UNDERSTANDING DEVELOPMENTAL DIFFERENCES IN THE APPEAL OF NARRATIVES

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ABSTRACT

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This paper presents an experiment designed to test the claim that developmental differences in narrative appeal can be better understood by using logic from a recently proposed dual-process model of narrative entertainment. The dual-process model suggests that distinct, basic motivations compose an intuitive system of narrative appraisal, in which judgments of narrative characters and outcomes befalling these characters are generally fast and automatic. The model suggests that when motivations are in conflict, if one of these motivations is satisfied at the cost of violating or leaving another unsatisfied then a slower, deliberative appraisal becomes necessary to gauge motivational incongruity. The paper presents more recent understandings in cognitive development suggesting that a mature deliberative system is necessary to reliably gauge incongruity between motivations. The paper contrasts this explanation with previous accounts of developmental differences in narrative appeal offered by Zillmann and colleagues. It then presents an experiment exposing children of two age groups to a narrative that varies both the salience of competing moral concerns and the severity of retribution toward an antagonist in an attempt to replicate and extend earlier work on narrative enjoyment by Zillmann and colleagues. Results of the experiment support the conclusion that whereas older children deliberate on incongruity, impacting their appraisals, younger children do not reliably weigh incongruity in their appraisals. Discussion centers on how the results lend credence to the dual-process account, as well as how incongruity between

conflicting motivations may play a common role in other phenomena relevant to entertainment theory.

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INTRODUCTION

This study tests the claim that developmental differences in narrative appeal can be more fully understood by considering the intuitive and deliberative psychological systems described in a recently proposed dual-process model (Tamborini, 2011, 2012). The current study attempts to contribute to existing literature on media and morality by describing how the development of the deliberative system moderates the manner in which media violate and satisfy intuitive motivations to drive story enjoyment.

The paper begins by explicating the cognitive processes underlying narrative appraisals and describing the development of cognitive systems that influence these appraisals. An experiment is then presented that exposes children from different age groups to narratives that vary (a) the salience of *moral intuitions* and (b) the severity of retribution toward an antagonist.

Cognitive Processes behind Narrative Appraisal

A number of psychological mechanisms have been proposed as factors driving narrative appraisals. Among these are affective dispositions toward characters (Zillmann & Bryant, 1975; Raney, 2008), heuristic judgments (Raney, 2004), emotional elaboration (Cupchik, 2011), moral reasoning and contemplation (Oliver & Bartsch, 2010; Raney & Bryant, 2002), and basic motivational drives (Vorderer, 2009). These factors have recently been unified in a dual-process model called the narrative enjoyment and appreciation rationale (NEAR; Lewis, Tamborini, & Weber, 2011; Tamborini, 2011, 2012). The NEAR proposes that narrative features influence whether appraisals are based on an *intuitive system* (e.g., affective or heuristic) or a *deliberative system* (e.g., moral reasoning).

Although research on the NEAR has examined the influence of deliberative and intuitive

systems on narrative appeal in adults, it has yet to link these systems with contemporary literature on cognitive development. Recent understandings in cognitive development describe how the manner in which instinctual motivations that drive media appeal can vary throughout childhood due to the maturation of cognitive systems that moderate motivational functioning. This paper proposes that combining dual-process logic with these recent understandings can increase our knowledge of how development impacts narrative appeal.

Narrative Appraisal: Cognitive Development and Motivational Salience

Developmental differences in appeal can be seen in early entertainment research showing the importance of moral judgment to narratives (cf. Zillmann & Bryant, 1975). Research on narrative entertainment with children of different age groups has demonstrated that older children (7- and 8-year-olds) enjoy seeing "equitable" responses to provocation, in which narrative endings provide punishment for a villain or antagonist that is "not too mild, yet not too severe" (Zillmann & Bryant, 1975, p. 574). By contrast, this research demonstrated that younger children (4-year-olds) enjoy seeing overly harsh responses to provocation more than equitable responses.

The narrative stimuli for this research began with a provocation scene, in which a bad prince locked a good prince in a dungeon so that he could take the good prince's half of the kingdom. At the end of the story, the good prince escaped from the dungeon and engaged in one of three retaliatory acts by either (a) not retaliating and sharing the kingdom with the bad prince (compassionate ending), (b) banishing the bad prince and threatening to lock him in the dungeon (equitable ending), or (c) binding and driving the bad prince forcibly from the kingdom upon threat of death (harsh ending). Children in the study viewed one of these three ending

types for the story. Whereas older children perceived the punishment in the harsh ending to be too severe and preferred the equitable ending, younger children enjoyed the harsh ending more than the equitable or compassionate endings.

Zillmann and others (Zillmann & Bryant, 1975; Raney & Bryant, 2002) explained these findings in terms of Piaget's (1932) and Kohlberg's (1964) cognitive-developmental stage models of moral development. According to this understanding, younger children are in the stage of *expiatory retribution* and rely on "natural" or "authoritarian rules" as a method to determine appropriate retaliation. Zillmann and Bryant (1975) claim that, for younger children, the perceived severity of the misdeed is judged by how harshly it is punished. Therefore, any level of punishment seems "both necessary and justified" (p. 573). Indeed, the more severe the punishment the more necessary and justified severe punishment is perceived according to Piaget's logic. Harsh punishment is interpreted as suggesting that somebody was really bad, and if they were really bad and punished harshly then that should be enjoyed even more. "The sterner it is, the juster" (Piaget, 1948, p. 199), and the juster it is, the more enjoyable it is. Thus, the sterner the punishment, the more enjoyable the story was for younger children. By contrast, Piaget (1932) states that older children have reached the stage of *equitable retribution* in which they can better weigh justice or equity concerns. At this stage, they are able to understand the severity of the crime on their own (without an authoritarian rule), and therefore can judge the appropriateness of retribution by appealing to an inner "feeling of equity" (p. 317). As a result, older children like equitable responses to provocation the most, which leave equity considerations "undisturbed." By contrast, they like compassionate or harsh responses to provocation the least, because these outcomes disturb their "intuitive notions of

justice" (Wilson, Cantor, Gordon, & Zillmann, 1986, p. 88).

A Dual-Process Account of these Findings

A dual-process account may help to further explicate some of the cognitive processes that underlie judgments characterized by Piaget (1948) and Kohlberg (1982) as expiatory or equitable. Within this dual-process framework, age-based differences in the appeal of retribution can be explained as resulting from the maturation of cognitive systems that function to adaptively apply innate motivations governing social judgments. The NEAR logic used in the current study adopts a framework of basic motivations related to moral judgment in particular (Lewis, Tamborini, & Weber, 2011; Tamborini, 2011, 2012). These motivations, which run automatically and in parallel, drive the intuitive system in dual-process accounts of morality. The intuitive system governs response when circumstances evoking moral judgment present no conflict between motivations. By contrast, the deliberative system governs response when two or more of these motivations become salient and one of them is violated or not satisfied (e.g., in a moral dilemma). The dual-process logic here suggests that the deliberative system is necessary to hold more than one motivation in working memory and to gauge their congruity in an appraisal response. The distinction between these two systems is similar to other dual-process models in which some situations require fast, associative responses whereas others require slow, rule-based responses (c.f. Kahneman, 2003; Petty & Cacioppo, 1986; Lieberman, 2007; Sloman, 1996).

According to the NEAR, the intuitive system in moral decision-making is the default mode of narrative appraisal. It is driven by basal motivations described in Haidt and Joseph's (2004) moral foundations theory (MFT). This theory identifies five domains of moral intuition

and argues for their universality and evolutionary origin. MFT also proposes that cultural experience may reinforce and alter the salience of these moral intuitions to shape values (Haidt & Joseph, 2007). The specific moral intuitions are called *care* (concerned with feeling and disliking the pain of others); *fairness* (related to motivations for retribution, reciprocity, and punishing cheaters); *ingroup loyalty* (dealing with common good and punitiveness toward outsiders); *authority* (respecting dominance hierarchies); and *purity* (dealing with the psychology of disgust and the human concern for living nobly). Each of these five intuitions is conceived as an evolved psychological system that automatically yields moral judgments without the need for consciously weighing evidence or inferring guilt (Haidt & Joseph, 2007). The NEAR suggests that audiences use these distinct moral intuitions in the "tireless moral monitoring" of narrative characters proposed by Zillmann (2000, p. 38).

The deliberative system is evoked when monitoring indicates that two or more of these moral intuitions are in conflict. Different from a "purely happy" (fully satisfying) story ending that can be evaluated intuitively without need to resolve incongruity between moral concerns, the resolution to a narrative that places two moral intuitions in conflict generally violates or leaves unsatisfied one moral intuition in order to adhere to another, thus evoking cognitive conflict and a deliberative response. With this in mind, NEAR logic suggests another interpretation of the developmental differences observed by Zillmann and Bryant (1975) regarding reactions to the alternative endings in their narrative stimulus. Instead of age differences being driven by simple equity considerations, older children responded differently than younger children due to developmental differences in the deliberative system. As will be explained in more detail below, the story's compassionate and harsh response conditions pit

motivations for care and retribution in conflict. Since older children were able to consider these competing motivations in their appraisals more reliably, they judged the story endings differently than the younger children. Whereas younger children could not reliably weigh incongruity in their appraisals, older children were able to hold both incongruent motivations in working memory while gauging the relative importance of each in their appraisal.

For the condition in which the good prince responded compassionately to the bad prince's provocation (compassionate ending), the motivation for retribution was left unsatisfied. However, older children were able to recognize this satisfaction of care. The NEAR would suggest that since this condition only partially satisfied motivations (satisfying care while leaving retribution unsatisfied), it should have evoked conflict and led to a deliberative appraisal. In the equitable-response condition (equitable ending), the motivation for retribution was satisfied while leaving other motivations undisturbed. Older children thus evaluated it intuitively. In the harsh-response condition (harsh ending), the motivation for retribution was satisfied at the cost of harming the antagonist (violating care and evoking conflict between motivations for care and fairness), and thus should have led to a deliberative appraisal according to the dual-process model. In the compassionate and harsh endings, older children were able to adapt their appraisals after gauging the relative salience of both motivations using the deliberative system, but younger children could not reliably do this. NEAR logic suggests that younger children, with less developed deliberative systems, were less able to keep all salient motivations in working memory and less able to gauge the relative importance of each in their appraisal. Thus, younger children's judgments were primarily dominated by the most salient motivation (retribution).

Notably, evidence from research applying the NEAR suggests that story endings with unjust outcomes for characters can create this type of moral conflict, and the resultant deliberation in adult audiences. Support for this can be seen in a study that manipulated story endings so that a "good" protagonist, who cared for others, had to experience deserved positive or undeserved negative consequences as a result of the character's morally good behavior (Lewis, Tamborini, Grizzard, Weber, & Prabhu, 2012). When a caring individual experienced undeserved, negative consequences, the conflicting moral intuitions (care and fairness) led to increased response time—an indicator of deliberation. Similarly, Zillmann and Bryant (1975) manipulated the level of justice "served" to a character to compare children of different age groups. For older children viewing the compassionate and harsh responses to provocation in Zillmann and Bryant's narrative stimulus, NEAR logic suggests that this manipulation should have produced a more deliberative response that went unmeasured in their study.

Insight on whether intuitive or deliberative processes led to the age differences in appraisals of compassionate and harsh responses to provocation observed by Zillmann and Bryant might be gained by considering cognitive systems for conflict monitoring and cognitive control. Since conflict monitoring is thought to be a domain-general, information-processing mechanism that calls for the involvement of deliberative/controlled systems (Botvinick, Braver, Barch, Carter, & Cohen, 2001), developmental change in these deliberative systems may explain the differences observed by Zillmann and Bryant (1975). For younger children with less mature deliberative systems, appraisals of conflicted narratives may be less impacted by motivational incongruity, since younger children more frequently rely on the most accessible motivation in

their response that they find acceptable in an intuitive or heuristic manner. Consistent with this reasoning, literature on the development of conflict monitoring and cognitive control supports the notion that younger children have diminished ability to manage multiple intuitive response preferences simultaneously. For example, younger children lack the adult capacity for attending to multiple response options and holding complex representations in working memory (Davidson, Amso, Anderson, & Diamond, 2006), adapting judgments to changing situations and inhibiting salient responses (Jonkman, 2006), and performing a cost-benefit analysis associated with sacrificing one motivation for another (Mead, Alquist, & Baumeister, 2010). Although it has been shown that children as young as three years have partially developed some components of the deliberative system (e.g., conflict monitoring and inhibitory control; Jones, Rothbart, & Posner, 2003), they lack a fully mature deliberative system to employ motivations effectively (e.g., Flavell, 1999). As such, older children who have developed the capacity to employ these mechanisms under conditions with competing motivations should consider this incongruity in their appraisals, whereas younger children will be less able to reliably consider incongruity in their appraisals. Looking at younger and older children separately, reliable effects for older children should be seen depending on whether the endings types (compassionate, equitable, or harsh) are congruent with motivations activated by other parts of the narrative. For younger children, such interactions between the ending types and other parts of the narrative should be unreliable.

Although Zillmann and Bryant (1975) explained their findings in terms of equity considerations (i.e., being determined by the proportionality between a misdeed and its punishment), they touch upon the idea of competing motivations in their discussion. They

suggest that older children felt “pity” for the bad prince when he was harshly retributed, and this overly harsh punishment led older children to like the story less, and dislike the bad character less. Thus, pity (related to what MFT might discuss as *care*) was in conflict with a desire for retribution in the older children, which disturbed their enjoyment of the story. The current paper provides a more detailed understanding of the age differences responsible for these appraisals by (a) explicating the cognitive processes that characterize developmental differences in narrative appraisals, (b) integrating newer understandings of age-related differences in cognitive control with developments in research on the foundations of basal morality, and (c) testing whether these understandings can predict the appeal of conflicted and nonconflicted narratives for audiences of different age groups. The proposed study thus investigates an understudied area in entertainment theory by examining how development impacts narrative appeal. If supported, these findings should have implications not only for explicating the psychological mechanisms responsible for the findings of Zillmann and Bryant’s (1975) study, but also for understanding how cognitive development impacts children’s moral judgment and the appeal of narratives. In particular, this includes the diminished ability of young children to process conflicting motivations in narrative appraisals, the manner in which salient motivations dominate young children’s appraisals of moral conflict in narratives, and the role of developments in the deliberative system for narrative appraisals.

Testing Whether the NEAR Accounts for Retribution Preferences

Zillmann and others (Zillmann & Bryant, 1975; Raney & Bryant, 2002) explained their findings in terms of cognitive-developmental stage differences. These researchers suggested that younger children are in a stage characterized by preferences for inequitable and expiatory

retribution, whereas older children have reached the stage of equitable retribution because they can better weigh the proportionality between a misdeed and its respective punishment. According to the NEAR, however, all moral judgments stem from a set of evolved, intuitive domains of social approbation and disapprobation. Narrative appeal is thus dependent on satisfying dominantly salient motivations related to these moral domains, and age-based differences in moral judgment are due to the development of cognitive abilities that allow children to effectively apply these motivations. Regardless of how proportional a punishment is to some misdeed, salient motivations (in this case, moral intuitions) should govern judgment and appraisal.

As stated earlier, Zillmann and Bryant (1975) suggested that younger children's judgments of a misdeed's severity depended on the level of punishment for the misdeed (due to the perception of natural/authoritarian rules) rather than the severity of the act itself. The rationale used here reaches the same conclusion based on different logic. It begins by suggesting that younger children's diminished ability to reliably weigh incongruity between multiple conflicting motivations leads them to use the severity of a punishment at a story's ending as a heuristic to gauge the severity of the misdeed and how much retribution the misdeed deserves. Moreover, harsher punishments provide more concrete and emotional exemplars, and their temporal location at the end of the story provides recency and causes a motivation for retribution to be the primary driver of younger children's appraisals. As such, the harsher the punishment, the more likely retribution will be singularly salient in younger children since they cannot weigh incongruity between motivations in their response. The provocation scene may make the motivation for retribution salient, but the story ending will be most

important in determining the salience of retribution needs for younger children. Because this appraisal process is primarily driven by a single motivation activated by heuristic cues, other motivations related to care and compassion for the antagonist (which may disturb enjoyment of a harsh response to provocation, or enhance enjoyment of compassionate response to provocation in older children) did not impact younger children's appraisals. This is why younger children's enjoyment should increase linearly with the severity of the response. By contrast, older children's deliberative systems were able to more reliably consider congruity between multiple motivations. Their appraisals of compassionate and harsh responses were influenced by motivations for both care and for retribution due to developments in the deliberative system allowing them to consider congruity between multiple motivations in their appraisals.

One way to test the NEAR's explanation is to vary the salience of these competing moral intuitions by manipulating the narrative stimulus used by Zillmann and Bryant (1975). Measuring the affective dispositions toward the story's protagonist and antagonist in addition to measuring enjoyment of the story's ending after such a manipulation should show a pattern in which younger children's judgments do not reliably take into account incongruity between motivations in their appraisals, even if competing motivations have been activated through priming. By contrast, the pattern of responses for older children will more reliably emerge from the more complex combination of motivational salience and valenced actions in the narrative associated with satisfying and violating moral intuitions in the three ending-type conditions (compassionate, equitable, and harsh). For example, according to the NEAR, increasing the salience of moral intuitions (without regard to Piaget's notion of equity) should lead to shifts in older children's character dispositions as well as preferences for compassionate, equitable, and

harsh endings based on congruity between intuition salience and ending type. However, a manipulation like this should not interact with younger children's appraisals of either the character or the story ending. The study proposed here will manipulate Zillmann and Bryant's narrative stimulus in order to test this idea.

The preferential differences expected between younger and older children will be determined by whether they reliably weigh incongruity between moral intuitions in their appraisal. Since younger children are less able to weigh this incongruity, their appraisals are expected to be less affected by the presence of multiple conflicting moral intuitions. In other words, regardless of whether a secondary moral intuition was activated through priming, younger children's appraisals will be less affected by an interaction between the salience of particular motivations and whether they are satisfied/violated in the story ending. For example, younger children's appraisals of the story resolution should be less affected by a care prime that comes early in the story than it is by a retribution prime closer to the end of the story whose salience benefits from a recency effect. Regardless of whether a care prime exists, younger children's appraisals will rely primarily on the recently activated motivation for retribution without reliably considering its incongruity with the care prime. NEAR logic suggests that no reliable response-time differences will be detected between congruent and incongruent stimulus conditions for younger children.

Unlike younger children, older children will be able to reliably adapt their response when conflict occurs. When two or more moral intuitions are activated and one of them is violated or left unsatisfied, older children will deliberatively appraise the narrative. By contrast, if all activated moral intuitions are satisfied (or at least not violated) the narrative will be

intuitively appraised. Intuitive (faster) versus deliberative (slower) appraisals will be reflected in response times of older children.

If the logic used here is correct, two of the story ending types in the study by Zillmann and Bryant (compassionate and harsh response) should create conflict and lead to longer response times for older children regardless of whether care is primed. As mentioned above, the older child's ability to process multiple motivations will result in the salience of care conflicting with the salience of retribution, and this incongruity will shape appraisal. For the harsh ending, conflict comes from the violation of care during the act of satisfying retribution needs. For the compassionate ending, conflict comes from the compassion shown to the antagonist (satisfying care) at the cost of leaving retribution needs unsatisfied. By comparison, there is no conflict in equitable retribution, when care is simply not violated while retribution is satisfied. Older children will always consider care's violation and satisfaction in their response. The act of compassionate or harsh punishment itself will make care salient in older children. For younger children, this effect of incongruity on response times will be less reliable, and will therefore not be observed.

H1: The tendency for response times to be slower when motivations are in conflict (i.e., the compassionate or harsh endings) than when motivations are not in conflict (i.e., the equitable ending) will be greater for older children than younger children.

As mentioned above, older children's considerations of incongruity between multiple motivations will impact their enjoyment, whereas incongruity will not have a reliable impact on younger children's enjoyment. The same is true for older and younger children's dispositions toward the protagonist. Since the three ending types vary by the severity with which the

protagonist retaliates (and thus by the manner in which he violates and satisfies moral intuitions), dispositions toward the protagonist should mirror enjoyment of the ending types. For younger children, the single influence of the story ending creates a linear pattern in which enjoyment and protagonist disposition increase with the severity of response. These predictions are represented in the left half of Table 1. For older children, the influence of both care and retribution leads to varying conditions in which competing motivations are simultaneously violated and/or satisfied, and a more complex pattern of resultant narrative enjoyment and protagonist dispositions should emerge.

For older children, valenced actions of the protagonist related to retribution and care motivations (i.e., those that satisfy, leave unsatisfied, violate, or avoid violation) can influence narrative enjoyment. When these valenced actions are incongruent, deliberation is used to weigh the incongruity so that it may impact appraisals. Both enjoyment and protagonist dispositions are positively influenced by protagonist actions that satisfy care and/or retribution motivations and by actions that fail to violate these motivations. Actions that satisfy these motivations have a stronger positive influence than those that simply fail to violate. By contrast, enjoyment and dispositions toward the protagonist are negatively influenced by actions that violate care and/or retribution motivations and actions that leave these motivations unsatisfied. Violating these motivations has a stronger negative influence than simply leaving them unsatisfied.

Narrative features that strengthen or weaken the salience of one motivation (care or retribution) should affect the influence of care or retribution motivations in responding to valenced actions related to these motivations on narrative enjoyment and protagonist

disposition. The relative influence of retribution on appraisals can be increased in more than one way by narrative features. For example, in a story that features crime and punishment, such as the narrative stimulus used by Zillmann and Bryant, the relative salience of retribution is increased by the mere absence of a care prime. The relative influence of retribution can also be increased by "equitable punishment," since not violating care will have less of an effect on enjoyment than the satisfaction of retribution. Similarly, there is more than one way to increase the relative influence of care on appraisals. As suggested in our example, a care prime placed early in the story should increase the salience of care, and thus the relative influence of the care motivations on narrative appraisals and protagonist disposition. Moreover, the influence of care can also be affected by the severity of the punishment in the story ending. The influence of care relative to retribution can be increased both by an overly harsh response (that violates care) and by a compassionate response. An overly harsh response that violates care can strengthen care's negative affect on enjoyment. By contrast, a compassionate response that satisfies care motivations can strengthen care's positive affect on enjoyment. By combining the above factors affecting the relative influence of retribution and care, we can make specific predictions about conditions in which competing motivations are simultaneously violated and/or satisfied, and the complex pattern of resultant enjoyment and protagonist dispositions expected for older children. Each of the following predictions is represented in the right half of Table 1.

First, enjoyment and protagonist dispositions should be highest or most positive when care is primed and response to provocation is equitable. Under these conditions, enjoyment and positive disposition are heightened not only by the positive affect resulting from

satisfaction of retribution motivations, but also by positive affect associated with the fact that care was not violated by the actions satisfying retribution. Moreover, the strength of the positive influence of care is increased by the care prime in this condition. The next highest enjoyment and next most positive protagonist dispositions are expected when the response to provocation is equitable, and care is not primed. Once again, under these conditions, enjoyment and protagonist dispositions are heightened by the positive affect resulting from satisfaction of retribution. Moreover, positive affect is again expected from the fact that care was not violated by the actions satisfying retribution during equitable response. Yet the positive affect from care should be less than it was in the previous condition when care was primed and its relative influence higher than in this condition. Next, a moderate level of enjoyment and less positive protagonist dispositions are expected when the response to provocation is compassionate, and care is primed. Under these conditions, enjoyment and disposition are decreased by the negative affect resulting from leaving retribution unsatisfied. Yet, the strength of the positive influence of satisfying care is increased by the care prime, which should increase positive affect resulting from satisfying care and diminish the relative influence on enjoyment of leaving retribution unsatisfied. A similarly moderate level of enjoyment and less positive protagonist dispositions are expected when the response to provocation is harsh, and care is not primed. Under these conditions, enjoyment and disposition is decreased by the negative affect resulting from the violation of care. Yet, since care was not primed, the positive influence of satisfying retribution on enjoyment will increase, and diminish the relative influence of violating care. Low levels of enjoyment and negative protagonist dispositions are expected when the response to provocation is harsh, and care is primed. Under these conditions,

enjoyment and disposition are again decreased by the negative affect resulting from the violation of care. And since care was primed, the relative influence of violating care on enjoyment and disposition is increased thus leading to less enjoyment and more negative dispositions toward the protagonist than in the previous condition. A similarly low level of enjoyment and negative protagonist dispositions are expected when the response to provocation is compassionate, and care is not primed. Under these conditions, enjoyment and protagonist dispositions are decreased by the negative affect resulting from leaving retribution unsatisfied. And the strength of the positive influence of satisfying care in this condition is decreased by the absence of a care prime, which should decrease the positive affect resulting from satisfying care and increase the relative influence on enjoyment and disposition of leaving retribution unsatisfied.

The effect on enjoyment and protagonist disposition resulting from the combination of ending type and the prime condition will be moderated by age such that:

H2: For younger children, enjoyment will increase with the severity of the response regardless of whether care is primed.

H3: For younger children, protagonist dispositions will increase with the severity of the response regardless of whether care is primed.

H4: For older children, the following pattern of enjoyment will emerge: enjoyment will be (a) highest when response is equitable and care is primed, (b) second highest when response is equitable and care is not primed, (c) third highest in conditions when care is primed during compassionate response and when care is not primed during the harsh response, (d) and lowest in conditions when care is not primed during the

compassionate response and when care is primed during the harsh response.

H5: For older children, the following pattern of protagonist dispositions will emerge mirroring the pattern for enjoyment in the previous hypothesis: positive dispositions toward the protagonist will be (a) highest when response is equitable and care is primed, (b) second highest when response is equitable and care is not primed, (c) third highest in conditions when care is primed during compassionate response and when care is not primed during the harsh response, (d) and lowest in conditions when care is not primed during the compassionate response and when care is primed during the harsh response.

Table 1

Predictions for enjoyment and protagonist disposition (low, medium, high, higher) for younger children (left) versus older children (right)

	Younger children Response Level			Older children Response Level		
	Compassion	Equitable	Harsh	Compassion	Equitable	Harsh
Care prime	low	medium	high	medium	higher	low
Fairness prime	low	medium	high	low	high	medium

Hypotheses 2 through 5 make specific predictions regarding all combinations of the care prime condition and ending-type manipulations. Notably, although testing the full model is an important goal in this study, the central purpose of this study was to examine Zillmann and Bryant's (1975) findings in terms of the influence of competing moral intuitions on children's enjoyment rather than explaining their preferences with simple equity considerations. In contrast to Zillmann and Bryant's suggestion that older children base their judgments on equity considerations only, the logic used here suggests that congruity between moral intuitions unrelated to equity considerations can drive appeal. The direct test of whether congruity between moral intuitions affect appeal can be observed in a simpler test of the interaction

between the prime condition and ending type for older children. The NEAR logic used here would predict a non-symmetrical interaction in which older children will (a) like the compassionate ending more, (b) like the equitable ending more, and (c) like the harsh ending less when care is primed than when care is not primed. Again, dispositions toward the protagonist should mirror this pattern.

The pattern predicted in this interaction replicates the predictions and findings of Zillmann and Bryant (1975) when care is not primed. With regard to the patterns predicted for when care is primed, findings should show that the compassionate and equitable ending conditions parallel the pattern for the fairness prime condition but are more positive due to the increased influence of care on appraisals. A more critical test for the NEAR is the prediction for enjoyment of harsh response when care is primed versus when care is not primed. Logic consistent with the NEAR predicts that enjoyment of harsh response will be lower when care is primed than when it is not primed. If the interaction of the care prime and provocation response produces this pattern, this would be consistent with the rationale that the older children's reactions to narratives are dependent on the development of the deliberative system and its ability to simultaneously consider the violation and satisfaction of competing moral intuitions.

H6: For older children, the interaction between the prime condition and ending type will influence enjoyment such that enjoyment will (a) increase for the compassionate response, (b) increase for the equitable response, and (d) decrease for the harsh response when care is primed compared to when it is not primed.

H7: For older children, the interaction between the prime condition and the ending type

will influence protagonist disposition such that dispositions will (a) increase for the compassionate response, (b) increase for the equitable response, and (d) decrease for the harsh response when care is primed compared to when it is not primed.

NEAR logic outlined above makes predictions for protagonist disposition that mirror the narrative enjoyment associated with the combined influence of the prime condition and ending-type variable. Protagonist disposition and narrative enjoyment are expected to be the same because both are driven by the protagonist's behavior (which violates and satisfies care or retribution differently depending on the stimulus condition). Logic associated with the combined influence of the prime condition and punishment level in the three ending types can also be used to make predictions about dispositions toward the antagonist. This logic can be seen by considering the pattern of findings for dispositions toward the antagonist in Zillmann and Bryant's (1975) original study. In their study, older children's dispositions toward the antagonist were more positive for the harsh ending, and more negative for the compassionate ending. Zillmann and Bryant (1975) suggested that "pity" made older children dislike the antagonist less when he was harshly retributed, and that "resentment" made older children dislike the antagonist more when the response was compassionate. This is consistent with the notion that care motivations were salient and increased positive dispositions toward the antagonist when he was harshly retributed, and that retribution motivations were salient and decreased positive dispositions toward the antagonist when the response was compassionate. By contrast, younger children's dispositions toward the antagonist seemed to become more negative when the provocation response was harsh. Although this pattern was not significant, this is not surprising given that Zillmann and Bryant's (1975) sample consisted of only 10

participants per condition, which severely limited statistical power. Despite this insignificance, it is notable that the pattern observed was consistent with the claim that younger children are less able to make judgments that reflect multiple incongruent motivational concerns. Therefore, we expect to find a similar pattern here for younger children, regardless of whether care is primed. Once again, however, the pattern for older children will be more complex.

For older children, NEAR logic can be used to make specific predictions about the manner in which the prime condition and ending type combine to influence antagonist disposition. Antagonist dispositions should be most positive when care is primed and response level is harsh. Under these conditions, the relative influence of care is strengthened not only by the prime, but also by the pity resulting from the violation of care. Although the provocation scene should have a negative effect on antagonist dispositions, no additional resentment should be fostered toward the antagonist since retribution is ultimately satisfied. This should lead to more positive dispositions toward the antagonist. Since the care intuition should be more influential in children's appraisals of this character due to the prime, pity for the antagonist will also have its strongest positive effect on disposition in this condition. The second most positive antagonist dispositions should occur when care is not primed and in the harsh ending. Under these conditions, the relative influence of care is strengthened only by the violation of care in the story ending. Although the initial provocation scene should have a negative effect on antagonist dispositions, no resentment should be fostered toward the antagonist since retribution is ultimately satisfied. However, since care was not primed as it was in the above condition, the positive effect of pity on antagonist disposition will not be as high. More negative antagonist dispositions are expected when provocation response is equitable

and care is primed. Under these conditions, not only should the provocation scene have a negative effect, but care is not violated and thus should not evoke pity for the antagonist. Since care is primed, though, its stronger salience should decrease the relative influence of retribution motivations evoked during the initial provocation scene. This should lead to a less negative disposition. Slightly more negative antagonist dispositions are expected when provocation response is equitable and care is not primed. Once again, under these conditions, the provocation scene should have a negative effect, and since care is not violated it should not evoke pity for the antagonist. Yet in contrast to the previous condition, since care is not primed, its salience should not decrease the relative influence of retribution motivations evoked during the initial provocation scene. This should lead to a slightly more negative disposition. Even more negative antagonist dispositions are expected when the provocation response level is compassionate and care is primed. Once again, the initial provocation scene should have a negative effect. Yet in this case, leaving retribution unsatisfied should foster additional resentment toward the antagonist. Finally, although additional resentment is added in this condition, the presence of the care prime should slightly reduce this resentment, because care has been made salient and been satisfied in this condition. The most negative antagonist dispositions are expected when provocation response is compassionate and care is not primed. Once again, the initial provocation scene should have a negative effect, and leaving retribution unsatisfied should foster additional resentment toward the antagonist. The fostering of resentment toward the antagonist should not be hampered because the care prime is absent in this condition.

The effect on antagonist disposition resulting from the combination of provocation-

response level and care salience will be moderated by age such that:

H8: For younger children, no reliable interaction between prime condition and ending type is expected to impact appraisals of the antagonist.

H9: For older children, the following pattern of antagonist dispositions will emerge: Antagonist dispositions will be (a) most positive when response is harsh and care is primed, (b) second most positive when response is harsh and care is not primed, (c) third most positive when response is equitable and care is primed, (d) fourth most positive when response is equitable and care is not primed, (d) fifth most positive when response is compassionate and care is primed, and (e) least positive when response is compassionate and care is not primed.

Incongruity between Retribution and Purity: Contrasting the NEAR and Piaget

In addition to testing the NEAR's logic that moral intuitions related to care and retribution can affect narrative enjoyment, the current study will provide an additional test of the claim that Zillmann and Bryant's (1975) findings can be explained in terms of developments in the deliberative system, and its ability to reliably weigh incongruity. This test attempts to show that manipulating features of the narrative unrelated to equity will cause older children to respond in a manner similar to the younger children in Zillmann and Bryant's (1975) study. That is, by violating moral intuitions unrelated to Piaget's notion of equity (i.e., purity), older children are more likely to enjoy harsh punishment compared to the punishment levels in the equitable or compassionate endings. This might suggest the NEAR's ability to explain patterns unexplained by Piaget's logic that equity considerations alone define developmental differences in moral judgment.

Though Piaget's understanding of moral development as equity considerations seems capable of explaining Zillmann and Bryant's (1975) findings, it seems incapable of explaining why older children would enjoy harsh responses to provocation when intuitions unrelated to equity have been violated. That is, when the severity of the retaliation remained constant (with relation to its proportionality to the antagonist's misdeeds) and only disgust (MFT's purity intuition) has been evoked. Logic from the NEAR regarding the role of competing moral intuitions in determining response would, however, be capable of explaining (a) the pattern of enjoyment for older children in Zillmann and Bryant's (1975) original study, (b) the pattern of enjoyment expected to result from the priming of care discussed in paragraphs above, as well as (c) the pattern of enjoyment expected to result from the violation of purity discussed here.

This study here will ask participants to consider an alternative depiction of the antagonist in which his physical characteristics are animalistic (an anthropomorphized hairy boar). By representing the antagonist with animalistic features, the induction is intended to violate moral intuitions related to purity. These expectations are based on Haidt and Graham's (2007) conceptualization of purity. They define purity as based on the psychology of disgust, leading to a form of nobility which separates humans from more carnal lower life forms. As such, the alternative depiction is expected to elicit disgust and violate purity intuitions. According to Piaget's logic, these intuitions fall outside of the domain of equity considerations (cf. Gabennesch, 1990; Leman, 2001). For older children, the strong violation of purity will decrease the relative salience and influence of care considerations while increasing the motivation for retribution to the point where care considerations become less relevant. As such, the relative influence of retribution will increase to the point where it is responsible for

determining the affective response to the story ending. In this situation, for older children, positive affect stemming from the satisfaction of retribution will increase linearly with the severity of the provocation response as it did for younger children in the study by Zillmann and Bryant (1975). This is due to the expectation that older children will reliably take the congruity between the ending type and the animalistic depiction into account in their appraisal. Since the animal depiction represents a purity violation, harsher punishment will be enjoyed more than less harsh punishment for older children. Specifically, the animalistic depiction of the antagonist should increase older children's enjoyment of the harsh response, decrease enjoyment of the equitable response, and decrease enjoyment of the compassionate response compared to initial judgments of the antagonist based on the human depiction.

For younger children, the logic for Hypothesis 2 stated that the severity of the punishment for the antagonist determined younger children's enjoyment of the narrative. After being asked to consider the alternative depiction of the antagonist and then asked about their liking of the severity of the response, it is expected that younger children will not reliably weigh the congruity of the depiction with the ending type. Thus, whereas older children's responses will be reliably shaped by the interaction between ending type and the animal depiction, younger children's evaluations of the antagonist and the story outcome should not show a reliable interaction as a result of the animalistic depiction.

The above logic holds that the effect on enjoyment resulting from the alternative depiction of the antagonist will be moderated by age such that:

H10: The tendency for enjoyment to decrease when retribution is in conflict with a purity violation (i.e., the compassionate or equitable ending is combined with the

animal depiction) than when retribution is not in conflict with a purity violation (i.e., the harsh ending is combined with the animal depiction) will be greater for older children than younger children.

Hypotheses 8 and 10 are made based on logic suggesting that the decreased salience of care resulting from the animalistic depiction of the antagonist will increase the influence of retribution motivations on narrative enjoyment for older children. When considering how the animalistic depiction of the antagonist should influence dispositions toward the characters, the same influence processes are expected to govern dispositions toward the protagonist. For dispositions toward the protagonist, the above logic concerning the decreased salience of care leads to the following predictions:

H11: Older children's dispositions toward the protagonist following the human versus animalistic depiction of the antagonist will produce the following pattern: Compared to when the antagonist is animalistic, dispositions toward the protagonist will be more positive after harsh response and less positive after an equitable or compassionate response than when the antagonist is depicted as a human.

When considering how the animalistic depiction of the antagonist should influence dispositions toward the antagonist, the violation of purity is expected to govern dispositional appraisals for older children, but this effect will not be reliable for younger children. Younger children's dispositions toward the antagonist are expected to be driven primarily by the motivation that is made most salient to them prior to measuring disposition. Regardless of whether the antagonist is depicted as an animal or a human, retribution level will be made most salient to younger children by the act of asking them how much they liked the

provocation response (i.e., the retributive treatment of the antagonist) immediately prior to obtaining the child's evaluation of the antagonist. Their inability to reliably consider incongruity between multiple motivations will prevent the animalistic depiction of the antagonist from having any effect on their dispositions toward him, as the ending type will be the dominantly salient cue driving younger children's response. The ending type thus primarily determines younger children's appraisal reactions. Older children's dispositions toward the antagonist will be influenced by similar motivations both when the antagonist is depicted as an animal or a human with one exception: The violation of purity and/or ingroup motivations will differ as a function of the antagonist depiction. Since the animal depiction of the antagonist violates motivations for purity, dispositions will be more negative when the antagonist is depicted as an animal as opposed to a human. As such, older children's dispositions toward the antagonist will be lower in all conditions in which the antagonist is depicted as an animal versus a human. The above logic holds that the effect on dispositions toward the antagonist resulting from the alternative depiction of the antagonist will be moderated by age such that:

> H12: The effect of violating the purity intuition on positive dispositions toward the antagonist will be moderated by age group, such that the tendency for positive dispositions toward the antagonist to decrease when purity is violated (i.e., when the antagonist is depicted in animalistic form) than when purity is not violated (i.e., when antagonist is depicted in human form) will be greater for older children than younger children.

METHOD

Participants

Children ages 4 through 10 were recruited for participation in a "story enjoyment study." A total of 316 children took part in an experiment for the study. Out of these, 11 participants failed to respond to the primary dependent measures, leaving a total of $N = 305$ ($n_{younger} = 131$, $n_{older} = 174$). The average age of the participants was 6.97 ($SD = 1.79$). In terms of gender, 50.8% of participants were male. In terms of ethnicity, 60% were coded as white/Caucasian, 30% black/African American, 4% Asian, and 3% Hispanic/Latino. The ethnicity of the remaining 3% was undetermined. Based on previous studies examining mental maturity as defined by Piaget and Kohlberg, (Eisenberg, 1986; Kohlberg, 1984; Krcmar & Cooke, 2001; Zillmann & Bryant, 1975), the cutoff age used to split children into younger versus older groups was 7 years. Children aged less than 7 years were considered younger, whereas children aged 7 years or greater were considered older. Table 4 (see page 47 in the results section) provides the number of subjects broken down by age group and stimulus condition.

Recruitment and location of study. Participants were recruited from Lansing, Michigan-area preschools, elementary schools, after-school care programs, and a youth-oriented science museum. Recruitment and experiment took place at these locations. Parents were solicited for consent during the end of the day at preschools, at after-school care hours at elementary schools, or upon entry to the science museum. In addition to parental consent, child assent was asked at the time of data collection. The institution's human subjects review board approved all experimental procedures. In addition, all participants were treated in accord with the American Psychological Association's ethical principles (2002).

Stimuli

As the original stimulus materials from Zillmann and Bryant's (1975) study were no longer available, the current stimuli were created using the description provided in the original article as well as communications with the second author of the original study (J. Bryant, personal communication, December 12, 2011 - April 28, 2012). The narrative stimulus used in the current study followed the sequence of events in Zillmann and Bryant's (1975) original narrative stimulus, including a replication of the manipulation of the story ending. Moreover, in order to extend the original study, the current study added an induction designed to prime the relative salience of the care and fairness intuitions (see Appendix for a script and illustrations used in the current study).

The story depicted the maturation of two princes, a bad prince who provoked his the good prince, who later retaliated. The stimulus consisted of a video slideshow of illustrations and an unseen female narrator who described the story. The illustrations began with a map of the Kingdom of Grenada along with visual depictions of the two young princes growing up together. Images also showed a dark, forested area with dead, leafless trees in the north of the kingdom, and a pleasant, grassy area surrounding the castle in the south of the kingdom. The narrator gave the name of the kingdom (Grenada), and contrasted the undesirable scary area in the north with the pleasant area surrounding the castle in the south. The narrator also introduced the two young princes and described their maturation into adults. In images that depicted the princes growing up, Andrew (the good prince) was usually smiling and benevolent whereas Anthony (the bad prince) usually had an angry scowl or negative facial expression. When the two princes grew into adults, the bad prince enacted a plot to take the good prince's

half of the kingdom so that he could rule the entire kingdom alone. Following verbatim the text of the provocation scene reported Zillmann and Bryant (1975, p. 575) the narrator said:

> "You, my favored brother," spoke Anthony bitterly, "are never going to see the inside of the castle again. I have hated you long and hard, and now I am going to treat you like I have always wanted to. No more are you to be a prince, and you shall never be king of the people of Grenada. You will live your life on stale bread and warm water, in the dark dungeon in the northern swamps, where you may rule a kingdom of rats! And I, I alone, will rule the kingdom of Grenada."
>
> Andrew realized that the guards were also disloyal since they were cooperating with Prince Anthony. Prince Andrew knew that he was powerless.
>
> "Anthony, please!" spoke Andrew bravely. "I have never done you any harm. I only want to share the kingdom with you as our mother wished."
>
> Anthony ignored his brother's plea. Turning to the disloyal guards, Anthony commanded, "Now! Take him to the dungeon so that I may never see him again. I am the king!"

After the provocation scene, images depicted the good prince, Andrew, in the dungeon. Some of Andrew's loyal guards quickly arrived and there was a turnabout in action when Andrew was depicted escaping from the prison in a victorious manner. When Andrew made it to the area around the castle, he announced the manner in which he planned to respond to the bad prince's provocation. At this point, Zillmann and Bryant's (1975, p. 575) manipulation of story ending began, and one of the three provocation-response conditions followed.

Compassionate response. In this condition, the good prince was shown with open, outstretched arms and a smiling face toward his brother Anthony. The dialogue was as follows:

> "Release them all!" he said to his surprised loyal guards. "You are free, my brother. Do not worry. I will do all of the work outside of the castle, and you can remain inside with the royal court. But we shall continue to rule as planned; one ruling the East and one the West, dividing equally the swamp land to the North and rich land to the South. And, Anthony, you may choose which half you prefer. East or West. Now, let us be about the business of ruling."

Equitable response. In this condition, the good prince was shown with a rather neutral expression and a faint frown. The dialogue was as follows:

> "Send the traitors from the castle!" demanded Andrew. "No more shall these disloyal guards stay in our midst. Let them live in the villages, if the villagers will have them as neighbors. And as for you, Brother Anthony, you are forever banned to the swamps in the northern part of Granada, where you may rule as you see fit. However, if you are ever seen in the South or within the castle walls again, you will spend the rest of your life in the same dungeon that you chose as my home, living on bread and ruling only rats!"

Harsh response. In this condition, the good prince had his arms folded and a scowl on his face. The dialogue was as follows:

> "Bind them all!" He said to his loyal guards. "Drive the traitors like cattle throughout all the villages of the kingdom so that everyone may see their shame. And as for you, Brother Anthony, you who wanted me to rule only rats will rule nothing at all. You who

want all of Granada shall have none of it. Brand him as a traitor!" he ordered the guards. "And drive him out of the kingdom. Wicked Anthony, you are never to set foot in Granada again or you will surely die. Rather you will spend your entire life as an outcast, a man who will never have enough clothes on his back, enough food in his stomach, or roof over his head …. A man without a home. Take him away!" said Prince Andrew "I must see about the business of my kingdom."

Prime conditions. In addition to recreating the original stimuli used by Zillmann and Bryant (1975), there was an additional manipulation intended to prime motivations related to care and fairness. To accomplish this, both audio and visual portions of the narrative were manipulated. The original sequence of events was changed such that during the time when the princes are maturing from children to adults, their mother (the queen) gave them advice either to be caring and gentle (in order to increase the relative salience of care), or to be fair and just (in order to increase the relative salience of fairness). This induction was achieved by manipulating the narration. For the care-prime condition the narration was as follows:

But he knew that he shouldn't just hurt his brother back though. He knew that a good prince was gentle and kind, even when somebody else was mean. When everyone found out about the good prince's noble behavior, even when his brother had been mean to him, they fell in love with the good prince. His brother felt so terrible about his own bad behavior that he never made any trouble for the good prince ever again. Eventually, the good prince became known as the best king to ever rule the land of Grenada.

(… pause …)

The queen told the prince brother's a lesson about kindness to remember from the story. "Always be forgiving when somebody wrongs you," said the queen. "It's never right for a good king to hurt anybody even if they were mean." The queen wanted the prince brothers to know that a good king does not punish anyone by hurting them.

For the fairness-prime condition the narration was as follows:

He knew that his brother should be punished for this behavior. He knew that a good prince is supposed to play by the rules. When everyone found out about what happened in the race, they punished his brother fairly and fell in love with the good prince, who obeyed the rules. His brother felt so terrible about his bad behavior that he never made any trouble for the good prince ever again. Eventually, the good prince became known as the best king to ever rule the land of Grenada.

(… pause …)

The queen told the prince brothers a lesson about fairness to remember from the story. "Always punish fairly when somebody does something wrong," said the queen. "It's important that a good king be fair with everyone." The queen wanted the prince brothers to know that a good king is fair and just.

Design

The study used a 3 X 2 X 2 X 2 mixed design that varied level of punishment in the three ending types (compassionate, equitable, harsh), the prime condition (care versus fairness), age group (younger, older), and depiction of the bad prince (human or animalistic). Ending type, prime condition, and age group are between-subjects factors whereas antagonist depiction is a within-subjects factor.

Procedure

Informed consent from parents was obtained prior to data collection. At the time of data collection, the female experimenter led the child to a room or unused hallway after he or she granted assent (see child assent script and full interview protocol in Appendix). The experimenters had two main purposes: (a) To guide the child through the stimulus-presentation software, which contained recorded audio instructions, and (b) to conduct the open-ended interview questions discussed below. Each experimenter had been trained by viewing videos of the pilot study and by running practice sessions together using the stimulus-presentation software. The child was seated in front of a monitor and keyboard labeled with the hedonic face graphic scale (see dependent measures below). The experimenter explained that the child would be watching some cartoons and stories and that she would like to know how much the child liked the stories. After answering any potential clarification questions, the experimenter played a short segment of a nonaggressive cartoon. After the video, the experimenter asked the participant about his or her enjoyment of the story and liking of the characters in a verbal, open-ended fashion. This protocol replicated Zillmann and Bryant's (1975) original protocol with a practice story followed by interview questions. Different from Zillmann and Bryant (1975), however, the current study required the addition of a timed response. Therefore, after the open-ended interview questions had been answered, the experimenter asked the child to rate his or her enjoyment of the story ending as well as his or her liking of the characters on a scale using a timed button-press. This practice was done in order to familiarize the child with the meaning of the interview questions and the button-press task. The appendix contains the recorded audio instructions from the stimulus-presentation software as well as the recorded

interview questions for the scaled responses measuring enjoyment and character appraisals discussed below.

Once the participant seemed familiar with the procedures, the experimenter played one of the six versions of the recreated narrative stimulus, determined by a random procedure. The closed- and open-ended interview questions proceeded as before, except they were reversed such that the timed button press question came first, and the open-ended interview questions came second. This reversal in ordering from the practice to the experiment was done to prevent children from deliberating on their appraisal prematurely (i.e., before the story fully ended). Without this reversal of closed- and open-ended questions, it was observed in pilot testing that a child began to appraise the story prematurely due to an immediate expectation for the button-press task learned in the practice session. Since Zillmann and Bryant (1975) were not interested in response time, their interview questions began directly after exposure to the narrative and did not contain a response time measure. The addition of this button-press task thus deviated from Zillmann and Bryant (1975) by coming before the open-ended questions used in their study. However, this ordering was necessary to ensure that verbal elaboration in response to open-ended interview questions indicating enjoyment would not influence the timed button-press also indicating enjoyment.

Following these procedures, the current study employed a within-subjects manipulation in which children were shown an animalistic depiction of the antagonist and asked to evaluate their liking of the story ending and both of the prince characters on the same timed scale after considering this depiction. The entire procedure was video recorded so that the face of the

child was visible for later coding of facial expression. The video stimulus was out of frame to ensure that coded facial expressions were not biased by coders' knowledge of condition.

Dependent Measures

Response time. Response-time measures were obtained with the closed-ended (scaled) interview questions to indicate whether children appraised the narrative intuitively (fast) or deliberatively (slow). Closed-ended response time was obtained through the use of a keyboard whose buttons were labeled with a 5-point, hedonic face scale (described below and in Appendix). Response time for the closed-ended items was measured using the time taken from the recorded interview question (the stimulus-presentation software used in the study recorded all timing information) and the point at which the child pressed the button corresponding to his or her level of enjoyment (which halted the timer and recorded the time that has passed since the onset of the interview question).

Hedonic-face graphic scale. Children appraised the narrative using a 5-point hedonic-face graphic scale in response to the closed-ended interview questions. Responses to the scale were measured with a timed button press. This scale is commonly used as a sensory evaluation measure for medical or market research, and has been validated for use with children as young as three years (Chambers, Giesbrecht, Craig, Bennett, & Huntsman, 1999; Chen, Resurreccion, & Paguio, 1996; Guinard, 2001). The hedonic face scale is shown in the Appendix.

Interview questions. The interview consisted of both closed-ended questions and open-ended questions. The full interview protocol is described in the Appendix. For closed-ended questions, participants responded with a timed button-press on the hedonic-face

graphic scale (described below). For open-ended questions, participants were able to respond verbally.

Timed appraisal using hedonic-face graphic scale. The first interview question was a closed-ended question intended to measure enjoyment and appraisal response time. This question was recorded to ensure consistency in timing. The question was as follows: "Could you please press one of the faces to tell me how much you liked the end of the story?"

Open ended interview questions. Following this initial closed-ended interview question was a set of open-ended interview questions. The first five of these questions were directly copied from Zillmann and Bryant (1975) whereas questions six through eight were modified to overcome comprehension problems experienced with younger children in their original study. Thus, questions six through eight were pilot tested for comprehension with four year olds before use in this study.

All children were asked to verbally respond to this series of questions by the experimenter. The first three questions measured the children's liking of the overall story. These include: (1) "How did you like the story?" (2) "What did you like most about it?" (3) "Was there anything that you didn't like about it?" (if so …) "What?" The next question measured the children's disposition toward Prince Andrew. The experimenter displayed a picture of Prince Andrew to ensure accurate identification. After placing the illustration out of the child's view, the experimenter asked (4) "How did you like Prince Andrew?" The next three questions measured the children's disposition toward Prince Anthony and the appropriateness of the punishment Prince Anthony experienced at the end of the story. The experimenter displayed a picture of Prince Anthony to ensure accurate identification. After placing the illustration out of

the child's view, the experimenter asked (5) "How did you like Prince Anthony?" (6) "Was Prince Anthony punished too little, just enough, or too much at the end of the story?" (7) "Did he do something wrong?" (if so…) "What did he do that was wrong" (8) "Was there a reason that Prince Anthony shouldn't be punished?" (if so …) "What is a reason that Prince Anthony shouldn't be punished?"

Closed ended interview questions. Following this set of open-ended questions, the experimenter asked a set of closed-ended questions using the timed hedonic face scale. These questions were intended to measure dispositions toward both princes in a scaled, self-report fashion as a complement to the open-ended questions. The experimenter again displayed a picture of the appropriate prince just before asking each of the two questions for accurate identification. After the illustration was out of view, the recorded voice asked: "Could you please press one of the faces to tell me how much you like Prince Andrew?" After the child responded to this question, the experimenter displayed the picture of the antagonist and again put it out of view before asking: "Could you please press one of the faces to tell me how much you like Prince Anthony?"

Follow-up manipulation and interview questions. After the preceding measures were obtained, the experimenter displayed the alternative, animalistic depiction of the bad prince (see Appendix). For accurate identification, the experimenter again displayed the original depiction of the antagonist and asked the participant to think about the story again if Prince Anthony was depicted as the anthropomorphized animal in the alternative illustration. At this point, the same measures using the hedonic face graphic scale were obtained after the recorded voice said "What if this was Prince Anthony? Think about the same story if Prince

Anthony looked like this." (Experimenter displayed the original illustration, then the *alternative* illustration of Prince Anthony for accurate identification.) After the stimulus-presentation software asked the child to think about the story again with this alternative depiction, both illustrations were taken out of the view of the child and the following questions were asked using the hedonic face graphic scale: "Could you please press one of the faces to tell me how much you *would have* liked the end of the story?" After this question, disposition toward both princes was measured on the hedonic face graphic scale by asking "Could you please press one of the faces to tell me how much you *would have* liked Prince Anthony?" And "Could you please press one of the faces to tell me how much you *would have* liked Prince Andrew?"

Facial expressions. The valence, intensity, and duration of facial expressions in response to the narrative stimuli were coded using the protocol from the facial expression coding system (FACES; Kring & Sloan, 1991). FACES is a reliable and valid measure of facial expressive behavior in both adult and child populations as young as three years (Kring & Sloan, 2007; Giesbrecht, 2008). Unfortunately, though, no changes in facial expressions were detected during the critical manipulation of the story ending. Thus, this measure was not used in the analysis.

Demographic Variables

An optional survey with several demographic measures was attached to the consent forms for parents. The first measure asked parents to indicate the number of years/months their child had attended preschool. The number of years/months of preschool attendance has previously been identified as a potentially extraneous variable in moral development and empathy-related research (e.g., Derscheid, 1997; Fernia, Zarit, Blair, Jarrott, & Bruno, 2007). Parents responded to the question by indicating the number of years and months their child

had attended. The second question measured the child's precise age by recording his or her date of birth. The last three questions measured the income, educational level, and marital status of parents. These measures were adopted from the U.S. Census Bureau (2011). All demographic measures can be found in the Appendix. As parents were often pressed for time, this optional survey had an extremely low response rate (< 10%) and was not used in analyses. Demographic information was therefore limited to the child's ethnicity (coded from the video data) as well as his or her recruitment location.

Analysis Plan

The hypotheses presented in the introduction were organized around a logical thread from the NEAR rather than being organized based on different dependent variables of interest. In the current study, two primary dependent variables (i.e., response time and enjoyment) were crucial to testing the NEAR. Of secondary importance were the tests related to the replication of Zillmann and Bryant (1975), as these analyses were intended to help explain findings specific to their study. Thus, rather than presenting results based on the ordering of the hypotheses in the introduction, analyses in the results section below are organized in terms of their relevance to testing NEAR logic versus replicating Zillmann and Bryant. Results below are presented in the following order: (a) Preliminary analyses, showing descriptive statistics and overall relationships, (b) analyses relevant to testing NEAR logic, showing age-based differences for the effects of the ending types, prime conditions, and the animalistic depiction of the bad prince on response time and enjoyment, and (c) analyses related to the replication of Zillmann and Bryant (1975), testing whether the patterns of enjoyment observed for younger versus older children in their study are also observed in the current study. Finally, the results of

analyses examining character appraisals after consideration of the animalistic depiction of the antagonist are presented.

RESULTS

As mentioned above, this section begins with preliminary analyses, follows with analyses central to the NEAR, follows this with analyses related to replicating Zillmann and Bryant's (1975) findings, and concludes with analyses of character appraisals after consideration of the animalistic depiction of the antagonist. In all *t* tests presented below, two-tailed probabilities were used.

Preliminary Analyses

Enjoyment. First, averaged across all stimulus conditions and age groups, enjoyment (rated on a 5-point scale) had a generally positive bias. This positive bias was evidenced by a one-sample *t*-test showing that average enjoyment was significantly above 3, the scale's neutral midpoint, t (303) = 13.14, $p < .01$, Cohen's d = 1.51; M = 3.99, SD = 1.31. No difference between older and younger children was detected, as mean enjoyment ratings for the two groups were the same ($M_{younger}$ = 3.99, $SD_{younger}$ = 1.36; M_{older} = 3.99, SD_{older} = 1.29).

Response time. Before analyzing response-time results, the time taken for the pre-recorded audio item to be presented (i.e., 6000 ms) was subtracted from each response-time score. Although this subtraction of a constant cannot change any observations of statistical differences, it ensures that response times reported here reflect only the time taken to respond after the item was presented, rather than also including the time taken to present the audio item. All analyses reported in the results section reflect response times after this subtraction was made. The mean response time for all participants was M = 2064 ms, SD = 1925 ms.

Independent samples t test revealed no significant difference between younger versus older children for appraisal response time, t (303) = 1.10, p = .27, Cohen's d = .13; $M_{younger}$ = 2203 ms, $SD_{younger}$ = 2010 ms; M_{older} = 1958 ms, SD_{older} = 1856ms.

Character liking. With regard to character liking, an independent samples t test showed that all participants (both younger and older children) tended to like the good prince more than the bad prince, t (304) = 18.49, p < .01, Cohen's d = 1.73; $M_{good\ prince}$ = 4.40, $SD_{good\ prince}$ = 1.04; $M_{bad\ prince}$ = 2.30, $SD_{bad\ prince}$ = 1.37. However, independent samples t tests detected age-based differences for the degree to which the children from the two age groups liked the different princes. Whereas older children tended to like the good prince more than younger children, t (303) = 3.19, p < .05, Cohen's d = .37; $M_{younger}$ = 3.89, $SD_{younger}$ = 1.52; M_{older} = 4.37, SD_{older} = 1.07, they liked the bad prince less than younger children, t (303) = 2.02, p < .05, Cohen's d = -.23; $M_{younger}$ = 2.92, $SD_{younger}$ = 1.69; M_{older} = 2.55, SD_{older} = 1.52

Severity of punishment. Children were asked to indicate whether they perceived Prince Anthony's (the bad prince's) punishment at the end of the story to be "too little" (coded as 1), "just right" (coded as 2), or "too much" (coded as 3). From the interview, 216 participants yielded coded responses for this question (67% younger, 74% older). A one-sample t test revealed that all participants (both younger and older children) tended to judge the endings as containing too much punishment, as the mean for this variable was significantly above 2, the scale's "just right" midpoint, t (215) = 7.38, p < .01, Cohen's d = 1.01; M = 2.38, SD = 0.76.

A 2 (age group) x 3 (ending type) ANOVA showed significant age differences such that that younger children tended to view the punishments as more harsh than the older children, F (1, 210) = 4.79, $p < .05$, $\eta^2 = .02$. Although the main effect of ending type did not reach significance, there was a tendency for punishments to be viewed as more appropriate for the compassionate ending, F (2, 210) = 2.46, $p = .08$, $\eta^2 = .02$. Post hoc tests using Tukey's HSD revealed that the punishment level in the compassionate ending was judged to be more appropriate than the harsh ending, $MD = -.30$, $p < .05$. Only a small, insignificant difference was observed between the compassionate and the equitable endings, $MD = -.21$, $p = .22$ ending. No difference was detected between the equitable and harsh ending in terms of children's judgments of severity, $MD = -.09$, $p = .73$. Figure 1 shows the means for younger versus older children's judgments of punishment severity across the three ending types.

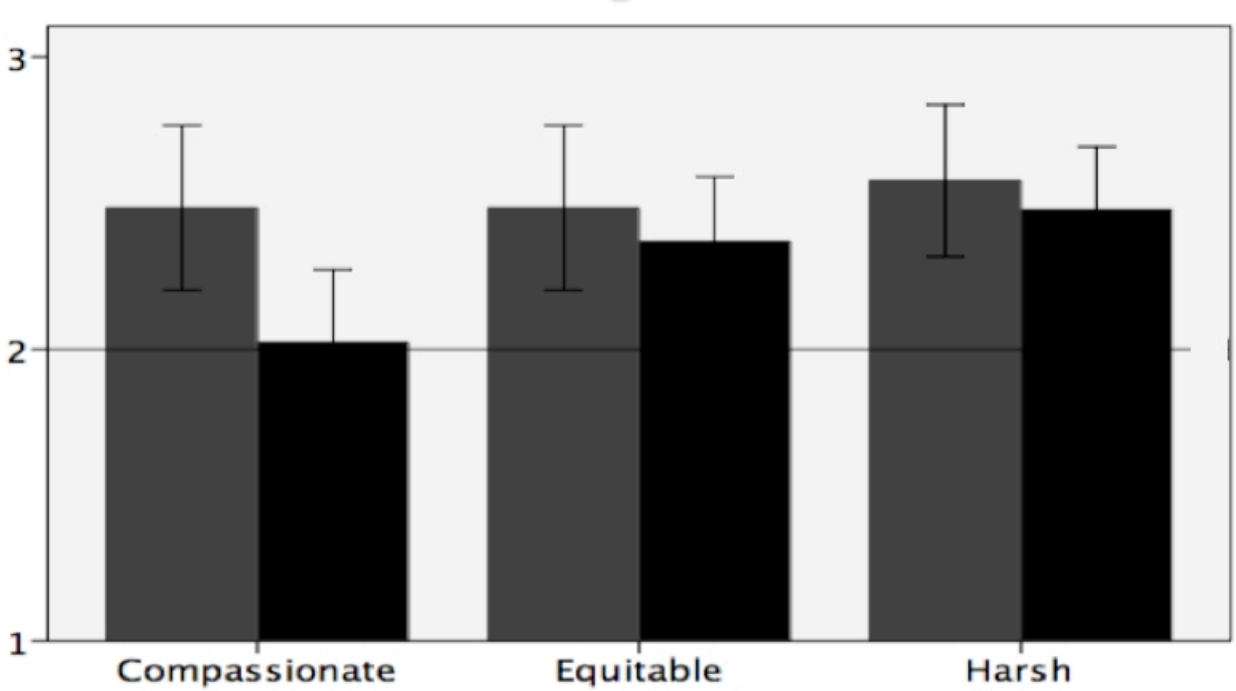

Figure 1. Younger (grey) and older (black) children's judgments of punishment severity across the three ending types. The horizontal reference line represents the "just right" midpoint of the scale. Error bars represent 95% confidence intervals.

Analyses central to the NEAR

Analyses examining the NEAR logic central to this study focused on how response time and enjoyment varied as a function of the manner in which age group moderated response to the ending types, the congruity between the prime condition and ending type, and the congruity between the prime condition and the animalistic depiction of the antagonist.

Response time.

***Effect of ending type*.** H1 predicted a significant two-way interaction between age group (younger, older) and ending type (compassionate, equitable, and harsh) for response time. As expected, the ANOVA yielded a significant interaction between ending type and age group, F (2, 299) = 3.28, $p < .05$, $\eta^2 = .02$, showing that the pattern of response times between the three ending types was different for younger versus older children. This interaction effect was replicated using natural-log transformations of the response-time data, F (2, 299) = 3.15, $p < .05$, $\eta^2 = .02$. The interaction was investigated further by evaluating simple main effects for each separate level of age group. Whereas no effect of ending type was found for younger children, F (2, 299) = 1.56, $p = .21$, $\eta^2 = .02$, a significant simple main effect was found for older children, F (2, 299) = 3.14, $p < .05$, $\eta^2 = .04$. For older children, H1 predicted that they would respond more slowly to the compassionate and harsh endings than to the equitable ending. This expectation was partially supported. The pattern of means (see Table 2) suggests that older children's response times were slower for the harsh ending than for the equitable ending. Taken together, tentative support for H1 comes from the facts that a reliable difference in

response time was detected for older children, that the source of this response time difference was in part consistent with the pattern predicted, and that no reliable difference was detected for younger children's response times.

Table 2
Response times for younger and older children's enjoyment ratings as a function of ending type

Age group	Ending Type	*M*	*SD*
Younger	Compassionate	2081	1861
	Equitable	2591	2371
	Harsh	1899	1674
	Total	**2203**	**2010**
Older	Compassionate	1614	1935
	Equitable	1808	1648
	Harsh	2453	1879
	Total	**1958**	**1856**

***Congruity between prime condition and ending type*.** In order to test for whether age group moderates response times of congruent/incongruent story endings, another variable was created to specify which stimulus conditions were congruent versus incongruent. Responses to the coded interview questions regarding the appropriateness of the three endings were used to recode the prime by ending type conditions into a single variable representing the *congruity/incongruity* of the ending type with the prime condition.[1] In order to determine whether the ending type was congruent or incongruent with the fairness prime, respondent scores on perceived appropriateness were examined in terms of their consistency with the intention of the fairness prime. The appropriateness scores revealed that the punishment level

in the compassionate ending was judged to be most fair (i.e., just the right amount of punishment), while the equitable and harsh endings were judged to be unfair (i.e., too much punishment). Thus, the fairness prime was considered to be perceptually congruent with the compassionate ending (which was judged to be fair), but incongruent with the other two endings (which were judged to be unfair). With regard to the care prime, no measure (neither scaled responses nor open-ended interview questions) gauged perceptions of the upholding of care in the ending. As such, the *congruity/incongruity* of the ending type with the care prime could not be determined using interview responses. However, the three endings were manipulated so that the good prince upheld care in the compassionate and equitable endings, and violated care in the harsh ending. Thus, the care prime was considered to be congruent with the compassionate and equitable endings (in which the good prince upheld care), but incongruent with the harsh ending (in which the good prince violated care). Based on this logic, a new variable ("congruity") was created such that all conditions in which the prime was congruent with the ending was coded as 2, whereas all conditions in which the prime was incongruent was coded as 1 (see Table 3). Responses for the congruent conditions were expected to be faster than responses to the incongruent conditions for older children, but no reliable effect of congruity is expected for younger children.

Table 3
Congruity (2) or incongruity (1) between prime condition and ending type

	Ending type		
Prime condition	Compassionate	Equitable	Harsh
Care	2	2	1
Fairness	2	1	1

In this way, NEAR logic predicts an interaction between age group and congruity on response time, such that older children's response times are slower for incongruent stimuli

than for congruent stimuli, whereas younger children's response times are unaffected by congruity. As NEAR logic suggests, a significant interaction between age group and congruity was detected, F (1, 301) = 5.00, $p < .05$, $\eta^2 = .02$. Further examination of the interaction using simple effects tests for younger versus older children separately show a significant effect of incongruity for older children, F (1, 301) = 9.20, $p < .01$, Cohen's $d = .49$, but not for younger children, F (1, 301) = .11, $p = .90$, Cohen's $d = .05$. The mean difference for older children was, MD = 877 ms. The mean difference for younger children was small and in the opposite direction, MD = -109 ms. Table 4 contains means and standard deviations for younger and older children's response times in these congruent and incongruent conditions.

Table 4
Response times for younger and older children's enjoyment ratings as a function of ending type and prime condition

Age group	Prime	Ending Type	Congruent/Incongruent	*M*	*SD*	*N*
Younger	Fairness	Compassionate	Congruent	1786	2148	20
		Equitable	Incongruent	2609	2208	23
		Harsh	Incongruent	2205	1652	22
		Total		**2219**	**2001**	**65**
	Care	Compassionate	Congruent	2307	1622	23
		Equitable	Congruent	2576	2560	23
		Harsh	Incongruent	1511	1667	20
		Total		**2189**	**2035**	**66**
Older	Fairness	Compassionate	Congruent	1655	2326	32
		Equitable	Incongruent	2359	1468	29
		Harsh	Incongruent	2033	1773	25
		Total		**1971**	**1943**	**86**
	Care	Compassionate	Congruent	1569	1426	29
		Equitable	Congruent	1430	1680	28
		Harsh	Incongruent	2784	1921	31
		Total		**1948**	**1791**	**88**

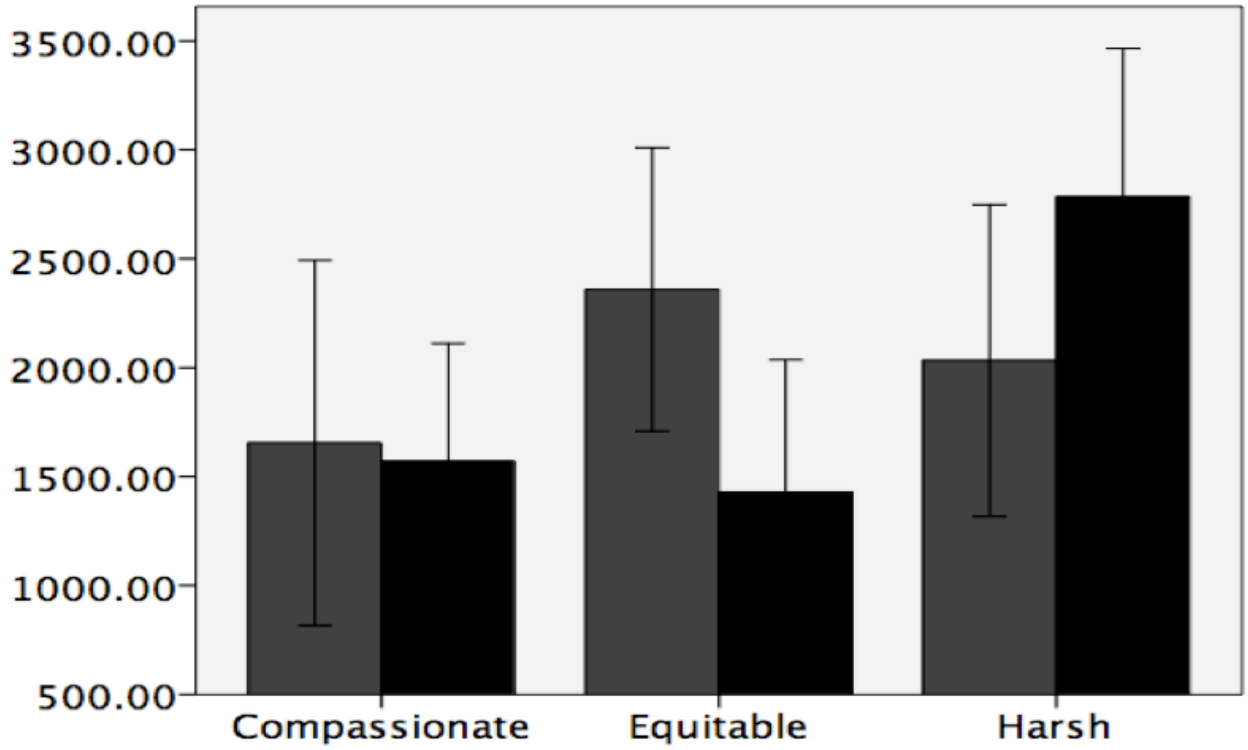

Figure 2. The influence of ending type by prime condition (care prime is shaded grey, fairness prime is shaded black) on evaluative response-time (in milliseconds) for older children. Error bars represent 95% confidence intervals.

***Congruity between animalistic depiction and ending type*.** The animalistic depiction was intended to violate purity, and increase motivations for retribution. Congruity between the animalistic depiction and the ending type depended on whether the ending satisfied this motivation for retribution. Specifically, ending types (e.g., the compassionate ending) that do not satisfy the motivation for retribution activated by the purity violation in the animalistic depiction might be considered incongruent, but endings that do satisfy this motivation (e.g., the harsh ending) might be considered congruent. The logic used for H9 suggests that the compassionate and equitable endings would be incongruent with the animal depiction (because these endings do not sufficiently satisfy retribution for the purity violation) whereas the harsh

ending would be congruent (because the harsher punishment in this condition is sufficient to satisfy retribution for the purity violation).

However, congruity is different if we consider the human depiction of the bad prince. As explained in the section above examining the results for H1 (i.e., the effect of ending type on response times), the harsh ending is considered to be incongruent with the human depiction, whereas the equitable and compassionate endings are congruent with human depiction. In this way, congruity between the depiction of the bad prince and the ending type depends on whether the prince is depicted as a human or animal. See Table 5 for which conditions are considered congruent versus incongruent with the human and animal depictions.

Table 5
Congruity or incongruity between human/animal depiction and ending type

	Ending type		
Prime condition	Compassionate	Equitable	Harsh
Human	Congruent	Congruent	Incongruent
Animal	Incongruent	Incongruent	Congruent

NEAR logic predicts that age would interact with the congruency between the animalistic depiction and ending type to effect response time, such that older children take longer to respond in conditions that are incongruent. In order to test this, a 2 (age group) x 2 (human/animal depiction) x 3 (ending type) ANOVA was conducted. Both ending type and age group are between-subjects factors, whereas the animal/human depiction is a within-subjects factor. This ANOVA yielded a significant three-way interaction effect between age group, human/animal depiction, and ending type, F (2, 299) = 2.92, p = .05, η^2 = .02. In simple-effects tests, a significant two-way interaction between the human/animal depiction of the bad prince and the ending type was observed for older children, F (2, 299) = 4.41, p < .05, η^2 = .05. For

younger children, this test did not yield significance, F (2, 299) = 0.52, p = .59, η^2 < .01. These findings are consistent with NEAR-based logic that the congruity between the animal depiction (a purity violation) and the events in the harsh story endings led to faster response times in older children, but that younger children do not reliably gauge this congruity in their response. See Figure 3 for means plot of younger and older children's response times as a function of ending type and the human/animal depiction of the bad prince. Table 6 contains means and standard deviations across these factors.[2]

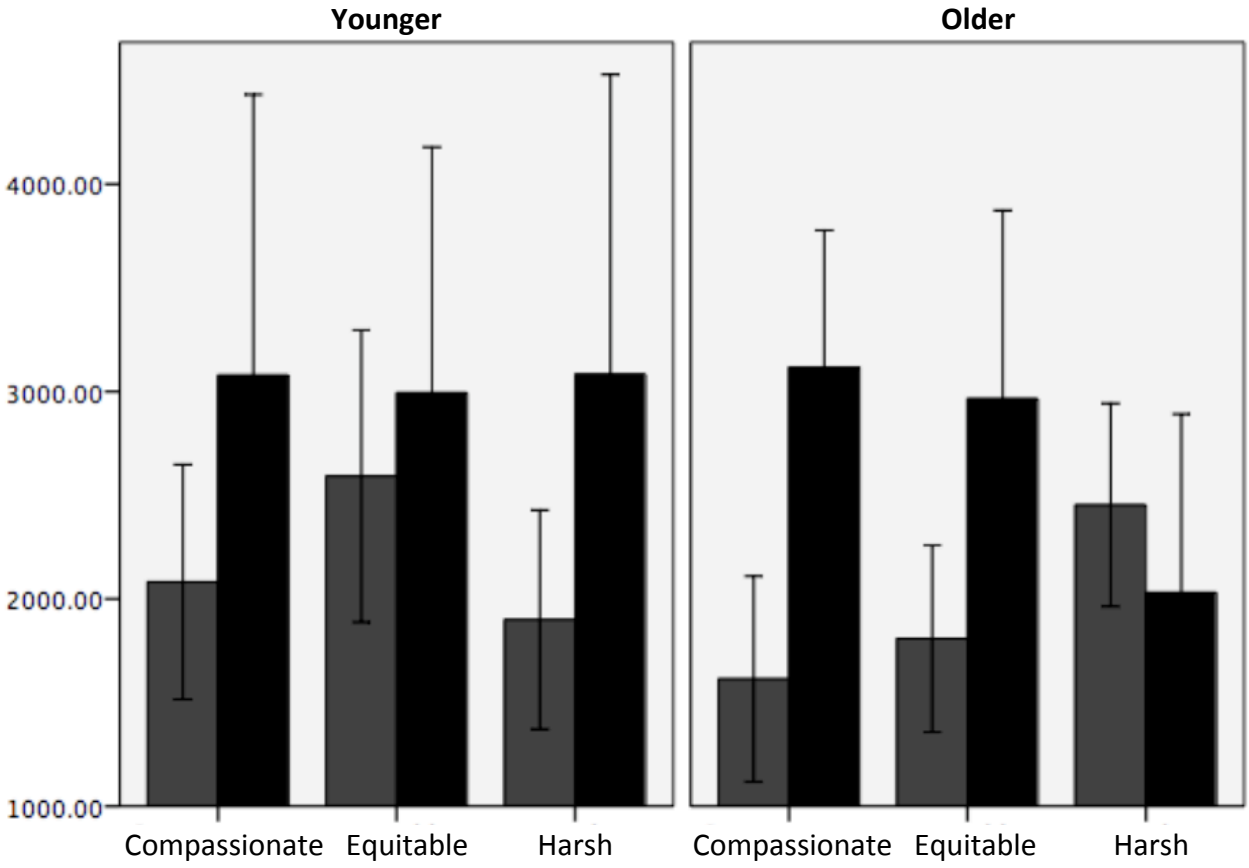

Figure 3. The influence of ending type by human/animal depiction (human is shaded grey, animal is shaded black) on evaluative response time (in milliseconds) for younger (left) and older (right) children. Error bars represent 95% confidence intervals.

Table 6

Response times for younger and older children's enjoyment ratings (for animalistic depiction) as a function of ending type

		Animal depiction		Human depiction	
Age group	Ending Type	*M*	*SD*	*M*	*SD*
Younger	Compassionate	3078	4453	2081	1861
	Equitable	2993	3990	2591	2371
	Harsh	3082	4581	1899	1674
		3050	**4304**	**2203**	**2010**
Older	Compassionate	3117	2578	1614	1935
	Equitable	2964	3331	1808	1648
	Harsh	2030	3305	2453	1879
	Total	**2701**	**3099**	**1958**	**1856**

Enjoyment.

***Congruity between prime condition and ending type*.** With regard to enjoyment ratings, H6 predicted that the congruity (i.e., an interaction between the prime condition and ending type) would influence older children's enjoyment, but that no such effect would be detected for younger children. The interaction predicted by H6 was that older children's enjoyment would be (a) higher for the compassionate and equitable endings and (b) lower for the harsh ending after the care prime than the fairness prime. Congruity in this case is again a function of the way in which the prime condition and ending type interact. See Table 3 as well as the logic under the response-time header above for which ending types are congruent with which prime conditions. A 2 x 2 ANOVA crossing age group with the congruity variable discussed above did not show a significant interaction, F (1, 300) = .76, p = .39, $\eta^2 < .01$.[3]

The interaction predicted for older children was subtle because it was driven only by the harsh-ending condition. The effect of care prime was expected to be positive for the

compassionate and equitable conditions and negative for the harsh condition. For younger children, NEAR logic allows for a main effect of prime condition but specifies that any interaction between the prime and the ending should go undetected because of its unreliability. Thus any statistical difference between younger and older children in these analyses may be attenuated due to (a) the expected small effect size of the predicted interaction for older children, and (b) the effect of the prime condition on younger and older children's judgments was similar across most levels of the ending-type variable. With this in mind, separate analyses were conducted on younger and older children's enjoyment ratings as a function of ending type by prime condition.

Despite the lack of significant age-based interactions on enjoyment, separate analyses on younger and older children's enjoyment yielded different conclusions. As suggested by H6, a significant interaction between the prime condition and ending type was detected for older children, F (2, 168) = 2.98, p = .05, η^2 = .03, showing that the enjoyment of the three ending types varied as a function of the prime. Specifically, whereas enjoyment of the compassionate and equitable endings was higher after the care prime than the fairness prime, enjoyment of the harsh ending was lower after the care prime. (See right side of Figure 4.) This analysis lends support to H6, which predicted this interaction pattern for older children. The same analysis was conducted with younger children, and (as was expected) no interaction was found, F (2, 124) = 0.08, p = .93, η^2 < .01. (See left side of Figure 4.)

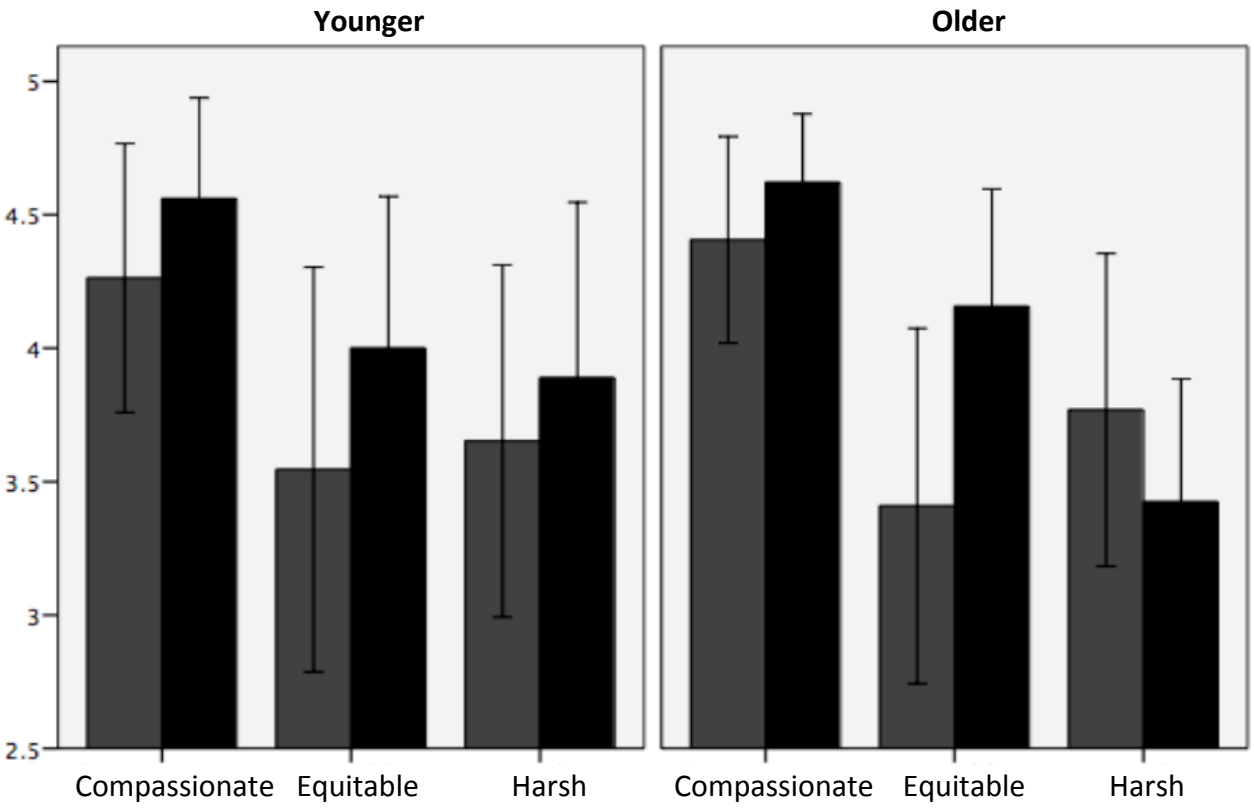

Figure 4. The influence of ending type by prime condition (care is shaded black, fairness is shaded grey) on enjoyment for younger (left) versus older (right) children. Error bars represent 95% confidence intervals.

Table 7

Descriptive statistics for younger (top) versus older (bottom) children's enjoyment and character liking

				Younger children			
				Prince Andrew		Prince Anthony	
		Enjoyment					
Prime condition	Ending type	*M*	*SD*	*M*	*SD*	*M*	*SD*
Care prime	Compassionate	4.56	0.92	4.28	1.21	2.88	1.59
	Equitable	4.00	1.31	3.79	1.47	2.33	1.66
	Harsh	3.89	1.32	4.17	1.10	3.00	1.50
Fairness prime	Compassionate	4.26	1.05	4.42	1.02	2.53	1.39
	Equitable	3.55	1.71	4.68	0.89	2.36	1.56
	Harsh	3.65	1.53	4.26	1.21	2.52	1.34
Total		**3.99**	**1.36**	**4.26**	**1.19**	**2.60**	**1.51**

Table 7 (cont'd)

		Older children					
		Enjoyment		Prince Andrew		Prince Anthony	
Prime condition	Ending type	*M*	*SD*	*M*	*SD*	*M*	*SD*
Care prime	Compassionate	4.62	0.68	4.38	1.01	2.48	1.30
	Equitable	4.16	1.22	4.63	0.79	1.97	1.18
	Harsh	3.42	1.30	4.55	0.83	2.09	1.23
Fairness prime	Compassionate	4.41	1.07	4.53	0.92	2.22	1.18
	Equitable	3.41	1.50	4.73	0.46	1.55	0.96
	Harsh	3.77	1.45	4.19	1.23	2.04	1.22
Total		**3.99**	**1.29**	**4.50**	**0.91**	**2.08**	**1.20**

***Congruity between animalistic depiction and ending type*.** The NEAR also suggests that younger versus older children would enjoy the story endings differently as a function of the human/animal depiction. In order to test whether age moderates the influence of congruity between character depiction and ending type on enjoyment, the same codes used to label congruency for response time analyses were used here. For the animal depiction, the compassionate and equitable endings were coded as incongruent and the harsh ending was labeled congruent. For the human depiction, the harsh ending was labeled incongruent, whereas the equitable and compassionate endings were labeled congruent. See Table 5 for these labels. In this way, NEAR logic predicts that age would interact with congruity between the depiction of the bad prince and ending type to effect enjoyment, such that older children enjoy conditions that are incongruent less than congruent conditions, and younger children would not reliably take incongruity into account in their enjoyment ratings.

These expectations were initially tested in a 2 (age group) x 2 (human/animalistic depiction) x 3 (ending type) mixed-design ANOVA. However, this analyses did not yield a significant 3-way interaction, F (2, 298) = 1.05, p = .35, η^2 < .01. It was again reasoned that the

interaction expected for older children might be subtle (as in the prime by ending interaction reported in the section above). If this were the case, it may have limited our ability to detect significant age-based interactions. Despite the lack of a significant age-based interaction on enjoyment, separate analyses on younger and older children's enjoyment again yielded different conclusions. H9 also predicted that the pattern of enjoyment between the three ending types would not show a reliable interaction between ending type and depiction for younger children. Although the main effect of ending type did not adhere to expectations (as will be discussed in the following section), no significant interaction between ending type and human/animalistic depiction was found for younger children's enjoyment, F (2, 127) = 1.77, p = .17, η^2 = .02. This lent partial support to H9, which predicted that younger children would not reliably weigh congruity between the ending type and the human/animal depiction. H9 also predicted that the pattern of enjoyment between the three ending types would be affected by the congruity between the ending types and the human/animalistic depiction for older children. Consistent with this, there was a significant interaction between ending type and animal/human depiction on older children's enjoyment, F (2, 171) = 7.41, p < .01, η^2 = .08. Although the main effect of ending type did not adhere to expectations (as will be discussed in the following section), a significant interaction between ending type and human/animalistic depiction was found for older children's enjoyment. This lent partial support to H9, which suggested that older children would weigh the ending type in relation to the human/animal depiction in their appraisals. See Figure 5 for younger and older children's enjoyment as a function of ending type and human/animal depiction of the bad prince. The figure shows

enjoyment ratings for the human (solid line) versus animalistic (dashed line) depiction of the bad prince. Note that for younger children (left side of Fig. 5) no discernible pattern for enjoyment ratings of the animalistic depiction is seen across the three ending types. For younger children, the animalistic depiction seemed to have a consistent negative effect on enjoyment ratings when compared to the human depiction. A similar negative effect of the animal depiction can be seen for older children in the right side of Figure 5. However, after exposure to the animalistic depiction, older children's enjoyment seemed to decrease more substantially for the compassionate ending than for the equitable or harsh endings. Table 8 contains means and standard deviations across these factors.

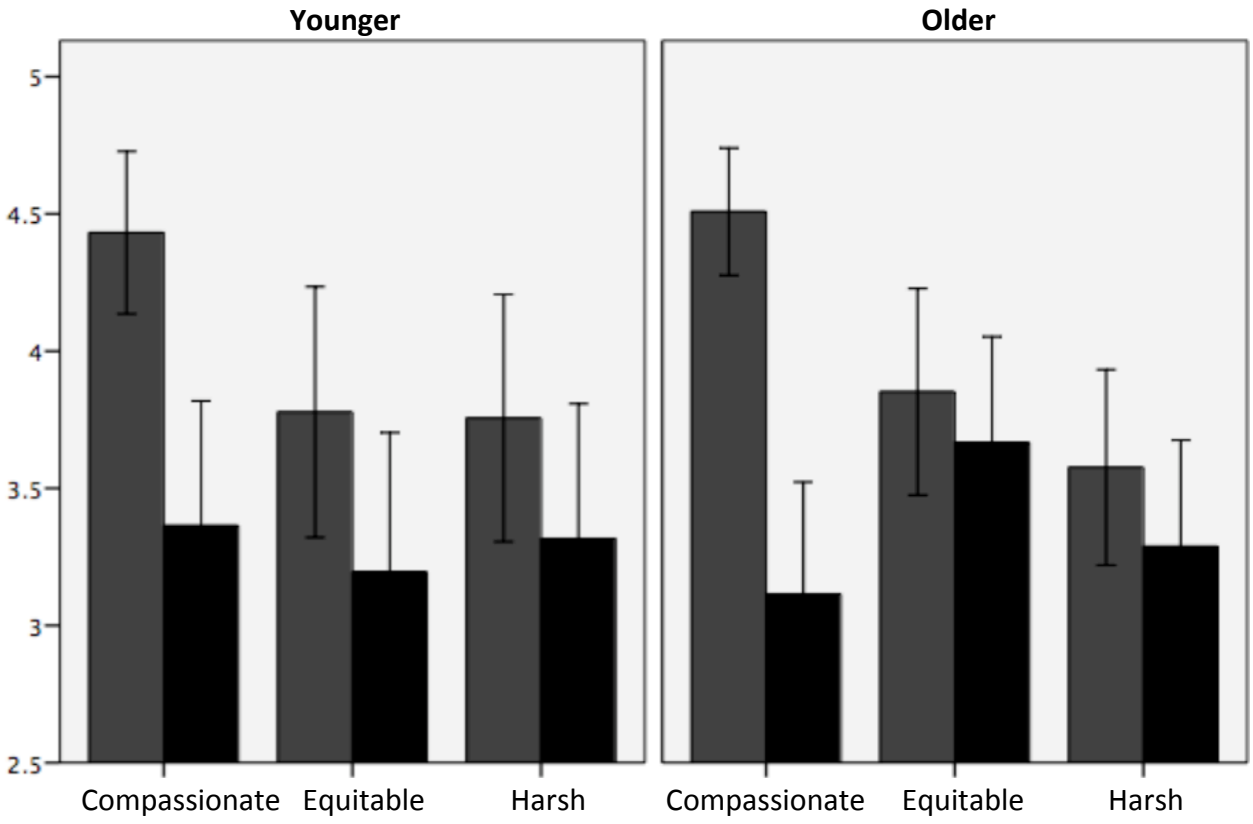

Figure 5. The influence of human/animal depiction (human is shaded grey, animal is shaded black) by ending type on younger (left) versus older (right) children's enjoyment. Error bars represent 95% confidence intervals.

Table 8

Descriptive statistics for younger (top) versus older (bottom) children's appraisals after consideration of the animalistic depiction of the bad prince (Prince Anthony)

			Enjoyment		Prince Andrew		Prince Anthony	
Age group	Prime	Ending	*M*	*SD*	*M*	*SD*	*M*	*SD*
Younger	Fairness	Compassionate	2.84	1.50	4.11	1.15	2.58	1.64
		Equitable	3.14	1.75	4.27	1.32	2.95	1.73
		Harsh	3.13	1.58	3.61	1.73	2.96	1.77
	Care	Compassionate	3.76	1.39	3.84	1.49	3.20	1.68
		Equitable	3.25	1.70	4.17	1.58	2.75	1.80
		Harsh	3.56	1.54	3.28	1.71	3.06	1.63
		Total	**3.29**	**1.58**	**3.89**	**1.52**	**2.92**	**1.69**
Older	Fairness	Compassionate	3.16	1.63	4.16	1.27	3.13	1.52
		Equitable	3.77	1.27	4.95	0.21	2.18	1.47
		Harsh	3.42	1.53	4.35	1.16	2.12	1.53
	Care	Compassionate	3.07	1.58	4.07	1.19	3.03	1.48
		Equitable	3.59	1.52	4.41	0.95	2.12	1.50
		Harsh	3.18	1.47	4.42	1.06	2.58	1.37
		Total	**3.29**	**1.52**	**4.31**	**1.07**	**2.56**	**1.48**

Analyses Related to Zillmann and Bryant Replication

As mentioned above in the preliminary analyses, children generally viewed the endings to contain too much punishment. Older children viewed the compassionate ending as containing just the right amount of punishment. This diverges from Zillmann & Bryant's observation that older children viewed the equitable ending as containing just the right amount of punishment. This divergence between the findings of Zillmann and Bryant (1975) and the findings of the current study affected number of hypotheses that depended on this punishment-severity manipulation. First, H2 predicted that younger children's enjoyment would increase as a function of the severity of punishment for the bad prince, such that enjoyment would be highest for the harsh condition. Although a one-way ANOVA with ending type (compassionate, equitable, harsh) yielded significance, F (2, 127) = 3.64, η^2 = .05, $p < .05$,

the finding was not in the predicted direction. Instead, post hoc tests using Tukey's HSD revealed the compassionate ending was enjoyed more than the equitable ending (*MD* = .65, $p < .05$) or the harsh ending (*MD* = .68, $p < .05$). Also important for replicating Zillmann and Bryant (1975) was a general expectation that older children would enjoy the equitable ending more than the compassionate or harsh endings. Although a one-way ANOVA with ending type (compassionate, equitable, harsh) yielded significance, F (2, 171) = 9.10, $p < .01$, $\eta^2 = .10$, post hoc tests using Tukey's HSD again revealed that the compassionate ending was enjoyed more than the equitable ending (*MD* = .66, $p < .05$) or the harsh ending (*MD* = .93, $p < .01$), lending no support for H4. Thus, subsequent hypotheses that depended on these predictions (i.e., H3 through H5, H7, and H8) received little support. Results from these analyses are reported in the following text.

The divergence from Zillmann and Bryant's observations also included character appraisals. With regard to character liking, H3 predicted that younger children's liking for the good prince would be highest in the harsh ending, followed by the equitable, and then the compassionate ending. No support was found for this prediction, as a one-way ANOVA with ending type did not yield significance, F (2, 128) = .15, $p = .86$, $\eta^2 < .01$.

H4 predicted a more complex pattern of enjoyment for older children based on different combinations of the prime condition and ending type. Analysis using contrast coefficients in initial hypothesis testing revealed no support for the predicted pattern t (168) = -.50, $p = .62$. See Table 9 for these coefficients. H5 predicted the same pattern would be observed for older

children's character liking. Analysis using contrast coefficients in initial hypothesis testing revealed no support for the predicted pattern, t (168) = 1.42, p = .10.

Table 9
Contrast coefficients suggested by H4 and H5

		Response Level		
		Compassion	Equitable	Harsh
Manipulated salience	Care prime	-.5	2	-1
	Fair prime	-1	1	-.5

H7 predicted an interaction between the prime condition and the ending type on liking for the good prince. To test H7, a 3 x 2 ANOVA with prime condition (care, fairness) and ending type (compassionate, equitable, and harsh) was conducted using older children only and entering liking for the good prince as the dependent variable. However, this analysis failed to yield significance F (2,168) = 1.11, p = .33, η^2 = .01.

With regard to liking for the bad prince, H8 predicted a specific rank ordering of means depending on the different combinations of the ending type and care prime. This specific ordering was tested using contrast coefficients that represented the rank ordering described by H8. These contrast coefficients are shown in Table 10. The contrast failed to yield significance t (168) = -.94, p = .35, thus lending no support to H8.

Table 10
Contrast coefficients suggested by H8

		Response Level		
		Compassion	Equitable	Harsh
Manipulated salience	Care prime	-1	.5	2
	Fair prime	-2	-.5	1

Character Appraisals after Consideration of the Animalistic Depiction of the Antagonist

Lastly, H12 through H14 predicted different patterns of liking for the good prince and the bad prince after considering the animalistic depiction of the bad prince. A limitation in the study design prevented accurate measurement of liking for the good prince and the bad prince after consideration of the animalistic depiction of the bad prince. Participants were asked twice about their liking for the two princes before considering the animalistic depiction (first in the open-ended interview and again using a scaled response). Each time, they were first asked about Andrew (the good prince) before being asked about Anthony (the bad prince). Unfortunately, the final two questions switched this ordering such that after Anthony was depicted as an animal, participants were asked about their liking for Anthony before Andrew. In meetings following data collection, all four interviewers agreed that this switch in the ordering confused the majority of participants thereby invalidating the measures. Despite this, analyses were conducted for both the good prince and the bad prince using a 3 (ending type) x 2 (human/animal depiction) x 2 (age group) mixed-design ANOVA. For liking of the good prince, there was a significant main effect of the human/animal depiction, F (1, 299) = 15.00, $p < .05$, η^2 = .03. Overall, both younger and older children reported liking the good prince less after considering the animalistic depiction of the bad prince. No other main effects or interactions were detected in this analysis. For liking of the bad prince, there was a significant main effect of the human/animal depiction, F (1, 299) = 15.00, $p < .05$, η^2 = .05. Overall, both younger and older children reported liking the bad prince more after considering the animalistic depiction of the bad prince. No other main effects or interactions were detected in this analysis.

DISCUSSION

The discussion section begins by reiterating the primary goals of the study and describing how evidence in favor of NEAR logic is related to these goals. Then, several limitations of the study are discussed. Finally, the paper focuses on the relevance of this research to other areas of entertainment theory, as well as to moral psychology.

The primary purpose of this study was to test the notion that developmental differences in narrative appraisals can be better understood by incorporating dual-process logic from the NEAR. The study attempts to aid in the understanding the psychological mechanisms responsible for the findings of Zillmann and Bryant (1975) and describe how cognitive development impacts children's narrative appraisals in general. Specifically, the study was intended to examine claims that (a) young children are less able to weigh conflict between moral intuitions in their appraisals than older children, (b) dominantly salient intuitions drive younger children's appraisals, and (c) older children use the deliberative system to weigh conflict between intuitions in their appraisals.

Evidence in Favor of the NEAR

The NEAR suggests that development leads older children to more reliably engage in deliberative appraisals when narratives present conflict between moral intuitions. This deliberation allows an individual to weigh the congruity between conflicting moral intuitions. When the deliberative system is not sufficiently matured, though, incongruity between the moral intuitions does not reliably impact appraisal. Evidence that the psychological mechanisms identified by the NEAR can account for developmental differences in narrative response (and

help to account for Zillmann and Bryant's findings) can be seen in the current study's diverging observations for younger versus older children's response times and enjoyment.

Response times. Age group was found to moderate evaluative response times to the different story endings. The interaction between the prime conditions and story endings, and the interaction between the human/animalistic depiction of the bad prince and story endings. Consistent with the NEAR's predictions regarding response time, systematic differences between the stimulus conditions were observed for older children but not for younger children. Older children's ability to engage in deliberative appraisals of moral conflict can be seen in the two-way interaction between age group and ending type. Further analysis showed that older children responded more slowly to the harsh ending than the equitable ending, and that the pattern of response time was different for older versus younger children across the three ending types. Support for the NEAR can also be seen in the three-way-way interaction between age group, ending type, and the prime condition. Further analysis on this interaction showed that whereas older children took longer to respond to conditions under which the prime condition was incongruent (conflicting) with the narrative ending, younger children did not show such an effect of congruity on response times. Further support can be seen in the three-way interaction between age group, ending type and the human/animalistic depiction. Analyses of simple effects for each age group similarly showed that whereas older children took longer to respond to conditions under which the animalistic depiction was incongruent (conflicting) with the ending type, no differences were detected between younger children's response times to the animalist depiction. Specifically, for older children, a symmetrical interaction between the human/animal depiction and the ending types was observed such that after considering the

animalistic depiction, response times became slower for the compassionate and equitable endings, and became faster for the harsh ending. By contrast, response-time results indicate that younger children failed to reliably employ deliberative mechanisms in response to narrative conflict. Although age group was found to moderate response times, further analyses on younger children only did not reveal any reliable response-time patterns between the stimulus conditions. These different observations for younger versus older children's response time support the NEAR's contention that developments in the deliberative system lead older children to deliberate on conflicting intuitions during their appraisals, whereas younger children do not reliably employ deliberation in response to moral conflict.

Enjoyment. Although no age group moderation was detected for enjoyment of the ending types, prime condition by ending types, or human/animalistic depiction by ending types, additional analyses run separately for each age group were consistent with assertions that older children reliably took incongruity into account in their appraisals, whereas younger children did not. This was apparent in analyses that define incongruity both in terms of (1) conflict between the prime condition and ending type, and (2) conflict between the human/animalistic depiction and ending type. In both analyses, the two-way interactions representing conflicting moral intuitions were significant for older children, but not for younger children. For the interaction between ending type and prime condition, analysis showed that after the care prime, older children enjoyed the compassionate and equitable endings more, and the harsh ending less than after the fairness prime. For the interaction between the human/animalistic depiction and the ending type, analysis demonstrated that after considering the animalistic depiction (a purity violation), older children's enjoyment was significantly

hampered when compassion was shown to the (animalistic) bad prince in the story ending. These different observations for younger versus older children's enjoyment support the NEAR's contention that developments in the deliberative system lead incongruity between moral intuitions to have a reliable impact on appraisal. When the deliberative system is not matured, incongruity cannot be reliably weighed in the appraisal response.

Taken together, the findings for response time and enjoyment above are consistent with claims that development allows for conflict or incongruity between salient intuitions to evoke deliberation in older children, which has an impact on their enjoyment ratings. When activated intuitions (i.e., care, fairness, or purity) were incongruent with the ending type, response times were slower and enjoyment was hampered for older children. However, no impact of this incongruity was found either for response time or enjoyment for younger children. These findings must be interpreted in light of the fact that the difference expected between younger and older children was subtle, and difficult to detect in the current design.

Understanding Zillmann and Bryant's Findings

Although the current study provides some evidence that the psychological mechanisms identified by the NEAR can account for Zillmann and Bryant's (1975) observations, the findings here are not totally supportive. Zillmann and Bryant found that younger children enjoyed the harsh ending more than the equitable ending or the compassionate ending. They explained these observations using logic from Piaget's and Kohlberg's cognitive-developmental stage models, which suggest that younger children are in a stage of "expiation" and see severe punishment as necessary and justified because of "natural" or "authoritarian" moral reasoning strategies. By contrast, they found that older children enjoyed the equitable ending more than

the compassionate or harsh endings. They explained this again using the stage models, saying that older children are in a stage of "equitability," and are better able to weigh the proportionality between a judgment and its misdeed. In the current study, however, both younger and older children enjoyed the compassionate ending more than the equitable or harsh endings. Although this limits the conclusions we can make about the mental processes that yielded Zillmann and Bryant's results, the differences observed between younger and older children in the current study provide evidence in favor of the NEAR and may lend some guidance on understanding their results as well.

The NEAR suggests psychological mechanisms (e.g., conflict monitoring for incongruent intuitions) that account for the types of differences observed by Zillmann and Bryant. According to this logic, younger children's judgments stem primarily from dominantly salient intuitions, such as motivations that are recently activated by concrete or emotional stimuli. This is because younger children cannot hold enough information in working memory to make judgments involving multiple (conflicting) concerns. Results from the current study support this idea. There was no reliable interaction between the ending type and the prime condition, or between the human/animalistic depiction and the ending type for younger children's enjoyment ratings. Also, no reliable response-time differences were detected for younger children. These observations show that younger children failed to reliably deliberate on incongruity between multiple active intuitions in their appraisals. By this logic, younger children in Zillmann and Bryant's study only considered a motivation for retribution in their judgment, leading them to prefer harsh punishment. For older children, the NEAR suggests that the weighting of incongruity between multiple conflicting intuitions impacts appraisal. Results from the current

study support this idea also. There was a significant interaction between the ending type and the prime condition, as well as between the human/animalistic depiction and the ending type for older children's enjoyment ratings. Also, significant response-time differences were detected for older children as a function of incongruity. These observations show that older children deliberated on incongruity between multiple active intuitions in their appraisals. By this logic, older children in Zillmann and Bryant's study recognized incongruity between the (harsh and compassionate) ending types and the motivational salience of retribution activated by the perceived misdeed of the bad prince. Older children were then able to deliberate on the incongruity thereby affecting their enjoyment ratings (such that they preferred retribution that was not too severe, yet not too mild).

Again though, because the current study did not replicate Zillmann and Bryant's observations of age-based differences for enjoyment of the three ending types, it is difficult to conclude that the differences they observed were due to older children's ability to deliberatively weigh incongruity in their appraisals. For example, it may have also been the case that older children used the pity they felt for the bad prince as a heuristic to intuitively judge the harsh ending in Zillmann and Bryant's study. Or perhaps they used the resentment they felt for the bad prince as a heuristic to intuitively judge the compassionate ending. Further research attempting to replicate Zillmann and Bryant's original study is necessary to provide evidence for or against the NEAR's account of their findings.

Limitations

There are several design and procedural issues that limit the conclusions that can be drawn from this study. It is also possible that these issues are responsible for the study's

inability to replicate Zillmann and Bryant's age related difference in the enjoyment of ending types. First, the lack of a significant difference in character appraisals between the stimulus conditions for both older and younger children may be attributable to the unsuccessful manipulation of the ending types (compassionate, equitable, and harsh) discussed above. If the participants did not perceive the satisfaction and violation of moral intuitions as intended (especially in the narrative endings), then character liking would not vary as expected. However, logic from both the NEAR as well as the stage models used by Zillmann and Bryant would still predict systematic differences that line up with perceptions of punishment severity and general enjoyment. As such, since, no reliable pattern was observed, this potential limitation does not seem capable of explaining the study's inability to replicate Zillmann and Bryant's findings. Perhaps a better explanation for the inability to replicate these findings is a limitation of the study design. Initial measures of narrative appraisal (i.e., enjoyment and response time) were taken immediately after stimulus offset, followed by the open-ended interview. It is important to consider that the additional scaled measures for character appraisals were taken *after* the open-ended interview (approximately two minutes after offset of narrative stimulus). It may be that the intervening interview questions (or perhaps nonverbal behaviors of the interviewers) influenced children's perceptions of the characters, and the manner in which they responded to the scaled character appraisal items. Although these scaled items were placed after the interview questions in order to adhere more closely to Zillmann and Bryant's original protocol, it could have led to substantial measurement error.

Another limitation regards the comparisons between the care and fairness prime conditions. Both prime conditions attempted to increase the salience of one intuition relative to

another (i.e., care versus fairness). In this way, comparisons between the two conditions are limited by the lack of a "true control condition." Specifically, it is difficult to conclude whether the differences observed due to the prime condition were driven by narrative content contained in the fairness prime or by narrative content contained in the care prime. For example, it is difficult to say whether older children's enjoyment of the harsh ending was hampered by the presence of the care prime, or whether it was boosted by the presence of the fairness prime. Having a truly neutral control condition would have allowed one to isolate which specific content effected enjoyment ratings. The decision to include the fairness prime rather than a true control condition was driven by two considerations. First, it is difficult to include stimulus materials that have no effect on intuition salience as would be required to create a true control condition. Attempting to avoid the activation of specific intuitions might have led to confounds that would make it even more difficult to attribute effects to specific messages in the stimulus materials. Second, Zillmann and Bryant's original stimulus (as well as the recreated stimulus used in the current study) contained features that were specifically designed to prime intuitions of fairness and equity. In this sense, the fairness prime developed for use in this study was intended to merely be an extension of fairness primes already contained in the original narrative. Nevertheless, these aspects of the stimuli should be taken into consideration when attempting to draw conclusions about differences observed between the prime conditions.

Another limitation is the age split used to define younger versus older children (an operational definition of mental maturity). Literature has used the cutoff age of 7 years as a time point when certain moral "reasoning strategies" change (Eisenberg, 1986; Kohlberg, 1984;

Krcmar & Cooke, 2001; Zillmann & Bryant, 1975). This operationalization assumes a qualitative shift in children's mental abilities on their seventh birthday. Although the current study was attempting to replicate these operationalizations, it is possible that treating age as a continuous variable would reveal more detailed information about development's role in weighing incongruity between motivations related to narrative media. Future research should examine age as a continuous variable to better understand the mental processes behind narrative appraisals at various points in the developmental timeline.

A final limitation regards the analyses of incongruent versus congruent stimulus conditions. The analyses presented for congruent versus incongruent conditions relied on logic about how the endings were perceived. In ideal circumstances, a priori expectations for these different conditions would be formally articulated. If no a priori hypotheses were articulated, manipulation checks could be used to determine congruity of the prime conditions with the ending types. Specifically, if a manipulation check indicated that participants perceived an ending type to violate care, then that ending type could be coded as incongruent with the care prime. Likewise, if a manipulation check indicated that participants perceived an ending type to violate fairness, it could be coded as incongruent with the fairness prime. Fortunately, an interview item designed to measure perceptions of punishment appropriateness was included in the interview that served as such a manipulation check. Data from this interview item was used to determine congruity/incongruity with the fairness prime. Unfortunately though, no item assessing perceptions of the upholding of care was included. The intended effect of the ending type was therefore used as a basis to understand which endings upheld care, and which were thus congruent with the care prime. The lack of a measure of perceived care is clearly a

limitation, nevertheless, regardless of what logic is used to code congruity, clear patterns of response time were observed for older children in between different combinations of the prime condition and ending types. No reliable patterns of response time were observed for younger children between any stimulus conditions.

Implications for Other Areas of Entertainment Theory

Despite these limitations, the study offers insight into the manner in which developmental processes related to cognitive conflict and deliberation can influence media response and appraisal. Yet this insight is not limited to simple judgments of story liking and may have implications for other areas of entertainment theory. For example, theory and research on the distinction between enjoyment and appreciation may benefit from understanding development's impact on appraisal. Recent work has begun to conceive of these responses as qualitatively distinct, defining "enjoyment" as an intuitive hedonic response and "appreciation" as a thought-provoking and meaningful response (Oliver & Bartsch, 2010; Tamborini, 2011, 2012). Moreover, research examining these distinctions has shown that conflicting moral intuitions in story endings hampers "enjoyment" but does not hamper "appreciation" (Lewis, Tamborini, Weber, 2011). If the consideration of incongruent moral intuitions is important to the appreciation response, it may be that development of the deliberative system plays an important role in the ability of children to "appreciate" narratives. Future research should attempt to create measures that distinguish enjoyment from appreciation for children at this age to use in studies of development's impact on these distinct audience responses.

Another important area of concern regards perceptions of anti-heroes. Raney and others (Raney, 2011; Tamborini, Eden, Grizzard, & Lewis, 2011) have proposed explanatory mechanisms for why viewers enjoy narratives featuring these "morally complex characters." Raney (2011) states that audiences have a desire to enjoy narratives. According to traditional understandings (e.g., disposition theory; Raney, 2006), if characters do bad things and are rewarded then enjoyment should be hampered. Raney (2004, 2006) argues instead that audiences morally disengage when liked characters are rewarded for doing bad things. According to Raney (2011) audiences want to enjoy narratives, and moral disengagement allows them to enjoy the liked character's reward (Raney, 2011).

The NEAR suggests that the ability to take into account incongruity may be a prerequisite for moral disengagement, or for accurate judgments of characters who both violate and satisfy moral intuitions. Taking into account incongruity may happen in at least two ways in response to anti-heroes: First, in line with Raney's (2011) argument, the desire to enjoy narrative is an egoistic drive that can be understood as part of a framework of intuitive motivations. When this egoistic intuition conflicts with moralistic intuitions, an individual may use deliberative strategies to morally disengage (e.g., displacement of responsibility, attribution of blame, etc.). Second, when characters that do both good and bad things are appraised, deliberation must be used to deal with the conflicting information that interferes with intuitive judgment.

Regardless of the specific process that produces incongruity in the anti-hero/anti-villain context, younger and older children would again be expected to differ. For example, it may be the case that younger children only take into account the most recent information (i.e.,

violation or upholding) in their judgment, whereas older children take both recent information as well as (incongruent) previous information into their judgment through deliberative processes. It also may be the case that such age effects differ by whether a character is portrayed as primarily a good hero or primarily a bad villain. That is, do younger versus older children process redeeming qualities of villains, or moral flaws of heroes differently? Again, this effect may depend on the maturation of the deliberative system to handle incongruity. Lastly, if desire to enjoy a narrative is manipulated, the incongruity between moral violations and the desire to enjoy the narrative may evoke deliberation in older children but not younger children.

Looking at these other areas of entertainment theory, it seems that incongruity between intuitive motivations (both egoistic and moralistic) may have some common role to play. The NEAR's ability to incorporate both egoistic and moralistic motivations and its identification of conflict/incongruity as a developmental factor important for narrative appraisals not only broadens the scope of its applicability but provides value to entertainment theory through its parsimony.

While acknowledging the limitations of this study, several important points can be gleaned from the investigation. First, its findings are generally consistent with the NEAR's primary assertion regarding developmental differences in narrative appraisals. Specifically, results indicate that developmental differences in narrative appraisals are characterized by the fact that older children can reliably weigh the incongruity between multiple conflicting moral intuitions simultaneously, whereas younger children cannot reliably do this. This assertion is supported by the differences observed between younger and older children with regard to their

response speed, and the different patterns observed for younger versus older children's enjoyment.

Second, as mentioned above, the results in support of NEAR logic may have implications for other areas of entertainment theory, such as the cognitive processes that distinguish enjoyment versus appreciation, and the processes that determine perceptions of anti-heroes. It may be the case that incongruity between intuitive motivations plays a common role in each of these phenomena. Specifically, each of these phenomena is characterized by the simultaneous satisfaction and violation of basic motivations. Appreciation is thought to be a gratifying, positively evaluated experience that is often associated with negative affect (Bartsch & Oliver, 2011) whereas anti-heroes are thought to be virtuous, liked characters who violate morality (Raney, 2011). Perceptions of narrative content related to these phenomena are therefore likely to be dependent on an ability to weigh incongruity in appraisals. As such, younger children may not be able to reliably distinguish heroes from anti-heroes, nor have the type of thought provoking experience that is necessary to "appreciate" a narrative. Consider how children of different ages might respond to anti-heroes such as Captain Jack Sparrow, from *Pirates of the Caribbean*, or the Doctor from the BBC program *Doctor Who*, both of whom simultaneously violate and uphold moral intuitions. Jack Sparrow can be treacherous and deceiving although he is generally allied with the forces of good. Similarly, the Doctor has a strong moral sense and fights evil forces, yet must sometimes violate moral codes in order to uphold others. Both of these characters are generally portrayed in a positive vein. They are light-hearted and clownish at most times, yet dark and callous whenever the stakes rise. It is likely that younger children cannot fully consider these traits simultaneously in their character

appraisals, and thus would appraise them in a manner similar to the way they would appraise "pure" heroes or villains, such as Superman or Cruella De Vil, who are consistently portrayed as either virtuous or evil. In the young child's mind, there would be no incongruent information to interfere with an intuitive assessment. For example, in different episodes, the Doctor from *Doctor Who* is portrayed as having little concern for individual human life. He will sometimes kill individuals in order to achieve some higher life-saving goal. He may violate purity intuitions, such as recycling dead human bodies to save alien life forms. Young children are likely to be appalled by such callous and disgusting behavior because they cannot weigh its congruity with other motivational concerns. As a result, they are likely to hate the character and the show. By contrast, older children can understand the good that comes form the Doctor's bad behavior in a manner that may lead them to like the program, and to see the Doctor in heroic terms, even if not purely heroic terms. .

Age-related differences in processing incongruity are also central to recent theory and research discussed above that distinguishes enjoyment versus appreciation as distinct audience responses (Lewis, Tamborini, & Weber, 2011; Oliver & Bartsch, 2010). It is likely that young children do not appreciate the moral dilemmas presented in some narratives (e.g., as in *Antigone* or *Sophie's Choice*) and as a result do not find such stories appealing. It is also likely that these age-related differences lead older and younger children to focus on different aspects of the same story, and to find different things in the same story appealing. For example, in Pixar's motion picture Up, younger children's positive For example, in Pixar's motion picture *Up*, younger children's positive affect may be driven by heuristic cues found in the film that drive simple positive affect without the need to weigh incongruity between motivations. The film

contains several such heuristics cues, such as a flying house attached to colorful balloons, a talking dog who has an amusing preoccupation with squirrels, a large, kaleidoscopic bird that provides comic relief, and a simple good-versus-evil subplot. Older audiences may however appreciate other aspects of the film that require them to weigh the incongruity created by competing intuitions surrounding Carl, the story's main character. Among many other obstacles, Carl's wife passes away due to illness; he is evicted from his house for odious reasons; and he even loses his most cherished keepsake. In the end, however, he is rewarded with a young child's love when he shows compassion to the child in the face of personal loss. Older audiences are able appreciate that while bad things can happen to good people, life can bring great reward to those who care for others. With these examples in mind, development of the ability to weigh incongruity seems to be an important determinant of narrative appeal in more than one way.

Finally, the results contribute to an understanding of development's impact on mental processes behind moral judgments in general and narrative appraisals in particular. Previous understandings have been primarily based on the cognitive developmental models of Piaget and Kohlberg. These researchers observed and categorized different types of moral judgments (e.g., those based on expiation versus those based on equity) into the developmental stages used by Zillmann and Bryant. For Piaget and Kohlberg, equity defines moral development. Their cognitive-developmental framework states that, as children age, motivations unrelated to morality (morality defined solely as equity in this case) should have less impact on moral judgments. However, more recent media entertainment research holds that older children's and adults' judgments of right and wrong (and more specifically their appraisals of narratives)

depend on a myriad of factors, only some of which are related to proportionality or equity. For example, the framework of morality used in the current study (moral foundations theory) suggests that whereas individuals have an intuitive motivation to uphold equity (captured by MFT's fairness intuition), moral judgments may also depend on motivations for care or purity. Likewise, the above-mentioned research of Raney and colleagues suggests that moral judgments may be influenced by egoistic drives (e.g., a desire to enjoy the narrative) that are unrelated to morality. The NEAR remains unconstrained in terms of which specific motivations (whether egoistic or moralistic) drive judgments. Such openness increases the NEAR's scope, the value of which is demonstrated when considering its ability to incorporate different frameworks of basic human motivations in its account of the forces that drive judgments and appeal. For example, in addition to incorporating a framework for understanding the intuitive motivations thought to define morality (i.e., MFT), the NEAR can incorporate frameworks of human needs that drive other motives (e.g., recent reformulations of Maslow's hierarchy of needs, or the intrinsic needs described by self-determination theory). Such versatility allows for a systematic framework of emotional and cognitive processes with broad applications to our understanding of character judgments and narrative appraisals.

A broader understanding may come from organizing research along a recently proposed model of media systems. Indeed, the dual-process rationale for the current study was derived from a comprehensive framework of media systems known as the model of intuitive morality and exemplars (MIME; Tamborini, 2011, 2012). The MIME describes a reciprocal influence between audience members and their media environments in which appraisals can shape future media selection and subsequent effects. The model also describes how media selection,

when aggregated over larger audiences, can influence the content produced for those audiences. In order to better understand processes outlined in the MIME, future research should further examine the role of incongruent motivations on appraisal processes. This research should also examine how the media entertainment may affect the salience of these motivations, and how this salience affects future selection behavior. Content analyses (e.g., Lewis, unpublished manuscript) of entertainment media examining whether media producers depict incongruent moral intuitions in narratives are already underway. The goal of this line of research is to better understand the role of moral intuitions within a broader framework of media systems.

Outside of entertainment theory, the incongruity mechanism identified by the framework could be used as a general account of the developmental differences in media effects and processes for a number of different phenomena. For example, the framework could be useful to scholars who examine the ability of older children to overcome fear responses (Cantor, 1994) or their ability to make judgments of justified versus unjustified violence (Krcmar & Cooke, 2001). The fear response might be down-regulated through deliberative processes after its incongruity with other motivations (e.g., status needs or a desire to enjoy the narrative) is recognized. Similarly, incongruity between motivations for retribution and motivations for care might account for the ability to judge when violence is justified/unjustified. The study also has implications for manipulating real-world media content. Media producers could use an understanding of these age-based differences to enhance the entertainment value of educational content for audiences at different developmental levels. Indeed, it is likely that this is often done instinctively, as is shown in a recent media content analysis showing that conflict

is found less frequently in programming produced for young audiences (Lewis, unpublished manuscript). In this way, the NEARs' ability to identify how the development of cognitive conflict and control mechanisms impacts narrative appeal should be useful to both media researchers and practitioners alike.

Endnotes

[1]The way in which age group moderates response times can also be seen in a significant 3-way interaction between age group, prime condition, and ending type, F (2, 293) = 2.75, $p < .05$, η^2 = .02. Specifically, among older children, response times were hypothesized to be faster when the prime and ending type were congruent than when they were incongruent. However, there was no expectation for an effect of congruity on younger children's response times. Further investigation of this three-way interaction using tests of simple effects indicated an interaction pattern between prime condition and ending type for older children, F (2, 293) = 2.80, p = .06, η^2 = .03, but no such interaction pattern for younger children, F (2, 293) = 1.06, p = .35, η^2 = .01.

[2]For analyses on the interaction of age group with (a) ending type, (b) prime condition by ending type, and (c) antagonist depiction by ending type, analyses were also conducted including a response-time covariate measured during practice trials in order to control for idiosyncratic factors (e.g., motor response speed) that might have impacted analyses reported in the results section. For all three analyses, inclusion of the covariate did not affect significance of the age-based interactions. For the 2-way interaction between age group and ending type, F (2, 298) = 3.41, $p < .05$, η^2 = .02, the 3-way interaction between age group, ending type, and prime condition, F (2, 292) = 2.99, p = .05, η^2 = .02, and the 3-way interaction between age group, ending type, and antagonist depiction, F (2, 299) = 2.95, p = .05, η^2 = .02, results were similar when including the response-time covariate. The main effect for the response-time covariate was not significant in any of these analyses.

[3]The way in which age group may have moderated enjoyment of congruent versus incongruent endings might also be seen in the 3-way interaction between age group, ending type, and prime condition. This is because congruity was conceived as an interaction between the ending type and the prime condition. This interaction was tested in a 2 (age group) x 2 (prime condition) x 3 (ending type) ANOVA with enjoyment as the dependent variable. However, this three-way interaction did not yield significance, F (2, 292) = .72, p = .49, $\eta^2 < .01$.

Appendix

APPENDIX

1. **Experimental script and protocol**

    a. **Oral script for child/minor assent**

        i. "Hi, my name is_____. I am a student at Michigan State University and I am doing a project to learn why its fun for children to watch stories like the ones on TV. I would like to ask you for your help so I can do my project. Let me tell you about what you would be doing. If you said yes, you would watch two or three videos and then I would ask some questions about how you liked the videos. For some of the questions, you could just tell me the answers, but for other questions, I would need you to press a button to tell me your answer. It isn't like school. There is no wrong or right answer to these questions. If you say "yes" you can still stop at any time by telling me "I want to stop." You won't get in any trouble for stopping. Also, your parent(s) know about the questions I would ask. Would you like to help me with my project?"

    b. **After child agrees to help with project, lead him or her to data collection area.**

    c. **Seat the child in front of monitor**

    d. **Recite experimental script**

        i. "Thank you very much for agreeing to help me with the study."

ii. "Let's go over what to do. Sometimes, I will ask you a question and I will want you to press one of the buttons that has a frowney or smiley face on it."

    1. **[Indicate the scale and buttons to child participant.]**

iii. "Do you see the buttons there?"

iv. "Sometimes, you will hear the computer ask you a question and I will want you to press one of the buttons that has a frowney or smiley face on it."

v. Recorded voice (female) guides children through stimulus-presentation software:

    1. Thanks for coming. We're going to play a short game and then watch a couple of videos.
    2. For the first game, just press one of the face buttons when you can see the letter X. Wait until you can see the letter X, then press one of the faces as fast as you can.
        a. Now let's watch a video. After the video, I will ask you some questions.
        b. Please press one of the faces to tell me how much you liked the character that was just on the screen.
        c. Please press one of the faces to tell me how much you liked that part of the story.

3. Now let's watch another video. This video will be just a little longer than the last video.
4. Please press one of the faces to tell me how much you liked the end of the story.

vi. Proceed to open-ended questions

1. "How did you like the story?"
2. "What did you like most about it?"
3. "Was there anything that you didn't like about it?" (if so …) "What?"
    a. **Display picture of Prince Andrew (on monitor) then advance to next screen.**
4. "How did you like Prince Andrew?"
    a. **Display picture of Prince Anthony (on monitor) then advance to next screen.**
5. "How did you like Prince Anthony?"
6. "Was Prince Anthony punished too little, just enough, or too much at the end of the story?"
7. "Did he do something wrong?" (if so…) "What did he do that was wrong?"
8. "Was there a reason that Prince Anthony shouldn't be punished?" (if so …) "What is a reason that Prince Anthony shouldn't be punished?"

e. **Voice recording continues to guide participant through stimulus-presentation software.**

    a. **Display picture of Prince Andrew (on monitor) then advance to next screen.**

2. Please press one of the faces to tell me how much you liked Prince Andrew.

    a. **Display picture of Prince Anthony (on monitor) then advance to next screen.**

3. Please press one of the faces to tell me how much you liked Prince Anthony.

    a. **Display picture of Prince Anthony as animal depiction (on monitor).**

4. Now, look at this new picture. Imagine the end of the story if Prince Anthony looked like this.

    a. **Advance to next screen.**

5. Now, please press a face button to tell me how much you would have like the end of the story.

6. Please press one of the faces to tell me how much you liked Prince Anthony.

7. Please press one of the faces to tell me how much you liked Prince Andrew.

f. Task is over and Experimenter thanks participant and guides them out of the study area.

Figure 6. Hedonic face graphic scale.

Measures for demographic variables

Child's birthdate (dd/mm/yyyy) _____

How long has your child attended preschool? _____ years and _____ months

Education
What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.

O No schooling completed
O Nursery school to 8th grade
O 9th, 10th or 11th grade
O 12th grade, no diploma
O High school graduate - high school diploma or the equivalent (for example: GED)
O Some college credit, but less than 1 year
O 1 or more years of college, no degree
O Associate degree (for example: AA, AS)
O Bachelor's degree (for example: BA, AB, BS)
O Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)
O Professional degree (for example: MD, DDS, DVM, LLB, JD)
O Doctorate degree (for example: PhD, EdD)

Employment Status
Are you currently...?

O Employed for wages or salary
O Self-employed
O Out of work and looking for work

O Out of work but not currently looking for work
O A homemaker
O A student
O Retired
O Unable to work

Household Income

What is your total household income?

O Less than $10,000
O $10,000 to $19,999
O $20,000 to $29,999
O $30,000 to $39,999
O $40,000 to $49,999
O $50,000 to $59,999
O $60,000 to $69,999
O $70,000 to $79,999
O $80,000 to $89,999
O $90,000 to $99,999
O $100,000 to $149,999
O $150,000 or more

Ethnicity

Please specify your ethnicity. (You may check more than one if you wish.)

O Hispanic or Latino
O American Indian or Alaska Native
O Asian
O Black or African American
O Native Hawaiian or Other Pacific Islander
O White or European descent

Marital Status

What is your marital status?

O Now married
O Widowed
O Divorced
O Separated
O Never married

Figure 7. Alternative depiction of the antagonist.

Figure 8. Illustrations for Narrative.

Introduction.

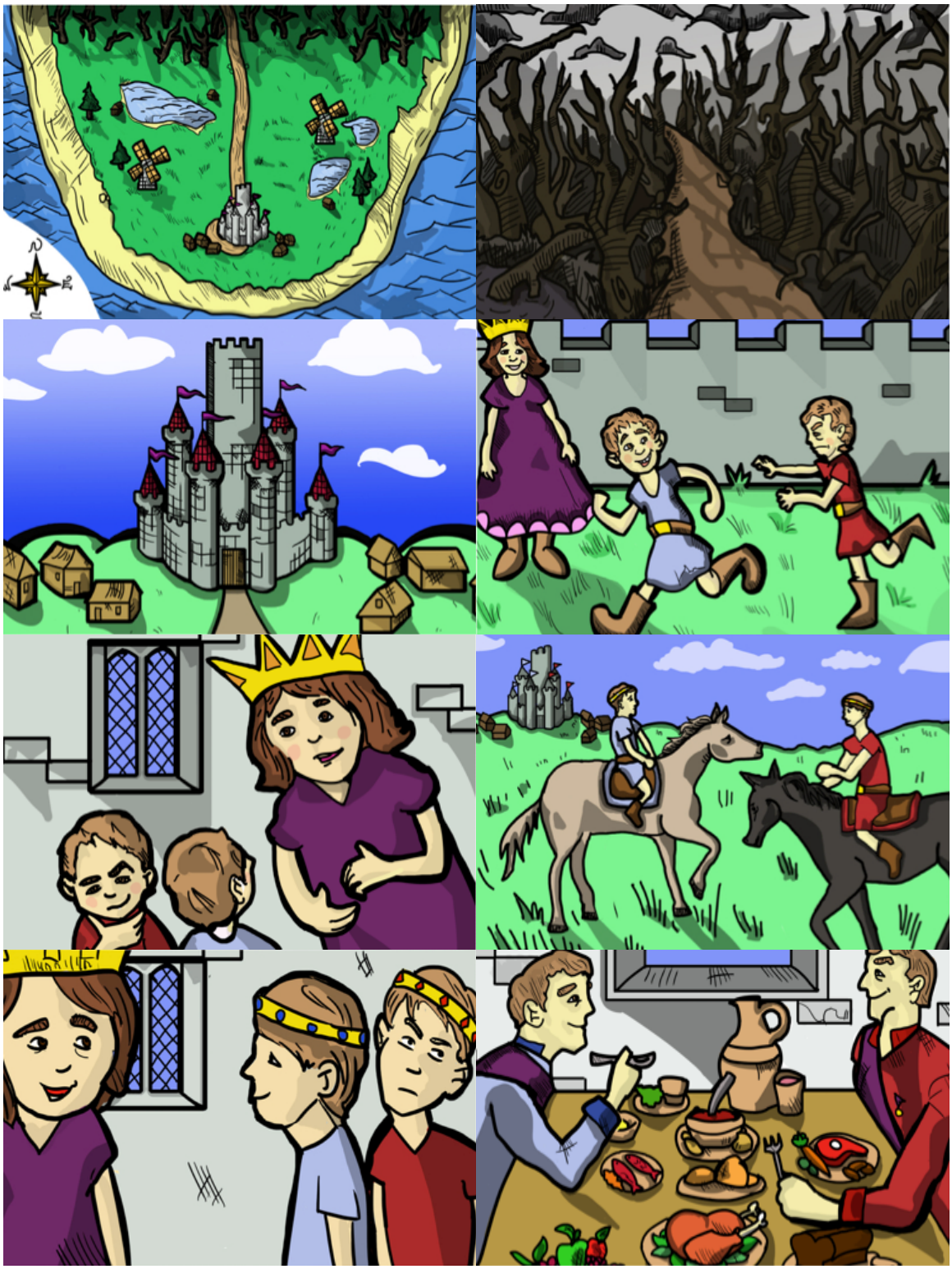

Figure 8 (cont'd)

Provocation scene.

Retaliatory sequence.

Figure 8 (cont'd)

Compassionate response.

Equitable response.

Harsh response.

Narration script

(1)

A long time ago in a courtly age, when Kings and Queens were in charge of the land, there was kingdom by the sea called Grenada. (… *pause* …) In the northern part of the kingdom, there was a dark forest full of scary shadows and dangerous plants and animals. Can you see it on the top? Everyone in the kingdom will tell you to stay out of there if you have any sense at all.

(2)

But the southern part of the kingdom is bright and sunny. There are blue lakes, green trees, and a beautiful castle.

(… *pause* …)

There were two princes who grew up with their mother in the castle.

(3)

This is Prince Andrew and his brother Prince Anthony. Everyone calls them the "prince brothers."

(5)

One day their mother, who was also the Queen, told the prince brothers about how they would share the kingdom someday. She said that when they grow up, they would *both* become kings.

> "The kingdom will be divided into two equal halves," said their mother, "the East Kingdom and the West Kingdom. One of you will rule in the east, and one will rule in the west."

The Queen was known across the land for being very smart. Everyone in the kingdom knew that she was always right about matters regarding the kingdom. She knew that the prince brothers would need to share the royal responsibilities when they grew up.

And the prince brothers were growing up fast. Days passed, then weeks, then months, then years.

(7)

When the prince brothers were old enough to understand, the queen told them an important story about the kingdom.

"A long time ago there were prince brothers like you who lived in Grenada. It was a tradition for the brothers to run in a race around the kingdom every year. Nobody ever knew which of the two princes would win.

(… *pause* …)

One year, one of the princes decided to cheat in the race. So he put a thorn in his brother's shoe.

(… *pause* …)

"Ouch!" said the prince when he felt the thorn in his foot.

When he found out that his brother put the thorn in his shoe, he became upset.

(a) **(Caring condition)**

But he knew that he shouldn't just hurt his brother back though. He knew that a good prince was gentle and kind, even when somebody else was mean.

When everyone found out about the good prince's noble behavior, even when his brother had been mean to him, they fell in love with the good prince.

His brother felt so terrible about his own bad behavior that he never made any trouble for the good prince ever again.

Eventually, the good prince became known as the best king to ever rule the land of Grenada.

(… pause …)

The queen told the prince brother's a lesson about kindness to remember from the story.

"Always be forgiving when somebody wrongs you," said the queen. "It's never right for a good king to hurt anybody even if they were mean."

The queen wanted the prince brothers to know that a good king does not punish anyone by hurting them.

(b) **(Fair condition)**

He knew that his brother should be punished for this behavior. He knew that a good prince is supposed to play by the rules.

When everyone found out about what happened in the race, they punished his brother fairly and fell in love with the good prince, who obeyed the rules.

His brother felt so terrible about his bad behavior that he never made any trouble for the good prince ever again.

Eventually, the good prince became known as the best king to ever rule the land of Grenada.

(… pause …)

The queen told the prince brothers a lesson about fairness to remember from the story.

"Always punish fairly when somebody does something wrong," said the queen. "It's important that a good king be fair with everyone."

The queen wanted the prince brothers to know that a good king is fair and just.

(8)

The prince brothers continued to grow up, and their mother continued to teach them lessons about the kingdom.

(9)

But Anthony started to have different thoughts. He decided that he did not want to share the kingdom half-and-half with Andrew. So, in his wicked way, he told his brother Andrew that he was stealing the entire kingdom for himself.

(10)

"You, my favored brother," Anthony said bitterly, "are never going to see the inside of the castle again. I have hated you long and hard, and now I am going to treat you like I have always wanted to. No more are you to be a prince, and you shall never be king of the people of Grenada. You will live your life on stale bread and warm water, in the dark dungeon in the northern forest, where you may rule a kingdom of rats! And I, I alone, will rule the kingdom of Grenada"

Prince Andrew could not escape from the guards.

"Anthony, please!" Andrew said bravely. "I have never done you any harm. I only want to share the kingdom with you as our mother wished."

Anthony ignored his brother's plea. Turning to the disloyal guards, Anthony commanded, "Now! Take him to the dungeon so that I may never see him again. I am the king!"

(11)

Andrew was trapped in the dungeon. He was worried at first, but he knew that some of his loyal soldiers would soon be on their way to help him escape. He began to think about his mother's lessons, and the story she told them about what makes a good king. (…. *Alternate versions*: (*fairness*) **and the story she told them about being fair and just**. (*care*) **and the story she told them about being gentle and kind, and never punishing anyone by hurting them**.

(12)

When the loyal soldiers finally rescued Andrew, they went straight to the castle where Anthony was hiding.

It was time for Andrew to do something about Anthony.

(13)

(a) **(Compassionate response condition)**

"Release them all!" Andrew said to his surprised loyal guards. "You are free, my brother. Do not worry. I will do all of the work outside of the castle, and you can remain inside with the royal court. But we shall continue to rule as planned; one ruling the East and one the West, dividing equally the forest land to the North and rich land to the South. And, Anthony, you may choose which half you prefer. East or West. Now, let us be about the business of ruling"

(b) **(Equitable response condition)**

“Send the traitors from the castle!” demanded Andrew. “No more shall these disloyal guards stay in our midst. Let them live in the villages, if the villagers will have them as neighbors. And as for you, Brother Anthony, you are forever banned to the forest in the northern part of Granada, where you may rule as you see fit. However, if you are ever seen in the South or within the castle walls again, you will spend the rest of your life in the same dungeon that you chose as my home, living on bread and ruling only rats!”

(c) **(Harsh response condition)**

“Bind them all!” He said to his loyal guards. “Drive the traitors like cattle throughout all the villages of the kingdom so that everyone may see their shame. And as for you, Brother Anthony, you who wanted me to rule only rats will rule nothing at all. You who wanted all of Granada shall have none of it. Brand him as a traitor!” he ordered the guards. “And drive him out of the kingdom. Wicked Anthony, you are never to set foot in Granada again or you will surely die. Rather you will spend your entire life as an outcast, a man who will never have enough clothes on his back, enough food in his stomach, or roof over his head …. A man without a home. Take him away!” said Prince Andrew “I must see about the business of my kingdom.”

Informed consent for a media study

Story Enjoyment Study

Purpose of this Study:

Welcome!

We are trying to understand how development impacts the way in which children understand and appraise entertaining, dramatic stories. In our study, we are manipulating the behavior of characters and events to see the manner in which younger and older children judge them differently. If your child agrees, s/he will watch two or three videos and answer some questions about the story verbally. The entire session is recorded, and will last approximately 13 minutes. All recorded information will be kept confidential to the furthest extent allowed by law, and identifying information will be removed from all files after they are collected. Example images from the stories and examples of questions from the interview are on the following page.

Your Child's Rights as Participant

Your child will be asked before participating. Your child's participation is voluntary, and s/he may choose not to participate at all, or may refuse to answer certain questions or discontinue participation at any time. Responses are strictly confidential and your child's privacy will be protected to the maximum extent allowable by law. Your child must be at least 4 years old and no more than 8 years old to participate in this study.

Risks and Benefits

There is only minimal risk with this study.

Stories exist in all human cultures. By investigating the manner in which children process stories we may better understand their universal appeal, and the origins of moral sensibilities.

Contact Information

If you have any questions about the study, you can contact the Study Coordinator Robert Lewis at (517) 355-2165 (cell: (573) 421.5159), online at lewisr11@msu.edu, or in person at 463 CAS Building, MSU, East Lansing MI, 48824. You may also contact the primary investigator Dr. Ron Tamborini at tamborin@msu.edu; 570 Communication Arts & Sciences Building; 517-355-0178.

If you have any questions or concerns about your child's role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this research study, you may contact, anonymously if you wish, the Michigan State University Human Research Protection Program at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 207 Olds Hall, MSU, East Lansing, MI 48824.

Printed name	Child's printed name
Signature	Date

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