately, there were 200 participants in this study (80 male, 120 female) who were between the ages of 18 and 65. Of these participants, 77 reported having or supervising no children, 35 reported either having or supervising one child regularly, 43 reported having or supervising two children regularly, and 45 reported they had or regularly supervised three or more children. As to the education of the participants, 107 of the 200 participants reported education at the associates degree level or beyond, 50 of whom reported obtaining their graduate degrees. Most the study participants were White (77.5%), 7% identified as Asian, 4% as Black or African-American, 3% identified as Hispanic, and 6% identified as belonging to multiple racial groups.

Measures and Instrumentation

Overview. The data were collected using a multi-question survey. Three techniques were used in each participant's survey. In the first approach, one child with an identified age and gender was paired against another child with an identified age and gender. The participants selected which of the two individuals they are more likely to believe. The second approach listed the available age/gender combinations and asked subjects to rank them in order from least credible to most credible (1 being the least credible and 6 being the most credible). Finally, the third section asked participants to rate their confidence in the truthfulness of the presented children as a percentage (0% being not at all confident and 100% being completely confident). A demographic questionnaire concluded the survey.

Age and gender. Each survey involved speakers of differing ages and genders. The questions based on the pairings of these individuals were randomized in order to prevent responding biases based on question order. Each child's age represented one of three groups: 5 years, 11 years, and 17 years. It was possible for a participant to be presented with a scenario involving two children of the same gender or the same age, but not both. This created 15 pairing groups for analysis as well as six options to order on the ranked order variable list and give truthfulness percentages.

Child credibility. There is no uniform and accurate measure of perceived credibility. Because of this, credibility was measured by recording which child the participant chose to believe in each scenario. The total number of times that participants select a child of a certain age or gender, as well as the subsequent confidence ratings, were analyzed both individually and in the aggregate to determine which groups the participants chose to rely upon most frequently.

Procedures

The study was completed online using the Survey Monkey platform. When the users were otherwise directed to the survey, they landed on the informed consent page to begin. Participants were not asked to provide their names or other directly identifying information, but rather were assigned a number so their data could not be traced back to their sources.

Informed consent. Prior to beginning the survey, each potential participant was provided a standard informed consent form to read and accept electronically. If the potential participant agreed, he or she clicked the “I Agree” button and clicked “next” to be sent to the survey. If he or she disagreed, he or she clicked the “I Do Not Agree” button and was be directed to the exit page, which thanked them for their time. If no answer was given, the potential participant could not advance to another survey page.

Survey. Once the participant clicked through to the survey, they were asked about which of two presented individuals they thought would be more credible. After completing the question and clicking “next,” another question was presented until each of the 15 pairs was presented to the subject. When these questions are completed, the survey asked subjects to rank the age/gender groups in order from least credible (1) to most credible (6). The participant was also asked to complete a matrix ranking individual credibility from most to least credible. They were also asked to identify their confidence in the truth telling of each individual presented to them on a scale of 0% (not at all confident) to 100% (completely confident). When this was completed, a brief demographic questionnaire was presented. Once the demographic questionnaire was completed, the participant was thanked and provided with information on how to obtain the results of the study.

Analysis plan. Rather than only focusing on individuals, the emphasis was also on the impact of the answers provided in the aggregate. With 200 participants completing the survey, the goal was to explore for the emergence of patterns overall in the credibility of the children in the different age/gender groupings. Additionally, the data were to be examined in order to determine if the participants' selections, in the paired scenarios for example, was based on choice rather than being the result of probability and chance.

Results

Overview

The data showed that the gender of the child had a significant effect on the perception of the child's credibility. The data also tended to show that that the age attributed to the child did have a significant influence on the perceived credibility of the facts presented.

Individual Forced Choice Items

The individual forced choice comparisons of credibility were analyzed using a one sample binomial test, and chi-squared goodness-of-fit test was conducted in order to determine if the differences in distribution of the credibility selections were due to probability or chance. The one sample binomial test is used to test the null hypothesis that two categorical options are equally likely to occur. Similarly, chi-squared tests examine whether the frequency of categorical values differs from the frequency distribution expected from random chance alone, meaning whether the first child of the two children presented in each pair is selected at a .5 probability.

In each choice group representing children of the same age, gender was the only differentiating factor. In the age matched groups, girls were selected as significantly more credible each time. In the 5-year-old age group, the girl was selected 70.0% of the time and the boy 26.0% of the time [$X^2(1) = 20.167, p < .05$]. In the 11-year-old group, the girl was selected 67.2% of the time and the boy 32.5% of the time [$X^2(1) = 12.96, p < .05$]. In the 17-year-old group, the girl was selected 61.5% of the time and the boy 36.5% of the time [$X^2(1) = 6.898, p < .05$]. In each of these cases, the responses were not due to probability or chance (both the binomial and chi-squared tests were significant for each pairings at $\alpha \leq 0.05$).

Results for the gender paired selections were less consistent. For boys, the results of binomial and chi-squared tests were all significant at $\alpha \leq 0.05$, meaning the resulting selection

differences in these groups were not based on chance or probability alone. The 5-year-old boy was preferred to the 11-year-old boy 62.0% vs 38.0% [$X^2(1) = 5.76, p < .05$]. The 5-year-old boy was also preferred to the 17-year-old boy 64.5% vs 35.5% [$X^2(1) = 7.84, p < .05$]. Finally, the 11-year-old boy was preferred to the 17-year-old boy 60.5% vs 38.5% [$X^2(1) = 4.455, p < .05$]. In sum, the younger boy was always preferred in age based pairs. For girls, not all comparisons reached significance. The difference between selection of the 5-year-old girl and the 11-year-old girl were not significantly different than if the results has been obtained through probability and chance alone [$X^2(1) = 0.201, p > .05$]. The 5-year-old girl was preferred to the 17-year-old girl 62.0% vs 36.5% [$X^2(1) = 13.203, p < .05$]. The 11-year-old girl was preferred to the 17-year-old girl 61.5% vs 38.0% [$X^2(1) = 11.101, p < .05$]. In sum, when the results were significant, the younger girl was always preferred.

Results in the mixed age and gender groups were more inconsistent. Three groups did not show differences that were outside of the range of chance or probability: (a) 5-year-old boy vs 17-year-old girl [$X^2(1) = 0.101, p > .05$]; (b) 5-year-old boy vs 11-year-old girl [$X^2(1) = 0.943, p > .05$]; (c) 11-year-old boy vs 17-year-old girl [$X^2(1) = 0.67, p > .05$].

The remaining groups did show differences that were not merely due to probability or chance (binomial and chi-squared tests were significant at $\alpha \leq 0.05$). The 5-year-old girl was preferred to the 17-year-old boy 63.5% vs 35.5% [$X^2(1) = 15.838, p < .05$]. The 5-year-old girl was preferred to the 11-year-old boy 61.5% vs 37.5% [$X^2(1) = 11.636, p < .05$]. The 11-year-old girl was preferred to the 17-year-old boy 65.0% vs 34.0% [$X^2(1) = 9.707, p < .05$]. In sum, when results were significant, not only was the preferred child the girl, it was also the younger child.

Matrix Item

The rank order matrix also provided interesting data. It is important to note here that it is improper to add the individual data together, as no scale factors were included in the study to determine the relative differences on preference between the selected groups. Only overall trends in the data are used here as a comparison to the forced choice groups. The 17-year-old boy was most frequently ranked the most credible (30%) followed by the 5-year-old girl (19%), 17-year-old girl (17%), 5-year-old boy (14%), 11-year-old boy (7%) and then the 11-year-old girl (5%). This only reflects those ranked as most credible and does not comment on aggregate credibility.

There were other interesting trends reflected in the matrix data as well. While the 17-year-old boy was most frequently ranked as most credible (30%), the 17-year-old girl was selected as second most credible 26.5% of the time, the 11-year-old boy was selected as third most credible 33.5% of the time, the 11-year-old girl was selected as fourth most credible 31.5% of the time, the 5-year-old girl was selected as fifth most credible 30% of the time, and the 5-year-old boy was selected as sixth most credible 29% of the time. It is important to note that these trends seem inconsistent with the individual forced choice selections and the reported confidence in truthfulness levels reported in Table 1. It would be interesting to gain more data in this vein and analyze it using conjoint analysis or other choice based or preference based models.

Confidence in Truthfulness Items

The confidence levels in the truthfulness of the identified child were also evaluated. Analysis demonstrated that the groups showed no deviation from the assumed normal distribution (skewness and kurtosis statistics were within normal bounds). The mean confidence scores for each age and gender combination are reported on Table 1.

Table 1.
Levels of Confidence is Child's Truthfulness

	N	Minimum	Maximum	Mean	Std. Deviation
5-year-old boy	198	13	100	70.04	19.975
5-year-old girl	198	0	100	72.32	20.958
11-year-old boy	196	16	100	65.46	16.489
11-year-old girl	198	17	100	70.23	15.797
17-year-old boy	197	0	100	60.44	20.881
17-year-old girl	197	0	100	64.98	20.647
Valid N (listwise)	196				

Note: This table reports the appropriate N, minimum and maximum allocated values, mean values, and standard deviations of the confidence variable in each age/gender group.

A within group repeated measures analysis of variance (WG-RM-ANOVA) was then conducted using the child's gender and age as between groups factors and the individual ratings of confidence as the repeated groups factor. An RM-ANOVA is appropriate when the groups being compared are not independent, such as in this study when the groups being compared are being drawn from the same sample. One of the underlying assumptions of RM-ANOVA is sphericity. Sphericity explores whether the variance/covariance of the observed groups' data follows a pattern with equal variance among the groups. In order to test sphericity, Mauchly's test was utilized, which was determined to be significant for gender, $W = .795$, $2 \chi(2) = 44.477$, $p < .001$, and age, $W = .624$, $2 \chi(2) = 91.443$, $p < .001$, suggesting that the groups do not have approximately equal variances and the assumption of sphericity was violated. This highlighted that it was necessary to use a corrected RM-ANOVA F-test to avoid inflation of Type I errors (the incorrect rejection of a true null hypothesis). To accomplish this, the Greenhouse-Geisser correction was employed.

Using the Greenhouse-Geisser correction, significant results were found for both gender, $F(1, 195) = 42.058$, $p < .05$, and age, $F(1.660, 323.683) = 14.545$, $p < .05$, but significance was not reached for the interaction of gender and age ($p = 0.145$). This indicates significant

differences between group means based on the age of the child and the gender of the child, but no statistical differences based on the interaction between age and gender. The mean credibility score found for the girls ($M = 69.28$, $SD = 0.955$) was significantly higher than that of the boys ($M = 65.30$, $SD = 0.981$). The mean credibility score for 5-year-old's ($M = 71.21$, $SD = 1.379$) was significantly higher than 11-year-old's ($M = 67.87$, $SD = 1.097$), which was in turn higher than that of 17-year-old's ($M = 62.73$, $SD = 1.390$).

It is important to note that the non-corrected data did show an interaction effect ($p = .04$) which disappeared after correcting with Greenhouse-Geisser. It is possible that a dataset using a larger N could increase the study's ability to detect a smaller effect if one does exist. Typically, a power of 0.8 is preferred in order to detect such relationships. This is particularly possible given the small partial eta squared value for the potential interaction effect (0.10). Partial eta squared represents ratio of variance accounted for by an effect plus its associated error variance. The combination of low power and small effect would indicate that this particular result should be reexamined.

Discussion

The data reveal several interesting areas of focus relating to the credibility of young speakers. It was hypothesized that the youngest and oldest of the child communicators would be viewed as more credible than the child communicators of other ages. This hypothesis must be rejected. It is true that younger children were more frequently selected over older children at a significant rate. However, in no situation where age was a differentiating factor did participants select the older children at a rate which was not explained by chance. In fact, ANOVA results demonstrated that the youngest age group was rated the most credible, followed by the middle age group, with the oldest children being rated the least credible. These findings seem to reinforce that the younger a child is, the more credible they are rated to be by the observer. This held to be true regardless of the gender of the child. It is true that in the literature there were situations where younger children were viewed as less credible; however, this was likely a reflection of the subject matter in question rather than simply the child's age.

It was also believed that the reported gender of the child communicator would not have an influence on perceived credibility, but this was not the case. First, chi-squared and binomial analyses both indicated significant selection differences in the age matched pairs. This was the first indication that there was a gender effect, given that gender was the only differentiating factor in the age matched pairs. Further analysis through WG-RM-ANOVA showed a significant effect for gender. Although the literature has had mixed results in explorations of gender, no other studies stripped the context from the credibility analysis. This leads to the conclusion that it is the topic addressed in prior studies that may have an impact on which gender is seen as more credible. As it is not practical to study all areas and topics that may arise, it is helpful to know

that at baseline girls are generally selected as more credible than boys overall at all three age levels explored herein.

Finally, it was thought that there would be no interaction between age and gender of the child influencing perceived credibility. No relationship was reported in this study, although it is possible that this study was not adequately powered to detect an effect of the size that may exist after correcting for sphericity concerns in the data. In this area, additional study would be highly encouraged. In the forced choice questions, which represented mixed age/gender pairs, about half showed preferences that were not explained by chance and probability alone. Initial exploratory ANOVA did show an interaction effect; however, after correction to account for lack of sphericity, this interaction fell below the significance level. The estimated percentage of variance explained by this potential interaction was less than 10%, so it is possible that a larger N would be needed to capture this effect, if it exists. No interaction gender by age interaction effect was detected in this data, and therefore, the hypothesis was not rejected.

Throughout the direct hypothesis testing, the data provided additional information that must be explored in order to more fully understand the picture it paints in this area. One example of this is the trend information provided by the credibility rating matrix item. This item at first blush appears to be inconsistent with the data acquired in the forced choice and confidence rating questions. However, this inconsistency is precisely why this study is so important. When asked to directly rank their preferences, participants tended to say they hold a belief that they do not demonstrate when it is put to the test. For example, participants tended to rank the 17-year-old boy to be highly credible but did not actually prefer this individual when presented against an alternative in the forced choice questions. The 17-year-old boy was also given the lowest confidence percentage ranking in the study when it came to truthfulness. Whether this

inconsistency is due to conscious or unconscious bias, genuine uncertainty, perceived social pressure, or some other factor is yet to be determined. For whatever reason, participants' actual choices did not appear to follow what they reported about their beliefs about children's credibility. This study was not designed to more fully explore this unexpected result. Additional work in this area focused on teasing out these differences would have implications beyond credibility, reaching out into other areas where bias is studied.

The implication of these findings in the legal field are potentially wide reaching. This study was framed as a question about juror perceptions, and it provided a great number of considerations for those in the legal field. The hypotheses were not interested in the reasons for participants' assessments, but on focused on the outcomes of their choices. This is analogous to a juror stepping into the jury box. The juror has a basis in his or her own experience that influence their assessments of child witnesses, but this information is very often not available to jurists and consultants. All such professionals have to work with is the outcome of those judgments. This has several implications for working with both child witnesses and juries.

A primary area of impact is in the selection of witnesses. In many legal cases there is a choice to be made about which available witness is most effective to present to a jury. In this arena, it is beneficial to know that generally, those who are likely to sit on juries tend to assess girls as more credible than boys of the same age. In addition, younger witnesses are assessed as more truthful or credible than older child witnesses. This allows attorneys and similar professionals to make determinations about the likely impact of their potential witnesses. In cases that rely primarily on the believability of witness testimony, it would be appropriate in many cases to select a younger witness or a female witness based on the data gathered herein. This will allow the inherent biases of the jury to be consistent with the presenting witness,

increasing the likelihood that the jury will see the child witness presented as truthful, maximizing the credibility of the witness. This finding will also alert the lawyer involved to situations where the inherent biases of potential jurors might be at odds with the witness who is available.

In situations where the available young witness is not a member of a preferred group, lawyers will know they are rowing up stream. This would mean that immediate enhancement of the child witness must begin in Voir Dire, maneuvering to combat potential bias faced by the witness. For example, a 17-year-old witness may need to be presented in a more individualized way than his or her younger counterpart to enhance his or her believability. The general tendency to find such a witness less credible can be combated by talking to the jury about particular reasons why this individual might be more believable than they might naturally think. Voir Dire questions about juror beliefs surrounding the work or personal history of the child witness would be helpful in such cases. This would tend to encourage the jury to think about this person as an individual rather than as a member of a group about which they may have a preexisting belief.

In contrast, if a more favored child witness is being presented in opposition to a party, the lawyer would want to address this as well. The lawyer opposing the witnesses position may wish to speak with the jury in Voir Dire about identifying their preexisting biases and encourage the jury to see past these biases to the facts of this particular case. If the case was substantial, an expert witness may be used to address these concerns or call out specific knowledge in the field about child truthfulness. As trial progresses, the lawyer may wish to spend more time in cross examination with the child witness presented by the opposing party on specific factors that would impact this individual's credibility. The aim in this situation is, again, to separate the child witness from the preferred group and set him or her up to be evaluated on an individual basis.

Beyond work in the courtroom, there are many situations in forensic evaluation and other assessments where knowing this information about general bias may play a key role. In the context of an evaluation involving a child, the predisposition of those involved to believe or not believe the child may have impact on the perceived credibility of the child's contribution to the evaluation. This is the case even if the evaluator is a judge, teacher, or mental health professional. Attorneys must keep this in mind as they submit documents to the evaluator or court in support of their position. How attorneys present their cases and positions vary widely depending on the legal and credibility challenges they face. These data, at minimum, demonstrates that in many situations there may be credibility questions where none were originally expected. This is especially true in situation of older children, who we often think will be understood as more credible than the data seems to show.

Additional work in this area that would influence courtroom practice would involve seeking out and evaluating potential mediators and moderators of the effects identified herein. Given prior literature, it seems as though the subject matter involved in the assessment may function as a mediator, impacting or explaining a portion of the influence of age on credibility. The child's level education may also be a mediating factor. There may also be demographic moderators involved, which this study was not designed to capture that would warrant further investigation, especially as practicality limited the demographic information that could be gathered in this study.

General studies on bias and perception of children would benefit from the information contained in this study as well. As there is little available in this area on age alone as impacting people's perceptions, this would be an important piece to consider when considering future studies. Building upon this foundation would allow the introduction of various other variables,

layer by layer, to be included and assessed. How does language or situation impact how we view credibility? Is it impacted by location or who else is present? There are ample contextual pieces that could be added to this scenario and evaluated.

Conclusions

The area of child credibility has been explored in many ways, but never by removing the context of the assessment and focusing on gender and age alone. This study demonstrated that there is an effect of gender on credibility of children, with girls being seen as more credible than boys. It also found an effect for age on credibility, with younger children being rated as more credible than older children. No interaction effect was found. These findings have implications in the legal field, where jurors step into the jury box with these preconceived notions about child credibility. Being aware of the way these biases present in potential jurors will aid professionals in making decisions in all areas of legal practice involving child witnesses, from witness selection to witness support. While more work must be done to flesh out other factors that may impact these relationships, these findings are an important step in understanding the way people approach and interact with the credibility and truthfulness of children

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Appendix: IRB Approval

RESEARCH @ EMU

UHSRC Determination: EXEMPT

DATE: January 31, 2017

TO: Beverly Griffor, MS MBA JD
Department of Psychology
Eastern Michigan University

Re: UHSRC: #1003122-1
Category: Exempt category 2
Approval Date: January 31, 2017

Title: Perceived Credibility of Child Witness Statements Based on Age and Gender

Your research project, entitled **Perceived Credibility of Child Witness Statements Based on Age and Gender**, has been determined **Exempt** in accordance with federal regulation 45 CFR 46.102. UHSRC policy states that you, as the Principal Investigator, are responsible for protecting the rights and welfare of your research subjects and conducting your research as described in your protocol.

Renewals: Exempt protocols do not need to be renewed. When the project is completed, please submit the **Human Subjects Study Completion Form** (access through IRBNet on the UHSRC website).

Modifications: You may make minor changes (e.g., study staff changes, sample size changes, contact information changes, etc.) without submitting for review. However, if you plan to make changes that alter study design or any study instruments, you must submit a **Human Subjects Approval Request Form** and obtain approval prior to implementation. The form is available through IRBNet on the UHSRC website.

Problems: All major deviations from the reviewed protocol, unanticipated problems, adverse events, subject complaints, or other problems that may increase the risk to human subjects or change the category of review must be reported to the UHSRC via an **Event Report form**, available through IRBNet on the UHSRC website

Follow-up: If your Exempt project is not completed and closed after **three years**, the UHSRC office will contact you regarding the status of the project.

Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-3090 or via e-mail at human.subjects@emich.edu. Thank you for your cooperation.

Sincerely,

Alissa Huth-Bocks, Ph.D.
Chair
CAS Human Subjects Review Committee