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# Agreement With Night-Waking Strategies Among Community Mothers of Preschool-Aged Children

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**Objective** To explore the night-waking schemas of mothers of preschool-aged children, using a new measure of agreement with night-waking strategies (Night-waking Vignettes Scale; NVS). **Method** A community sample of 203 mothers ( $M$  age = 32 years,  $SD = 5.1$ ) of 2- to 5-year-olds ( $M$  age = 3.4 years,  $SD = 1.0$ ) provided demographic information and completed the NVS and measures of night-waking and general parenting behavior. **Results** Few mothers endorsed strong agreement or disagreement with limit-setting, active comforting, or rewards; mothers generally disagreed with punishment. Significant associations between agreement with night-waking strategies, child sex, and maternal educational attainment were observed; only agreement with punishment was correlated with general parenting. Agreement with night-waking strategies differed across the night-waking behaviors depicted in the NVS vignettes. Agreement with limit-setting and agreement with active comforting were correlated with night-waking. **Conclusions** Mothers may be ambivalent about common night-waking strategies. Night-waking schemas appear to be complex.

**Key words** children; night awakenings; parenting; parental cognitions; sleep.

## Introduction

Over 30% of preschool-aged children wake at least once per night and signal (cry, call out) for parental involvement (National Sleep Foundation [NSF], 2004), making night-waking one of the most prevalent behavioral sleep problems among 2- to 5-year-old children (Hiscock, Canterford, Ukoumunne, & Wake, 2007; NSF, 2004) and a significant source of inadequate sleep in this population. As the importance of adequate sleep for health and development is increasingly recognized (Mindell et al., 2011; Touchette, Petit, Tremblay, & Montplaisir, 2009), improved understanding of factors that may contribute to night-waking is warranted. In conducting the present study, we sought to better understand night-waking among preschool-aged children by exploring night-waking schemas—that is, beliefs about when and how to respond to children through the night—in a community sample of mothers.

Across cultures, greater parental involvement in children's settling is associated with more problematic child sleep (Mindell, Sadeh, Kohyama, & How, 2010). This involvement has been primarily discussed in relation to active comforting (e.g., cosleeping, holding, and patting) and limit-setting (e.g., resisting children's requests)—conceptually opposite strategies that are often polarized in the popular and empirical literatures (Goldberg & Keller, 2007; Ramos & Youngclarke, 2006). Parents' use of active comforting has been associated with sleep problems amongst infants (Morrell & Cortina-Borja, 2002; Morrell & Steele, 2003; Sadeh, Tikotzky, & Scher, 2010; Tikotzky & Sadeh, 2009) and preschool-aged children (Johnson & McMahan, 2008), whereas limit-setting, particularly within the context of interventions, has been associated with fewer sleep problems (Mindell, Kuhn, Lewin, Meltzer, & Sadeh, 2006; Morgenthaler et al., 2006; Sadeh et al., 2010; Tikotzky & Sadeh, 2010). Other common general parenting

strategies, such as punishment and rewards (Thompson, Raynor, Cornah, Stevenson, & Sonuga-Barke, 2002), in response to children's night-waking have received little research attention. Recently, however, Teti, Kim, Mayer, and Countermine (2010) have observed behaviors (e.g., talking sternly, threatening to take away toys) akin to punishment in some parents' settling efforts.

Cognitive factors or schemas—parents' thoughts and beliefs about children's sleep—appear to influence parental involvement at night (Sadeh, Flint-Ofir, Tirosh, & Tikotzky, 2007; Sadeh et al., 2010). Mothers' negative thoughts about limit-setting (e.g., concerns about resisting children's demands) have been associated with their use of active comforting with infants (Morrell, 1999a) and preschool-aged children (Johnson & McMahon, 2008). Greater agreement with active comforting and lower agreement with limit-setting in response to hypothetical vignettes have predicted higher use of active comforting and more problematic infant sleep (Tikotzky & Sadeh, 2009). Little is known about factors that may influence parents' night-waking schemas.

### **The Present Study**

The overall purpose of the present study was to better understand night-waking schemas among mothers of preschool-aged children in the general population. First, we explored night-waking schemas using a new measure of parents' agreement with four "night-waking strategies" (limit-setting, active comforting, punishment, and rewards) in hypothetical night-waking scenarios (the Night-waking Vignettes Scale; NVS). Limit-setting and active comforting are widely discussed in the popular media (Ramos & Youngclarke, 2006) and rewards and punishment are commonly used by parents of preschool-aged children to guide children's behavior (Thompson, Raynor, Cornah, Stevenson, & Sonuga-Barke, 2002). Second, given the lack of research specific to cognitive schemas and child night-waking, we sought to identify parental demographic factors (i.e., income, educational attainment) and child-level factors—including the night-waking behaviors depicted in the NVS vignettes—that may be associated with agreement with night-waking strategies. For some parents, sleep schemas may reflect general parenting beliefs and practices (Germo, Goldberg, & Keller, 2009; Green & Groves, 2008; McKenna & Volpe, 2007). Thus, we also explored mothers' self-reported use of nurturance and discipline in relation to their agreement with night-waking strategies. Third, we examined associations between parental agreement with night-waking strategies and children's night-waking.

Given the paucity of research in this area, some analyses were exploratory. The following hypotheses were

tested: (a) Day-time parenting would be related to night-waking schemas; specifically, (i) higher discipline and lower nurturance would be associated with greater agreement with punishment, and (ii) higher nurturance would be associated with greater active comforting; (b) Agreement with night-waking strategies would be higher for some types of night-waking vignettes than for others; specifically, (i) agreement with limit-setting would be lower in vignettes depicting comfort scenarios (e.g., children's requests for cosleeping) than in vignettes depicting activity scenarios (e.g., playing with the family cat), and (ii) agreement with active comforting would be higher in vignettes depicting comfort scenarios than in vignettes depicting activity or instrumental scenarios; (c) Higher agreement with active comforting and lower agreement with limit-setting would be related to night-waking variables.

### **Methods**

This study was part of a larger project exploring parents' responses to night-waking among preschool-aged children approved by Department of Psychology's Research Ethics Board at the University of Western Ontario.

### **Study Participants**

Mothers were recruited from a variety of community sources in a mid-sized city in Southwestern Ontario, Canada including centers for parents of preschool-age children, daycares, advertisements placed online, and posters at locales frequented by parents of young children (e.g., libraries). Mothers completed a telephone screener to assess study eligibility. A questionnaire package, with a self-addressed stamped return envelope, was then sent to all eligible mothers. Completed questionnaires were received from 203 of the 296 eligible mothers (68% response rate). Participants were provided with a \$15 gift card in appreciation for their time. Mothers who returned questionnaires did not differ from mothers who did not return questionnaires on the following: child age, child sex, mothers' educational attainment, where mothers thought children should sleep at night, or how often children woke at night ("never," "sometimes," "often"). The majority of mothers ( $M_{\text{age}} = 32.4$  years,  $SD = 5.1$ ) were Caucasian (90%) and had earned at least one college/trade diploma or university degree (69%). Approximately one-quarter (23%) of families had an income of less than \$40,000; 18% had an income of \$100,000 or greater. Children ( $M_{\text{age}} = 3.4$  years,  $SD = 1.0$ , range = 2–5 years; 48% male) were required to be healthy (i.e., not have any chronic illnesses that could be related to night-waking) and to have woken a minimum of one night every 2 weeks in

the month prior to recruitment. Most mothers (90%) believed that children should sleep in their own bed or crib in their own bedroom; however, of these, 64% reported cosleeping in response to night-waking at least one night per week.

## Measures

### Demographic Variables

Mothers reported basic demographic information regarding themselves, their family, and the target child (i.e., preschool-age child about whom the parent provided information).

### Night-waking Vignettes Scale (NVS)

The NVS (Supplementary Appendix A) was developed for this project, and used a series of hypothetical vignettes to measure parents' agreement with four different night-waking strategies. The age and sex of the children depicted in the night-waking scenarios were altered to match the age and sex of the target child. Parents were instructed that there were no extraordinary circumstances, such as illness, that needed to be considered in responding to the vignettes. Each vignette had a night-waking scenario followed by the stem "I think that [Name of child in vignette]'s mother<sup>1</sup> should . . ." and one item for each of the four night-waking strategies: (a) limit-setting (not responding to children's requests, keeping interactions to a minimum [e.g., "Ignore his behaviour during the night"]), (b) active comforting (responding and acquiescing to children's requests, behaviors that foster reliance on parents to return to sleep [e.g., "Stay with him until he falls asleep"]), (c) reward (helping children learn how to sleep independently by providing incentives; e.g., "Tell him that if he doesn't call out at night, he'll get a treat in the morning"), and (d) punishment (providing negative consequences for requests or night-waking behaviors [e.g., "Punish him for calling out at night"]). Parents rated their agreement with each item from 1 "No, definitely disagree" to 6 "Yes, definitely agree."

### Development of the NVS

NVS vignettes and items were written based on clinical and research experience,<sup>2</sup> interviews with 10 parents

<sup>1</sup>"Mother" was used because mothers were completing the NVS. If administered to fathers, the NVS sentence stem would read "I think that [hypothetical child's name]'s father should . . ."

<sup>2</sup>At the time this research was conducted, J.A.C. was a doctoral candidate in clinical psychology, supervised by G.J.R. and had completed clinical and research experiences in parenting and behavioral sleep interventions. G.J.R. is a clinical psychologist whose research program and clinical practice include the treatment of behavioral sleep problems in young children.

participating in a pilot project, and review of popular (e.g., Pantley, 2002; Sears, 1999) and research (e.g., Sadeh et al., 2007) literatures. Vignettes were constructed to depict three types of night-waking behaviors: (a) activity scenarios (e.g., child is playing with the pet cat, child requests a story), (b) comfort scenarios (e.g., child requests a cuddle, child crawls into parents' bed), and (c) instrumental scenarios (e.g., child requests a drink of water). Scenarios included either high child affect (e.g., "... Lauren gets very upset . . .") or no description of child affect ("low affect vignettes"). Graduate and undergraduate students ( $n = 20$ ) read preliminary versions of the vignettes and items rated the vignettes and items for clarity (1 = "not at all" to 5 = "very") and rated items for consistency with definitions of each night-waking strategy (1 = "not at all" to 5 = "very"); items rated lower than 4 and items not rated significantly higher on the intended strategy than on the other three strategies were removed (Hinkin & Tracey, 1999). Five parents and eight experts in pediatric sleep provided feedback on a pilot version of the NVS.

Final selection of the NVS vignettes and items was based on data from the present study. Endorsement frequencies and distributions of the NVS items were examined (Streiner & Norman, 1995). Preliminary agreement scores for each strategy were computed; items with item-total correlations  $< .30$  and/ or correlations  $> .35$  with other strategies were identified as potential candidates for deletion. Based on a balance between the performance of all items linked to a vignette and the effect that deleting a vignette would have on the range of night-waking scenarios represented in the measure, three vignettes were deleted. The final NVS (available as Supplementary Data) consisted of eight vignettes and eight items for each of the four night-waking strategies.

### Scoring

Four general agreement scores and 20 specific agreement scores were calculated for each mother. General agreement scores were the mean of the 8 items representing each strategy (i.e., limit-setting, active comforting, punishment, rewards). Specific agreement scores were the mean of mothers' agreement with each strategy in only a sub-group of vignettes. Specific agreement scores were calculated using only the 5 high affect vignettes (e.g., agreement with limit-setting in high affect vignettes), only the 3 low affect vignettes (e.g., agreement with limit-setting in low affect vignettes), only the 3 vignettes depicting activity scenarios, only the 3 vignettes depicting comfort scenarios, and only the 2 vignettes depicting instrumental scenarios. NVS-specific agreement subscale means, standard deviations, and internal consistency statistics are available in Table I.

### Reliability

Mothers' scores on the NVS general agreement subscales, internal consistency statistics (Cronbach's  $\alpha$ -statistics, mean interitem correlations) are presented in Table II.

**Table I. NVS-Specific Agreement Means, Standard Deviations, and Internal Consistency Statistics**

	<i>M</i> ( <i>SD</i> )	Min/Max	Internal consistency	
			$\alpha$	<i>M</i> inter-item <i>r</i>
Limit setting (Ls)				
High affect	3.8 (0.9)	1.0/6.0	.62	.25
Low affect	3.2 (1.1)	1.0/5.7	.57	.32
Comfort vignettes	3.2 (1.1)	1.0/5.7	.70	.44
Instrumental vignettes	3.2 (1.4)	1.0/6.0	.58	.41
Activity vignettes	4.2 (1.0)	1.0/6.0	.52	.26
Active comforting (Ac)				
High affect	3.0 (1.0)	1.0/5.6	.76	.40
Low affect	3.4 (.9)	1.0/5.3	.36	.15
Comfort vignettes	4.0 (1.0)	1.0/6.0	.65	.39
Instrumental vignettes	3.4 (1.4)	1.0/6.0	.75	.60
Activity vignettes	2.3 (1.1)	1.0/5.3	.70	.43
Reward (Re)				
High affect	3.7 (1.2)	1.0/6.0	.82	.49
Low affect	2.9 (1.4)	1.0/6.0	.86	.67
Comfort vignettes	3.8 (1.2)	1.0/6.0	.75	.50
Instrumental vignettes	3.3 (1.4)	1.0/6.0	.73	.58
Activity vignettes	3.0 (1.3)	1.0/6.0	.80	.57
Punishment (Pu)				
High affect	2.3 (.9)	1.0/4.7	.70	.34
Low affect	2.4 (1.0)	1.0/4.6	.53	.30
Comfort vignettes	2.2 (.9)	1.0/4.3	.47	.26
Instrumental vignettes	2.1 (1.0)	1.0/5.0	.46	.33
Activity vignettes	2.5 (1.1)	1.0/5.0	.52	.26

Note. High affect subscales contain five items. Low affect subscales contain three items. Comfort subscales contain three items. Instrumental subscales contain two items. Activity subscales contain three items. As subscale scores were the mean of the items in that subscale, all scores could range from a maximum of 1 "definitely disagree" to 6 "definitely agree."

One month test-retest reliability of the NVS general agreement scores were: limit-setting,  $r = .60$ ; active comforting  $r = .66$ ; rewards,  $r = .74$ ; and punishment,  $r = .75$ .

### Parent Behavior Checklist

The nurturance (e.g., "I praise my child for learning new things") and discipline (e.g., "I yell at my child for whining") subscales of the Parent Behavior Checklist (PBC; Fox, 1994) were used to measure general parenting. PBC subscale scores were the mean of the items in that subscale; items were rated on a 4-point scale ("Almost never/never" to "Almost always/always"). Higher nurturance scores reflected more positive or effective parenting, while higher discipline scores reflected more dysfunctional parenting. The PBC has demonstrated construct validity (Brenner & Fox, 1999). In the present study, internal consistency (Cronbach's  $\alpha$ ) was .70 for the nurturance subscale ( $M = 3.4$ ,  $SD = 0.4$ ) and .72 for the discipline subscale ( $M = 1.2$ ,  $SD = 0.2$ ).

### Infant Sleep Questionnaire-Adapted (ISQ-A)

Four items from the Infant Sleep Questionnaire (ISQ; Morrell, 1999b), adapted for use by parents of preschool-aged children (DiLeo, Lewis, & Taliaferro, 2005), were used to measure: (a) the frequency of night-waking per week (i.e., the number of nights children woke per week ["none" to "7 nights a week"] multiplied by the number of times each night children woke and needed comforting ["does not wake" to "5 or more times per night"]); (b) the duration of average night-wakings ("less than 10 minutes" to "1 hour or longer"); and (c) how often mothers took their child into their own bed or lay with them in response to night-wakings (i.e., "cosleeping"; "none" to "7 nights a week").

**Table II. NVS General Agreement Subscale Means, Standard Deviations, Internal Consistency Statistics, and Endorsement Frequencies**

General agreement subscales	<i>M</i> ( <i>SD</i> )	Min/ Max	Internal consistency		Endorsement frequencies (%) <sup>a</sup>				
			$\alpha$	<i>M</i> inter- item <i>r</i>	1-1.9	2-2.9	3-3.9	4-4.9	5-6
Limit setting	3.6 (0.9) <sup>b,c</sup>	1.0/5.8	.74	.26	3.9	16.3	44.3	28.6	6.9
Active comforting	3.2 (0.9) <sup>c</sup>	1.0/5.2	.79	.32	6.4	34.5	39.9	14.8	4.4
Reward	3.4 (1.2) <sup>c</sup>	1.0/6.0	.91	.55	15.3	21.7	25.6	29.6	7.9
Punishment	2.3 (0.9)	1.0/4.4	.77	.32	38.4	36.5	22.2	3.0	0.0

Note. General agreement scores were the mean of all eight items pertaining to a given strategy. Items were rated on a scale from 1 "definitely disagree" to 6 "definitely agree."

<sup>a</sup>For endorsement frequencies the general agreement scores were categorized as: 1-1.9 = "definitely to mostly disagree," 2-2.9 = "mostly to somewhat disagree," 3-3.9 = "somewhat disagree to somewhat agree," 4-4.9 = "somewhat agree to mostly agree," 5-6 = "mostly agree to definitely agree."

<sup>b</sup>Significantly higher than agreement with active comforting.

<sup>c</sup>Significantly higher than agreement with punishment ( $p < .05$ ).

### Children's Night-waking Behavior Scale

The Children's Night-waking Behavior Scale (CNBS), also developed as part of the larger project, was used to measure children's night-waking behaviors. Mothers rated CNBS items on a 9-point scale, according to how frequently their child displayed the night-waking behavior in the past month ("never" to "all the time"). Activity requests (child requests activities that will maintain wakefulness or engages in behaviors that suggest s/he does not want to sleep; three items,  $M=2.0$ ,  $SD=1.5$ ;  $\alpha=.75$ ), comfort requests (child requests active comfort; three items,  $M=5.2$ ,  $SD=2.3$ ,  $\alpha=.60$ ), and instrumental requests (child requests brief parental interventions; two items,  $M=3.1$ ,  $SD=2.2$ ;  $\alpha=.59$ ) subscales, and one item measuring returning to sleep independently sleep following a night-waking "settles back to sleep without any assistance" ( $M=3.0$ ,  $SD=2.1$ ) were used in present study. Subscale scores were the average of the items in that subscale, with higher scores representing greater frequency of behavior.

## Results

### General Agreement With Night-waking Strategies

Descriptive statistics for mothers' general agreement scores are presented in Table II. Less than 10% of mothers had general agreement with limit-setting or with active comforting scores that fell at the extremes (i.e., 1 to 1.9 [between "definitely disagree" and "mostly disagree"] or 5 to 6 [between "mostly agree" and "definitely agree"]). Rather, agreement with limit-setting and active comforting scores most frequently fell between 3 and 3.9 (between "somewhat disagree" and "somewhat agree"). In contrast, 38% of general agreement with punishment scores fell between 1 and 1.9 (between "mostly" and "definitely disagree"). General agreement with rewards scores tended to more evenly distributed (Table II). A repeated-measures ANOVA, with Bonferroni corrections applied to post hoc comparisons, was conducted and statistically significant differences among mothers' general agreement scores were found ( $F [3, 202]=70.42$ ,  $p<.001$ ). Mothers endorsed higher general agreement with limit-setting than active comforting and punishment; higher agreement with rewards than punishment; and higher agreement with active comforting than punishment (Table II).

### Factors Associated With Agreement With Night-waking Strategies

In order to examine whether general agreement scores were associated with child sex, a series of independent  $t$ -tests

were conducted. Mothers of boys endorsed lower general agreement with limit-setting ( $M=3.48$ ,  $SD=0.85$ ) than mothers of girls ( $M=3.75$ ,  $SD=0.86$ ),  $t(199)=-2.22$ ,  $p<.05$ . Mothers of boys also endorsed greater general agreement with active comforting ( $M=3.32$ ,  $SD=0.85$ ) than mothers of girls ( $M=3.06$ ,  $SD=0.88$ ),  $t(199)=3.32$ ,  $p<.05$ . Associations between general agreement scores and family income, maternal educational attainment, and children's age were examined using Spearman's rank order correlations. Correlations significant at the level of  $p<.05$  were as follows: Maternal educational attainment was positively correlated with general agreement with limit-setting ( $\rho=.26$ ,  $p<.01$ ) and negatively associated with general agreement with active comforting ( $\rho=-.17$ ,  $p<.05$ ). Child age was positively correlated with general agreement with punishment ( $\rho=.22$ ,  $p<.01$ ). Associations between general agreement scores and discipline and nurturance were examined using Pearson's product moment correlations. Agreement with punishment was negatively correlated with nurturance ( $r=-.21$ ,  $p<.01$ ) and positively correlated with discipline ( $r=.39$ ,  $p<.01$ ); neither discipline nor nurturance was significantly associated with general agreement with limit-setting, active comforting, or rewards.

To explore whether mothers' agreement with night-waking strategies would reflect characteristics of the night-waking vignettes, specific agreement scores were calculated and a series of repeated-measures ANOVAs were conducted; Bonferroni corrections were applied to post hoc comparisons. First, specific agreement scores in high affect vignettes were compared to specific agreement scores in low affect vignettes. Agreement with limit-setting was higher when vignettes depicted high affect than when they depicted low affect ( $F [1,202]=90.10$ ,  $p<.001$ ); this was also true of agreement with rewards ( $F [1,202]=192.33$ ,  $p<.001$ ). Agreement with active comforting was higher when vignettes depicted low affect than when vignettes depicted high affect ( $F [1, 202]=30.20$ ,  $p<.001$ ). Agreement with punishment did not differ between high and low affect vignettes ( $F [1, 202]=1.61$ ,  $n.s.$ ). Second, specific agreement scores in comfort, activity, and instrumental scenarios were examined. Repeated measures ANOVAs for limit-setting ( $F [2,202]=80.25$ ), active comforting ( $F [2,202]=177.08$ ), rewards ( $F [2,202]=86.73$ ), and punishment ( $F [2,202]=26.34$ ) were all statistically significant ( $p<.001$ ). Agreement with limit-setting was higher in activity scenarios than comfort and instrumental scenarios. Agreement with active comforting was higher in comfort scenarios than instrumental and activity scenarios and higher in instrumental scenarios than activity scenarios. Agreement with rewards was higher in

Table III. Differences in NVS-Specific Agreement Subscale According to Variations in the Affect and Behavior Children Displayed in the Vignettes

	Children's affect in the vignette		Children's behavior in the vignette		
	High M (SD)	Low M (SD)	Comfort M (SD)	Instrumental M (SD)	Activity M (SD)
Specific agreement scores					
Limit setting	3.8 (0.9) <sup>a</sup>	3.2 (1.1)	3.2 (1.1)	3.2 (1.4)	4.2 (1.0) <sup>b,c</sup>
Active comforting	3.0 (1.0) <sup>a</sup>	3.4 (0.9)	4.0 (1.0) <sup>b,d</sup>	3.4 (1.4) <sup>d</sup>	2.3 (1.1)
Reward	3.7 (1.2) <sup>a</sup>	2.9 (1.4)	3.8 (1.2) <sup>b,d</sup>	3.3 (1.4) <sup>d</sup>	3.0 (1.3)
Punishment	2.3 (0.9)	2.4 (1.0)	2.2 (0.9)	2.1 (1.0)	2.5 (1.1) <sup>b,c</sup>

Note. Scores could range from 1 "definitely disagree" to 6 "definitely agree."

<sup>a</sup>Statistically significant difference ( $p < .05$ ) between agreement scores for affect vignettes.

<sup>b</sup>Significantly higher than instrumental scenarios.

<sup>c</sup>Significantly higher than comfort scenarios.

<sup>d</sup>Significantly higher than activity scenarios (all  $p < .05$ ).

Table IV. Correlations between NVS General Agreement Scores and Night-waking Variables

NVS	ISQ-A <sup>a</sup>			CNBS <sup>b</sup>			
	Frequency	Duration	Cosleep	Settles	Comfort	Instr	Activity
Limit setting	-.20**	-.22**	-.25**	.16*	-.17*	.08	-.20**
Active comfort	.30**	.11	.42**	-.11	.37**	-.09	.18*
Rewards	-.00	-.08	.06	-.03	.07	.05	.03
Punishment	-.18*	-.08	-.12	.11	-.04	.08	.05

Note. <sup>a</sup>Associations between agreement scores and Infant Sleep Questionnaire-Adapted (ISQ-A) variables were examined using Spearman's rank order correlations.

<sup>b</sup>Associations between agreement scores and Children's Night-waking Behavior Scale (CNBS) variables were examined using Pearson's product moment correlations. "Active comfort": Active comforting; "Settles": settles back to sleep independently following a night-waking; "Instr": instrumental scenario.

\* $p < .05$  \*\*  $p < .01$ .

comfort scenarios and instrumental scenarios than activity scenarios and higher in instrumental scenarios than activity scenarios. Agreement with punishment was higher in activity scenarios than comfort or instrumental scenarios (Table III).

### Agreement With Night-waking Strategies and Night-waking

Statistically significant associations between agreement scores and night-waking variables are presented in Table IV. Given the distribution of the variables, associations between agreement scores and ISQ-A variables were examined using Spearman's rank order correlations, while associations between agreement scores and CNBS variables were examined using Pearson's product moment correlations. General agreement with limit-setting was negatively correlated with night-waking frequency, night-waking duration, and cosleeping; general agreement with limit-setting was positively correlated with the frequency of returning to sleep independently following a night-waking. General agreement with active comforting was positively associated with night-waking frequency, the frequency of children's social and comfort requests on the CNBS, and

cosleeping. General agreement with rewards was not statistically significantly correlated with any of the night-waking variables. General agreement with punishment was significantly correlated only with night-waking frequency.

### Discussion

The NVS, a new measure of parents' agreement with night-waking strategies, provided insight into night-waking schemas among a community sample of parents of preschool-aged children. Key findings, discussed in greater detail below, were as follows: (a) with the exception of not using punishment, mothers appeared to be ambivalent about using other night-waking strategies; (b) mothers' agreement with night-waking strategies was associated with child sex and maternal education, but only agreement with punishment was associated with general parenting. Further, agreement with night-waking strategies reflected variations in the night-waking scenarios depicted in NVS; (c) agreement with night-waking strategies was associated with children's night-waking.

### **General Agreement With Night-waking Strategies**

In our community sample, mothers agreed most with limit-setting, followed by rewards and active comforting; mothers agreed least with punishment. Although general agreement with limit-setting was significantly higher than general agreement with active comforting, the mean general agreement scores for limit-setting and active comforting both fell between “somewhat disagree” and “somewhat agree.” Further, for both limit-setting and active comforting, less than 10% of our sample’s agreement scores fell at the extremes (i.e., between “mostly” and “definitely” agree or disagree). This is consistent with results reported by Tikotzky and Sadeh (2009) who, in a community sample of mothers of infants, noted a lack of extreme agreement scores on the Limits and Distress subscales of the Infant Sleep Vignettes Interpretation Scale (ISVIS; Sadeh et al., 2007); these subscales are similar to our general agreement with limit-setting and active comforting scores<sup>3</sup>. This suggests a general ambivalence towards limit-setting and active comforting among community mothers that stands in contrast to the prevailing tendency to view these strategies as conceptually and philosophically in opposition to one another (Goldberg & Keller, 2007; Ramos & Youngclarke, 2006)—it may be that many community mothers do not see incompatibility between limit-setting and active comforting strategies. If this interpretation is correct, its research and practice implications will need to be considered. For example, attempts to classify parents according to their agreement with one strategy or the other could be overly simplistic and may not reflect the schemas of many in the community (see Ramos & Youngclarke, 2006 for this argument in the relation to the mixed use of active comforting and limit-setting in the community).

It is also possible that our findings indicate a level of uncertainty among community mothers about how to respond when preschool-aged children wake at night. Concerns and questions about sleep are frequently raised by parents of young children during primary care visits (Mindell, Moline, Zendell, Brown, & Fry, 1994), suggesting a desire for increased knowledge or assistance in this area. Further, information obtained through the popular literature can be contradictory, contributing to parental uncertainty (Ramos & Youngclarke, 2006). It should be noted that none of the vignettes included scenarios in which definitely agreeing with limit-setting would be inappropriate; vignettes were constructed and piloted to minimize the presence of details that might increase parental

<sup>3</sup>On the ISVIS Distress subscale, parents indicate their agreement that a hypothetical child’s sleep behavior is an indication of distress and, thus, requires comfort.

uncertainty (e.g., references to temperament or day-time behavior). It is also important to note that children were selected to have woken at least one night every two weeks in the month prior to recruitment; thus, it is not as though mothers were responding to these vignettes in a purely hypothetical manner without having had any experiences of night-waking with their own children.

### **Factors Associated With Mothers’ Agreement With Night-waking Strategies**

Like general parenting schemas (Azar, Reitz, & Goslin, 2008), mothers’ night-waking schemas appear to be complex and may be associated with multiple factors. The associations between child age and sex and agreement scores were unexpected and require further investigation. Tikotzky and Sadeh (2009), in a longitudinal study conducted with mothers of infants, found that agreement with limit-setting was higher when infants were 12 months of age than when infants were 1 or 6 months of age. The results of our study did not support similar associations between agreement with limit-setting and children’s age during the preschool-age period, despite the finding that agreement with punishment was positively correlated with child age. Methodological differences between Tikotzky and Sadeh’s (2009) study, which allowed for within-subject analyses over time, and the present cross-sectional study may account for this discrepancy.

Regarding associations between general parenting and night-waking schemas, only agreement with punishment was correlated with use of discipline and nurturance. It appears that more punitive parenting is an approach that is consistent around the clock. Nurturance, on the other hand, may be expressed differently during the day and during the night; this may partially explain why nurturance was not significantly correlated with either agreement with limit-setting or agreement with active comforting.

The finding that agreement with night-waking strategies reflected variations in the NVS scenarios is a novel contribution of this study. In the general parenting literature, Azar et al. (2008) refer to children’s behaviors as “stimulus events,” activating parents’ schemas and prompting behavioral responses. Rather than conceptualizing all night-waking among preschool-aged children as a single type of stimulus event (“night-waking”), the present study suggests that children’s behaviors during night-waking episodes may present parents with a range of stimulus events. Although directionality and causation can not be inferred from the present study, it would be consistent with the general parenting literature (e.g., Azar et al., 2008; Critchley & Sanson, 2006) to suggest that

variations in children's behavior (e.g., requests for comfort, displays of high affect) may activate different aspects of parents' schemas, resulting in different levels of agreement with night-waking strategies, and ultimately, different parenting behaviors (e.g., active comforting, limit-setting). This requires further investigation.

### **Agreement With Night-waking Strategies and Night-waking**

Consistent with hypotheses, greater general agreement with limit-setting was associated with less cosleeping, less frequent night-waking, and more frequent settling back to sleep independently following a night-waking. In contrast, greater agreement with active comforting was associated with more frequent cosleeping, and more night-waking. These findings are consistent with the existing infant sleep literature (e.g., Sadeh et al., 2010) and extend the existing preschool-age sleep literature (e.g., Johnson & McMahon, 2008) by documenting associations between agreement with limit-setting and returning to sleep independently. The finding that agreement with punishment was negatively correlated with night-waking frequency requires further investigation and does not imply that this would be an effective strategy for improving children's sleep. Similarly, the lack of association between agreement with rewards and night-waking requires further study and interpretations of this finding would be largely premature; it does not imply that rewards are ineffective in responding to night-waking. Actual use of rewards was not examined as a part of the present study.

### **Limitations**

This study has a number of limitations. Our sample was community-based, primarily Caucasian, educated, of reasonable income, and most mothers believed in independent sleep. Results may not be generalizable to other groups of mothers, including mothers whose children present with clinically significant sleep problems, mothers who report no night-waking in their children, and mothers whose children wake at night for medical reasons, or to fathers. Differences between mothers' and fathers' cognitions about sleep have been found (Sadeh et al., 2007), and future research should include data from fathers. Both the NVS and the CNBS require validation, including investigation in clinical populations; the clinical utility of these measures has not been established. The internal consistency of some of the NVS specific agreement subscales and CNBS subscales was low. However, it should be noted that measurement issues related to children's sleep and night-time parenting are complex (Mindell et al., 2010) and measures often have lower reliability statistics

than the ideal (e.g., Johnson & McMahon, 2008; Matthey, 2001; Morrell, 1999a). Shared method and shared rater variance may account for some of the associations we have reported. Objective measures of parenting and night-waking will be required in future investigations. An observational study could provide a better understanding of the association between night-waking schemas and parents' actual behavioral responses. This study was correlational and cross-sectional; neither causation nor the direction of effects can be implied. Finally, multiple analyses were conducted, which may increase the likelihood that some statistically significant associations could have occurred by chance.

### **Conclusions**

As a whole, the results of the present study suggest that mothers in the general population may be more ambivalent about common night-waking strategies than has been typically considered. Although this ambivalence may represent uncertainty about how to respond to children's night-waking, it may also signify an underlying cognitive complexity akin to the cognitive complexity documented in the "day-time" or general parenting literature (e.g., Azar et al., 2008). Further research is needed to better understand the multiple factors (e.g., characteristics of the child, parent, and night-waking event) that may influence parents' night-waking schemas and, in turn, parents' night-waking strategies and children's night-waking. Continued research in this area may have important theoretical and clinical implications, contributing to improved understanding of parental cognitive factors that may play a role in, or protect against, problematic night-waking.

### **Supplementary Data**

Supplementary Data can be found at: <http://www.jpepsy.oxfordjournals.org/>.

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