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Development of the Video Suggestibility Scale for Children: Spanish-language version

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DEVELOPMENT OF THE VIDEO SUGGESTIBILITY SCALE
FOR CHILDREN:
SPANISH-LANGUAGE VERSION

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by

Claudia Ornelas

2009

Dedication

I would like to dedicate this master's thesis to my family and friends who supported me unconditionally. I would also like to dedicate this work to my graduate advisors who helped and encouraged me to accomplish my goals.

DEVELOPMENT OF THE VIDEO SUGGESTIBILITY SCALE
FOR CHILDREN:
SPANISH-LANGUAGE VERSION

by

Claudia Ornelas, B.S.

THESIS

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The University of Texas at El Paso
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of the Requirements
for the Degree of
Master of Arts

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Abstract

This study examined the psychometric properties of a Spanish version of the Video Suggestibility Scale (VSSC). A cross-cultural validation with a sample of 3-5 year old Spanish speaking children was performed to evaluate its psychometric properties ($N = 77$). The development of the VSSC Spanish language version (VSSC-S) is described. The new version was created using the translation-back-translation process to increase the instrument's equivalence. Internal consistencies were satisfactory. Construct validity was assessed by using factor analysis and the Varimax procedure. As expected, the VSSC-S items loaded on two separate factors. Overall, results suggest that the VSSC-S taps into similar constructs and that it possesses similar psychometric properties to those of the VSSC.

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Introduction

Children's increased involvement in the juvenile and criminal justice system has stimulated the interest of researchers and professionals from different fields to learn about possible developmental characteristics that may differentiate this type of population from older individuals. The U.S. Department of Health and Human Child Services (2005) reports that Child Protective Services (CPS) agencies around the country investigated or evaluated close to 3.6 million children in the year 2005 alone. CPS investigates cases in which children are suspected to have been physically abused or neglected. Alarming, children from birth to 3 years of age were identified as having the highest victimization rate in 2005 with a rate of 16.5 per 1,000 children. Children aged 4 to 7 were reported as having the second highest victimizations rates with a rate of 13.5 per 1,000 children. In general, these statistics showed that the younger the child is, the greater the probability he or she has been maltreated or neglected.

Although the number of children that testify in court annually is difficult to estimate, researchers believe that studying the issue of 'truthfulness' in children is of great importance due to the large number of children that are interviewed during the course of an investigation (Ceci & Friedman, 2000). Additionally, it is important to take into consideration that in many cases these children are interviewed using suggestive techniques that are employed with adults (e.g., coercion) putting the reliability of their testimony at risk (Ceci & Bruck, 1995). Cases such as the Kelly Michaels case, illustrate the magnitude of the problems suggestive interviewing techniques may create. In this case allegations started when a boy said "That's what my teacher does to me at school" after having his temperature taken rectally (Schreiber, 2000; p. 197). It was reported that teachers at Wee care Nursery School (the day care where Kelly Michael's worked) did take children's temperature with a plastic strip across the forehead. However, it has also been reported

that the State did not introduce sufficient physical evidence for the sexual abuse allegations. By the time her trial began, Kelly Michaels was charged with 163 cases of sexual abuse to 19 children. In the two and a half years period between the first allegation of abuse and the beginning of her trial, all children in the Wee Care Nursery School where Kelly worked were interviewed by multiple people. Interviewers from the police department, the Division of Youth and Family Services and the prosecuting attorney's office talked to those children on separate occasions. When analyzed, those interviews proved to be full of repeated leading questions,¹ bribes and threats (Bruck & Ceci, 1995). Interviewers failed to pursue alternate hypothesis even when children repeatedly denied the occurrence of the alleged events.

Additional interviewing issues arise in cases in which the child does not speak the English language. Although using an interpreter may be helpful, it can also introduce some biases leading to suggestibility issues (Hiltz & Anderson, 2002). For instance, if the interpreter is not familiar with the culture of the child, speaking the same language the child speaks may not be enough (Hardy, 1998). The "intended" message might be lost in translation because cultural differences (e.g., idiomatic expressions) are not taken into consideration. This issue is especially important when using literal translation because common usage of a word may differ across cultures (California Child Abuse Training and Technical Assistance Center, 2004). For example, the Spanish word "molestar", means only "to bother", while in English "molest" is often associated with sexual connotations (Hardy, 1998; p. 1).

The Well-Conducted Investigative Interview

Experts agree that children are frequently capable of providing valuable information when interviewed if careful investigative procedures are utilized (Lamb, Orbach, Hershkowitz, Esplin,

¹ A leading question contains information that suggests the answer the interviewer is looking for (e.g., where were you when he touched you?).

& Horowitz, 2007). The general consensus among experts to create an ideal interview is to try to obtain the majority of information by employing general or open-ended questions in the form of narratives and avoid using close-ended questions such as yes/no (Lamb et al., 2007). It has been demonstrated that open-ended prompts (e.g., “Tell me what happened”) can elicit much more accurate information than recognition prompts (e.g., “Did he touch you?” Dale, Loftus, & Rathbun, 1978; Goodman & Aman, 1990; Hutcheson, Baxter, Telfer, & Warden, 1995). Additionally, research has shown that in forensic contexts there is a ratio of 3 to 5 more informative responses when free-recall prompts are utilized instead of the more focused prompts (Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996; Sternberg et al., 1996; Sternberg, Lamb, Davies, & Westcott, 2001). Most importantly, it is recommended that interviewers do not introduce information and try to encourage children to correct interviewers’ statements, request clarification, and acknowledge recognize not knowing something (Lamb et al., 2007). However, the lack of adherence to these empirical recommendations led to the development of a structured protocol to “translate research-based recommendations into operational guidelines” (Orbach et al., 2000, p. 738).

The structured interview protocol developed by the National Institute of Child Health and Human Development (NICHD) has been demonstrated to be effective at increasing the quality of interviews (Lamb et al., 2007). This protocol lets the interviewer introduce him or herself and explain the rules and expectations to the child. Moreover, the child is allowed to respond “I don’t know” or “I don’t understand” when appropriate. A series of open-ended prompts are used to identify non-suggestively the event under investigation (e.g., “Tell me everything...”). The only reason to start using more focused prompts is if the child fails to identify the target event. This

protocol strongly discourages the use of suggestive remarks since they let the child know what responses are expected from him/her which puts the reliability of his/her allegations at risk.

In a study in which the effectiveness of the structured NICHD and another interview protocol (i.e., United Kingdom's Memorandum of Good Practice) were evaluated, researchers found a positive relationship between the usage of the NICHD protocol and the proportion of information children provide in response to open-ended questions (Lamb, et al. 2008). As the age of the children increased, the proportion of information reported in response to open-ended questions also increased. Most importantly, the quality of the obtained information improved. This was found to be true even for children under the age of 6.

Problems with Actual Forensic Interviews

Despite the development of structured interviews and guidelines, recent studies have revealed that interviewers rarely adhere to the recommended guidelines (Lamb et al., 2008). Meyer and Repucci (2007) found that police officers with an understanding of child development do not apply that knowledge to the interrogation context. Many of the 332 police officers that participated in this study reported using the same interrogation techniques that they use with adults (e.g., psychological coercion, trickery, deceit). Another recent study evaluated the effect of long-term training on police officers' use of open and closed ended questions in investigative interviews of children (Myklebust & Bjørklund, 2006). Results of this study revealed that the number of open-ended questions tends to decrease as the interview progresses, while the distribution of closed ended questions shows an inverted U distribution. In other words, the number of open-ended questions tends to decline, while the number of closed ended questions is greater at the beginning and towards the end of the interview.

It has been demonstrated that the lack of adherence to the recommended guidelines is not specific to one culture or country. Field studies of investigative interviews in countries such as the United States, the United Kingdom, Sweden, Finland, Canada, Norway, and Israel have demonstrated that very often child interviewers rely on focused questions despite their likelihood for eliciting inaccurate information (e.g., Cederborg, Orbach, Sternberg, & Lamb, 2000; Davies, Westcott, & Horan, 2000; Korkman, Santtila, & Sandnabba, 2006). Although the number of open-ended questions in these settings was very small, analyses revealed that responses to such open-ended questions were three to five times longer and more informative than those obtained from focused questions. This evidence illustrates the interviewers' tendency to utilize more focused prompts, instead of the recommended free-recall prompts (Lamb et al., 2002). Additionally, these findings suggest that this practice may be universal and irrespective of culture.

More suggestive interviewing techniques such as close-ended questions may be utilized because they have shown to increase the amount of information a child can provide (for reviews see Poole & Lamb, 1998; Garven Wood, Malpass, & Shaw, 1998; Thompson, Clarke-Stewart, & Lepore, 1997). However, the effectiveness of this approach is questionable because not only does the number of accurate details increase, but so does the number of inaccurate statements. The practice of using close-ended questions is especially problematic with young interviewees. For instance, children presented with forced-choice questions tend to choose one even when none of them are correct (Lyon, 1999). In addition, it has been found that children tend to acquiesce to misleading yes/no questions due to social pressure (Greenstock & Pipe, 1997) or when a power imbalance exists between the interviewer and the interviewee (Ceci, Ross, & Toglia, 1987). More specifically, it has been found that younger children (5-year-olds) have a greater tendency

to falsely acquiesce to misleading questions in the yes/no format than older children (7-year-olds) (Björklund et al., 2000).

Interestingly, the finding on developmental differences in children's interviewing skills is not recent. Fay (1975) found that 3-year-olds may acquiesce to questions that clearly do not make any sense to them. To test this, he utilized a monolingual English speakers' sample. He asked them questions such as "El camino real?" Surprisingly, 64% of the 3-year-olds in this study answered "yes". However, what seems to be most important about these findings is that the accuracy of the information appears to decline as interviews shift from free recall questions to more directive questions (Poole & Lindsay, 1998). Some researchers have argued that the manner in which children are interrogated might capitalize on the suggestibility of children (Drizin & Colgan, 2004). For instance, a study that analyzed the McMartin Preschool case concluded that reinforcement and social techniques might have a huge impact on children's accuracy (Garven et al., 1998). Children showed error rates of almost 60% when exposed to these techniques for 4.5 minutes. In comparison, Valverde (1997) reported that children in the McMartin case were exposed to those techniques for more than an hour (as cited in Garven et al., 1998, p. 354). Additionally, Garven et al. (1998) found that as the interview progressed, children became more prone to acquiesce, suggesting that reinforcement and social techniques may have a cumulative effect. In other words, children may become more suggestible as the time span of the interview increases.

Suggestibility defined

Interrogative suggestibility is defined as the tendency of a person to modify the description of an incident as a result of receiving misleading information or being pressured when interviewed (Singh & Gudjonsson, 1992). At an individual level, suggestibility has been

defined as “the degree to which children’s encoding, storage, retrieval, and reporting of events can be influenced by a range of social and psychological factors” (Ceci & Bruck, 1993; p. 404).

A narrower definition of suggestibility states that it is the extent to which misleading information, which has been learned after the fact, is integrated into the recollection and reported as part of the witnessed event (Gudjonsson, 1986).

Gudjonsson’s Suggestibility Scale (GSS)

Gudjonsson’s (1984) two factor model supports the view that at least two types of interrogative suggestibility exist. This model of interrogative suggestibility assesses suggestibility by the number of times an individual responds affirmatively to suggestive questions (Yield), the number of times he/she changes his/her answers in response to negative feedback (Shift) and the sum of both (Total Suggestibility). The items on the Gudjonsson’s Suggestibility Scales (GSS1 & GSS2; Gudjonsson 1984, 1987, 1997) have been found to load on two different factors, Yield and Shift, with internal consistencies of 0.87 and 0.79 respectively.

Video Suggestibility Scale for Children (VSSC)

The Video Suggestibility Scale for Children (VSSC; Scullin & Ceci, 2001) was developed using Gudjonsson’s measures of Yield, Shift, and Total Suggestibility. It was developed in an English-speaking culture, and it is frequently employed to measure interrogative suggestibility in young children (Scullin & Bonner, 2006; Quas, Wallin, Papini, Lench & Scullin, 2005; Miles, Powell & Stokes, 2004). However, there are two main differences between the GSS and the VSSC. First, the GSS uses an audiotape to introduce a story while the VSSC does this in the form of a video. This modification was made to facilitate a child’s understanding and ability to follow of the story. Second, the types of questions included on the VSSC are leading questions and affirmative questions only. Gudjonsson’s (1984) false alternative type of

questions was not included because young children usually demonstrate difficulties answering those (Scullin & Ceci, 2001). The questions on the VSSC ask about the contents of a video about a boy's birthday party (See Appendix A).

The VSSC consists of 21 items. The first 3 items are open-ended questions that assess the amount of information a child can produce in Free Recall. The remaining 18 items are composed of close-ended questions. Only 4 of the 18 items are accurate statements about the video contents, while the rest are misleading. Validation studies have found significant positive correlations between errors on misleading questions and Yield and Shift (Miles, et al., 2004; Scullin, Kanaya & Ceci, 2002, Scullin & Bonner, 2006). Furthermore, the VSSC has demonstrated satisfactory internal consistency with Cronbach's alpha coefficients of 0.85 and 0.75 for Yield and Shift (Scullin & Ceci, 2001), which is similar to those found by Gudjonsson (0.87 and 0.79, respectively).

VSSC and Developmental Differences

Although several other individual factors have been found to contribute to children's suggestibility, age seems to be one of the main predictors of suggestibility. There is a well-established negative relationship between age and suggestibility (Ceci & Bruck, 1993). It seems that as children grow older, their suggestibility level goes down. Around the age of 4 ½ (54 months), children have been found to have better cognitive skills than younger preschoolers (i.e., theory of mind² and executive function;³ Scullin et al., 2002). Those cognitive skills may

² Theory of mind refers to a cognitive capacity that allows us to know that others may have different feelings, intentions, and beliefs than oneself (Bruck & Melnyk, 2004). Research has shown that this skill develops in the preschool years, and by the age of 5 most children can understand that two people can have different beliefs about something (Astington, 1993).

³ Executive function refers to a broad category of skills that underlies goal-directed behavior (e.g., planning, inhibitory control; Bruck & Melnyk, 2004).

influence or moderate the way in which children respond to questions when interviewed (e.g., yes bias).

To test this hypothesis, Scullin et al. (2002) split a sample of preschoolers into an older and younger group using the age of 4 ½ as a developmental milestone. A positive statistically significant correlation was found between age and Free Recall, which is consistent with previous research (Scullin & Ceci, 2001; Melinder, Scullin, Gunnerød, & Nyborg, 2005; Quas et al., 2005). As age increases, children's recollections also increase. Geddie, Fradin, and Beer (2000) found that age alone predicted 8% of the variance in total recall (in addition to 5% of the variance in children's suggestibility).

Other developmental differences related to the 3-to-5 age range and suggestibility have been found as measured by the Yield subscale of the VSSC. For instance, a recent study showed that a group of children between the ages of 4 ½ (54 months) and 5.7 (68 months) were less suggestible, according to their Yield scores, than a younger group (between 37 and 57 months) (Scullin & Bonner, 2006). Furthermore, Scullin et al. (2002) study found that the younger group in their sample showed a negative linear relationship between Yield and Shift, whereas the older group did not show any systematic relationship between the two measures. This finding suggests that younger and older children may employ different response strategies. Additionally, only older children who scored higher in Yield and Total Suggestibility were found to reproduce more information introduced by the interviewer, about a nonexperienced event. Moreover, higher Free Recall and lower Yield scores were positively correlated with increments in the amount of correct responses to misleading questions. In another study in which both a book version (BSSC; Warren, Scullin, & Ceci, 1999) of the VSSC and the VSSC were utilized, Yield scores decreased with age in both measures (Melinder et al., 2005). More specifically, other studies have found

that children between 3 and 5 have substantially higher and stable tendencies to yield prior to receiving negative feedback, than those found in adults using the GSS1 (Scullin & Ceci, 2001; Scullin et al., 2002). Scullin and Ceci (2001) found that children's Yield mean percentage was 54.65 ($SD = 12.40$) in comparison to adults' mean of 32.00 ($SD = 16.50$) on the GSS1.

Validation studies have found that Yield is a better predictor of children's suggestibility than Shift. In terms of reporting false information, one study found that preschool children that had higher Yield scores were also more likely to report false details about a non-experienced event (McFarlane & Powell, 2002). Another study found that yes/no and cued recall questions could predict false new details generated by the child about a nonexperienced event that had been suggested by the interviewer (Miles et al., 2004). Quas et al. (2005) found a statistical significant positive relationship between Yield scores and errors to misleading questions.

The VSSC subscale Shift, on the other hand, has demonstrated lower internal consistency (McFarlane & Powell, 2002; Melinder et al., 2005; Quas et al., 2005). For instance, a cross-cultural evaluation of Yield and Shift showed that Shift was more problematic, both in terms of its internal consistency and generalizability across measures (Melinder et al., 2005). Moreover, although some studies have found higher Shift scores in 4, and 5-year-olds than in 3-year-olds (Scullin & Ceci, 2001; Scullin et al., 2002), others have not found any relationship between Shift and age (Melinder et al., 2005). In addition, correlational analyses found that Shift was significantly positively related to misleading question errors and to the proportion of inaccurate answer changes in response to in a pressured interview (Scullin & Bonner, 2006). In spite of the discrepancies in results on whether or not a correlation between Yield and Shift exists, the VSSC still seems to be consistent regardless of differences in its administration (i.e., delay between watching the video and being interviewed; Quas et al., 2005). Although Shift appears to be less

consistent than Yield in measuring suggestibility across scales and situations (Melinder et al., 2005), Shift seems to tap into other factors related to suggestibility such as social sensitivity to interviewer pressure (Scullin & Bonner, 2006).

In terms of gender differences, research findings have not been consistent. Bruck and Melnyk (2004) concluded in their review that there are no consistent gender differences across a broad range span in children's suggestibility. The only gender finding related to cross-cultural research is that found by Melinder et al., (2005). This study found higher Yield scores for boys in a Norwegian sample (boys $M = 6.69$, $SD = 4.72$; girls $M = 4.48$, $SD = 3.53$; $t(60) = 2.20$, $p < 0.05$), but not in two other American samples used in the same study.

VSSC and cross-cultural research

The VSSC has been used mostly with American populations, but there are a few cross-cultural studies evaluating its psychometric properties. In one study in which American and Norwegian samples were administered a book version of the scale, researchers found that children from both groups who did better on Free Recall portion showed a greater resistance to suggestive questioning (Melinder et al., 2005). In addition, it was found that the changes in responses on Shift, Yield and Total Suggestibility were significantly lower in the Norwegian sample. Yet, the overall results of this Norwegian study suggest that the two factors of the VSSC can be generalized cross-culturally. In studies using Australian children, researchers found a positive relationship between Yield and the number of times children generated new false details (McFarlane & Powell, 2002; Miles, Powell & Stokes, 2004). However, a negative relationship between Yield and the number of times children reported false information introduced by the interviewer, was also found (McFarlane & Powell, 2002). Thus far, Yield has been most strongly related to assent to misleading questions and generation of new misinformation rather than

repetition of misinformation about an experienced event (Scullin et al., 2002). Within the United States, cross-cultural research using the VSSC is virtually nonexistent.

Present Study

As Hispanics are the fastest-growing minority group in the United States, the aim of the present study was to develop and pilot-test the psychometric properties of a Spanish-language version of the VSSC with a Hispanic sample. This evaluation will be done by comparing the sample in this study with a sample of 91 English-speaking children who were administered the VSSC English-language measure in a similar fashion in another recent study (Karpinski, 2006). This sample will be referred as the Karpinski (2006) sample. An exploratory factor analysis (EFA) with maximum likelihood estimation model fit was utilized to assess the hypothesized two-factor structure of the new measure. Additionally, t-tests, regression analyses, and multivariate analysis of variance were utilized to test the following hypotheses:

- 1) Yield and Shift will have satisfactory internal consistency.
- 2) The VSSC-S items will load on two separate factors.
- 3) Free Recall and Shift will significantly increase with age.
- 4) Yield will significantly decrease with age.
- 5) Gender will not significantly affect scores on the Yield and Shift subscales.

Methods

Development of the Video Suggestibility Scale for Children-Spanish version (VSSC-S)

The VSSC-S was developed in four phases. First, the shooting of a new version of the video was necessary to make both the video and questionnaire more culturally sensitive. In addition, the actual quality of the video was improved as the original version was shot approximately ten years ago. Second, item generation of the instrument required the translation/back-translation process. Third, pilot testing the new version was also necessary for content validity. Fourth, the psychometric properties of the VSSC-S were evaluated in order to compare them to those of the English version.

Creation of the new video

A new version of the video was created to make it more culturally appropriate for Hispanics. It was shot with a group of Spanish speaking children and a piñata was used instead of the pin-the-tail-on-the-donkey game. Also, the characters' names were changed (e.g., Billy vs. Adán.) However, all of the key points of the story (e.g., the birthday boy receives a broken toy as a present, a fire alarm goes off) were retained. This facilitated the translation of the VSSC because the content of the items remain similar. The duration of the new video is also close to that of the original (5 vs. 4 minutes). Finally, the improvements in the image and sound of the new video facilitated the administration of the scale.

Translation/back-translation

One of the main dilemmas when translating study instruments, according to some researchers, arises from the lack of a standard method for cross-cultural validation (Fumimoto et al., 2001). Flatherty et al., (1988) states that there are five dimensions of equivalence that should be met when validating an instrument. First, the content of the translated instrument should be

relevant to the culture that will be assessed with that instrument. Second, the vocabulary used in the translated instrument should convey, semantically, the same meaning as the one in the original language. Third, the translated instrument should technically generate the same type of data across both cultures. This can be accomplished by using comparable assessment methods across cultures. Fourth, the interpretation of the measurement of the variables should be the same when compared with the norm of the culture under study. Fifth, the instrument should conceptually measure the same theoretical construct in each culture.

One of the main problems frequently encountered when translating study instruments is the retention of the grammatical structure of the source language (Brislin, 1970; Guillemin, 1995). This may make the translated text incomprehensible in the target language. One way to avoid that problem is to use the back-translation procedure. According to Werner and Campbell (1970), Brislin (1970), and Brisling, Lonner, and Thorndike (1973), the back-translation process is the preferred and most recommended approach (as cited in Weeks, Swerissen & Belfrage, 2007, p.154).

Given that the aim of the study is to enhance equivalence between the VSSC and the VSSC-S, the translation/back-translation approach was employed. First, a native Spanish speaker translated the VSSC into Spanish. Second, a bilingual (i.e., English/Spanish), but native English speaker, back-translated the Spanish version into English. Finally, another person compared the back-translated version of the VSSC to the original English version. Discrepancies were addressed and discussed by the principal investigator and a group of research assistants fluent in both languages. Every effort was made to ensure semantic, idiomatic, and conceptual equivalence, as well as to preserve overall meaning.

Participants

The sample consisted of children who were attending 9 different preschools or daycare centers in the El Paso, Texas area. A total of 79 3-to 5-year-olds children participated in this study. The age range was 36 to 74 months with a mean age of 53.13 months ($SD = 9.88$). The sample was 47% male and 53% female. Most children, with the exception of two whose parents identified the child as “other”, were identified as Hispanic from Mexican or Mexican-American descent. Any child who was skilled in the Spanish language was eligible for participation. Only three children were excluded from participating because Spanish was their second language. Spanish-language consent forms were distributed and only four parents requested an English-language copy.

The Karpinski (2006) sample was composed of 91 3-5 year-olds from Morgantown, West Virginia. The age range was 36 to 63 months with a mean age of 50.86 ($SD = 7.45$). The sample was 55% males and 45% females. The majority of participants were White (90%), while the rest (10%) were Hispanic, African American, or multi-racial. They completed the VSSC English-language measure. Children or whom English was their second language were excluded from participating. The delay between watching the video and the VSSC administration was the same as in the present study (i.e., short delay of approximately 30 minutes). The main difference between the two studies is that in Karpinski (2006) children watched the video in large groups in classrooms, while in the present study, children did that individually.

VSSC-S Measures and scoring

Free Recall

Free Recall was measured by the first three questions on the VSSC-S. These are the three non-suggestive open-ended questions. The first question asks the child to tell everything he/she

can remember about the birthday party video. The interviewer repeatedly probed each child by asking: “What else do you remember?” until they stopped coming up with details. The second (i.e., “What happened when the children opened the presents?”) and third questions (i.e., “Did anything kind of scary happen during the birthday party?”) were asked only if the child failed to mention the broken toy and the fire alarm going off when responding to question one. The memory recall items were coded by using the same list of characters’ names and key events Scullin and Ceci (2001) used. This list for scoring free recall is similar in structure to the one used by Gudjonsson (GSS1 & GSS2; Gudjonsson 1984, 1987, 1997). The translation/back-translation process was also used to change the memory recall list into Spanish. The number of items on this list is 68 as in the VSSC. Therefore, the maximum number of points a child was able to get in Free Recall was 68, one point per each salient item that was reported. (See Appendixes C and D for complete list of character’s names and key events in English and Spanish versions, respectively). In Karpinski (2006), researchers utilized a coding scheme developed by Memon, Wark, Bull and Koehnken (1997). This process requires grouping the response items into four different categories (i.e., person, action, object, surrounding). Coders gave points for every item in the children’s responses that was related to any of the four categories. The main difference between the two coding methods is that Memon’s et al. (1997) scheme does not restrict the coder to give points only for items that are specifically listed. Thus, coders using the Memon’s et al. scheme have much more freedom to give points in Free Recall.

Yield

One point was given for each affirmative response to a leading question before receiving negative feedback. The 4 accurate questions were not scored for this part of the analysis. The scores range from 0 to 14.

Shift

Children were told twice that they had made some mistakes and that the same questions were going to be repeated to see if they could improve their performance. Questions 1-9 were asked, the children were told they had made mistakes, and then the same 9 questions were repeated. The same process was applied to questions 10-18. All changes in responses were included. Children received one point if they switched a response from yes to no, no to yes, do not know to yes, or yes to do now know. The range in points each participant could get was 0 to 18.

Total suggestibility

This score is created by combining the Yield and Shift scores. Total scores can range from 0 to 32.

Procedure

Recruitment of participants was time-consuming because multiple approvals had to be obtained before a child could participate. First, principals/directors were asked for permission to recruit participants from that particular school/daycare. Second, parents were asked for consent. Consent forms inviting parents to let their children participate in the larger study were distributed directly by approaching parents when they were picking or dropping off their children at school. Once parental consent was obtained and before administering the VSSC-S, the child's assent was also obtained. The first step in the administration process was to show the participant the 4 minute video. Most children were very attentive when watching it. Every attempt was made to ensure that children did not have any distractions at that point (e.g., headphones were utilized). After this, there was a 30 minute delay in which children completed a set of executive function

measures as part of the larger study. Finally, the VSSC-S was administered. It is important to note that the video was shown individually to each participant.

Results

Descriptive Statistics

Descriptive statistics were utilized to evaluate the mean percentages of the dependent and independent variables in this model. The independent variables that were analyzed were age and gender only. The dependent variables in suggestibility were analyzed using the VSSC-S suggestibility measures of Yield, Shift, Free Recall, and Total Suggestibility. Table 1 compares mean VSSC-S scores in the present study with the VSSC means reported by Karpinski (2006). An alpha level of .05 was used for all statistical tests. Statistically significant differences were found for Yield, Shift and Free Recall. Participants in the present study yielded significantly more ($M = 8.48$, $SD = 3.75$) than Karpinski's sample ($M = 7.08$, $SD = 4.65$), $t(166) = 2.12$, $p = .03$. On the other hand, Karpinski's sample changed their responses more after negative feedback ($M = 5.34$, $SD = 3.34$) than the sample in the present study ($M = 3.73$, $SD = 3.34$), $t(166) = 3.11$, $p = .002$. In addition, Karpinski's sample reported more details about the video ($M = 8.01$, $SD = 4.65$) than the participants in the present study ($M = 3.59$, $SD = 2.37$), $t(168) = 7.55$, $p < .001$. This statistical difference might be due to the different coding schemes utilized for scoring Free Recall in the two studies. Effect sizes of the significant differences between the two groups ranged from small ($r = 1.23$ for Shift) to medium ($r = -.51$ for Free Recall). The effect size of the difference found in Yield between the two samples was not significant.

Hypothesis 1: Yield and Shift will have satisfactory internal consistency.

Reliability

The internal consistency of the VSSC-S was examined by using Cronbach's coefficient α , inter-item correlations, and item-to-total scale correlations. Cronbach's α 's for Yield and Shift were acceptable suggestive of satisfactory internal consistency. Yield had the highest

internal reliability coefficient with a Cronbach α of 0.84 (95% CI: .778, .886) while Shift had a Cronbach α of 0.78 (95% CI: .699, .844). Table 2 presents the α coefficients of the present study and those from the Karpinski (2006) study. Inter-rater reliability on the Free Recall items was established by using three judges. The intra-class correlation coefficients were high and comparable in both studies ($r = .96$ and $r = .97$ for present and Karpinski's study, respectively). Item-to-total score correlations (i.e., the correlation of each item with the total score corrected by excluding the given item from calculation of the total) were also calculated. These were all significant to the $p < .001$ level.

Table 1
Descriptive Statistics of Suggestibility Measures for the Present Study and the Karpinski (2006) Study

Variable	Present Study			Karpinski (2006)			<i>t</i>	<i>d</i>
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>		
Age (months)	77	53.22	9.75	91	50.86	7.45	1.78	0.27
Yield	77	8.48	3.75	91	7.08	4.65	2.12*	0.33
Shift	77	3.73	3.34	91	5.34	3.34	3.11**	-.48
Free Recall	77	3.59	2.37	91	8.01	4.65	7.55**	-1.20
Total Suggestibility	77	12.21	4.28	91	12.42	4.15	0.32	-.05

Note. *SD* = standard deviation. * $p < .05$. ** $p < .01$.

Hypothesis 2: The VSSC-S items will load in two separate factors.

Factorial Validity

Principal Component Analysis (PCA) was utilized to explore the factorial composition of the VSSC-S. According to Kaiser's Criterion, twelve factors should be retained because the first twelve eigenvalues exceeded 1.0 ($\lambda = 6.40, 3.64, 2.44, 2.38, 1.95, 1.89, 1.55, 1.5, 1.39, 1.22, 1.10, 1.06$, respectively). The first two factors accounted for 24% of the variance. However, according to Cattell's (1966) rule, only two factors should be retained. The rule states that only

the points above the inflection should be retained because those represent the factors with the highest eigenvalues. Retaining only two factors supports the two-factor model of suggestibility.

Table 2

Internal Reliability Values (Cronbach's α) of the Present Study, the Karpinski (2006) Study and the GSS (GSS1 & GSS2; Gudjonsson 1984, 1987, 1997)

	Present Study	Karpinski's study	GSS
Yield	0.84**	0.82**	0.87 **
Shift	0.78**	0.71**	0.79 **

Note. ** $p < .01$.

An exploratory factor analysis (EFA) on all 18 Yield and all 18 Shift items was conducted using Maximum Likelihood Varimax rotation. The purpose of utilizing EFA was to test the hypothesized two-factor structure of the VSSC-S. The criterion for defining the factors was that items had to load above 0.30 on a single factor. Most VSSC-S Yield and Shift items loaded on two separate factors as hypothesized, with factor one representing Yield and factor 2 representing Shift. Table 3 shows the factor loadings of the Yield items (assents to misleading questions) in the first column and Shift items (changes in responses after negative feedback and the question is repeated) in the second column. Loadings on the Factor 1 and Factor 2 columns under Yield represent the loadings of the 18 Yield questions. The loadings on the Factor 1 column suggest that most items do load on the Yield factor with the exception of items 2, 9, 15 and 18 which have significant negative crossloadings. However, items 2 and 9 are leading correct (i.e., accurate) and are only utilized to score the Shift measure. There is no need to either recode or drop them. In other words, items 2 and 9 do not have an effect on the Yield score. Items 15 and 18 are suggestive and utilized to score Yield and Shift. As it can be seen on the table, item 18 had much higher loadings on the Yield and Shift factors relative to the crossloading and there is no need to either recode or drop this item either. However, Item 15

loaded higher on the Shift factor rather than on the Yield factor when analyzing loadings on Yield. Finding significant crossloadings is not consistent with previous research. Although not all items had significant loadings on the Shift factor, no crossloadings were found.

Table 3

Rotated Factor Matrix (Varimax Rotation) using Maximum Likelihood on a Two Factor Solution for the VSSC-S (N = 79)

Item	Yield		Shift	
	Factor 1	Factor 2	Factor 1	Factor 2
1. Did the two girls arrive at the party in a bright red car? (M)	.378			
2. Was there a girl named Alejandra at the party? (LC)	(.319)	(-.380)		.550
3. Was there a little white doggie at the party? (M)	.568			
4. Did the clumsy girl Cristal knock over the presents? (M)	.645			
5. Did the kids break a balloon while they were playing with them? (M)				.422
6. Did Cristal trip and fall on the way to the table? (LC)	(.579)			.324
7. When the clown did magic, did he drop a ball? (M)	.563			
8. Did Adán and his friends play with his new football? (M)	.560			
9. Was one of Adán's birthday presents broken when he opened it? (LC)		(-.417)		.513
10. Did Adán break the toy? (M)	.755			.376
11. Did Adán and his friend play with the broken toy after his dad fixed it? (M)	.548			.523
12. Did Adán's dad cut the cake? (M)	.558			.395
13. When Cristal dropped the cake on her lap, did she just go ahead and eat it? (LC)	(.302)			
14. When Adán spilled his juice, did he cry? (M)	.697			.430
15. Did Adán get the <i>last</i> piece of cake? (M)	.373	-.466		.819
16. Did Adán's dad tell the kids that there wasn't a real fire? (M)				
17. Did Adán feel 'all grown up' now that he was five years old? (M)				.340
18. Did Adán friends stay overnight? (M)	.580	-.381		.732

Note. M = Misleading items, LC = Leading correct items. Leading correct items are not used to score Yield (in parenthesis), but they are used to score Shift. Only factor loadings ≥ 0.30 are presented.

Hypothesis 3 and 4: Yield will significantly decrease with age and Free Recall and Shift will significantly increase with age.

Correlations

Pearson correlations were computed between the VSSC-S subscales and age. Results are presented in Table 4. The findings support hypotheses 3 and 4. There were striking similarities between the present study and the Karpinski (2006) sample. The directionality of the correlation between age and Yield was negative in both samples ($r = -0.43$ vs. $r = -0.40$, respectively). Age was also correlated with Free Recall in both samples ($r = 0.42$ vs. $r = 0.36$). Another consistent finding was the positive correlation between Yield and Shift ($r = 0.26$ vs. $r = 0.31$). Although results of the present study support hypothesis 4, findings are not consistent with Karpinski's results. In the present study, Shift did significantly increase with age ($r = 0.27$), but this was not found in Karpinski ($r = 0.04$). None of the differences between correlations were significant.

Table 4
Pearson Correlation Matrix of Age and Suggestibility Measures in the Present Study (left) and the Karpinski (2006) study (right)

	1	2	3	4	5
1. Age	1	-.43**/-.40**	.27*/.04	-.17/-.33	.42**/.36**
2. Yield		1	.27*/.31**	.66**/.65**	-.33**/-.19
3. Shift			1	.54**/.51**	.26*/.08
4. Total Suggestibility				1	-.09/-.11
5. Free Recall					1

Note. * $p < .05$. ** $p < .01$ (2-tailed).

Multivariate Analysis of Variance

Multivariate analysis of variance (MANOVA) was utilized to evaluate gender and age differences. Free Recall, Yield, Shift and Total Suggestibility were entered as dependent variables. The 2 (gender: male, female) X 3 (Age group: 3, 4, and 5-year-olds) between-subjects design resulted in the loss of 1 participant who was older than 71 months. No significant main

effects were found for gender, but a significant main effect was found for age, Wilks' Lambda = 3.566, $F(2,76) = 3.566$, $p = 0.003$, partial $\eta^2 = .136$. Table 5 presents the descriptive statistics of suggestibility measures by age group. A post hoc analysis of the main effects using Tukey's Studentized Range (HSD) revealed that there was a significant main effect of age on Yield, $F(2,73) = 6.972$, $p < .01$, partial $\eta^2 = .172$ and on Free Recall, $F(2,73) = 4.221$, $p < .05$, partial $\eta^2 = .112$. There were no main effects related to Shift and Total Suggestibility.

Children's means differ across age groups in Yield and Free Recall. In Yield, three year-old children differ significantly in their mean score from both, the 4-year-olds and the 5-year-olds. However, four year-olds did not differ from 5-year-olds. In Free Recall, three-year-olds differ significantly in their mean score from 5-year-olds, but not from 4-year-olds.

T-Tests

To further evaluate age differences, the sample was split into younger and older groups as it has been done in previous studies (Scullin & Bonner, 2006; Scullin et al., 2002). The same cut off point was utilized at 4 ½ years of age (54 months). This cut off point was chosen by Scullin et al. (2002) because children 4 years and 6 months and older have better theory of mind and executive functions abilities and children exhibit suggestibility more constantly across questions types after this age. Table 6 presents the descriptive statistics of these two groups and the t-values. Statistically significant differences were found between both groups in Yield, Free Recall and Total Suggestibility. The effect sizes of the significant differences between the two groups were small ($r = -.42$ for Yield, $r = .38$ for Free Recall, and $r = -.25$ for Total Suggestibility).

Correlations

Results showed some significant correlations between the younger and older group. Yield and Shift were negatively correlated in the younger group ($r = -.49$). This is consistent with

previous research indicating that children younger than 4 ½ years of age have a tendency to adopt a strategy of responding to negative feedback by shifting from ‘no’ to ‘yes’ while older children shift both ways (Scullin & Bonner, 2006; Scullin et al., 2002). Yield and Shift were not significantly correlated in the older group. There was a statistically significant difference between the Yield and Shift correlations of both groups (Fisher’s r to $z = -2.62, p < .01$). Table 7 presents the correlations of both groups and the suggestibility measures.

Table 5

Descriptive Statistics of Suggestibility Measures by Age Group

	3-year-olds (<i>N</i> = 25)	4-year-olds (<i>N</i> = 24)	5-year-olds (<i>N</i> = 27)
Variable	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Yield	10.76 ^a (2.70)	7.58 ^b (3.81)	7.30 ^b (3.72)
Shift	2.48 (2.88)	4.38 (3.54)	4.22 (3.39)
Free Recall	2.59 ^a (2.10)	3.49 (2.12)	4.53 ^b (2.51)
Total Suggestibility	13.24 (3.37)	11.96 (3.93)	11.52 (5.27)

Note. *SD* = standard deviation. Means are statistically different from each other at $p < .05$ after Tukey’s Studentized Range (HSD) Test to control for type I experimentwise error rate.

Table 6

Descriptive Statistics of Suggestibility Measures by Age Group

	Younger			Older				
Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>d</i>
Yield	43	9.88	3.26	34	6.71	3.53	6.01**	-.93
Shift	43	3.28	3.38	34	4.29	3.24	1.97	.31
Free Recall	43	2.79	2.06	34	4.61	2.39	5.24**	.82
Total Suggestibility	43	13.16	3.38	34	11.00	5.00	3.22**	-.51

Note. *SD* = standard deviation. ** $p < .01$ (2-tailed).

Hypothesis 5: Gender will not significantly affect scores on the Yield and Shift subscales.

T-Tests

T-Tests revealed that gender does not significantly affected scores on the Yield and Shift subscales. Mean scores in all measures were comparable between males and females and no statistically significant differences were found. Table 5 presents the descriptive statistics and the t-values.

Table 7
Pearson Correlation Matrix of Younger (left) and Older Group (right) and Suggestibility Measures

	1	2	3	4
1. Yield	1	-.49**/.09	.49/.76**	-.22*/-.19
2. Shift		1	.52**/.71**	.12/.33
3. Total Suggestibility			1	-.09/.08
4. Free Recall				1

Note. * $p < .05$. ** $p < .01$ (2-tailed). Younger group: $N = 43$, Older group: $N = 34$.

Discussion

The aim of the present study was to evaluate the psychometric properties of the Spanish-language version of the VSSC. While establishing the practical utility of this suggestibility scale may take a while, results show that the VSSC-S taps into the same constructs as those of the VSSC. No gender differences were found, but age was significantly negatively related to Yield and positively related to Free Recall. In other words, younger children tended to yield more to misleading questions and to report less details about the video than older children.

A comparison of the mean scores demonstrated that the sample in the present study had a lower tendency to shift their responses after negative feedback and to report fewer details about the video in Free Recall than the sample in Karpinski (2006). Although the differences in Shift were not statistically significant, results from the present study are consistent with previous research. For instance, McFarlane et al. (2002) reported a mean Shift ($M = 3.53$, $SD = 3.03$) comparable to the one obtained in the present study ($M = 3.73$, $SD = 3.34$), $t(152) = 0.39$, *ns*. The mean on Free Recall in McFarlane's et al. study ($M = 3.27$, $SD = 4.08$) was also very similar to the one obtained in the present sample ($M = 3.59$, $SD = 2.37$, $t(154) = 0.59$, *ns*). This is especially interesting because McFarlane et al. (2002) utilized a sample of Australian children and these results suggest that Shift scores may be comparable across cultures other than America. Statistically significant differences were found in the number of times children shifted their answers in the present study in comparison to at least one other study in which an American sample was utilized. For instance, American children in Melinder et al. (2005) shifted their responses more ($M = 5.23$, $SD = 2.69$) than the Hispanic children in the present study ($M = 3.73$, $SD = 3.34$), $t(135) = 2.83$, $p > .01$.

The VSSC-S demonstrated good internal consistency. The internal reliability scores found in the present study resemble those from Karpinski (2006). Furthermore, Cronbach's coefficients for the Yield and Shift subscales are also comparable to those reported in previous research for the GSS and the VSSC (Gudjonsson's, GSS1 & GSS2; 1984, 1987, 1997, Scullin & Ceci, 2001). Cronbach's α were closer to those found by Scullin and Ceci (2001) when the VSSC was factor analyzed.

Results from an EFA revealed an adequate fit with Gudjonsson's two-factor model of suggestibility. Most items on the VSSC-S loaded into two different factors, which accounted for 24% of the variance. Finally, although weaker factor loadings on the Shift factor have been found with American and Norwegian samples (Melinder et al., 2005), this was not the case in the present study. Most items had moderate loadings on the predicted factors (i.e., Yield and Shift). Future research utilizing the VSSC-S with other Spanish-speaking populations may provide more insight into the factorial structure of the new measure.

Despite the comparable high intraclass-correlation coefficient found for the Free Recall items in the present and Karpinski (2006) study, it is important to discuss what might have contributed to the high Free Recall mean score found in the latter. It is possible that the significant differences in reported mean scores are due to the difference in coding approaches that were utilized. In the present study, Free Recall items were coded using Scullin and Ceci's (2001) schema whereas Karpinski's study used the method developed by Memon et al. (1997). Coders in the present study were restricted to using the video events, characters' names, and descriptions mentioned on the lists. On the other hand, the Memon et al. (1997) schema employed by Karpinski was designed to maximize Free Recall coding variability. Coders using this schema can code word by word from the participant's response as long as the items fall into

any of those four categories. Thus, coders in the Karpinski (2006) study gave points for parts of utterances that were not included in the coding schema utilized in the present study. Notably, the Free Recall mean in the present study is consistent with previous research that has utilized the coding schema developed by Scullin and Ceci (2001; Ceci & Bruck, 1995; Melinder et al., 2005; McFarlane et al., 2002; Scullin & Ceci, 2001).

Pearson correlations reflected expected relations based on previous research on the VSSC. For example, age was correlated with Shift and Free Recall, which is consistent with findings of Scullin and Ceci (2001) and Karpinski (2006). These results suggest that as the age of the children increased, their tendency to change their responses and report more video events also increased. On the other hand, age correlated negatively with Yield as in Karpinski (2006) and Scullin and Bonner (2006). As age of children decreased, their tendency to acquiesce to misleading statements increased.

As hypothesized, no gender differences in suggestibility scores as measured by the VSSC-S subscales were found. However, although not significant, males had higher Yield scores than females, which is consistent with Melinder et al. (2005). Interestingly, Melinder et al. (2005) also found this difference with a Norwegian sample, but not with two other American samples in the same study. Nevertheless, as Bruck and Melnyk (2004) found in their review on child suggestibility, gender differences are not consistent enough to formulate any conclusions.

An evaluation of age differences across groups revealed that 3 year old children differ in their Yield and Free Recall scores from the 4 and 5 year olds. Children who were 3 years of age received higher Yield scores relative to 5 year olds. This finding suggests that younger children tend to acquiesce to misleading statements at a higher rate than older children. In addition, children 3 years of age had lower Free Recall scores in comparison to the other two groups. That

is, three year olds acquiesced more to misleading questions than the other two groups and reported significantly less details than 5 year old children.

By splitting the sample into a younger and older group, it was found that children 4 ½ and younger yielded significantly more than older children. On the other hand, children older than 4 ½ reported more details in Free Recall than younger children. These findings are consistent with Scullin et al. (2002). Although the older group shifted their responses more than the younger group in the present and Karpinski (2006) studies, those differences were not significant, which is consistent with previous findings (Scullin & Bonner, 2006; Scullin et al., 2002). Consistent with some prior research, Yield and Shift were negatively correlated (Scullin & Bonner, 2006) in the younger group, although other studies have not consistently found a correlation between the two measures (Melinder et al., 2005; Scullin & Ceci, 2001). In the present study, a statistical significant difference was found between the Yield and Shift correlations of the younger and older groups. This suggests that the two groups do differ in their response patterns and the differences are not due to chance. Even though it has been suggested that individual differences may become more pronounced after 4.5 years of age (Scullin et al., 2002), the present study is not able to make any conclusions because other forms of suggestibility were not examined.

Future Directions

Future research utilizing the VSSC-S could include a comparison of the different methods used to score the Free Recall items. Although most studies have employed the Scullin & Ceci (2001) coding scheme, it would be interesting to see how different coding methods (e.g., Memon et al., 1997) may affect mean scores on the Free Recall items. More specifically, it

would be interesting to study whether coding method scheme have an impact on the relationship between Free Recall and other variables such as age.

Furthermore, future research with the VSSC-S should also evaluate whether different results would be obtained depending on the length of the delay between watching the video and administering the scale. Similar to the present study, Karpinski (2006) used a short delay of 30 minutes. However, other studies have utilized longer delays such as one day (Melinder et al., 2005; Miles et al., 2004; Scullin & Bonner, 2006), 1-3 days (Scullin & Ceci, 2001), 1-4 days (Scullin et al., 2002) and 7-10 days (Scullin & Ceci, 2001). If some of the findings utilizing different delay intervals were replicated, they would add to the psychometric similarities between the VSSC-S and the VSSC English-language version. This would also increase the ecological validity of the VSSC-S because forensic interviews usually happen after long delays of the witnessed or experienced event.

Another suggestion for future research with the VSSC-S is in reference to the manner in which the Yield subscale was analyzed. The present study did not take into account separate Yield scores to measure acquiescence before and after negative feedback is provided. Some studies have done this by using Yield1 and Yield2 measures (Scullin & Ceci, 2001; Melinder et al., 2005; while others have not (Scullin & Bonner, 2006; Scullin et al., 2002). In the present study, the author decided not to analyze those differences because the main focus was on the factorial structure of the VSSC-S (i.e., loadings on the Yield and Shift factors).

Finally, future research with Spanish-speaking populations should include a measure of language proficiency. In the present study, researchers did not systematically measure Spanish-language skills because the majority of children were recruited from bilingual daycares or preschools (i.e., 8 out of 9 of the sites that participated). In addition, they were participating in a

larger study in which all measures were administered in Spanish. The administration of the VSSC-S was done on the second session after they had already completed some Spanish-language measures in the first session. Despite this, three participants had to be excluded because Spanish was their second language. Measuring language proficiency would be of special importance if the VSSC-S were to be utilized in another area of the country. As El Paso, Texas is a border city, it may be more likely that Hispanic children will be more fluent Spanish speakers than children that live in non-border cities or in Northern regions of the country.

Conclusion

In conclusion, the Spanish-language version of the VSSC has demonstrated to have similar psychometric properties to those of the English-language version. Further research is needed to determine whether any contradictory findings are due to psychometric differences between the two scales or individual or cultural differences within and among samples. The implications for future research with the VSSC-S are especially important because cross-cultural research is limited.

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Footnotes

¹ A leading question contains information that suggests the answer the interviewer is looking for (e.g., where were you when he touched you?).

² Theory of mind refers to a cognitive capacity that allows us to know that others may have different feelings, intentions, and beliefs than oneself (Bruck & Melnyk, 2004). Research has shown that this skill develops in the preschool years, and by the age of 5 most children can understand that two people can have different beliefs about something (Astington, 1993).

³ Executive function refers to a broad category of skills that underlies goal-directed behavior (e.g., planning, inhibitory control; Bruck & Melnyk, 2004).

Appendix A

Name: _____

For videotaping purposes, say the child's name while building rapport.

Open-ended questions

A. Do you remember that video about the birthday party? Tell me everything you remember about the birthday party.

Repeatedly probe: What else do you remember?

When the child finishes responding, ask:

B. If the toy being broken was not mentioned previously, ask: What happened when the children opened the presents?

C. If the smoke alarm going off was not mentioned previously, ask: Did anything kind of scary happen during the birthday party?

YIELD

SHIFT

_____ **1. Did the two girls arrive at the party in a bright red car?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **2. Was there a girl named Alejandra at the party?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **3. Was there a little white doggie at the party?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **4. Did the clumsy girl Cristal knock over the presents?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **5. Did the kids break a balloon while they were hitting them around?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **6. Did Cristal trip and fall on the way to the table?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **7. When the clown juggled, did he drop a ball?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **8. Did Adán and his friends play with his new soccer ball?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **9. Was one of Adán's birthday presents broken when he opened it?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Feedback

You have made a few mistakes. Let's go over the questions again and see if you can do better.

YIELD

SHIFT

_____ **10. Did Adán break the toy?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **11. Did Adán and his friends play with the broken toy after Adán's dad fixed it?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **12. Did Adán's dad cut the cake?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **13. When Cristal dropped the cake on her lap, did she just go ahead and eat it?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **14. When Adán spilled his juice, did he cry?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **15. Did Adán get the last piece of cake?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **16. Did Adán's dad tell the kids that there wasn't a real fire?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **17. Did Adán feel "all grown up" now that he was five years old?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

_____ **18. Did Adán's friends stay overnight?** _____

Round 1: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Round 2: YES___ NO___ DON'T KNOW___ NO RESPONSE___ OTHER___

Feedback

You have made a few mistakes. Let's go over the questions again and see if you can do better.

Appendix B

Nombre: _____

Decir el nombre del niño mientras que se establece comunicación. Para propósitos de la grabación en video de la entrevista,

Preguntas abiertas

A. ¿Te acuerdas del video sobre la fiesta de cumpleaños? Dime todo lo que recuerdas sobre la fiesta de cumpleaños.

Preguntar repetidamente: ¿Qué más recuerdas?

Cuando el niño termine de responder, preguntar:

B. Si el juguete que estaba quebrado no fue mencionado previamente, preguntar: ¿Qué pasó cuando los niños abrieron los regalos?

C. Si la alarma de incendios no fue mencionada previamente, preguntar: ¿Paso algo más o menos de miedo durante la fiesta de cumpleaños?

YIELD

SHIFT

- _____ 1. **¿Llegaron en un carro rojo las dos niñas?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 2. **¿Estaba una niña llamada Alejandra en la fiesta?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 3. **¿Había un perrito blanco en la fiesta?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 4. **¿Se tiró la niña torpe arriba de los juguetes?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 5. **¿Reventaron los niños un globo mientras que jugaban con ellos?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 6. **¿Se tropezó y se cayó Cristal cuando iba para la mesa?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 7. **Cuando el payaso hizo magia, ¿tiró una pelota?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 8. **¿Jugaron Adán y sus amigas con su pelota nueva de fútbol?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 9. **¿Estaba quebrado uno de los regalos de Adán cuando lo abrió?**
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____

Retroalimentación

Has hecho algunos errores. Vamos a repasar las preguntas otra vez y ver si puedes mejorar.

YIELD

SHIFT

- _____ 10. ¿Quebró Adán el regalo?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 11. ¿Jugaron Adán y sus amigas con el juguete quebrado después de que su papá lo arregló?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 12. ¿Cortó el papá de Adán el pastel?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 13. ¿Cuando Cristal tiró el pastel en sus piernas siguió comiéndoselo?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 14. Cuando Adán tiró su jugo, ¿lloro?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 15. ¿Le dieron a Adán el último pedazo de pastel?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 16. ¿Les dijo el papá de Adán que no era un incendio real?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 17. ¿Se sintió Adán “muy grande” ahora que cumplió cinco años de edad?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
- _____ 18. ¿Se quedaron las amigas de Adán toda la noche?
Ronda 1: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____
Ronda 2: SI___ NO___ NO SE___ NO RESPUESTA___ OTRO___ _____

Retroalimentación

Has hecho algunos errores. Vamos a repasar las preguntas otra vez y ver si puedes mejorar.

Appendix C

Characters' names

1 point Free Recall for describing a character (e.g., the girl with a pony tail), 1 points Free Recall for a name or a name and a description (e.g., either “Billy” or “Billy, the birthday boy” would get 2 points).

- Suzie and Tammy's Mother
- Suzie
- Robin
- Billy
- Tammy
- Billy's Mother
- Billy's Father

Character Descriptions

1 point for each numbered item mentioned. Don't give credit for items if colors are substantially off. Give half points for clothes mentioned with no color or further descriptor mentioned. Color in the video is not very bright, so give some leeway. *1 pt. for mentioning a child is white, 1 pt. for mentioning he or she was wearing a birthday hat.*

Code probed descriptions separately from the other Free Recall items.

- Suzie and Tammy's Mother - 1. Green and purple jacket 2. Glasses 3. White shirt 4. Blond/Brown hair
- Suzie - 1. Gray/Black shirt 2. Blue jeans 3. Short brown hair
- Robin - 1. White sweatshirt 2. Black/brown pants 3. Blond/Brown hair
- Billy - 1. Green/black t-shirt. 2. Black pants. 3. Black hair.
- Tammy - 1. Pink turtleneck 2. Black (flowered) dress 3. Blond/Brown hair (*up or in bun*)
- *Pin the tail on the donkey girl.* 1. Green shirt. 2. Blue jeans. 3. Brown hair (*tied back*).
- Billy's Mother - 1. White sweatshirt 2. Black jeans 3. Blond/Brown curly hair
- Billy's Father - 1. Purple sweatshirt. 2. Blue jeans. 3. Black hair
- *Man who walks out* – 1. Gray hair. 2. Blue/white striped shirt. 3. Khaki pants

Events of video

1 point for each recollection that corresponds to 1 of the following items.

- Gray car pulls up to house.
- Mom drops off two girls, an older one and a younger one
- Girls go to front door
- Billy's mom and Billy meet the girls at the front door
- The girls are taken downstairs
- Girl is playing pin the tail on the donkey and drops the tail
- There are decorations and streamers in the room
- The kids are wearing party hats
- Tammy and Suzie put their present on the table
- They see a red bag
- Tammy wants to look in the bag
- Suzie doesn't want to look
- Tammy prevails and they look in the bag
- The red bag ends up on the floor
- Billy's mom finds the bag and wonders how it fell
- Inference: Girls broke the toy
- The kids draw on balloons
- The kids hit the balloons around
- Billy's mom tells the kids to come over and open presents
- Robin (girl) trips and falls on the way to the table
- Billy opens a wrapped football
- Billy opens the red bag
- The Power Ranger (or toy or action figure) in the bag is broken
- Billy is upset/cries
- Billy's mom says his dad can fix it or get a new one
- Billy's dad brings out the cake
- They sing 'Happy Birthday'
- They blow out the candles
- They serve cake (and ice cream)
- Billy gets the first piece
- Robin drops a piece of cake on her lap and eats it
- Billy tells Suzie not to kick him
- A girl cries and someone consoles her (off camera)
- A fire alarm goes off
- The kids smell smoke
- The kids flee the table
- Billy's mom stops them at the door
- She tells them there wasn't a real fire
- She tells them they can go back to eating cake
- She tells them they can play more games later
- Tammy says Billy knows how to throw an exciting birthday party

Appendix D

Nombre de los Personajes

1. La mamá de Alejandra y Lupita
2. Alejandra
3. Cristal
4. Adán
5. Lupita
6. La mamá de Adán
7. El papá de Adán

Descripciones de los Personajes

- La mamá de Alejandra y Lupita: 1. blusa azul 2. lentes de sol negros 3. cabello negro 4. cabello recogido en la nuca
- Alejandra: 1. sweater gris 2. Jeans azules
- Cristal: 1. camiseta de mangas cortas negras con mangas largas blancas abajo 2. pantalón negro 3. cabello café oscuro/negro
- Adán: 1. camisa azul con blanco 2. jeans azules 3. cabello negro
- Lupita: 1. blusa azul con blanco con un saco café 2. falda de mezclilla 3. cabello café rizado
- La mamá de Adán: 1. camisa negra 2. Jeans azules 3. cabello negro rizado
- El papá de Adán: 1. cachucha beige 2. camiseta verde.

Eventos del video

Un punto por cada evento que sea recordado y que corresponda a uno de los siguientes datos.

1. Carro gris llega a la casa
2. La mama deja dos niñas, una más grande que la otra
3. Las niñas caminan hacia a la puerta de enfrente
4. La mama de Adán y Adán se encuentran con las niñas en la puerta principal
5. Las niñas pasan a la sala
6. Los niños juegan con globos y se golpean con ellos
7. Hay decoraciones en el cuarto
8. Hay globos y una decoración que dice "Happy Birthday"
9. Lupita y Alejandra ponen su regalo en la mesa
10. Ellas ven una bolsa roja
11. Lupita quiere ver adentro de la bolsa
12. Alejandra no quiere ver
13. Lupita gana y ven en la bolsa
14. La bolsa roja termina en el suelo
15. La mamá de Adán ve la bolsa y se pregunta cómo es que se cayó
16. Deducción: Las niñas rompieron el juguete
17. Los niños dibujan en los globos
18. La mamá de Adán les dice a los niños que vengan y abran los regalos
19. Cristal se tropieza y se cae cuando va hacia la mesa
20. Adán abre una pelota de football que está envuelta
21. Adán abre la bolsa roja
22. El "hombre araña/spiderman" que está en la bolsa está roto/quebrado
23. Adán está molesto/llora
24. La mama de Adán dice que su papá lo puede arreglar o comprar uno nuevo
25. El papá de Adán trae el pastel
26. Cantan "Feliz Cumpleaños"
27. Los niños tienen vasos y platos de "el hombre araña/spiderman"
28. Sirven pastel
29. Adán obtiene el primer pedazo
30. Cristal tira un pedazo de pastel en sus piernas y se lo come
31. Alejandra le dice a Adán que no le pegue
32. Una alarma de incendio se activa
33. Los niños huelen humo
34. Los niños corren de la mesa
35. La mamá de Adán los detiene en la puerta
36. Ella les dice que no era un incendio real
37. Ella les dice que se pueden regresar a seguir comiendo pastel
38. Ella les dice que pueden jugar otras cosas después
39. Los niños le pegan a la piñata
40. Los niños cantan "dale, dale"
41. Cristal quiebra la piñata

Vita

Claudia Ornelas

Claudia was born and raised in Mexico. She came to the U.S. as a young woman more than thirteen years ago. She started attending college at that time. She received an Associates of Arts in psychology from Cochise College in 2002 and a Bachelor of Science in psychology as well from the University of Arizona in 2004. Currently, Claudia is working on her master thesis to fulfill the requirements for a Master of Arts in Clinical Psychology at the University of Texas at El Paso (UTEP). Since 2006 when she entered the program, she has worked as a Teacher Assistant in the UTEP Psychology department. She has also worked as a Research Assistant for professors from the UTEP Psychology and Special Education departments. Claudia enjoys doing research with preschoolers and therapeutic work in the community. She has been participating in clinical internships since the fall 2008. At first, she worked under the supervision of a child psychologist from Texas Tech. She learned psychological assessments' administration. From January 2009 until present, she has been an intern at Family Service of El Paso. In this community agency, she has gained experience in doing therapeutic work. Although Claudia would like to continue doing clinical work in the future primarily, she is also interested in gaining teaching experience. Currently, she is participating in a paid internship at the Juvenile Probation Department. The main focus of this internship is to evaluate the effectiveness of a boot camp program. Claudia enjoys spending time with family and friends and watching movies.

Thesis was written by:
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