THE SOCIALIZATION OF AUTONOMY AND RELATEDNESS
Sequential Verbal Exchanges in Japanese and U.S. Mother–Preschooler Dyads

TRACY A. DENNIS
MAKRAM TALIH
Hunter College of the City University of New York

PAMELA M. COLE
The Pennsylvania State University

CAROLYN ZAHN-WAXLER
University of Wisconsin–Madison

ICHIRO MIZUTA
Kobe College

Despite documented cross-cultural variability in autonomy and relatedness, relatively little is known about how these characteristics of self are socialized. This study, a secondary analysis (Dennis et al., 2002), explored this question by examining sequential verbal exchanges between Japanese and U.S. mothers and children during play and a challenging wait ($N = 60$, M age = 55.8 months, SD = 4.9). The likelihood that mothers would contingently encourage child autonomy or relatedness by matching, responding positively, or reducing directives was tested. There was greater encouragement of relatedness among Japanese mothers but few cultural differences in encouraging autonomy. Effects depended on the context of interaction, with greater cultural differences during the challenging wait. Culturally distinct gender effects also emerged: U.S. mothers bolstered girls' autonomy and showed consistent encouragement of boys' relatedness whereas Japanese mothers bolstered autonomy in boys only. Implications for cross-cultural patterns in the socialization of self are discussed.

Keywords: autonomy and relatedness; context effects; socialization

Autonomy and dependency are like light and shade, caught in the pull of each other's gravity, until, after considerable trial and error, each individual can find his or her own place in the world.
—Haruki Murakami, 1998/2000, p. 230

Research on parenting across cultures provides a testing ground in which to assess the universality or specificity of particular socialization practices (Bornstein, 1991, 2002; Keller, 2003). Studies that compare parenting among mothers from the United States versus Japan have the potential to be particularly informative: These two cultures are very similar in terms of modernity, economics, and childrearing goals but differ in their values, beliefs, and history. Thus, concordances and variability in parenting styles and practices are likely (Azuma, 1986; Bornstein, 1989, 2002; Bornstein, Tal, & Tamis-LeMonda, 1991; LeVine, 1990; Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000).

Comparisons between parents from Japan and the United States have highlighted the relative emphasis each culture places on promoting relatedness and autonomy, respectively, in children (Dennis, Cole, Zahn-Waxler, & Mizuta, 2002; Kobayashi-Winata & Power, 1989; Markus & Kitayama, 1991; Power, Kobayashi-Winata, & Kelley, 1992; Rothbaum et al., 2000). Most of these studies, however, document differences without explicating how parents actually socialize these qualities in their children. For example, mothers from different cultures may use equal amounts of praise; yet assessment of cultural differences and similarities in which child behaviors mothers choose to praise is rare (Oyserman, Coon, & Kemmelmeier, 2002). A process-oriented analytic approach can illuminate such questions by delineating methods through which parents encourage or discourage child expressions of self. A single parenting practice can serve different socialization functions depending on when and how parents enact that strategy (e.g., praising child autonomy vs. praising child relatedness). This focus on methods and the context of parenting rather than categories of parenting practices provides an alternative way of conceptualizing the socialization of autonomy and relatedness.

The goal of the current study was to explore such socialization methods by examining mothers' verbalizations following instances of child autonomy and relatedness. In our previous analyses (Dennis et al., 2002), which averaged data across time, we examined frequency counts of maternal speech and behavior hypothesized to reflect autonomy or relatedness. This approach limited us to assessing parenting independently of child behavior and categorized parenting as *either* autonomy promoting or relatedness promoting. This provides only one perspective on how parenting practices might serve to socialize self and does not evaluate sequential processes in socialization. To expand our conceptualization of *socialization* to include process, we now analyze sequential verbal exchanges between mothers and children using log-linear analyses for categorical time series (Fokianos & Kedem, 2003). This analytic approach relates a sequence of maternal speech to a sequence of child speech and determines the likelihood that, subsequent to instances of child autonomy and relatedness, mothers will communicate in ways that have the potential to reinforce child autonomy or relatedness. This places parenting in the context of child communication, information that is lost when examining frequency counts of specific parenting practices in which the time component is averaged out.

PARENTING IN JAPAN AND THE UNITED STATES

Socialization has been conceptualized as a way of communicating about the nature of self and other (Azuma, 1986; Cousins, 1989; Harkness & Super, 1983; Lebra, 1992). Research on the socialization practices of mothers from Japan and the United States has documented similarities and differences in views on self (Bornstein, 1989; Bornstein et al., 1991; Dennis et al., 2002; Gjerde, 1996; Kobayashi-Winata & Power, 1989). Parents from each culture strongly value child well-being and wish to help the child obtain a balance between being a unique individual and a member of a society. However, Japanese and U.S. mothers may favor distinct methods to obtain those goals, which reflect cultural variations in self as autonomous or related to others (Bornstein et al., 1991; Kitayama, Markus, & Lieberman, 1995; Markus & Kitayama, 1991, 1994; Oyserman et al., 2002; Rothbaum et al., 2000; Triandis, 1994, 1995; Turiel, 2002). Specifically, the United States is described as a society that places the most emphasis on the self as autonomous, that is, a distinct self whose behavior is organized and made meaningful around unique internal attributes. Competition, dominance, self-actualization, uniqueness, and open expression of desires are valued. In relative contrast, Japan is described as a society that emphasizes self as related, that is, a socially

connected self whose behavior is organized and made meaningful around relationships with others. Cooperation, empathy, harmony, and accommodating others are valued.

Consistent with these values, Japanese mothers report relying more on implicit attempts to gain compliance, such as suggestions and gentle persuasion, presumably because they are attempting to meet relatedness goals such as interpersonal harmony. In contrast, U.S. mothers report relying more on explicit attempts to gain compliance, such as praise and commands, thought to reflect a focus on autonomous authority and control (Conroy, Hess, Azuma, & Kashiwagi, 1980; Dennis et al., 2002; Kobayashi-Winata & Power, 1989; Power et al., 1992). Observational studies have not consistently replicated these findings, suggesting that some aspects of socialization are implicit or are represented incompletely by self-report methodologies. For example, in a previous study, we observed few cultural differences in how mothers attempted to gain compliance from preschool children (Dennis et al., 2002). On the other hand, we detected other cultural differences in autonomy and relatedness: U.S. versus Japanese mothers more often shared individual experiences and expressed desires and opinions, which we characterized as emphasizing autonomy; Japanese mothers more often discussed shared experiences and emphasized social roles and courtesy, which we characterized as emphasizing relatedness. In this study and others, young children show similar cultural differences (Dennis et al., 2002; Doi, 1973; Johnson, 1992; Kumagai & Kumagai, 1986; Mizuta, Zahn-Waxler, Cole, & Hiruma, 1996; Zahn-Waxler, Friedman, Cole, Mizuta, & Hiruma., 1996). U.S. preschoolers more often express emotions with mothers and during interpersonal conflict with peers, and Japanese preschoolers show more *amae*, or dependency and "clinginess", than U.S. children.

ASSESSING THE SOCIALIZATION OF AUTONOMY AND RELATEDNESS

Our previous research, and that of others, has documented cultural differences in child-rearing goals and practices by examining the frequency of observed and self-reported behaviors thought to reflect autonomy or relatedness (Caudill & Frost, 1970; Caudill & Weinstein, 1974; Dennis et al., 2002; Holloway, 1999; Triandis & Trafimow, 2001; Zahn-Waxler et al., 1996). Characterizing cultures as prototypically autonomy- or relatedness supporting, however, may be misleading; such differences tend to be subtle, vary across individuals within a culture, and show context specificity (Kağitçibaşi, 1994, 1996; Keller, 2003; Rothbaum, Pott, & Tsang, 1997; Shweder & Bourne, 1984). Indeed, within-cultural variability can be greater than between-cultural variability (Oyserman et al., 2002; Stevenson-Hinde, 1998), and caregivers in all cultures aim to promote autonomy and relatedness in their children and differ in the relative emphasis they place on each (Cole & Tan, in press). These goals are mutually supportive rather than mutually exclusive (Neff, 2003; Turiel, 2002). Thus, we must acknowledge cultural differences and similarities if we are to delineate multiple pathways to effective socialization and child development (Cole & Dennis, 1998; Keller, 2003; Oyserman et al., 2002). It may be that parents from different cultures have similar socialization practices but use them in different contexts and to meet distinct socialization goals (Keller, 2003).

Observational studies that focus on sequences of behavior and place parenting in the context of the child's communication and behavior are crucial to assessing this possibility. For example, praise—which focuses on the autonomous, unique self—may not only serve to encourage child autonomy. Some parents may increase praise following child expressions of relatedness to bolster relatedness. Yet much of the research on parenting in the United States and Japan uses maternal-report instruments rather than observational techniques (Conroy

et al., 1980; Hess, Kashiwagi, Azuma, Price, & Dickson, 1980; Kobayashi-Winata & Power, 1989; Power et al., 1992; Triandis & Trafimow, 2001; White & LeVine, 1986). Those studies that have observed parent–child interactions (e.g., Dennis et al., 2002) most often examine parent and child speech and action in isolation. Although yielding important information, this approach provides fewer insights into the process of socialization: A single parenting practice may meet goals of autonomy or relatedness depending on the context of interaction (Neff, 2003). Moreover, the few cross-cultural studies that use sequential analytic techniques examine parenting dimensions such as responsiveness and warmth, rather than the socialization of autonomy and relatedness, and assess mother–infant dyads rather than older age ranges (Keller, Lohaus, Völker, Cappenberg, & Chasiotis, 1999; Lohaus, Keller, Ball, Völker, & Elben, 2004).

In the current study, we addressed these methodological and theoretical issues by examining the flow of mother–child communication about autonomy and relatedness and by observing mothers and their preschool children. Specifically, we characterized several ways in which mothers contingently changed what they said after children expressed autonomy or relatedness. We reasoned that these changes could serve to reinforce child attention to the experience of autonomy or relatedness and, accordingly, have an impact on a child's personal sense of self and other. Autonomy of self is expressed when a person attends to and experiences distinctiveness from others, private thoughts, feelings, and desires. In contrast, relatedness of self is expressed when a person attends to and experiences shared activities with others, harmony, unity, and proper social roles (Bates, 1990; Markus & Kitayama, 1991, 1994; Rothbaum et al., 2000; Triandis, 1994, 1995). Therefore, from a process-oriented perspective, matching child expressions of autonomy or relatedness (i.e., increasing autonomy or relatedness following child autonomy or relatedness, respectively) or responding positively (e.g., praising, expressing affection) serves to enhance the specific self expression. Reducing directives also may represent an important way in which socialization occurs. For example, following child expressions of relatedness, a mother who reduces commands or suggestions (compared to her typical rate of issuing these directives) might encourage child relatedness by reducing maternal control and following the child's lead.

We previously conceptualized positive responding and commands as autonomy promoting, and suggestions as relatedness promoting (Dennis et al., 2002). The current analysis dispenses with this categorization of parenting and instead proposes that when and how mothers communicate with children serves to socialize and instantiate experiences of autonomy or relatedness. We examined these three patterns (matching, responding positively, and reducing directives) by quantifying the probability of increases and decreases (compared to baseline levels) in maternal speech following instances of child emphasis on autonomy or relatedness.

CONTEXT AND GENDER

Findings from our previous study suggest that within-cultural variability due to task differences may be as pronounced as between-culture differences (Dennis et al., 2002). Specifically, we found that mothers in both cultures discussed individual and shared experiences and praised children more often during the free play, whereas mothers sought compliance through commands and suggestions more often during the challenging wait. These similarities were likely driven by task demands: greater communication and cooperation during the play, and greater need for compliance coupled with child testing limits during the frustrating wait. This is consistent with research demonstrating the critical impact of context on parental and child behavior (Rogoff, 1990; Rogoff, Mistry, Gonçu, & Mosier, 1993; Super & Harkness, 1993).

In the current study, we expected that Japanese and U.S. mothers would show distinct patterns of socialization and examined the possibility that these differences would be most pronounced during the challenging waiting task. By increasing socialization demands on the dyad, emotional challenges may elicit increased reliance on cultural norms. That is, parents who are actively supporting their child during an emotional challenge may "default" to the use of salient culturally distinct socialization goals and methods—for example, a U.S. mother might encourage their child to "pull themselves up by their own bootstraps" and a Japanese mother may encourage the child to seek social support (Dennis et al., 2002; Neff, 2003; Oyserman et al., 2002). Conversely, play might reduce cultural differences by priming a number of universal parenting practices, such as increased engagement and focus on the mother–child relationship and attempts to encourage child exploration (Dennis et al., 2002). We therefore expected that cultural differences would be most pronounced during the waiting task.

Child gender is another critically important factor in socialization. Studies of U.S. families suggest that mothers tend to emphasize and foster relatedness with their female children and autonomy with their male children (Gilligan, 1986; Leaper, 2002; Zahn-Waxler, 2000). Few studies have examined cultural variations in gender socialization in Japan versus the United States; however, it may be that such gender socialization differences are equally pronounced in both countries. Indeed, adult research has documented culture-independent gender differences in terms of the extent to which people regard themselves as emotionally related to others (Kashima et al., 1995). On the other hand, in a survey of 50 countries, Japan was ranked among the highest in terms of a masculinity index (Hofstede, 1998) indicating that male autonomy may be valued in particular and may be more strongly socialized in Japan compared to other countries.

In our previous study, however, we found few effects of child gender on rates of maternal and child behavior, attention, and emotion (Dennis et al., 2002). It is possible that our previous analytic technique, which removed analysis of maternal strategies from the context of child speech and behavior, missed some important socialization differences. According to the broader literature on gender differences, caregivers may have different expectations, attitudes, and responses to expressions of autonomy and relatedness in boys versus girls (Zahn-Waxler, Crick, Shirtcliff, & Woods, 2006). For example, girls may be socialized in ways that increase dependence and compliance (Kavanagh & Hops, 1994), emphasize interpersonal relationships and expectations (Gurian, 1987; Hill & Lynch, 1983), and foster interpersonal closeness (Leaper, 2002). Beginning in infancy, mothers are more likely to respond contingently to emotional displays from sons than daughters but also distance themselves emotionally from sons in ways that encourage more independent problem solving (Leaper, 2002). U.S. mothers, to counteract gender stereotypes, also may actively encourage autonomy and reduce submissiveness, social dependence, and deference in girls (Zahn-Waxler et al., 2006). In a culture such as Japan, in which greater emphasis may be placed on relatedness, expected gender differences may be reduced (equal emphasis on relatedness for boys and girls) or amplified (in particular, with greater autonomy fostered in boys). Few if any studies have examined this question from a process-oriented perspective.

THE CURRENT STUDY

In summary, there is evidence for cultural differences in the relative emphasis Japanese and U.S. mothers place on relatedness and autonomy in their interactions with their young children. These conclusions are largely based on maternal report and a handful of observational studies analyzing the frequency of speech and behavior hypothesized to reflect

autonomy or relatedness of self. Few studies have examined the moment-by-moment processes through which autonomy and relatedness are bolstered, the effect of child gender on maternal communication about autonomy and relatedness, and the influence of inter-actional context.

The aim of the current study was to examine the socialization of autonomy and relat-edness by observing three ways in which Japanese and U.S. mothers contingently respond to children's verbal expressions of autonomy and relatedness: (a) matching autonomy or relatedness, (b) responding positively, and (c) decreasing directives. We quantified the likelihood of these three response patterns. It is important to note that although we were interested in describing possible mechanisms of socialization, our analyses were correla-tional and do not imply causation.

We observed mothers and children during two laboratory tasks, a free play and a waiting task. We targeted mother and child speech thought to reflect autonomy or relatedness based on previous observational research (e.g., Dennis et al., 2002; Rogoff et al., 1993), and the the-oretical literature (e.g., Doi, 1973; Markus & Kitayama, 1991, 1994; Rothbaum et al., 2000; Triandis, 1994, 1995). In the original study (Dennis et al., 2002), maternal and child speech, action, attention, and emotion were coded to reflect multiple aspects of socialization and mother–child interaction. For the current study, we focused exclusively on speech. One rea-son for this is that previous research with infants (e.g., Caudill & Weinstein, 1974) focused on physical proximity and nonverbal behaviors given that language abilities develop later. The preschool years are instead characterized by rapid growth in verbal ability and an increase in parental use of verbal means of socialization; a focus on speech may therefore be most developmentally appropriate. Second, verbalizations more clearly reflect the constructs of autonomy and relatedness conceptually and in terms of previously documented cultural differences. For example, in one study, playing together was more common among U.S. dyads, whereas playing in parallel was more common among Japanese dyads, a finding that does not easily map onto the constructs of autonomy and relatedness (Dennis et al., 2002).

Two types of child speech (emphasis on autonomy and relatedness) and five types of mater-nal speech (emphasis on autonomy, emphasis on relatedness, positive responses, commands, and suggestions) were coded. We examined whether patterns of child–mother speech differed by cul-ture, child gender, and context of interaction. We tested the following hypotheses:

> *Hypothesis 1:* Mothers in both cultures will bolster child autonomy and relatedness by increas-ing matching responses, increasing positive responses, and reducing directives. However, we expect that U.S. mothers will preferentially bolster autonomy and Japanese mothers bolster relatedness.
> *Hypothesis 2:* Context effects will emerge. We expect that cultural differences will be most pro-nounced during the waiting task because this emotional challenge places more socialization demands on the dyad and, thus, may elicit increased reliance on personal and cultural norms.
> *Hypothesis 3:* Gender differences will emerge for both cultures, with one possibility being that mothers preferentially bolster autonomy in boys and relatedness in girls. This may be enhanced in Japanese dyads. In addition, to counter gender stereotypes, U.S. mothers in par-ticular may show the opposite pattern.

METHOD

PARTICIPANTS

Sixty mothers and their preschool-aged children (30 Japanese and 30 U.S. dyads) par-ticipated in the study, 17 boys (57%) and 13 girls (43%) from each culture. U.S. children

TABLE 1
Descriptive Statistics for Japanese and U.S. Samples

	Japanese (N = 30)	United States (N = 30)
Child age (months)	56.3 (6.5)	55.3 (2.4)
Number of siblings	0.9 (0.7)	1.1 (0.7)
Mother age (years)	33.3 (3.2)	34.8 (4.4)
Father age (years)	35.9 (3.9)	38.6 (5.3)
Socioeconomic status (Hollingshead, 1975)	4.6 (0.6)	4.5 (0.5)
Mother education (college degree)	80.0	83.3
Father education (college degree)	100.0	90.0

NOTE: The values represent means and standard deviations, which are in parentheses, and percentages.

were selected from a study of emotional development (Cole & Zahn-Waxler, 1988). Child age ranged from 48 to 70 months (M = 55.8 months, SD = 4.9 months). Family size ranged from one to four children. Mothers' age ranged from 26 to 46 years (M = 34.0 years, SD = 3.9 years). Families in both cultures were recruited in the United States and were middle- to upper-middle class (M socioeconomic status [SES] = 4.5; Hollingshead, 1975). Japanese and U.S. samples were similar for each of these variables (see Table 1). Although several American mothers worked full- or part-time outside the home, all Japanese mothers except one were homemakers. About 80% of mothers from both samples were college graduates.

Japanese mothers and children were citizens of Japan, temporarily living in the United States in a major northeast urban center, usually for the father's employment or education. On average, Japanese families had lived in the United States for about 19 months. All planned to and did return to Japan within 12 to 18 months of participation in the study. In this sense, this Japanese sample was not equivalent to Japanese families of similar socioeconomic characteristics who continued to reside in Japan. Because their time in the United States was limited, however, we presumed that parents were still raising their children to be competent in Japanese society.

PROCEDURES AND DATA CODING

All procedures were administered in English to the U.S. dyads and in Japanese to the Japanese dyads by research assistants who were native speakers of the respective languages. U.S. mothers and children were seen in a small room with a child-size rectangular table and two child chairs. This area was part of a larger psychophysiology laboratory. Japanese mothers and children were seen at an adult-size dining table with four adult-size chairs. This area was part of a larger experimental area that had a small kitchenette and a comfortable sitting area.

Free play. Each mother and preschooler dyad was given a box of age-appropriate, interesting toys (puzzle, train set, building blocks) and told to play with them together for 10 min.

Waiting task (Carmichael-Olson, Greenberg, & Slough, 1985). Following the free-play period, an 8-min waiting task began. This task was designed to elicit frustration. The research assistant handed the mother a clipboard while saying, "Here is the work that I told you about," placed a brightly wrapped package in plain view of the child, and handed the child a plastic toy giraffe with a broken leg, saying "You can play with this." (The "surprise" was magnetic marbles that the child took home; however, the child learned of the

contents when the procedure was over.) Mothers were previously familiarized with the procedure. As the assistant left the room, the mother said, "This is a surprise for you but you have to wait until after I finish my work to open it." Mothers were told to do or say what they would typically do to complete the work. It is important to note that this task resulted in fewer maternal and child verbalizations because of the goals of the task: child waits while mother completes work.

Coding. The speech and actions of each mother–child dyad were coded from video-taped records of the procedures by three Japanese and three U.S. undergraduate students. The coding system was a mutually exclusive and exhaustive system designed to categorize ongoing mother and child codes in 30-s intervals and in sequence. For the current analysis, only speech was examined. Multiple instances of speech could be coded in each epoch, and the sequencing of verbal codes was retained and used for subsequent analyses (described below). The videotapes of Japanese dyads were translated and coded by under-graduate research assistants who were native Japanese speakers. Given that the Japanese language often uses tone of voice or context to insinuate sentence subject or pronouns, translations made subjects and pronouns explicit; this was taken into account when assigning a code. To ensure validity of translation, 20% of the translations were compared by an independent rater and judged to be equivalent.

There were two child codes: emphasis on autonomy and emphasis on relatedness.[1] There were five maternal codes: emphasis on autonomy, emphasis on relatedness, commands, suggestions, and positive responses. Emphasis on autonomy was coded when the child or mother spoke in ways that emphasized the self as unique, separate, and autonomous, including (a) discussing and asking questions about individual thoughts, feelings, desires, and actions (e.g., I want to play with this; I feel mad that I can't open the present); and (b) talking about experiences that the other does not share currently, has not shared in the past, and does not know will be happening in the future (e.g., what did you do while I was gone?). Coding of autonomy was not dependent on the explicit mention of the words *I, mine,* or *my.* Rather, it was the focus on internal or separate experiences that was the central characteristic of this code.

In contrast, emphasis on relatedness was coded when child or mother spoke in ways that emphasized self as inherently connected or related to others, including discussing experiences that they (a) currently share (e.g., that gift is for you!), (b) have shared in the past (e.g., we had fun at the zoo on Tuesday), or (c) both know about in the future (e.g., we get to watch our favorite television show when we get home!). Maternal positive responses were coded when the mothers praised the child, responded in an emotionally warm way, or reinforced the correctness of the child's behavior (e.g., "good job!"). Positive responses were often accompanied by positive emotions or physical affection. Maternal commands and suggestions were coded when mothers gave directives in an assertive way (commands) or in a subtle, nondirect way (suggestions). If there was praising or affectionate content in a command or suggestion, positive response was coded. Table 2 presents definitions and examples of each code.

Frequencies and percentages of maternal and child codes included in the current study are presented in Table 3. Child autonomy and relatedness represented from 14% to 23% of all codes and 21% to 44% of coded verbalizations, and the maternal codes represented from 7% to 25% of all codes and 15% to 35% of coded verbalizations.

Cohen's kappa was used to estimate interrater reliability. Coders were trained to 90% accuracy based on tapes previously coded by the first author and were unaware of the study

TABLE 2
Child and Maternal Coding Items

Coding Items	
Emphasize autonomy	Child and mother (a) discuss and ask questions about individual thoughts, feelings, desires, and actions (e.g., I want to play with this; I feel mad that I can't open the present) and (b) talk about experiences that the other does not share currently, has not shared in the past, and does not know will be happening in the future (e.g., what did you do while I was gone?). Other examples:
	"Which one do you want?" "How do I put this puzzle together?" "I had a fun time upstairs while you were with the lady." "I don't know about that toy." "I do not like this game." "I think we'll be done soon." "I will buy you an ice cream cone on our way home."
Emphasize relatedness	Child and mother discuss experiences that they currently share (e.g., that gift is for you!), have shared in the past (e.g., we had fun at the zoo on Tuesday), or both know about in the future (e.g., we get to watch our favorite television show when we get home!). Other examples:
	"This puzzle is hard for us." "Look at all these toys we have to play with." "It sure looks rainy outside." "There are many pages, so I have to work hard." "This block is red like our couch."
Positive response	Responding to the child in a positive, affectionate, or reinforcing way: "Good job!" "Yes, you're right." "Wow!"; accompanied by smiling, hugging.
Command	Using explicit directives or prohibitions to direct the child: "Put the toy back." "Stop that." If there is praising or affectionate content, this would instead be coded as a positive response.
Suggestion	Using implicit attempts to gain compliance from the child: "Maybe you can just sit and wait." "That toy might be nice to play with." If there is praising or affectionate content, this would instead be coded as a positive response.

TABLE 3
Maternal and Child Speech: Frequency Counts and Percentage of Total Speech

	Free Play		Waiting Task	
Child	Japan # (% of Speech)	U.S. # (% of Speech)	Japan # (% of Speech)	U.S. # (% of Speech)
Autonomy	505 (25.6)	572 (26.1)	326 (36.7)	566 (49.8)
Relatedness	708 (35.9)	644 (29.4)	213 (24.0)	231 (20.3)
Mother				
Autonomy	1014 (32.6)	1349 (38.3)	243 (24.8)	313 (27.2)
Relatedness	934 (30.1)	536 (15.2)	189 (19.3)	136 (11.8)
Positive	830 (26.7)	986 (28.0)	261 (26.7)	350 (30.4)
Command	144 (4.6)	209 (5.9)	173 (17.7)	145 (12.6)
Suggest	88 (2.8)	139 (3.9)	106 (10.8)	186 (16.1)

NOTE: FP = free play; WT = waiting task. Total child speech: FP = 4,158 (Japan total = 1970, U.S. total = 2188) and WT = 2,025 (Japan total = 889, U.S. total = 1136). Total mother speech: FP = 6,634 (Japan total = 3109, U.S. total = 3525) and WT = 2,131 (Japan total = 978, U.S. total = 1153).

hypotheses. Reliability was assessed for 25% of the cases from each group during coding; coders were unaware of reliability checks. For maternal speech, values for Japanese participants ranged from .66 to .75, with a mean of .70, and for U.S. participants from .69 to .80, with a mean of .76. For child speech, values for Japanese participants ranged from .66

to .79, with a mean of .71, and for U.S. participants from .63 to .79, with a mean of .74. Therefore, all average kappa coefficients were in the substantial to excellent range (Bartko, 1991; Fleiss, 1981).

STATISTICAL MODELING

We conducted a log-linear analysis, which is a special case of the generalized linear model. In this analysis, the response variable is a count variable, such as the cell frequency in a contingency table (Agresti, 2002; McCullagh & Nelder, 1989). In our study, the response further reflects relations between one sequential (in time) process to another sequential process (Fokianos & Kedem, 2003). Thus, we related a series of maternal verbalizations to a series of child verbalizations and quantified the likelihood that maternal speech was dependent (i.e., occurred more or less than expected) following child expressions of autonomy and relatedness.

Statistically, aggregate counts of child verbalizations in a given 30-s epoch were assessed as explanatory variables predicting (aggregate) counts of maternal verbalizations in the subsequent 30-s epoch, all the while accounting for the frequency of maternal speech during the given epoch. However, this model is correlational and does not imply causality. Therefore, consistent with our hypotheses, we were examining maternal communication in the context of child communication, not the causal effect of children on mothers. For example, an increase in maternal autonomy following child autonomy indicates that mothers enhanced their expressions of autonomy after a child expressed autonomy. Because speech was coded in sequence in 30-s epochs, it was not always the case that maternal verbalizations directly followed child verbalizations. They may have occurred anywhere from a few seconds to 30 s later, although in many cases, mothers were immediately responding to children. The use of log-linear analysis strengthens the inference that maternal responses within this time window were meaningfully contingent on child communication; the analysis quantifies the probability that mothers showed relative increases or decreases from their baseline expressions of autonomy, relatedness, positivity, and directives contingent on children having expressed autonomy or relatedness.

The best model was fitted using stepwise selection and a goodness-of-fit criterion (the Schwarz Bayesian Information Criterion [BIC]). This takes into account the complexity of the model and the size of the data. Once the model is fitted, t statistics and p values are generated for main and interaction effects, presented as regression coefficients. Because this approach tests the fit of the model, there are no multiple tests, and therefore no corrections are required. The likelihood that maternal communication was dependent on child communication about autonomy and relatedness was quantified in terms of rate of change (i.e., slope score), it can thus be asked whether a twofold increase in instances of child autonomy or relatedness predicts a change in maternal speech. For example, Table 4 shows the slope score for maternal suggestions following child autonomy during the free play. Slope scores for all children are equal (–.48), indicating that all mothers, regardless of culture and child gender, reduced suggestions by about one half (compared to expected values) when children showed double the rate of autonomy (compared to baseline). Note that rates of change can be greater than 1 (100%). A slope of 1.20 indicates a 120% increase in rates of maternal speech following child speech.

The significance of an interaction effect is indicated by the log-odds ratio (the basis of the familiar chi-squared test for independence of predictor variables). In the current analysis, a significant log-odds ratio for a Gender × Culture interaction (significantly different

TABLE 4

Significant Slope Scores for Maternal Speech Following Child Autonomy or Relatedness

	Free Play							Waiting Task						
	U.S. Mothers			Japanese Mothers				U.S. Mothers			Japanese Mothers			
	Boys	Girls	B – G	Boys	Girls	B – G	C x G	Boys	Girls	B – G	Boys	Girls	B – G	C x G
Maternal speech following child autonomy														
Autonomy	—	—	—	—	—	—	—	-0.26	0.69^{*}_{a}	-0.95*	0.38*	-0.01_{b}	ns	1.34*
Relatedness	—	—	—	—	—	—	—	0.49*	0.49*	ns	0.49*	0.49*	ns	ns
Positive	—	—	—	—	—	—	—	-0.14_{a}	0.33	ns	0.78^{***}_{b}	0.23	.55‡	1.02*
Command	-0.48*	-0.48*	—	-0.48*	-0.48*	—	—	-0.39	1.20†	-1.59*	0.44^{*}_{b}	0.24	ns	-1.80*
Suggestion	—	—	ns	—	—	ns	ns	—	—	—	—	—	—	ns
Maternal speech following child relatedness														
Autonomy	—	—	—	—	—	—	—	0.20‡	-0.26	.46*	0.20‡	-0.26	.46*	ns
Relatedness	—	—	—	—	—	—	—	0.37*	0.37*	ns	0.89***	0.89***	ns	ns
Positive	—	—	—	—	—	—	—	0.32**	-0.08	.40*	0.32**	-0.08	.40*	ns
Command	-0.80*	0.48	-1.28‡	0.14	-0.84*	-1.28‡	-2.26*	—	—	—	—	—	—	—
Suggestion	—	—	—	—	—	—	—	0.36**	0.36**	ns	0.36**	0.36**	ns	ns

NOTE: B = boys; G = girls. Subscripts a and b indicate two values that are significantly different from each other, $p < .05$. C × G = Culture × Gender log odds ratio. Positive = positive responses. For a given mother–child contingency, if no slopes, gender differences, or log odds ratios were significant, values are left blank in this table. p values are for slopes significantly different from zero and for significant log odds ratios and effects of gender.

‡p = .08. †p = .055. *$p < .05$. **$p < .01$. ***$p < .001$.

TABLE 5
Transcripts of Verbal Exchanges Between Children and Mothers

Verbal Exchange	Japan	United States
C Autonomy – M Autonomy	C: What is this snack? A cookie? M: Why do you think so?	C: Do you know what this is? M: I need to finish this; then I'll talk.
C Relatedness – M Relatedness	C: It's hard what we're doing. M: Our game is a bit difficult.	C: This one has purple knobs. M: Yes, the knobs are on top.
C Autonomy – M Positive Response	C: You can't do it – I can do it! M: Good job!	C: Guess what, I have a special snack! M: Wow, that's great!
C Relatedness – M Positive Response	C: Let's figure this out together. M: That will be fun!	C: This is a hat for you to wear. M: [Smiles and hugs child]
C Autonomy – M Command	C: How do I do this? M: Wait until I finish this work	C: Do you know what it is? M: Tell me quickly – I have to do work.
C Relatedness – M Suggestion	C: We're cold because we're by the air conditioner. M: Maybe we can move.	C: Remember when Max was a baby? M: If you don't talk you can open your present faster.

NOTE: C = child; M = mother.

from zero) indicates that the two cultures differed from each other in the effect of Gender. The direction of the interaction can be investigated by examining differences among the predicted cell values (slope scores), though between-cell differences do not have to be significant for the log-odds ratio to indicate significantly different patterns of maternal speech. For example, further inspection of Table 4 shows that for U.S. dyads, when boys expressed double the rate of emphasis on relatedness during play, mothers showed 80% fewer maternal commands than expected, slope significantly different from zero at $p < .05$. In contrast, for Japanese dyads, mothers showed 84% fewer commands following girls' relatedness, slope significantly different from zero at $p < .05$. Although gender differences in these patterns were not significant within each culture, the significant Gender × Culture interaction indicates that the two cultures significantly differed from each other in the effect of Gender: U.S. mothers showed fewer than expected commands as boys increased relatedness, whereas Japanese mothers showed fewer than expected commands as girls increased relatedness.

The current study used a log-linear analysis to evaluate three unique questions about the socialization of autonomy and relatedness: (a) Do Japanese and U.S. mothers bolster child expressions of self by communicating differently (increasing emphasis on autonomy, relatedness, and positivity, and reducing directives) after children express autonomy or relatedness?; (b) Do these patterns vary depending on culture of origin and child gender?; and (c) Do these patterns occur in only some task contexts? Rates of change in maternal speech are presented as slope scores. Analyses were conducted using log-transformed counts to meet normality assumptions. However, for ease of interpretation, we present untransformed values. Table 4 presents slope scores for changes in maternal speech following child autonomy or relatedness. For a given mother–child contingency, if no slopes, gender differences, or log odds ratios were significant, values are left blank. Table 5 presents examples of child–mother verbal exchanges.

Hypothesis 1: Mothers in both cultures will bolster child autonomy and relatedness by increasing matching responses, increasing positive responses, and reducing directives. However, we

expect that U.S. mothers will preferentially bolster autonomy and Japanese mothers bolster relatedness.

Hypothesis 2: Context effects will emerge. We expect that cultural differences will be most pronounced during the waiting task because this emotional challenge places more socialization demands on the dyad and, thus, may elicit increased reliance on personal and cultural norms.

Hypothesis 3: Gender differences will emerge for both cultures, with one possibility being that mothers preferentially bolster autonomy in boys and relatedness in girls. This may be enhanced in Japanese dyads. In addition, to counter gender stereotypes, U.S. mothers in particular may show the opposite pattern.

RESULTS

MATERNAL SPEECH FOLLOWING CHILD AUTONOMY DURING THE FREE PLAY

Maternal suggestions. One significant effect emerged. For all dyads, mothers reduced their use of suggestions to about one half the usual rate during the free play when children showed increases in emphasis on autonomy.

MATERNAL SPEECH FOLLOWING CHILD RELATEDNESS DURING THE FREE PLAY

Maternal commands. The significant Gender × Culture interaction indicates that the two cultures significantly differed from each other in the effect of Gender: U.S. mothers reduced commands by 80% when boys increased relatedness, whereas Japanese mothers reduced commands by 84% when girls increased relatedness.

MATERNAL SPEECH FOLLOWING CHILD AUTONOMY DURING THE WAITING TASK

Maternal emphasis on autonomy. The significant Gender × Culture interaction indicates that the two cultures significantly differed from each other in the effect of Gender: U.S. mothers increased autonomy by 69% when girls increased autonomy, whereas Japanese mothers increased autonomy by 38% when boys increased autonomy.

Maternal emphasis on relatedness. For all dyads, mothers increased emphasis on relatedness by 49% when children increased emphasis on autonomy.

Maternal positive responses. The significant Gender × Culture interaction indicates that the two cultures significantly differed from each other in the effect of Gender: U.S. mothers increased positive responses by 33% when girls increased autonomy and decreased positive responses by 14% when boys increased autonomy. In contrast, Japanese mothers increased positive responses by 78% when boys increased autonomy and increased by 23% when girls increased autonomy.

Maternal commands. The significant Gender × Culture interaction indicates that the two cultures significantly differed from each other in the effect of Gender: U.S. mothers decreased commands by 39% when boys increased emphasis on autonomy but more than doubled commands when girls increased emphasis on autonomy. In contrast, Japanese mothers increased commands by 44% when boys increased emphasis on autonomy.

MATERNAL SPEECH FOLLOWING CHILD RELATEDNESS DURING THE WAITING TASK

Maternal emphasis on autonomy. The main effect of Gender indicates that mothers in both cultures increased emphasis on autonomy by 20% when boys increased emphasis on relatedness, whereas mothers of girls decreased emphasis on autonomy by 26%.

Maternal emphasis on relatedness. The main effect of Culture indicates that Japanese mothers preferentially bolstered child relatedness by increasing their own relatedness. Specifically, Japanese mothers increased emphasis on relatedness by 89% when children increased emphasis on relatedness. U.S. mothers increased emphasis on relatedness by less than one half that amount (37%) when children emphasized relatedness.

Maternal positive responses. The main effect of Gender suggests that mothers of boys preferentially bolstered relatedness: Mothers increased positive responses by 32% when boys increased emphasis on relatedness, whereas mothers of girls decreased positive responses by 8%.

Maternal suggestions. For all dyads, mothers increased their use of suggestions by 36% when children showed increases in emphasis on relatedness.

DISCUSSION

The goal of the current study was to assess socialization of self by examining maternal communication as a function of child autonomy and relatedness. We focused on how Japanese and U.S. mothers change their own communication after children express autonomy or relatedness. These contingent changes in maternal responses to children may serve as a mechanism in the socialization of self. Results suggest that autonomy and relatedness are coexisting goals among Japanese and U.S. mothers; however, that methods of socialization and the priority placed on autonomy or relatedness may differ in each culture depending on the context of interaction and on child gender. These findings illustrate the importance of evaluating parenting in a social context, and hint at an alternative way of conceptualizing socialization: what mothers do might be less telling than when and how mothers respond to children (Cole & Dennis, 1998; Keller, 2003; LeVine, 1990; Rothbaum et al., 2000). A process-oriented approach such as this has been applied only rarely to cross-cultural studies of Japanese and U.S. socialization. Yet it has the potential to provide a wealth of information about how Japanese and U.S. mothers implicitly and explicitly transmit cultural values regarding self and other.

Results from the current study showed that U.S. and Japanese mothers altered their communication following child autonomy and relatedness in several similar ways. As predicted, there were relatively few significant effects during the free play, indicating that play might have proven less effective in tapping culturally distinct socialization goals and methods. Mothers overall reduced suggestions following child expressions of autonomy, suggesting that Japanese and U.S. mothers bolstered child autonomy. It may be that mothers from both cultures value a child's ability to express independent thoughts, desires, and experiences in an informal play context. On the other hand, task characteristics and other maternal beliefs could be relevant. Play might reduce the need for mothers to be involved in the activity, or mothers may believe that play should be child directed, both of which could be associated with reduced suggestions.

During the waiting task, other cultural similarities emerged. All mothers increased suggestions following child autonomy and relatedness, and increased emphasis on relatedness when children expressed autonomy. The effect for maternal suggestions may indicate non-power-assertive attempts to encourage compliance, whereas the effect for maternal relatedness following child autonomy may reflect attempts to capitalize on mother–child connectedness to encourage compliance. These similarities illustrate that context demands may evoke parallel methods of parenting across cultures, particularly if there is a shared and immediate goal, in this case gaining child compliance during a frustrating challenge. Similarities in mothers' responses to boys versus girls also emerged during the waiting task, suggesting that mothers preferentially bolster relatedness among boys (increased relatedness and positivity). It also is possible that these increases served to compensate for reduced expressed relatedness among boys, though our previous report failed to detect such gender differences (Dennis et al., 2002). Another possibility is that, consistent with research on maternal sensitivity and responsiveness, mothers were simply more responsive to boys' versus girls' social bids (Leaper, 2002; Zahn-Waxler et al., 2006).

In addition to similarities, the challenging wait was effective in eliciting cultural differences (Dennis et al., 2002; Neff, 2003; Oyserman et al., 2002). Japanese mothers appeared to preferentially strengthen child relatedness by increasing emphasis on relatedness, whereas, counter to previous research, U.S. mothers did not show a similar selective emphasis on autonomy. Therefore, although Japanese and U.S. mothers may encourage child autonomy during play, Japanese mothers may more heavily rely on relatedness when seeking to soothe children or gain compliance, and U.S. mothers may utilize a broader range of socialization methods (Doi, 1973; Johnson, 1992; Mizuta et al., 1996; Zahn-Waxler et al., 1996). Indeed, a fundamental method of encouraging compliance in Japan may be the enhancement of relatedness by emphasizing interpersonal harmony and connectedness (Doi, 1973; Kumagai & Kumagai, 1986; Markus & Kitayama, 1994).

Culturally distinct patterns related to gender also emerged. Few such patterns have been observed in previous developmental research, so we interpret these findings with care. Japanese mothers appeared to preferentially bolster boys' autonomy during the wait, and girls' relatedness during the play; U.S. mothers showed the opposite pattern, appearing more encouraging of female autonomy and male relatedness. It is important to note, however, that U.S. mothers also show the opposite pattern by increasing commands following girls' autonomy. Although this may serve to discourage autonomy, it may be that by emphasizing one's own autonomy and separateness, this provides a model of autonomous self-determination.

Thus, the main effect of Culture reported above was moderated by child Gender. These culture-specific gender differences raise interesting possibilities, particularly about the socialization of autonomy. It could be that autonomy is more valued in girls among U.S. mothers and in boys among Japanese mothers. Another possibility is that mothers expect that U.S. girls and Japanese boys require more encouragement of autonomy, but perhaps for different reasons. In the U.S. culture, there is increasing understanding of gender stereotypes, such as reduced opportunities for girls being able to assert themselves appropriately (Zahn-Waxler et al., 2006). Therefore, U.S. mothers may try harder to reduce submissiveness and deference, values typically linked to relatedness of self. This goal may not yet be prevalent in the Japanese culture, which is perhaps why autonomy was still more actively encouraged in Japanese boys than girls, particularly if heightened emphasis on autonomy in boys may prepare them for professional roles that require relatively greater autonomy. Moreover, autonomy in Japan should be conceptualized in the context of

values involving hierarchy and authority (Rothbaum et al., 2000), as well as in the context of the balance between autonomy and relatedness in a given family or culture (Kağitçibaşi, 1996). These issues are important directions for future research.

A central goal of the current study was to conceptualize how mothers might support, highlight, and bolster child autonomy and relatedness. To simplify our approach, we focused on a few patterns of maternal communication following child speech concerning autonomy and relatedness: matching, increasing positivity, and decreasing directives. Therefore, these results are not an exhaustive description of the socialization of self. It is important to note that the current results do not imply causation, and thus findings are not relevant to the question of whether child speech caused maternal speech, or vice versa. Rather, we targeted contingent changes in maternal speech that might signify important methods through which mothers meet socialization goals of autonomy and relatedness (Keller, 2003). Although not reported here, we additionally detected instances of mismatching, in which mothers responded in such a way that encouraged children to "change gears" (e.g., increasing relatedness following child autonomy). Although we did not focus on these patterns because the lack of theoretical and empirical rationale made interpretation difficult, they also may serve important socialization functions, such as redirecting child expressions of self. Given the potential utility of this analytic approach, future research should explore the function of mismatches, and whether they are linked to reductions in behavioral and self-perception measures of autonomy and relatedness in children.

Findings were consistent with previous observational studies documenting subtle differences between Japanese and U.S. mothers. The current study added to previous work by placing parenting in the context of child communication to clarify the potential impact of parenting on child autonomy and relatedness. For example, previous research has examined whether Japanese and U.S. mothers differ in how often they use commands versus suggestions to obtain child compliance (e.g., Dennis et al., 2002; Power et al., 1992). In contrast, the current study examined whether mothers increased or decreased commands and suggestions in ways that could encourage autonomy or relatedness, and whether this depended on culture, child gender, and context. Despite the promise of this approach, it must be acknowledged that cultural similarities in patterns of maternal contingent communication could be culturally relative. For example, decreasing commands could serve to encourage child relatedness among U.S. dyads, but among Japanese dyads might instead reduce relatedness by downplaying the interdependent hierarchical relationship between mother and child (Barnlund, 1989). Comparable urbanization in Japan and the United States may reduce the need for cultural relativism (Kağitçibaşi, 1996); however, cultural similarities and differences must be interpreted with caution.

The current study was limited by its small sample size. It is possible that the distributional properties unique to individual cells (e.g., restriction of range or outliers) might bias results and, thus, should be interpreted with caution and in the context of future replications. Moreover, the focus on Japanese mothers and children who did not reside in Japan may limit the generalizability of findings. Japanese parents who left Japan to live in a new country may be atypically autonomous. On the other hand, mothers in this sample were in the United States because they joined their husbands, who sought career or educational opportunities. These women may place a strong value on relatedness in the marital relationship. In addition, although we might presume that parents resisted acculturation and were raising their children to be competent in Japanese society because their time in the United States was limited, parents may have been actively socializing their children to adapt to the United States. Indeed, moving to a new country and having even short-term acculturation experiences could affect child autonomy and relatedness.

Our analytic approach had several limitations. First, we predicted patterns of maternal speech given child speech during the previous 30-s epoch. This was the shortest measure of time available for analyses but reduces our ability to say that mothers directly responded to children. Child speech should be considered as the context in which mothers communicated, not the direct cause. As noted above, this issue is somewhat mitigated by the log-linear analytic approach, which strengthens the inference that mothers are meaningfully modifying their speech in response to child autonomy and relatedness. Another limitation is that we did not examine how children changed their communication following maternal speech. We streamlined our analyses in this way to shed light on one aspect of socialization: the ways in which mothers of young children actively encourage socially desirable, or weaken socially undesirable behavior. However, future studies should focus on this important question of the dyadic nature of socialization. By adding in converging measures of autonomy and relatedness, including maternal report and independent observations of child behavior with peers and family, future research also could provide empirical evidence that these patterns of mother–child communication are serving to socialize autonomy and relatedness.

Despite these limitations, the current study makes several methodological contributions. First, given that socialization has been conceptualized as a way of communicating about the nature of self and other (e.g., Lebra, 1992), we attempted to quantify this process by examining mother–child verbal exchanges and analyzing how mothers respond to child expressions of autonomy and relatedness. Second, we used observational techniques and two contrasting interpersonal contexts. Third, we assessed preschoolers, an age group that relatively few have examined in terms of socialization of self using observational and sequential analytic techniques. However, much work remains to be done, including the use of naturalistic observations, observations of father–child interactions, inclusion of larger sample sizes, and converging evidence that observed speech reflects autonomy and relatedness of self. During social interactions, models of self and other emerge and are drawn on to varying degrees, depending not only on culture but also on current circumstances, history, and personality (Gjerde, 1996; Nucci & Turiel, 2000; Shweder, 1990; Super & Harkness, 1993; Triandis, Leung, Villareal, & Clack, 1985). The autonomy-relatedness distinction, if combined with careful analysis of social context, gender socialization, and situational demands, may reveal important aspects of socialization across cultures.

NOTE

1. In the current study, we only report on maternal responses to child autonomy and relatedness, though child directives were also coded. This is because child directives were much less frequent and are not as clearly linked conceptually to autonomy and relatedness of self.

REFERENCES

Agresti, A. (2002). *Categorical data analysis* (2nd ed.). New York: John Wiley.

Azuma, H. (1986). Why study child development in Japan? In H. Stevenson, H. Azuma, & K. Hakuta (Eds.), *Child development and education in Japan* (pp. 3-12). New York: Freeman.

Barnlund, D. C. (1989). Communicative styles of Japanese and Americans: Images and realities. Belmont, CA: Wadsworth.

Bartko, J. J. (1991). Some comments on the intraclass correlation and kappa: Measures of reliability. Unpublished manuscript.

Bates, E. (1990). Language about me and you: Pronominal reference and the emerging concept of self. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 165-182). Chicago: Chicago University Press.

Bornstein, M. H. (1989). Cross-cultural developmental comparisons: The case of Japanese-American infant and mother activities and interactions. What we know, what we need to know, and why we need to know. *Developmental Review, 9*, 171-204.

Bornstein, M. H. (Ed.). (1991). *Cultural approaches to parenting*. Hillsdale, NJ: Lawrence Erlbaum.

Bornstein, M. H. (2002). Parenting infants. In M. H. Bornstein (Ed.), *Handbook of parenting* (Vol. 1, 2nd ed., pp. 3-93). Mahwah, NJ: Lawrence Erlbaum.

Bornstein, M. H., Tal, J., & Tamis-LeMonda, C. (1991). Parenting in cross-cultural perspective: The United States, France, and Japan. In M. H. Bornstein (Ed.), *Cultural approaches to parenting* (pp. 69-90). Hillsdale, NJ: Lawrence Erlbaum.

Carmichael-Olson, H., Greenberg, M. T., & Slough, N. (1985). *Coding manual for the waiting task*. Unpublished manual, University of Washington, Seattle.

Caudill, W., & Frost, L. (1970). A comparison of maternal care and infant behavior in Japanese-American, American, and Japanese families. In U. Bronfenbrenner & M. A. Mahoney (Eds.), *Influences on human development* (pp. 139-150). Hinsdale, IL: Dryden.

Caudill, W., & Weinstein, H. (1974). Maternal care and infant behavior in Japan. In T. Lebra & W. Lebra (Eds.), *Japanese culture and behavior* (pp. 225-276). Honolulu, HI: East-West.

Cole, P. M., & Dennis, T. A. (1998). Variations on a theme: Culture and the meaning of socialization practices and child competence. *Psychological Inquiry, 9*, 276-278.

Cole, P. M., & Tan, P. Z. (in press). Emotion socialization from a cultural perspective. In J. Grusec & P. Hastings (Eds.), *Handbook of socialization*. New York: Guilford.

Cole, P. M., & Zahn-Waxler, C. (1988). *The prediction of conduct problems during the transition from preschool to school age* (NIMH protocol 88M217). Bethesda, MD: National Institute of Mental Health.

Conroy, M., Hess, R. D., Azuma, H., & Kashiwagi, K. (1980). Maternal strategies for regulating children's behavior. *Journal of Cross-Cultural Psychology, 11*, 153-172.

Cousins, S. (1989). Culture and selfhood in Japan and the U.S. *Journal of Personality and Social Psychology, 56*, 124-131.

Dennis, T. A., Cole, P. M., Zahn-Waxler, C., & Mizuta, I. (2002). Self in context: Autonomy and relatedness in Japanese and U.S. mother-preschooler dyads. *Child Development, 73*, 1803-1817.

Doi, T. (1973). *The anatomy of dependence*. Tokyo: Kodansha International Ltd.

Fleiss, J. L. (1981). *Statistical methods for rates and proportions*. New York: John Wiley.

Fokianos, K., & Kedem, B. (2003). Regression theory for categorical time series. *Statistical Science, 18*, 357-376.

Gilligan, C. (1986). Remapping the moral domain: New images of the self in relationship. In T. C. Heller, M. Sosna, & D. E. Wellbery (Eds.), *Reconstructing individualism: Autonomy, individuality, and the self in western thought* (pp. 237-252). Stanford, CA: Stanford University Press.

Gjerde, P. F. (1996). Longitudinal research in cultural context: Reflections, prospects, challenges. In D. W. Shwalb & B. J. Shwalb (Eds.), *Japanese childrearing: Two generations of scholarship* (pp. 279-299). New York: Guilford.

Gurian, A. (1987). Depression in young girls: Early sorrows and depressive disorders. In R. Formanek & A. Gurian (Eds.), *Women and depression: A lifespan perspective: Vol. 11. Springer Series: Focus on women* (pp. 57-83). New York: Springer.

Harkness, S., & Super, C. M. (1983). The cultural construction of child development: A framework for the socialization of affect. *Ethos, 11*, 221-231.

Hess, R. D., Kashiwagi, K., Azuma, H., Price, G. G., & Dickson, W. P. (1980). Maternal expectations for mastery of developmental tasks in Japan and the United States. *International Journal of Psychology, 15*, 259-271.

Hill, J. P., & Lynch, M. E. (1983). The intensification of gender-related role expectations during early adolescence. In J. Brooks-Gunn & A. Petersen (Eds.), *Girls at puberty: Biological and psychosocial perspectives* (pp. 201-228). New York: Plenum.

Hofstede, G. (Ed.). (1998). *Masculinity and femininity: The taboo dimension of national cultures Cross-cultural psychology series* (Vol. 3). Thousand Oaks, CA: Sage.

Hollingshead, A. (1975). *Four factor index of social status*. Unpublished manuscript, Yale University.

Holloway, S. D. (1999). Divergent cultural models of child rearing and pedagogy in Japanese preschools. In W. Damon (Series Ed.) & E. Turiel (Vol. Ed.), *New directions for child and adolescent development: Vol. 83. Development and cultural change: Reciprocal processes* (pp. 61-75). San Francisco: Jossey-Bass.

Johnson, F. A. (1992). Dependency and Japanese socialization: Psychoanalytic and anthropological investigations in clinginess. New York: New York University Press.

Kağitçibaşi, Ç. (1994). A critical appraisal of individualism and collectivism: Toward a new formulation. In U. Kim, H. Triandis, C. Kağitçibaşi, S. Choi, & G. Yoon (Eds.), *Individualism and collectivism: Theory, method, and applications* (pp. 52-65). Thousand Oaks, CA: Sage.

Kağitçibaşi, Ç. (1996). The autonomous-relational self: A new synthesis. *European Psychologist, 1*, 180-186.

Kashima, Y., Yamaguchi, S., Kim, U., Choi, S.-C., Gelfand, M. J., & Yuki, M. (1995). Culture, gender, and self: A perspective from individualism-collectivism research. *Journal of Personality and Social Psychology, 69*, 925-937.

Kavanagh, K., & Hops, H. (1994). Good girls? Bad boys? Gender and development as contexts for diagnosis. In T. H. Ollendick & R. J. Prinz (Eds.), *Advances in clinical child psychology* (Vol. 16, pp. 45-79). New York: Plenum.

Keller, H. (2003). Socialization for competence: Cultural models of infancy. *Human Development, 46*, 288-311.

Keller, H., Lohaus, A., Völker, S., Cappenberg, M., & Chasiotis, A. (1999). Temporal contingency as an independent component of parenting behavior. *Child Development, 70*, 474-485.

Kitayama, S., Markus, H. R., & Lieberman, C. (1995). The collective construction of self-esteem. In J. A. Russell (Ed.), *Everyday conceptions of emotions* (pp. 523-550). Dordrecht, The Netherlands: Kluwer Academic.

Kobayashi-Winata, H., & Power, T. G. (1989). Child rearing and compliance: Japanese and American families in Houston. *Journal of Cross-Cultural Psychology, 20*, 333-356.

Kumagai, H. A., & Kumagai, A. K. (1986). The hidden "I" in clinginess: "Passive love" and Japanese social perception. *Ethos, 15*, 305-320.

Leaper, C. (2002). Parenting girls and boys. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 1. Children and parenting* (2nd ed., pp. 189-225). Mahwah, NJ: Lawrence Erlbaum.

Lebra, T. S. (1992). Self in Japanese culture. In N. Rosenburger (Ed.), *Japanese sense of self* (pp. 105-120). New York: Cambridge University Press.

LeVine, R. A. (1990). Enculturation: A biosocial perspective on the development of self. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 99-117). Chicago: University of Chicago Press.

Lohaus, A., Keller, H., Ball, J., Völker, S., & Elben, C. (2004). Maternal sensitivity in interactions with three- and 12-month-old infants: Stability, structural composition, and developmental consequences. *Infant and Child Development, 13*, 235-252.

Markus, H. R., & Kitayama, S. (1991). Culture and self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.

Markus, H. R., & Kitayama, S. (1994). The cultural construction of self and emotion: Implications for social behavior. In S. Kitayama & H. R. Markus (Eds.), *Emotion and culture: Empirical studies of mutual influence* (pp. 89-132). Washington, DC: American Psychological Association.

McCullagh, P., & Nelder, J. A. (1989). *Generalized linear models* (2nd ed.). London: Chapman & Hall/CRC Press.

Mizuta, I., Zahn-Waxler, C., Cole, P. M., & Hiruma, N. (1996). A cross-cultural study of preschoolers' attachment: Security and sensitivity in Japanese and US dyads. *International Journal of Behavioral Development, 19*, 141-159.

Murakami, H. (2000). *Underground: The Tokyo gas attacks and the Japanese psyche* (H. Murakami, Trans.). New York: Vintage. (Original work published 1998)

Neff, K. (2003). Understanding how universal goals of independence and interdependence are manifested within particular cultural contexts. *Human Development, 46*, 312-318.

Nucci, L. P., & Turiel, E. (2000). The moral and the personal: Sources of social conflicts. In L. P. Nucci & G. B. Saxe (Eds.), *Culture, thought, and development. The Jean Piaget symposium series* (pp. 115-137). Mahwah, NJ: Lawrence Erlbaum.

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin, 128*, 3-72.

Power, T. G., Kobayashi-Winata, H., & Kelley, M. L. (1992). Childrearing patterns in Japan and the United States: A cluster analytic study. *International Journal of Behavioral Development, 15*, 185-205.

Rogoff, B. (1990). Apprenticeship in thinking: Cognitive development in social context. New York: Oxford University Press.

Rogoff, B., Mistry, J., Gönçu, A., & Mosier, C. (1993). Guided participation in cultural activity by toddlers and caregivers. *Monographs of the Society for Research in Child Development, 58*(8, Serial No. 236).

Rothbaum, F., Pott, M., Azuma, H., Miyake, K., & Weisz, J. (2000). The development of close relationships in Japan and the United States: Paths of symbiotic harmony and generative tension. *Child Development, 71*, 1121-1142.

Rothbaum, F., Pott, M., & Tsang, B. Y. (1997, April). *The development of close relationships in Japan and the United States: Merging with others versus incorporating others*. Paper presented in M. Pott (Chair), The Development of Close Relationships in Japan and the United States. Symposium conducted at the biennial meeting of the Society for Research in Child Development, Washington, DC.

Shweder, R. A. (1990). Cultural psychology—What is it? In J. W. Stigler, R. A. Shweder, & G. Herdt (Eds.), *Cultural psychology: Essays on comparative human development* (pp. 1-46). Cambridge, UK: Cambridge University Press.

Shweder, R. A., & Bourne, E. J. (1984). Does the concept of the person vary cross-culturally? In R. A. Shweder & R. A. LeVine (Eds.), *Culture theory: Essays on mind, self, and emotion* (pp. 158-199). Cambridge, UK: Cambridge University Press.

Stevenson-Hinde, J. (1998). Parenting in different cultures: Time to focus. *Developmental Psychology, 34*, 698-700.

Super, C. M., & Harkness, S. (1993). The developmental niche: A conceptualization at the interface of child and culture. In R. A. Pierce & M. A. Black (Eds.), *Life-span development: A diversity reader* (pp. 61-77). Dubuque, IA: Kendall/Hunt.

Triandis, H. C. (1994). Theoretical and methodological approaches to the study of collectivism and individualism. In U. Kim, H. C. Triandis, C. Kağitçibaşi, S. Choi, & G. Yoon (Eds.), *Individualism and collectivism: Theory, methods, and applications* (pp. 41-51). London: Sage.

Triandis, H. C. (1995). *Individualism and collectivism.* Boulder, CO: Westview.

Triandis, H. C., Leung, K., Villareal, M., & Clack, F. L. (1985). Allocentric versus idiocentric tendencies: Convergent and discriminant validation. *Journal of Research in Personality, 19*, 395-415.

Triandis, H. C., & Trafimow, D. (2001). Cross-national prevalence of collectivism. In C. Sedikides & M. B. Brewer (Eds.), *Individual self, relational self, collective self* (pp. 259-276). Philadelphia: Psychology Press.

Turiel, E. (2002). The culture of morality: Social development, context, and conflict. Cambridge, UK: Cambridge University Press.

White, M. I., & LeVine, R. A. (1986). What is an ii ko (good child)? In H. Stevenson, H. Azuma, & K. Hakuta (Eds.), *Child development and education in Japan* (pp. 55-62). New York: W.H. Freeman.

Zahn-Waxler, C. (2000). The early development of empathy, guilt and internalization of distress: Implications for gender differences in internalizing and externalizing problems. In R. Davidson (Ed.), *Wisconsin Symposium on Emotion: Vol. 1. Anxiety, depression and emotion* (pp. 222-265). Oxford, UK: Oxford University Press.

Zahn-Waxler, C., Crick, N. R., Shirtcliff, E. A., & Woods, K. E. (2006). The origins and development of psychopathology in females and males. In D. Cicchetti & D. Cohen (Eds.), *The handbook on developmental psychopathology* (2nd ed., pp. 76-138). New York: John Wiley.

Zahn-Waxler, C., Friedman, R. J., Cole, P. M., Mizuta, I., & Hiruma, N. (1996). Japanese and United States preschool children's responses to conflict and distress. *Child Development, 67*, 2462-2476.

Tracy A. Dennis received her PhD in clinical psychology from the Pennsylvania State University. She is currently an assistant professor of psychology at Hunter College of the City University of New York. Trained in clinical psychology from a developmental psychopathology perspective, she is interested in parenting and social context; the antecedents, correlates, and consequences of emotion regulation in young children; developmental psychopathology; and affective neuroscience. Her recent publications include articles on child temperament and emotion regulation, neurophysiological markers for the interplay between emotion and attention, parenting and child adjustment, and methodological issues in the measurement of emotion regulation.

Makram Talih is assistant professor of statistics at Hunter College of the City University of New York, which he joined in September 2003 as a fresh PhD from Yale University. Along with his methodological work in statistics, which is concerned with modelling the conditional dependence structure in time-varying high-dimensional multivariate data, he collaborates with researchers from various scientific disciplines. He has continually been involved in a Yale study on the role of stress and stress response in predicting relapse in treatment-seeking cocaine addicts. At Hunter, he provides statistical consultation to faculty in nursing and urban public health and serves as an advisor for students enrolled in the newly formed interdisciplinary program in quantitative and computational biology, which he helped design and implement.

Pamela M. Cole is professor of psychology and human development and family studies at Penn State University. Her research interest is early childhood emotional development and its implications for the development of psychopathology. Because the relation between emotional behavior and psychopathology is culturally relative, she developed an interest in cross-cultural comparative work. This interest has led her to study the cultural socialization of emotion, which has included comparative work with Japanese and American children and their mothers and between ethnic groups in remote areas of Nepal.

Carolyn Zahn-Waxler is a senior scientist at the University of Wisconsin–Madison in the Departments of Psychology and Psychiatry. Previously she held a position as head of the Section on Developmental Psychopathology in the Intramural Research Program at the National Institute of Mental Health in Bethesda, MD. She received her PhD from the Institute of Child Development at the University of Minnesota. Her research focuses on normal and atypical social and emotional development, sex differences in psychopathology, developmental origins of depression, the role of emotions in the development of psychopathology in childhood and adolescence, and genetic and environmental contributions to the development of empathy.

Ichiro Mizuta, MD, PhD., is professor of psychiatry at Kobe College. His main research interests are in the areas of child and adolescent psychopathology, such as eating disorders and dissociative disorders, and psychotherapy for these conditions.