Short survey

Video-taped coding of working model of the child interviews: a viable and useful alternative to verbatim transcripts?

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Abstract

Examined inter-rater reliability in scoring a semi-structured representational interview, the Working Model of the Child Interview (WMCI), using coders who scored either verbatim transcripts or video. Results indicated high levels of inter-rater agreement across methods. Direct coding of attachment-based interviews is an economical alternative to transcripts.
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In recent decades a great deal of attention has been paid to the intergenerational transmission of relationship patterns. Much of this research has relied on methods drawn from attachment theory to reveal individuals' internal working models of attachment relationships. These include behavioral measures, such as the Strange Situation Procedure for infants, and interview methods, such as the Adult Attachment Interview (AAI; George, Kaplan, & Main) for adults. A variety of new narrative-based representational interviews have been developed to assess parents' working models of parenting and/or their specific child [e.g., the Caregiving Interview (George & Solomon, 1996), the Parent Development Interview (Aber, Belsky, Slade, & Crnic, 1999), and the Working Model of the Child Interview (WMCI) (Zeanah & Benoit, 1995)].

Research focused on the role of parents' working models of their children or of attachment relationships is both time consuming and expensive. Internal working models, assessed via structured interview, have

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typically required verbatim transcription of relatively lengthy narratives for analysis and coding. Although new, more efficient, measures to assess adult attachment classifications have been developed (e.g., George & West, 2001), these approaches do not tap directly into autobiographical history and personal experience, and thus lose the potential for more detailed quantitative and qualitative analysis of individuals' life histories.

Similarly, transcript-based coding approaches lose some of the richness of videotaped data. Newer coding systems have been developed to incorporate congruence across multiple levels of an individuals' narrative, for example, congruence between cognition and affect as an element of coherence, and there is evidence indicating this is an important aspect of coherence, related to individuals' working models of relationships (Fiese et al., 1999; Zimmermann, 1999). In contrast, extant video-based coding systems do not, however, yield primary internal working model categories that, like attachment classifications, reflect organizational constructs integrating both content and process features across the interview.

In the present study, the authors examined the inter-rater reliability of coding one of the newer narrative assessments, the WMCI (Zeanah & Benoit, 1995), both within and across two coding methods: from written transcripts versus directly from videotape.

Women included in this study were 30 participants randomly selected from a larger study of parent–infant relationships (see Rosenblum, McDonough, Muzik, Miller, & Sameroff, 2002 for more details). Of the participants in this subsample, 83% were European American, 14% African American, and 3% Asian, Latino, biracial, or "other." Mothers ranged in age from 21 to 40 years (M = 30, S.D. = 5), and the interquartile range of total household income was between \$30,000 and \$74,999.

All women were recruited from local pediatric clinics. Mothers were administered the WMCI when the infants were 7-months-old. The WMCI is a semi-structured, open-ended interview designed to assess parents' representations of their infant and their relationship with their infant. The interview lasts approximately 1 h and was video-recorded. Verbatim transcripts were obtained and were carefully reviewed for accuracy.

The WMCI is coded in a manner similar to other commonly employed representational interviews (c.f. the Adult Attachment Interview; George et al., 1985). Each WMCI interview is assigned to one of three main categories, reflecting the parents' overall state of mind with respect to the relationship with his or her infant. Table 1 summarizes each of the three classification types (see also Zeanah & Benoit, 1995). Prior research has established the validity of the WMCI (scored from verbatim transcripts). Mothers' WMCI classifications converged lawfully with infants' Strange Situation classifications (e.g., Zeanah, Benoit, Hirshberg, Barton, & Regan, 1994) and were associated with parent and infant interactive behaviors (e.g., Rosenblum et al., 2002).

In the present study, four coders scored mothers' WMCI narratives using either videotape or verbatim written transcripts. Coders accessed the interview only in the format they used to code, that is, each coder saw only the videotape or the verbatim transcript. Two coders used videotape for scoring, and two used verbatim transcripts. One person in each team was designated a "primary" coder; this person trained the second person in the coding approach.

Results of our inter-rater reliability analyses indicated high levels of agreement both within and across the scoring methods. The distribution of WMCI classifications did not appear to vary according to scoring method. Across the two rating approaches (transcript versus videotape), the primary raters achieved 87% agreement on classification typology, and 97% agreement on the balanced versus non-balanced distinction (see Table 2). In order to correct for chance agreement and the distribution of scores, Cohen's kappas were computed both within and across coding methods. Across methods levels of agreement were high

Table 1
A brief description of the three main WMCI-derived representation classification categories

	Balanced	Disengaged	Distorted
Corresponding SSP Classification	"B" Secure	"A" Avoidant	"C" Ambivalent-resistant
Emotion Regulation Strategy	Flexible, balanced integration of positive and negative affect. Overall affective tone of the infant and relationship with the infant is positive	Emotion deactivation. Any anger expressed tends to be "cold" anger. Indifference is a particularly strong marker	Emotion over-activation. Strong feelings pervade the interview. Anger tends to be "hot" anger. Confusion or distractions by feelings of anxiety, sadness, or helplessness are strong markers
Representation of Infant	Infant perceived as easy or challenging, but caregiver is generally accepting of and enjoys the infant, and views challenges as understandable, normal perturbations that will change	Infant is either idealized or rejected. Caregiver often emphasizes infant independence, and caregiving sensitivity and acceptance of the infant's emotional needs tends to be low	Caregiver typically emphasizes infant's dependence. Narratives often characterized as role-reversed, self-involved, confused, distracted, uncertain, or overwhelmed
Coherence	Narrative is high in internal consistency and well-organized	Low coherence, often manifest in contradictions, failure to support general semantic statements with episodic memory, sparse recall	Low coherence, often manifest as a wandering narrative, low organization, insuccinct, unexplained referents, and manifest contradictions in both episodic and semantic memory

Table 2
Cross-tabulation of WMCI scores based on video versus transcript interview data

Transcript only	Video only			
	Balanced	Disengaged	Distorted	Total
Balanced	14	1	0	15
Disengaged	0	8	0	8
Distorted	1	2	4	7
Total	15	11	4	30

Note: data reported in this table are from the primary coders from each coding approach.

(Cohen's kappa =.79, $p < .001$). Similar results were obtained for reliability within each coding method; the coders using videotape achieved a Cohen's kappa of .76 ($p < .001$), and the coders using transcript achieved a kappa of .79 ($p < .001$). Although the kappas all indicated excellent levels of inter-rater agreement, agreement was somewhat higher for assignment of "balanced" classifications than for the specific "non-balanced" type (i.e., disengaged versus distorted). However, kappas were not significantly improved when only a balanced versus non-balanced distinction was made for each interview (ranging from .75 to .87).

Our data indicated that both scoring methods yielded reliable classification scores. As a further test of the viability of the video coding approach, we examined the external validity of ratings derived from both coding methods. Mothers' internal working models are assumed to be emotion regulators, influencing the emotions they experience and perceive in the relational context (Zimmermann, 1999). We therefore examined whether the WMCI scores derived from transcripts or videotape were related to the types of emotions they attributed on the Infant Facial Expressions of Emotions from Looking at Pictures task (IFEEL; Emde, Osofsky, & Butterfield (1993)). The IFEEL is a projective test designed to pull for individual differences in attributions of emotions seen in babies. The test consists of a set of 30 pictures of infants displaying ambiguous facial expressions, and parents are asked to describe in one word the emotion the infant is expressing. Maternal responses were scored according the categorical method, which classifies each response as belonging to one of twelve emotion categories (e.g., joy, sad, anger, surprise, content, passive, shame, disgust, distress, cautious, interest, and fear). We conducted a series of one-way analyses of variance with the IFEEL categories as a dependent variable, and mothers' WMCI classifications as the independent variable (see Table 3). Similar results were obtained using both coding methods, indicating that mothers' working models were associated with emotion attributions made regarding the photographed infant expressions. Not surprisingly, mothers in the balanced category attributed more benign emotional experiences to the infants (i.e., "passive"), whereas mothers in the disengaged category made more hostile attributions (i.e., "anger"), and the pattern of results was identical across the two coding methods. These results replicate analyses we have conducted using a larger sample of 100 women whose WMCI narratives were coded using verbatim transcripts (Rosenblum, Dayton, & McDonough, in press).

Taken together, these results suggest that videotape coding of the WMCI is both a reliable and valid approach to scoring this type of representational interview, and thus constitutes a viable alternative to transcript-based approaches. Coding from videotape holds several potential advantages, including maintaining the richness of the data, allowing, for example, assessment of multiple levels of coherence, such as consistency across content and affect. This cost-effective alternative strategy makes narrative-based interviews more accessible to researchers. In addition, the WMCI has been of considerable interest to

Table 3
Associations between maternal WMCI classifications and IFEEL categories by coding method

IFEEL category	Video scores			Transcript scores		
	F(2, 27)	p	Posthoc comparisons	F(2, 27)	p	Posthoc comparisons
Surprise	.48	n.s.	–	.86	n.s.	–
Interest	1.70	n.s.	–	2.80	n.s.	–
Joy	.91	n.s.	–	1.60	n.s.	–
Content	2.03	n.s.	–	.78	n.s.	–
Passive	4.55	.02	Balanced > disengaged	5.10	.02	Balanced > disengaged
Sad	2.40	n.s.	–	1.24	n.s.	–
Cautious	1.06	n.s.	–	.35	n.s.	–
Shame	.60	n.s.	–	.96	n.s.	–
Disgust	.68	n.s.	–	.63	n.s.	–
Anger	3.47	.04	Disengaged > balanced	8.19	.002	Disengaged > balanced
Distress	.48	n.s.	–	.85	n.s.	–
Fear	1.73	n.s.	–	.44	n.s.	–
Other	1.38	n.s.		1.61	n.s.	–

Note: posthoc comparisons were significant using Bonferroni correction for multiple comparisons.

clinicians working in the field of infant mental health, and the validation of videotaped coding procedures is likely to support the feasibility of more clinic-based research on working models of primary relationships.

It is important to note that all coders were familiar with the attachment literature, and it is likely that coding from either video or transcript requires adequate familiarity with the relevant literature and training. However, training in the AAI is not necessary for coding the WMCI, and only one of the coders in the present study had completed formal AAI training.

In sum, mothers' internal working models of their infants can be reliably and validly coded from videotape, a more cost-effective procedure not requiring transcription of narratives. This approach is viable for both clinical and research purposes.

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