The Congruence of Mothers' and Their Children's Representations of Their Relationship

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According to attachment theory, parents' and children's internalized representations of their relationship should correlate to one another in predictable ways. The current research investigates this correspondence between mothers' and their 4-8 year-old children's (M = 6 years, SD = 1.4 years) internal representations in 92 mother-child dyads where the children are at high-risk for psychopathology due to exposure to potentially abusive or neglectful circumstances. Maternal representations were assessed with the Parent Development Interview (PDI; Aber et al., 1985) and children's were assessed with three stories from the Attachment Story Completion Task (ACST; Bretherton, Ridgeway, & Cassidy, 1990) coded with an attachment-focused system (Reiner & Splaun, 2008). Mothers who expressed high levels of joy, competence, confidence, and low anger had children who were able to address negative themes and feelings in their stories and resolve the central story dilemma. Thus, these qualities seem to enable mothers to help their children learn to address and resolve both difficult situations and feelings. That such cross-generational links were observed in a high-risk population speaks to the influence of parents' thoughts and feelings about their children on the way children approach and resolve imagined attachment dilemmas.

In early primary care-giving relationships, infants begin to develop expectations for the ways in which others tend to relate to them (Bowlby, 1982). These expectations are referred to as internal working models of relationships, and they guide our interactions with others throughout our lives by giving us a "roadmap" of what to expect and how to behave in relationships (Waldinger, Toth, & Gerber, 2001, p. 41). In parent-child relationships, the parents bring into the relationship their past experiences, in the form of their own internal working models, which initially guide how they interact with their child and how they expect the relationship to unfold (Bowlby, 1982; see Baldwin, 1992 for a review). Parents' internal working models are then gradually shaped in response to their children's behavior towards them, eventually leading parents to form more specific expectations about how their children will interact with them, called parental representations (Slade, Belsky, Aber, & Phelps, 1999), which guide their parental behaviors. In turn, children devel-op their own internal working models of relationships based on their experiences with their primary caregivers, often their mothers (see Waldinger, Toth, & Gerber, 2001 for an elegant review).

Previous research has examined how parents' internal representations of their children influence parents' *behavior* and infant-mother attachment (Slade et al., 1999; Messina, Sayre, Pianta, Marvin, & Saft, 2001), yet less is known about the links between parents' and their children's *internal representations* of the parent-child relationship, especially as concerns parent-child dyads with high levels of risk for later child psycho-pathology due to the presence of abuse and/or neglect. In fact, only one such study exists in which Steele and colleagues (2008) found that, in many domains, parental representations, as measured by the Parent Development Interview (PDI; Aber et al., 1985), moderated the link between the adoptive parent's attachment pattern, as measured by the Adult Attachment Interview (AAI; Main, Kaplan, & Cassidy, 1985), and their children's internal working models, as measured by their responses to a story-telling measure, The Story Stem Assessment Profile (Hodges, Hillman, & Steele, 2004). Namely, children who showed intense aggression on

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the story stems assessment were significantly more likely to have adoptive parents who had low levels of warm feelings towards their children and had difficulty elaborating on their relationship in a coherent way, as well as having high levels of despair and lack of satisfaction concerning their relationship with their children in the PDI. Further, children who portrayed parents in a child-like role in the story stems tended to have parents who scored higher in the domain of despair and lack of satisfaction in response to the PDI. However, these authors did not fully explore the relationships between the parent representations and child internal working models, other than examining how these representations moderate the relationship between parent and child internal working models (as measured by the AAI and story stems).

The question of how parent and child representations are related is theoretically important, as attachment theory would predict that warm, sensitive maternal representations would lead parents to nurture their children sensitively (Atkinson et al., 2005; Biringen, Matheny, Bretherton, Renouf, & Sherman, 2000). In turn, sensitive parenting is theorized to enable children to develop representations of their mothers as supportive and representations of themselves as able to manage negative emotions. As a result, children should ultimately develop the ability to cope with stressors to the attachment system with the assistance of available, responsive attachment figures. In contrast, mothers who are more despairing and angry in their representations should have more difficulty engaging sensitively with their children, as has been seen in depressed mothers (Trapolini, Ungerer, & McMahon, 2008). These children are presumed to develop representations of their mothers as rejecting or insensitive and have difficulty coping with negative emotions and stressors when presented in stories as a function of actual parental care.

Children with mood disorders have been shown to tell disorganized stories (Beresford, Robinson, Holmberg, & Ross, 2007), indicating that there is a link between story stem responses and real-life ability to cope with negative events and emotions. The links between parent and child representations have rarely been studied in clinical samples, particularly with regards to children's representations of themselves and their abilities to cope with stressors and negative emotions in stories. This is the focus of the current report.

Further, it is clinically important to study the links between parent and child representations, as many contemporary interventions aimed at enhancing the parent-child relationship target parent representations (e.g. Suchman et al., 2008; Hoffman, Marvin, Cooper, & Powell, 2006). Therefore, it is important to determine the full impact of these interventions at the representational level, for example, whether children and/or their parents are able to view their relationship as more of a source of support than a source of stress following an intervention.

The current study attempts to extend past research (Steele et al., 2008) by demonstrating links between parent representations and child internal working models in 92 parent-child dyads. The responses to three stories from the Attachment Story Completion Task (ASCT; Bretherton, Ridgeway, & Cassidy, 1990) were used to ascertain the children's representation of their relationship with their mother. These stories were coded with a system that focuses on children's internal working models of their attachment relationships with their mothers (Reiner & Splaun, 2008). Though other useful story stem coding systems exist, such as the MacArthur Coding System (Robinson, Mantz-Simmons, MacFie, Kelsay, Holmberg, & the MacArthur Narrative Working Group, 2007) and the Hodges, Hillman, and Steele (2004) system, the Attachment-Focused Coding System (AFCS; Reiner & Splaun, 2008) was used in the current study to explore whether the children use the mother as a secure base by approaching her in times of distress, portray the mother as supportive or rejecting, and are able to address and resolve the dilemma and negative emotions at hand. This coding system was ideal for the current study because only 5 codes and 3 stories were needed, making the coding system user-friendly and brief, in contrast to other systems, which

code as many as 13 stories on 90 dimensions (Page & Bretherton, 1995). This is possible because the AFCS codes measure overall qualities of the mother and her relationship with her child rather than specific behaviors. Further, the AFCS focuses on global constructs, thus, it is more analogous with the Asquith, Steele, and Hillman (2007) coding system for the PDI, which was used to measure parental representations. Finally, because it is brief, the AFCS maintains a singular focus on attachment relevant behaviors portrayed in the child's story and is thus designed to be appropriate for use in clinical, as well as community, samples.

As mentioned above, the children's representations were compared with their mothers' responses to the PDI, an interview designed to measure parental representations, as coded with the Asquith and colleagues (2007) system. This research aims to add to the current body of literature by exploring the relationship of parent representations and child internal working models and by testing the validity of an attachment-focused coding system for story stems.

In the current study, the primary hypothesis was that mothers who have warm representations of their children and their relationship on the PDI should have children who represent mothers in their stories as supportive in times of distress and who are able to address and resolve negative emotions and themes in the stories. This would indicate that parent representations are related to child internal working models in theoretically predictable ways.

Additionally, it was hypothesized that children who represent their mothers as warm, supportive, and less rejecting, in their story stems should be able to seek their mothers out in times of distress. Furthermore, they should be able to address and resolve negative themes and emotions that come up in the story stems more successfully than children who represent their mothers as more rejecting. This would indicate internal consistency of the new Attachment-Focused Coding System for story stems.

Finally, it was predicted that on the PDI, a group of parents will emerge who have positive feelings to-wards their child, high levels of joy, warmth, and high attachment awareness (Positive Maternal Representations). There will be another group of parents who, on the PDI, are high in anger and despair, low in affection, view their children as high in aggression, and have negative descriptions of the relationship (Negative Maternal Representations).

Methodology

Sample

For this study, participants were 92 mother-child dyads considered to be "high-risk." This means that Child Protective Services had documented that the children were at risk for maltreatment (either physical or sexual abuse or neglect) and/or the mothers were currently awaiting decisions regarding their ability to maintain child custody. Children were recruited through agencies that were actively intervening in these situations, either attempting to preserve the parent's custody of the child, or working towards placement in alternate homes due to child maltreatment. Because the children who comprised this sample were all living in stressful environments where there was some evidence of abuse and/or neglect taking place, children were deemed at a high risk for later developing psychopathology. Father-child dyads were excluded as there were a limited number of fathers who participated in the full study. Children were between the ages of 4 and 8 years (M = 71.69 months, SD = 16.96 months), and were fairly evenly divided between female (N = 48) and male (N = 44). Of the parent-child dyads, 10 identified as African American, 4 were Latino, 1 was Asian, 6 were mixed race, and 71 were Caucasian.

Measures

Parent Development Interview (PDI). The PDI (Aber et al., 1985) is a semi-structured interview that takes 1-2 hours to complete and measures how parents view their relationship with their child. For example, parents are asked to describe what they like most and least about their child, and to choose and substantiate their choice of three adjectives that best describe their

relationship with their child. Of the 92 interviews collected, 14 were coded by a team and the remaining 78 were coded individually by highly reliable raters (average kappa = .75). The PDI was coded using a system by Asquith and colleagues (2007) which looks at a number of dimensions, such as parental anger, coherence, joy, attachment awareness, warmth, and beliefs about the child's level of anger, and joy. All codes are scored on a 4-point scale, with 1 being none/minimal and 4 representing a high level of that construct present in the interview.

Attachment Story Completion Task (ASCT)

The ASCT (Bretherton et al., 1990) was used to measure child representations of the parent-child relationship. Story stem tasks tap into young children's mental representations of relationships and get at their understanding of reality in a way that they are often not able to express when asked directly (Holmberg, Robinson, Corbitt-Price, & Wiener, 2007; Waldinger, Toth, and Gerber, 2001). Story stems have been used to specifically assess children's internal working models of their relationships with their parents (Green, Stanley, Smith, & Goldywyn, 2000). The ASCT consists of a series of story beginnings that the child is asked to complete using characters that are the same gender as the child completing the stories. The child is provided with toys so that they may choose to complete the stories either with verbal narration, nonverbal use of toys, or both. A subset of three stories was selected that featured a clear danger to the child, which should activate the attachment system (Bowlby, 1982), and where the mother was nearby so that the child would have the option of approaching her for help within the story. The stories used were 1) Burnt Hand, in which the child burns his/her hand on the stove while the parents are nearby, 2) Burglar in the Dark, in which the child is lying in bed and hears a strange noise while the parents are downstairs, and 3) Bathroom Shelf, in which two children are playing and one cuts his/her hand on something their mother asked them not to touch.

The following codes were developed, based on at-tachment theory's proposition that in times of distress, children tend to seek proximity to their attachment figures (Bowlby, 1982): representation of the mother as supportive of the child in their times of distress, representation of the mother as rejecting of the child or the child's bid for assistance, the child's ability to seek out the mother in times of distress, the child's ability to address the negative feelings and themes which are present in each story stem, and the child's ability to resolve those negative feelings and the dilemma in each story. The first four codes are rated on 5 point scales depending on specific criteria for the degree to which the construct is present in the story. In the current study, resolution of negative feelings and dilemmas was measured on a two point scale, based on whether the narrative was resolved or not. See Appendix A for an abbreviated version of the coding manual. The coders achieved an inter-rater reliability of at least weighted kappa = .84 and an exact agreement of at least 80% on all AFCS codes.

Results

First, a factor analysis was performed on the entire set of PDI codes regarding the mother's view of herself. A three-factor solution was indicated as the best fit for the data, factors were labeled *Positive Mother*, *Despairing Mother*, and *Need for Support*. Table 1 presents the internal consistency, variance accounted for, and factor loadings of each factor.

These factors were then correlated with the codes for the mother's view of the child on the PDI (which were too few to be factor-analyzed) and the child's story stem codes. Interestingly, there were no significant correlations between the mother's view of herself and her view of her child (all ps > .05).

The new Story Stems codes were discrete yet interrelated to one another in theoretically meaningful ways (see Table 2).

In support of the main hypothesis of the current study, a limited number of significant correlations were found that link the children's representations of their

Table 1

Internal consistencies, variance accounted for, and factor weightings of Parent Development Interview variables regarding the mother's view of herself.

Factor Name	Positive Mother	Despairing Mother	Need for Support
Internal Consistency	α = .84	α = .86	α = .89
Variance Accounted for	24.4%	22.1%	14.6%
Joy/Pleasure	.83		
Competence	.82		
Expression of Anger	-.80		
Degree of Anger	-.74		
Confidence	.66		
Despair		.85	
Hostility		.84	
Warmth		-.76	
Attachment Awareness		-.73	
Satisfaction with Support			.94
Need for Support			.94

Note. Only items with factor loadings greater than .5 are reported.

Table 2

Significant zero-order intra-correlations among AFCS codes.

Code	Supportive Maternal Behaviors	Rejecting Maternal Behaviors	Attachment Avoidance	Feeling/Theme Avoidance
Rejecting Maternal Behaviors	-.21*	-		
Attachment Avoidance	-.52*	.08	-	
Feeling/Theme Avoidance	-.28*	-.05	.21*	-
Resolution of Feelings/Themes	.34*	-.34*	-.24*	-.11

Note. All correlations marked with an asterisk were significant at the $p < .05$ level, two-tailed.

relationship with their mother with the mother's representation of their relationship. The Positive Mother factor on the PDI was negatively correlated with the child's avoidance of the themes and feelings present in the story stems ($r = -.26$, $p < .05$). This indicates that the more positively the mother viewed herself in her parenting role, the more able the child was to directly address the themes and emotions present in the story. Further, the Positive Mother factor was also significantly correlated with the child's ability to resolve the dilemma presented in the story stem ($r = -.25$, $p < .05$).

Next, a forward linear regression was calculated, with the variables entered in a logical sequence, in order to determine whether each story stem scale independently predicted the Positive Mother factor on the PDI. When the Positive Mother aggregate factor was entered as the dependent variable, and avoidance of negative themes was entered in the first block as a predictor, $r = .26$ and $R^2 = 6\%$, $F(1, 90) = 6.56$, $p <.05$. When resolution of conflict was entered in second block, multiple $r = .34$ and $R^2 = 0.12$, F-change = 4.77, 1,89, $p < .05$. Thus, each story stem scale made an independent prediction to mother's positive maternal state of mind in PDI. Together, children's avoidance and resolution of the negative themes and emotions in their story stems predict more of the variance in the Positive Mother factor than either scale does alone.
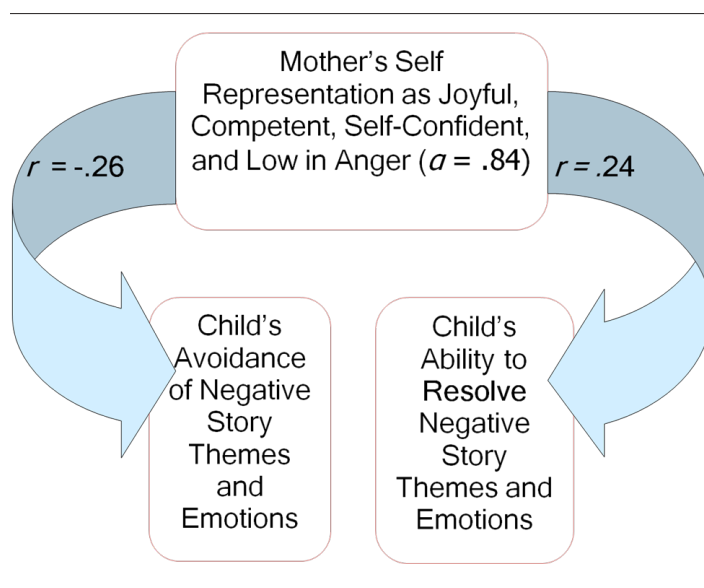
Discussion

Overall, the results support our hypotheses, including the primary hypothesis that children's internal working models are directly related to their mothers' representations of their relationship. Thus, this research indicates that there are measurable, theoretically meaningful links between mother and child representations.

As expected, in the factor analysis of the Parent Development Interview (Aber et al., 1985) codes regarding the mother's view of herself, *Positive* and *Negative* mothering factors emerged. The Positive Mothering factor was comprised of maternal joy, competence, con-

fidence, and a lack of anger. The primary features of the Negative Mothering factor were despair, hostility, and a lack of warmth, so this factor was re-labeled *Despairing Mother*. Although these factors were comprised of slightly different codes than was hypothesized, the factors that emerged are consistent with the prediction that there would be a factor that captured overall warmth on the part of mothers and another factor that captured more negative aspects of parental representations.

Figure 1. *Significant zero-order correlations between parent and child representations.*

Unexpectedly, a third factor emerged comprised solely of the codes for parents feeling a need for and satisfaction with the external support that is available. Thus, it seems as though mothers' views of their relationship with their children are not systematically related to their need for or satisfaction with the support they receive from others. In fact, in this study, mothers' who felt a high level of need for support also tended to be satisfied with the support they received, whereas those who denied needing support tended to be less satisfied.

Though no hypotheses were made regarding the correlations between the mothers' views of themselves as parents and their views of their children within the PDI, it was notable that no significant correlations emerged. For example, it intuitively seems that parents who are

more hostile and despairing in their relationships with their children would view their children as less happy, more angry, and more controlling than parents who report experiencing more joy and warmth. This lack of significant correlation may indicate that mother's views of themselves as parents are not strongly related to their views of their children in general. This could be seen as a defense on the part of parents; it may be easier to view your child's behaviors as disconnected from your own actions, especially when the behaviors are negative. However, this finding could have emerged due to diverging parental attitudes. For example, perhaps mothers who view themselves positively could either view their children in an unrealistically positive light or could recognize their children's challenges yet be able to maintain a loving stance towards them. In other cases, children who present challenging behavior could lead parents to experience a more despairing, hostile outlook. Thus, strict correlations would be unlikely to emerge due to these divergent pathways. Future research will be needed to make sense of this finding.

Consistent with the expectations that guided the development of the AFCS codes, the codes were moderately correlated with one another in theoretically predictable ways, indicating moderate internal consistency and validity. When children portrayed their mother as supportive in the stories, they were also less likely to portray her as rejecting and more likely to promptly approach her in times of distress. Also, these children were more likely to address and resolve both the distressing content in the stories and the negative emotions that arise from this content. Conversely, children who represented their mothers as more rejecting were less able to acknowledge and resolve distressing story themes and emotions.

In fact, these codes were developed guided by the hypothesis that the supportive, non-rejecting mother is able to help her children respond to negative emotions without becoming overwhelmed. It was further theorized that children who are parented in this sensitive manner over time become able to realize that negative emotions are manageable, thus they develop adaptive self-regulation of emotions. These children also appear to be securely attached to the mother because they know the mother will be there to support them in managing stressful situations and to help them soothe the resulting negative emotions. Not surprisingly then, children who had internal models of their mothers as supportive were able to confront distressing situations and emotions and were able to seek their attachment figures out at these times. This link between secure attachment and the development of emotional self-regulation has been supported in recent research (Kochanska, Philibert, & Barry, 2009).

The primary goal that drove this research was to establish whether predictable relationships exist between mothers' representations of their relationship with their child, as measured by the PDI, and their children's internal working models, as assessed by the story stem method. In fact, such links were established. Mothers who reported having more positive feelings towards their children tended to have children who were better able to address and resolve the negative themes and emotions in the story stems. This reinforces the logic that more supportive, nurturing mothers are able to support the development of emotional regulation and secure attachment in their children, who are then able to address and resolve strong emotions and difficult problems. Because this relationship was theoretically predicted, this supports the external validity of the newly developed Story Stems codes, as well as the theorizations presented in the introduction about how children develop their working models. However, future research will be needed to establish whether these relationships are causal or whether other independent factors, perhaps related to how the behavior of children affects their mothers' parenting, influence the internal working models of children and their mothers' parental representations.

This finding also reinforces the importance of the representational world as providing a window into the strengths and challenges presented by mother-child dyads. This could be diagnostically useful for clinicians, who could gain a sense of how adaptively the child is

able to face challenges in their lives. Thus, the information provided by the PDI and story stems assessments could provide a therapeutic target for intervention at either the parents' representational or behavioral level, or even at the level of helping the child to develop more adaptive responses to dilemmas and negative emotions that emerge in their lives, which is congruent with the aims of recent attachment-based interventions (Suchman et al., 2008; Hoffman et al., 2006).

Limitations

Although two strong correlations were found between the Story Stems and PDI codes, many of the other codes did not correlate with one another. This was likely due to the fact that we did not develop codes for the story stems that really examined the children's view of themselves. More specifically, the PDI was coded for how the mother views the child – as aggressive, happy, etc. However, equivalent codes were not developed for the story stems. This is particularly problematic because past researchers have found the strongest links between parent representations and child internal working models to be between parental negativity and child aggression, particularly dysregulated aggression in their story stems (Steele et al., 2008). Thus, for future use of this coding system, a code will be added that captures child aggression and extremely unusual behavior within the story stems. It is possible that if this code had been included in the current research, it may have correlated with the *Despairing Mother* factor and the mother's view of the child as aggressive. It could be related to the child's view of the mother as rejecting, avoidance of themes and emotions, and a lack of story resolution.

Additionally, in the current structure of the AFCS, a two-point scale was used to code resolution of the children's themes and emotions, whereas five-point scales were used on all of the other codes, limiting the variability in this dimension. Thus, for future studies, resolution will be measured using a five-point scale.

Though the current research provides some support for the external validity of the AFCS, as it was related

in predicted ways to the mother's representations as measured by the PDI, more research is needed to fully explore the reliability and construct validity of this recently developed coding system.

Furthermore, the current research solely explored the links between the representations of mothers' and their children, though similar connections would be likely between fathers' and their children's representations. Future research should attempt to extend these findings to incorporate father-child relationships. It will also be important for future research to examine the links between child internal working models as assessed with this new story stem coding system and children's actual behavior. This would provide further evidence of the external validity of the AFCS.

Conclusion

This research illuminates the ways in which the mothers and their children's views of their relationships impact one another. As mentioned above, this information could be extremely valuable as a focus of therapeutic intervention, by encouraging the parent and child to develop a more nuanced understanding of the other's view of the relationship. Furthermore, it is theoretically interesting to explore ways in which the mother-child relationship is viewed from each perspective in a high-risk sample. The current study provides evidence that maternal representations are linked to child internal working models even in fragile high-risk dyads, supporting the model of intergenerational transmission of working models presented in the introduction. Additionally, the results support the internal consistency and validity of the AFCS. Because the AFCS coding system is brief and user-friendly, while retaining the ability to capture attachment-relevant aspects of story stems, it is an important contribution to the field and will help make story stems accessible to researchers and clinicians working with a wide range of populations. Of course, future research will be needed to fully validate this coding system and extend the findings to fathers.

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Appendix A

Attachment-Focused Coding System for Story Stems Abbreviated Manual

Note:
- ➢ These codes are most appropriate for story stems that are meant to activate the attachment system.
- ➢ The first four codes are rated between 1 and 5 depending on specific criteria that are enumerated in the full manual. The code for resolution of negative emotions and themes is a dichotomous code, rated either a 1 or 2.
- ➢ "Mother" focused codes may also be used to code paternal behavior.

Mother-Focused Codes

These codes look for the behavior of the mother in the story.

Supportive Maternal Behaviors: This code rates how supportive the mother is to the child in the story. Specifically, this code examines whether the mothers help the child resolve the dilemma presented in the story stem and whether they also provide emotional support and empathy. At lower levels, the mother does not give the child any support, in the mid-range, she gives instrumental but no emotional support, and in the high range she gives both emotional and instrumental support.

Rejecting Maternal Behaviors: This code explores the level of the mother's rejection of and aggression towards the child in the story. At lower levels, there is no aggressive or rejecting behavior, in the mid-range, there is some discipline, and at the high range is verbal and physical abuse.

Child Focused Codes

These codes examine the behavior of the child portrayed in the story.

Avoidance of Attachment Behavior and Communication with the Mother: This code examines whether the child is able to seek out help from an attachment figure when in a distressing situation where their attachment system is presumably activated. At low levels, the child promptly seeks out the mother in times of distress, in the mid-range the child does not need to seek out the mother because the mother comes to their assistance, and at high levels they actively avoid the parent despite being in distress and the parent being available.

Avoidance of Negative Feelings and Story Themes: This code measures whether the child directly addresses the conflict presented in the story and the negative emotions that conflict brings up. In the low range, the child promptly addresses negative themes and emotions, in the mid-range they acknowledge the themes and emotions only briefly, and at the high range these disturbing themes and emotions are totally avoided.

Resolution of Negative Feelings and Story Themes: This code examines whether the child is able to resolve the negative emotions and themes brought up in the story stem and end their story on a neutral or positive note.