

## ***Behavior with Anatomically Detailed Dolls by Children from Buenos Aires, Argentina***

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### **Abstract**

This article reports a study of 96 children between 2 and 12 years old, interviewed with their mothers, at a Pediatric Clinic in Buenos Aires, Argentina. It was funded by CONICET and Fundación Ecosistemas Humanos, and its objective was to obtain the standards of behavior of non-referred children during their interaction with Anatomically Detailed Dolls (ADs). The study comprised interviews with mother and child, as well as a pediatric examination. Children's behavior with ADs was observed and coded to generate typical profiles by gender and age, and also to investigate individual, family, and contextual correlates of the behaviors. Negative factors, such as poverty, neglect, or physical punishment were found to increase activity with dolls, but also did positive factors, such as higher cognitive development. Explicitly sexual manipulations were very rare. This work provided a model for a standardized observation of the behavior with anatomic dolls that can be used as an exploratory tool when sexual abuse is suspected. Being extremely rare, explicit sexual manipulations of the dolls during an assessment deserve special attention from professionals.

*Keywords:* Child abuse; child psychology.

### **Conducta de Niños de Buenos Aires frente a las Muñecas Anatómicamente Detalladas**

#### **Compendio**

Este artículo informa resultados de un estudio realizado sobre 96 niños de 2 a 12 años, entrevistados junto con sus madres, en un servicio público de pediatría de Buenos Aires, Argentina. El estudio fue financiado por el CONICET y la Fundación Ecosistemas Humanos, y se propuso obtener normas de la conducta de niños no derivados por sospecha de abuso, frente a las Muñecas Anatómicamente Detalladas (ADs). Comprendió entrevistas con las madres y sus hijos, y un examen pediátrico. La conducta de los niños con las ADs fue observada y codificada para generar perfiles típicos por género y edad, y para investigar correlatos individuales, familiares y contextuales de dichas conductas. Se obtuvieron perfiles típicos por género y edad. Se encontró que factores negativos, como pobreza, negligencia o castigos físicos aumentaban la actividad de los niños con las muñecas, pero también lo hacían factores positivos, como el alto desarrollo cognitivo. Manipulaciones sexuales explícitas fueron muy raras. El trabajo provee un modelo para la observación estandarizada de la conducta de los niños con las muñecas, que puede ser usado como herramienta exploratoria cuando se sospecha la presencia de abuso. La aparición de manipulaciones sexuales explícitas durante una evaluación merece especial atención por parte de los profesionales, dado que fueron muy infrecuentes en este estudio.

*Palabras clave:* maltrato de los niños; psicología infantil; entrevista de apego con muñecos.

During the last decade, the judicial approach to child abuse allegations has been marked by an attempt to improve the staff's technical skills for assessing the plausibility of the allegations and to report the results of these assessments in non-ambiguous ways. These mandates translate in the need for psychologists and social workers to focus on techniques other than classic play and administration of conventional psychological tests. One of the tools that have received great attention has been the observation of free play with anatomically detailed dolls (ADs). This technique, however, requires careful determination of what is normal play with the dolls in a given cultural setting. Without such knowledge, any attempted assessment of what is non-normative or hypersexual behavior is likely to be flawed (see e.g. Richardson, 2003). The present paper had the objective of assessing normal play with these dolls among children in a pediatric hospital in Argentina.

The potential usefulness of ADs has been discussed for the last fifteen years. They facilitate communication with young children, particularly with those who are reluctant to talk about their experiences or to provide details of the abuse following the child disclosure. In addition, the observation of the interaction between the children and the dolls may elicit spontaneous demonstrations that may reproduce the abuse situation and permit its understanding. Unfortunately, however, Argentina lacks empirical research with which to compare the results of observations using ADs. Given this limitation, the purpose of the present paper was to generate data on the behavior of children without an existing abuse diagnosis, when interacting with the ADs.

#### **ADs in Argentina**

Unfortunately, professionals using ADs in Argentina do not report guidelines or standardized protocols and norms supporting their procedures. They usually do not refer to scientific research on ADs, and have a wide range of differences in their professional training. This is in part understandable

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because research reports addressing child and sexual abuse in Argentina and Latin America are scarce. The Interamerican Journal of Psychology published the very first of them (Acosta, Aduriz, & Albarracín, 1998; Albarracín, 1997) and during the last decade, some more empirical articles have appeared in different journals (Albarracín, Repetto, & Durantini de Albarracín, 1998; Bringiotti, 1998; Kerr-Correa, Tarelho, Camiza, & Villanassi, 2000). Also recently, a number of researchers from Argentina and other Latino-American countries offered therapeutic and theoretical hypotheses, although at a descriptive or speculative level (Abadi & Madariaga, 2000; Cavalini, 2003; Cely, 2003; Del Moral Zamudio, 2000; Fuks, 1998; Guiter, 2000; Intebi, 1999; Kuitca, 2000; Llanos, 2001; Ortiz Martínez, 1998; Pinheiro da Silva, 2002; Rotenberg, 2000; Saldanha, Padilha, & Gomide, 2004). Finally, some Latin-American authors contributed with reviews of sexual abuse issues (Kerr-Correa, et al., 2000; Martínez, 2000; Souza, Assis, & Pesce, 2001).

#### Data on Sexual Abuse in Argentina.

Argentine statistics are pretty disperse and scarcely reliable. The Government of Buenos Aires City runs women centers assisting family violence cases, and the city's children hospitals have a fairly long history assisting child maltreatment. The City reported that 39% of the children attending women centers in 2004 ( $N = 479$ ) were sexually abused (Government of Buenos Aires City, 2006), 28% physically abused, 13% emotionally abused, 12% witnesses of family violence, and 2% neglected (2%). During the same period, public defender offices located in several neighborhoods reported serving 1,684 children who were victims of family violence. The government also keeps a registry of phone calls performed by children asking for help (Line 102, Buenos Aires), and of reports of abuse to the "Protect" hotline. Their records indicate that, between 2002 and 2004, the hotline 102 received 24,842 calls, 34% of them reporting household violence. Furthermore, the "Protect" hotline received 6997 reports of physical, psychological and social maltreatment. The 102 hotline reports did not specify the category "sexual abuse", and the "Protect" hotline did not indicate whether the phone calls were from children or adults. Nonetheless, the high number of reports makes it likely that some involved sexual abuse. The Argentine mental health department has run a research and epidemiology watch program since 2004, but does not have results. They attribute the lack of previous reports to the confusing forms employed, and the absence of a standard coding of reports. The National Justice does not give statistics on sexual abuse examinations performed by its Forensic Office. However, Berlinerblau (nd), a forensic psychiatrist herself, reports that her office examined 315 children (2 to 18 years old) between 1994 and 2000. These cases included 73% girls and the sexual abuse was confirmed on 52% of the cases. Finally, the website of the National Ministry of Health gives no statistic related to intervention in child abuse cases (Ministry of Health and Environment, nd). In sum, there is no formal data

on prevalence or incidence of sexual abuse in Argentina. Nevertheless, all indicates that the problem is endemic, and more relevant tools must be developed.

Published research about the sexual behavior of Argentine children could not be found. Likewise there are no published studies focusing on the interaction between Argentine children (suspected or unsuspected of being abused), and ADs. At the same time, as the number of sexual abuse allegations increased, the legal system turned its attention to the assessment by professionals. Legal officers assume that there is an expertise that can assist them to reach the most accurate possible decision. As a consequence, psychologists are compelled to produce mandatory reports, most of the time in the absence of relevant scientific data. Many of these reports are based on the use of ADs.

The Association of Psychologist of Buenos Aires and The Psychologists College of Province of Buenos Aires adopted the Ethic Principles of the American Psychological Association. Hence, it seems congruent to take account of the A.P.A.'s warning (1998) that D.A.s are available from a variety of vendors and are readily sold to anyone who wishes to purchase them. In addition, states the A.P.A., neither the dolls, nor their use, are standardized and accompanied by normative data, and there are currently no uniform standards for conducting interviews with them. Based in these conclusions, the A.P.A. recommended that ADs be used while taking into account that, a) the dolls are not a psychological test with predictive validity per se; b) diagnostic statements about child sexual abuse cannot be made on the basis of spontaneous or guided "doll play"; c) particular caution is called when interpreting the reports of children aged 4 and under and when repeated misleading questioning has been employed; and, d) special recognition of normative differences between children of different racial groups and socioeconomic strata should be a part of the training of professionals who use AD's in clinical inquiry. Finally, the A.P.A. urged continue research to generate more and better data regarding the stimulus properties of the dolls and the normative behavior of abused and non abused children.

Given the cited gaps with regard to sexual abuse evaluations in Argentina, this study intended to provide some evidence about the normal behavior of both girls and boys, between 2 and 12 year old, with regard to the ADs, in a sample of low-income Buenos Aires population. To my knowledge, this is the first time that such a normative study is performed in our country. Because we reached a sample of children recruited in a pediatric clinic, the sample was comprised either, routine developmental controls, or the season prevalent schedule for such a clinic. In other words, the children were none referred under suspicious of sexual abuse, but instead constituted a sample of the normal population. This is consistent with the objective of obtaining data on normal behavior with ADs. The alternative of using an abused sample would provide data on abused instead of normal children.

### ADs Use and Empirical Evidence

*Clinical use of the ADs*. In developed countries, the clinician's role in sexual abuse cases has received growing attention, both from critics and strong supporters. The clinician's ability to use proper techniques, gather testimonies from minors and report accurately was the focus of numerous studies and efforts to develop investigative protocols. Underwager and Wakefield (2003), from the skeptic side, affirmed that ADs are used by many different professionals, many of whom may have little or no training in their use, and underlined disagreements among professionals about whether or not the ADs should be used. In addition, these authors observe that studies claiming to show differences between the doll playing of sexually abused and non-abused children have major methodological shortcomings.

Psychometrics also seems to be an issue. Carlson (1995) presented a critical analysis of the use of anatomically detailed dolls in the assessment of child sexual abuse, concluding that they do not have an adequate psychometric foundation (see also American Professional Society on the Abuse of Children, 1995; Boat & Everson, 1988, 1996; Burton & Myers, 1992; Everson & Boat, 1994, 2002; Hunsley, Lee, & Wood, 2003; Koocher, Goodman, White, Friedrich, Sivan, & Reynolds, 1995). This author recommended enhancing the psychometric integrity of ADs and developing a training model for practitioners. Simkins and Rennier (1996) examined 17 sets of dolls constructed to represent adults, available in the market, and found large differences in the sizes and shapes of the dolls, as well as the material and quality that went into construction of the dolls. Furthermore, Lilienfeld, Lynn and Lohr (2003), included ADs among *pseudoscientific* assessment methods, which may have some limited merit as indicators of psychological phenomena, but commonly are used in ways that go beyond appropriate or justifiable scientific evidence. Thus, a first step in the use of the dolls is to gather data on what is normal behavior in standard conditions.

### Assessing Normal Behavior with ADs

In our study, children from Buenos Aires were allowed to interact with ADs and their behavior was recorded under standardized conditions. The main objective of the research was to collect typical behaviors of a sample of ninety six 2 to 12 years old children from a popular pediatric clinic. This first aim was achieved by gathering information about the frequencies and types of child-ADs interactions in a non-referred sample from a low-income population. Because the study also comprised medical information, including signs of physical and sexual abuse and neglect, we examined their associations with children's behavior with ADs.

In Argentina, low income population normally has not health insurance, and attends the public hospitals for both routine developmental controls and the seasonal demand for such a clinic (i.e., upper respiratory infections in the winter and gastrointestinal disorders in the summer). In

2000, after three years of economic crisis, more than 50% of the Argentinean population had fallen under the poverty level, and 30% of the total population was living in the Buenos Aires area. Because the children were not referred under suspicion of sexual abuse, they could provide appropriate information related to the play elicited by the dolls in this general Buenos Aires' population. Additional analyses were performed to explore the relations between play behavior with the ADs and family or individual variables such as social support and physical punishment reported by mothers. Finally, the study comprised a medical examination that generated checks on medical findings typically obtained in physical and sexual abuse cases. It seemed difficult to confirm or disconfirm associations, given the low-frequency of these signs. Nonetheless, the medical examination served to at least explore potential associations between those signs and the playing behavior.

### Method

#### Participants

During January and February of 2000, 201 mother-child dyads were studied in a pediatric clinic of a large public hospital (Teodoro Alvarez Hospital) in the city of Buenos Aires. The sample was recruited in a waiting room which was well attended during both the mornings and the afternoons. A receptionist offered all of the clients the chance to participate in the study when they checked in with her. Of the clients who accepted we randomly assigned three from the morning shift and three from the afternoon shift to take part in the study. This was the procedure until complete 201 randomly assigned cases. The receptionist referred the selected participants to the interviewers, who explained the nature of the study and obtained the participants' written informed consent. The interviewers were two female psychologists. In addition, two female pediatricians performed the medical examination of the children. Of the 201 mother-child dyads in the study, ninety six were ultimately included in this report because the kids were at least 24 month old and thus able to play with the ADs.

Given that the hospital routine, which was well known by attendants, forced mothers to wait for hours, most mothers agreed to participate, at least to "pass the time". Less than 5% refused, always because of lack of time.

#### Measures

Three different set of measures were piloted with 30 mother-child dyads and adjusted accordingly. Pilot study also yielded .90 inter-coders reliability. These measures are summarized in Table 1, and comprised a *Questionnaire/Observation Guide for the Mother* and a *Questionnaire/Observation Guide for the child*. Measures with low Alpha (less than .50) were excluded from analyses.

The *Questionnaire/Observation Guide for the Mother* included (a) general information items (i.e., age, country of

Table 1  
Description of Scales Used in Construct Validation

Measured construct	Scale	No. Items	Alpha	Sample item	Sample response format
<i>Questionnaire/observation guide for the mother</i>					
(a) Demographic information		22	No scale	Place of birth, migrations, number of children, etc.	Open ended questions
(b) Mother's tendency toward physical punishment	Elicited from pilot study	8	0.52	"What has your child to do to get a shout?"	1=something is mentioned by the mother 0=nothing
(c) Empathy		4	0.20	"How likely is you perceived your child is sad?"	1 (not at all) to 4 (very likely)
(d) Child's vulnerability to the abuse		8	0.73	"Is your child restless?"	1 (not at all) to 4 (completely)
	Graham (1989)				
(e) Emotional wellbeing of the mother	Graham (1989)	4	0.63	"I am easily awakened by noise."	1=True 0=False
Acute anxiety	Koss and Butcher (1973) Critical items	4	0.63	"I cry easily"	1=True 0=False
Depression		2	0.42	"At times I feel like smashing things."	1=True 0=False
Threatened assault		3	0.59	"Evil spirits possess me at times."	1=True 0=False
Mental confusion					
Deviant beliefs	Graham (1989)	3	0.44	"I believe I am being followed"	1=True 0=False
Family conflict	Lachar and Wrobel (1979) Critical items	2	0.51	"At times I have very much wanted to leave home."	1=True 0=False
(f) Cognitive stimulation		4	0.64	"Does the mother allow questioning or exploratory behavior?"	1=Yes 0=No
(g) Emotional stimulation	Elicited from the pilot study	4	0.88	"Does the mother talk and listen to the child?"	1=Yes 0=No
(h) Response to needs		4	0.83	"Does the mother response to the child playing need?"	1=Yes 0=No
(i) Social and institutional support network	Veiel (1990), (MISS) Instrumental/psychological daily support Crisis Psychological support	12	0.29	"How many people do you have to go with to shopping, or movies?" "How often do you do it?" During the last year, how many times did you attend your church, school, or community center meetings?"	First name of all the persons, age, and relationship (friend, relative), Encounters frequency, Number of times attending at every place
(j) Psycho-social stressors	Casullo (1992)	10	0.78	"Have been abused"	1=Yes 0=No

Table 1  
*Description of Scales Used in Construct Validation (continuation)*

Measured construct	Scale	No. Items	Alpha	Sample item	Sample response format
(k) Level of couple concordance	Schaefer and Olson (1980)	6	0.72	"My husband shames or humiliates me"	1 (always) to 4 (never).
(l) Level of harmony between mother and her family		4	0.86	"My family supports me"	1 (never) to 4 (always)
(m) Level of harmony between mother and her partner's family	Elicited from pilot study	4	0.87	"They criticize me"	1 (never) to 4 (always)
(n) Perception of norms violation by mother's own family		7	0.77	"Members of my family were involved in fights with neighbors"	1 (never) to 4 (always)
<i>Questionnaire/observation guide for children</i>					
(a) Cognitive development		5	0.56	"Is/was the child At 2 months able to give a social smile?"	1=Yes 0=No
Social development	Finney and Weist (1992)	6	0.56	"Is/was the child at 3 year old able to say his/her complete name and age?"	1=Yes 0=No
Motor Development		4	0.30	"Is/was he/she at 9 months able to crawl?"	1=Yes 0=No
Language development		4	0.72	"Did the child have (or has) 3 to 6 words as vocabulary at 15 months?"	1=Yes 0=No
(b) Response to pictures	Bellak (1989)	3	qualitative	"Tell me a story about this picture"	Aggressive content: 1 (present) or 0 (absent) Sexual content: 1 (present) or 0 (absent). Fear content: 1 (present) or 0 (absent).
(c) Incomplete sentences	Rotter, Lah and Rafferty (1992)	4	qualitative	"My greatest fear..."	Aggressive content: 1 (present) or 0 (absent) Sexual content: 1 (present) or 0 (absent). Fear content: 1 (present) or 0 (absent)
(d) Behaviors with ADs	Elicited from pilot study	9	0.60	"Kissing doll's face or mouth"	1=Yes 0=No
(e) Pediatric measures	Pediatric examination form from the Buenos Aires Health Department, adjusted from the pilot study.	61	No scale	Weight, height, skin marks, scares	Measurement 1=present 0=absent
(f) Health information about the child reported by mother	Health Department, adjusted from the pilot study.	30	No scale	Reason for the appointment, number of pregnancies, immunization, etc.	Open-ended questions
(g) Quality of relation child-interviewer	Elicited from pilot study	1		Distant, regular or warm relation	1 to 3

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Table 2  
Selected Demographic and Social Characteristics of the Sample (N = 96)

Variable	Statistic
<i>Demographic variables</i>	
Child's age	
<i>M</i>	55 mo.
<i>Md</i>	49 mo.
<i>SD</i>	25 mo.
Gender	
Females	57% (55)
Males	43% (41)
Age of mother	
<i>M</i>	31.42
<i>Md</i>	30.00
<i>SD</i>	7.45
Nationality of mother	
Argentinean	75% (72)
Other countries	25% (24)
Number of migrations during lifetime	
<i>M</i>	2.11
<i>Md</i>	2.00
<i>SD</i>	2.07
Marital status	
Married/live-in partner	74% (71)
Divorced/single	26% (25)
Mother's education in years	
<i>M</i>	8.70
<i>Md</i>	8.00
<i>SD</i>	2.53
Mother's working status	
Working	32% (31)
Not working	68% (65)
Father's employment level	
Unemployed, occasional worker and no qualified worker	98.6%
Qualified worker	1.4%
Number of children in the family <sup>a</sup>	
<i>M</i>	2.39
<i>Md</i>	2
<i>SD</i>	1.35
Number of inhabitants per room	
<i>M</i>	2.50
<i>Md</i>	2.00
<i>SD</i>	1.19
Power and water in the home	
Power and piped water, both available	10% (9)
Power and piped water, both not available	90% (87)
<i>Social and emotional variables</i>	
Social support network	
<i>M</i>	3.43
<i>Md</i>	3.00
<i>SD</i>	1.65
Annual number of meetings attended (church, school, club)	
<i>M</i>	10.60
<i>Md</i>	0
<i>SD</i>	25.00
Emotional well-being of the mother	
Depression (range 0-4)	
<i>M</i>	1.94
<i>Md</i>	2.00
<i>SD</i>	1.27
Depressed over 1 <i>SD</i>	17% (17)
Anxiety (range 0-4)	
<i>M</i>	1.73
<i>Md</i>	2.00
<i>SD</i>	1.64
Anxious over 1 <i>SD</i>	10% (10)

Notes: Reports are based on the total N=96. <sup>a</sup> Report is based on N=95 due to a missing data point.

origin, marital status, education, job status, characteristics of the family home, number of children, civil status and prior live-in partners, and number of accidents suffered by the mother); (b) mother's tendency toward physical punishment; (c) empathy; (d) child vulnerability to the abuse; (e) emotional wellbeing of the mother, measured by selected critical items from the MMPI-2 (Graham, 1990), for six categories of mental disorders (acute anxiety, depression, mental confusion, threatened attack, deviant beliefs and family conflict); (f) cognitive stimulation of the child; (g) emotional stimulation of the child; (h) response to the child needs; (i) social and institutional support network; (j) psychosocial stressors; (k) level of couple concordance; (l) level of harmony between mother and her family; (m) level of harmony between mother and her partner's family; (n) perception of norms violation by mother's own family.

The *Questionnaire/Observation Guide for the Child* comprised (a) items assessing the language, motor, social, and cognitive development, according to developmental norms; (b) responses to three pictures from the C.A.T. (Child Apperception Test, Bellak, 1980); (c) a set of 6 sentence-completion fragment relations (Rotter, Lah, & Rafferty, 1992), and (d) the record of 10 different behaviors observed during the play with ADs. The actual play with the ADs developed in a standardized way. The interviewer introduced two dressed ADs (male and female, children, all with dark skin) to the child and encouraged him/her to play with them. After 3 minutes, if the child did not spontaneously undress the dolls, the interviewer did so and proceeded to observe the child's behavior for 7 additional minutes. The interviewer coded the listed behaviors as absent (0) or present (1) with an intercoder reliability of .95. In addition, the questionnaire/observation guide for the child comprised (e) health information reported by the mother (pregnancy, delivery, accidents, hospitalizations, etc.), and (f) records from a complete pediatric examination, including an anus-genital inspection. The complete pediatric exam included careful documentation of any lacerations, ecchymoses, bruises, or petechiae. Anus-genital exam comprised the complete sexual-abuse-screening checklist employed by pediatricians at Alvarez Hospital for screening sexual abuse, including genital or anal erythema, perianal skin tags, anal fissures or anal dilatation, as well as hymenial anomalies, detected by the "naked eye" (without magnification or illumination). The whole assessment took two hours, and finally, (g) all the three interviewers rated (ascending, from 1 to 3) the quality of their contact with the child.

## Results

### Description of the Sample

*Demographic characteristics.* As shown in Table 2, children were an average of 55 months old and were almost 57% females.

The mothers were 31 year old on average, 75% of Argentine nationality and the rest from neighboring countries, and had an average of two migrations during their lifetime. Most of them were married or living-in partner, had completed an average of 9 years of education, and 63% were unemployed at the time. Less than 2% of the fathers had an annual income above the poverty line. The average number of children per family was 2.5, and most of the sample lived in crowded housing (2.5 persons/room), with only 10% of the homes having both power and piped water available.

*Social and emotional variables.* The mothers' reports described quite isolated families, living in small homes or rental rooms. They had little more than three people in their social network and enjoyed minimal community support, as represented by an average of one community or religious meeting attended per month during the last year. About 17% of the mothers described themselves as strongly depressed, and 10% reported strong anxious feelings (Table 2).

*Characteristics of the children.* Most of the mothers had received prenatal medical assistance (see Table 3), but almost one out of five of all deliveries were at home. Almost all of the mothers had breast-fed and completed the immunization of their children. More than 31% of the children had suffered any sort of accident, and 23% had past hospitalizations. Almost 64% of the children between 2 and 12 years attended a day care center or school.

*Incidence of victimization.* When we analyzed the incidence of different forms of victimization (Table 3), we found that 80% of the mothers applied mild physical punishments (e.g., slapping), to children of any age, in response to behavior considered as "bad", and about 20% of the children suffered severe physical abuse described by mothers as "a beating." Only 44% of the children between 2 and 6 years attended a day care or preschool, which often predicts cognitive delays. More than 16% of the children showed a high level of physical neglect (+1 SD of a variable composed by home accidents, scars or bruises, and low level of neatness), and 6% presented signs compatible with sexual abuse upon the medical examination.

### Behavior with the Dolls

Children's interaction with ADs. Of the ten behaviors recorded for each child (see Table 4), there were four popular ones: (a) exploration of genitalia with hands, (41%), (b) insertion of fingers into orifices (33%), (c) kisses between the dolls (19%), and undressing the dolls (17%). Inserting the penis of the male doll into the female doll and dramatizing sexual movements occurred in two cases, and neither participant referred to this play as "sex" or something similar to "sex." Loving care with the dolls was scored between 0 and 3, according to the intensity of the affection manifestations (0 = rejecting or aggressive interaction; 1 = unattached, cold interaction; 2 = feebly warm interaction; 3 = distinct warm interaction). The mean loving care score was 2.18 ( $SD=0.95$ ).

Table 3  
 Characteristics of the Children ( $N = 96$ )

Variable	%(f)
Perinatal information	
Medical control of pregnancy	
Yes	94.8 (91)
No	2.1 (2)
Do not know (adopted children)	3.1 (3)
Child delivery	
Hospital	78 (75)
Home	22 (21)
Child was breast fed	86.5 (67)
Health and education	
Completed immunization	95.8 (92)
Child suffered any accident (range 0-5)	31.3 (30)
Child was ever hospitalized (range 0-4)	23 (22)
Level of neatness	
Satisfactory	97 (94)
Poor	3 (2)
Level of cognitive development (range .33-1.80)	
<i>M</i>	1.14
<i>Md</i>	1.20
<i>SD</i>	0.28
Responses to uncompleted sentences	
Aggressive contains	50 (24)
Fearfully contains	28 (13)
<i>N</i>	49
Responses to CAT pictures	
Aggressive contains	19 (10)
Fearfully contains	3.9 (2)
<i>N</i>	51
Behavior with ADs - items 1-9	
<i>M</i>	1.21
<i>Md</i>	1.00
<i>SD</i>	1.38
Behavior with Ads - item 10	
<i>M</i>	2.18
<i>Md</i>	2.00
<i>SD</i>	.95
<i>Signs of abuse or neglect</i>	
Physical punishment	
Mothers slapping their children	80% (77)
Mothers beating their children	20% (19)
Sexual abuse signs - Children showing physical signs	6.2% (6)
<i>Physical neglect</i> (mean of accidents, hospitalizations, and skin marks)	
Children physically severely neglected ( $> + 1 SD$ )	16.8% (16)
Cognitive neglect	
Children unattending school or day care center (2 to 6 years old)	56% (32)
Under 6 years old	8% (3)
Over 6 years old	

Note: Reports are based on the total  $N = 96$  unless otherwise indicated.

Table 4  
*Children's Behavior with ADs by Gender*

Variable	Males (N=41)	Females (N=55)	<i>p</i> for difference
Undress dolls			
<i>M</i>	0.12	0.20	0.04
<i>MD</i>	0.10	0.12	
<i>SD</i>	0.33	0.40	
Exploration of genitalia with hands			
<i>M</i>	0.39	0.42	0.58
<i>Md</i>	0.39	0	
<i>SD</i>	0.49	0.50	
Insert fingers into orifices			
<i>M</i>	0.39	0.29	0.06
<i>Md</i>	0.00	0	
<i>SD</i>	0.49	0.46	
Touching genitalia or breasts			
<i>M</i>	0.02	0.05	0.14
<i>Md</i>	0	0	
<i>SD</i>	0.23	0.15	
Kisses between dolls			
<i>M</i>	0.12	0.24	0.00
<i>Md</i>	0	0	
<i>SD</i>	0.33	0.43	
Kissing face or mouth			
<i>M</i>	0.03	0.01	0.09
<i>Md</i>	0	0	
<i>SD</i>	0.13	0.22	
Insert penis			
<i>M</i>	0.01	0.01	0.68
<i>Md</i>	0	0	
<i>SD</i>	0.16	0.13	
The child says "they make love"			
<i>M</i>	0	0	
<i>Md</i>	0	0	
<i>SD</i>	0	0	
Sexual movements			
<i>M</i>	0.02	0.01	0.68
<i>Md</i>	0	0	
<i>SD</i>	0.16	0.13	
Tender care of the dolls (range 0-3)			
<i>M</i>	1.93	2.36	0.62
<i>Md</i>	2.00	2.36	
<i>SD</i>	0.96	0.91	
Behaviors 1 to 9			
<i>M</i>	1.15	1.25	0.03
<i>Md</i>	1.00	1.00	
<i>SD</i>	1.44	1.35	

*Note:* Reports are based on the total  $N = 96$  unless otherwise indicated.

Table 5  
*Children's Behavior with ADs by Age*

Variable	Under 55 months N=54	Over 55 months N=42	<i>p</i> for difference
Undress dolls			
<i>M</i>	0.21	.04	1.00
<i>Md</i>	0	0	
<i>SD</i>	0.41	0.20	
Undress dolls			
<i>M</i>	0.44	0.31	0.02
<i>Md</i>	0	0	
<i>SD</i>	0.50	0.47	
Inserting fingers into orifices			
<i>M</i>	0.36	0.27	1.00
<i>Md</i>	0	0	
<i>SD</i>	0.48	0.45	
Touching genitalia or breasts			
<i>M</i>	0.05	0	0.12
<i>Md</i>	0	0	
<i>SD</i>	0.23	0	
Kisses between dolls			
<i>M</i>	0.14	0.31	0.03
<i>Md</i>	0	0	
<i>SD</i>	0.35	0.47	
Kissing face or mouth			
<i>M</i>	0.03	0	0.46
<i>Md</i>	0	0	
<i>SD</i>	0.20	0	
Inserting penis			
<i>M</i>	0.03	0	0.01
<i>Md</i>	0	0	
<i>SD</i>	0.17	0	
Child says "they make love"			
<i>M</i>	0	0	
<i>Md</i>	0	0	
<i>SD</i>	0	0	
Sexual movements			
<i>M</i>	0.03	0	0.01
<i>Md</i>	0	0	
<i>SD</i>	0.17	0	
Tender care of the dolls			
<i>M</i>	2.11	2.34	0.95
<i>Md</i>	2.00	3.00	
<i>SD</i>	0.97	0.89	
Behaviors 1 to 9			
<i>M</i>	1.36	.92	0.33
<i>Md</i>	1.00	1.00	
<i>SD</i>	1.48	1.02	

*Gender comparisons.* There were gender differences in the frequency of some behaviors (Table 5). Females were more likely to undress dolls, and to dramatize exchange of kisses between them, whereas males were more likely to insert their fingers into the orifices of the dolls. There were no gender differences with regard to the rare behaviors of kissing the dolls in the face or mouth, inserting the penis of one doll into the other, or making sexual movements. Finally, girls were significantly more active at manipulating dolls than were boys.

*Age comparisons.* Compared to children over 55 months old, children under that age were significantly more likely to perform exploratory behaviors, showing meaningful differences at exploring genitalia, and kissing or dramatizing kissing between dolls. In addition, the only two children who dramatized sexual intercourse (inserting penis, sexual movements), were younger than 5 years (a male and a female, both 4 years old).

#### Individual, Family and Contextual Variable Associated with Behavior with ADs

In addition to describing the behavior of the children, we correlated the indexes describing the behavior with the dolls with all the measures from the questionnaires/observation guides. Correlations were performed separately with the ten recorded behaviors, as well as with the sum of nine of them, which loaded to a single factor in a principal component analysis (see Table 5). This index excluded the loving care behavior, and explained 31% of the variance of the nine behaviors it synthesized.

*Child individual variables.* Cognitive development correlated positively with exploration of genitals, inserting fingers into orifices, loving care with dolls, and greater activity (mean of all behaviors) with dolls. Level of the language correlated positively with inserting fingers into orifices, and with loving care of the dolls, whereas school attendance correlated positively with kisses between dolls, and loving care of the dolls. Further, the observed level of neatness of the child was negatively associated to touching genitalia, inserting penis, sexual movements, loving care, and general activity with ADs, and positively associated with inserting fingers.

*Family variables.* Physical punishment as reported by the mother correlated positively with kissing the dolls in their face or mouth and with sexual movements. Level of paternal employment was associated negatively with exploration of genitalia, inserting fingers and general activity with the dolls. Family violence reported by the mother correlated positively with touching breasts or genitalia, and dramatizing kisses between the dolls. Social support was associated negatively with kissing dolls'

faces and dramatizing sexual movements, whereas mother's stimulation of cognitive development correlated positively with exploration of genitalia. The mother's harmony with her family correlated negatively with touching genitalia and sexual movements, and positively with kissing dolls in their face or mouth. The level of couple concordance correlated negatively with kissing the dolls and dramatizing sexual movements. Finally, norm violation by the mother's family was positively associated with undressing the dolls and inserting penis into dolls' orifices.

*Contextual variables.* The situational variable "quality of the contact child-interviewer" was positively associated with undressing dolls, exploration of genitalia, inserting fingers into orifices, kisses between dolls, loving care, and with greater general activity with the dolls.

*Multiple regression.* We performed three additional analyses to summarize the correlates of the behavior with the dolls. In the first, we regressed the overall activity index composed on the average of nine behaviors on the individual, family, and context associated variables. Findings indicated that the overall index depended on a good child-interviewer relationship ( $b = 0.99, p = .001$ ), lower couple concordance ( $b = -0.55, p = .003$ ), lower number of accidents the mother had ( $b = -0.41, p = .016$ ), lower social support network ( $b = -0.18, p = .027$ ) and higher institutional support ( $b = 0.02, p = .055$ ). When the sample was divided by age, the most influential factors on younger children were, once again, a good relationship with the interviewer ( $b = 1.04, p = .001$ ), lower harmony between mother and her own family ( $b = -0.50, p = .033$ ), higher norm violation by her family ( $b = 1.03, p = .033$ ), and reported family violence ( $b = 1.56, p = .013$ ). Behavior by older children were instead influenced by higher cognitive development ( $b = 2.30, p = .004$ ), lower couple concordance ( $b = -0.78, p = .009$ ), higher institutional support ( $b = 0.03, p = .021$ ), lower number of accidents suffered by the mother ( $b = -0.60, p = .043$ ), and poor hygiene ( $b = -3.37, p = .057$ ).

The second analysis we performed used the number of *explicit sex behaviors* with dolls, which combined inserting penis and dramatizing sexual movements. For the whole sample, this variable correlated with higher physical punishment ( $b = 0.02, p = .001$ ), lower couple concordance ( $b = -0.03, p = .006$ ), and higher cognitive development ( $b = 0.11, p = .013$ ). Because older children displayed not sexually explicit behaviors, this analysis was performed only for the younger ones. It revealed that explicit sexual behavior correlated with higher family violence ( $b = 0.27, p = .001$ ), lower mother's own family affiliation ( $b = -0.02, p = .016$ ), and higher physical punishment ( $b = 0.13, p = .060$ ).

The final analyses used a sum of the “most popular behaviors” (i.e., undressing dolls, touching breasts or genitalia, explore genitalia, and inserting fingers into dolls’ orifices) as the dependent variable. In the whole sample, this variable was influenced by a good relationship with the interviewer ( $b = 0.86, p = .001$ ), incomplete pregnancy controls ( $b = -1.87, p = .039$ ), low school attendance ( $b = -0.49, p = .044$ ), lower harmony between mother and her family, ( $b = -0.32, p = .045$ ), and higher institutional support ( $b = 0.02, p = .067$ ). For older children, the most popular behaviors correlated with higher cognitive development ( $b = 2.29, p = .004$ ), lower couple concordance ( $b = -.75, p = .011$ ), and poorer level of hygiene ( $b = -3.07, p = .078$ ). Finally, for younger children, the most popular behaviors correlated with better relationship with the interviewer ( $b = 0.82, p = .001$ ), and smaller social support network ( $b = -0.16, p = .066$ ).

### Discussion

#### Usual and unusual behaviors

This study investigated the behaviors of non-court-referred, low-income Argentinean children between 2 and 12 years old who interacted with anatomically detailed dolls during a standardized observation. Given that the 0-6 range of manipulative behaviors with the ADs, this sample showed a noticeable low mean of overall activity with the dolls ( $M = 1.21$ ). Such low activity could be attributed to the inhibitory hospital setting, which might discourage free or spontaneous activity, but also to the low level of education and the cognitive stimulation of the population. In either case, there was also considerable variability across behaviors ( $SD = 1.38$ ). Explicit sexual behaviors, like inserting penis and role-playing coital movements showed up only in children under 5, were very rare (2%), and did not correlate with signs of physical sexual abuse. One can conclude that such as behaviors are highly unusual among children not suspected of sexual abuse.

Girls and younger children showed greater exploratory activity than boys and older children. To explain this finding, we might hypothesize that younger children have fewer inhibitions and are used to develop greater overall exploratory behavior. In addition, that behavior might have been stimulated by the presence of a female interviewer, given the same gender sources have that effect on women (Durantini, Albarracín, Mitchell, Earl, & Gillette, 2006). By contrast, boys may feel more reticent in front of female interviewers. Another reason for the difference is that girls are more accustomed to manipulating dolls, which socially looks as an appropriate playing for them, but not for boys.

Several exploratory behaviors were popular in the sample, varied across gender. Specifically, males inserted fingers into the doll’s orifices more frequently than females,

whereas females undressed the dolls and kissed them more frequently than males. Again, the gender differences may obey to various factors. Among them, undressing and displaying affection are compatible with female stereotypic behavior, whereas aggression is more compatible with males stereotypic behavior.

#### Correlates of the Behavior with the Dolls

We also conducted analyses for two groups of behaviors: the most popular, no- sexually-explicit ones (i.e., undressing, exploring, touching, and inserting fingers), and the sexually explicit ones (i.e., inserting doll’s penis into orifices and dramatizing coital movements). Both behavioral indexes correlated with cognitive development, indicating that the behavior with dolls largely reflected curiosity and ability to manipulate one’s environment, as well as a positive relationship with a benevolent environment.

Furthermore, popular and sexually explicit behaviors with the dolls were predicted by a set of negative circumstances such as discordance in the couple, lower level of father’s employment, poor neatness, non-attendance to either school or a day care center, lower level of language, and higher physical punishment. Children with higher degree of family conflict showed greater anxious activity, as did cognitively or physically neglected children. These finding suggest that hostility and loneliness might have increased general activity with the dolls. Supporting these findings, when the mother had a better level of social support, the children had a more passive behavior toward the dolls. Similarly, when the family provided a richer environment, meaning physical caring and cognitive stimulation, the children showed significantly more loving treatment of the dolls.

#### Recommendations for Future Use of the Dolls with this Population

In terms of practical implications of this research, this work provided a model for a standardized observation of the children’s behavior with anatomic dolls which can be used as a tool to compare individual behavior with age and gender patterns. This observation should last 10 minutes, starting with the dressed dolls, continuing with the interviewer undressing the dolls if the child has not done so within 3 minutes, and entailing a record of the 10 target behaviors. Based on an overall activity mean of 1.21 and a SD of 1.38, scores over three, as well as scores of zero should be considered atypical and deserving of special attention. That is, both hyperactivity as well as unusually passive behavior may be signs that the child is experiencing problems. In addition, because sexually explicit behaviors are very rare, practitioners should continue to pay special attention when these behaviors emerge, and investigate the child’s environment. Finally, because loving care of the

dolls reflects the child's wellbeing, an unusually unattached or aggressive treatment of the dolls may suggest that the child is at risk.

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