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Early Adolescents Can Extract Distinct Moral Lessons from Narrative Media Content

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ABSTRACT

Extant research suggests that young audiences often misinterpret narratives' moral messages, potentially limiting the ability of narratives to serve as effective purveyors of moral lessons. Yet questions remain regarding whether young audiences' inability to extract moral messages from narratives is due to limitations in their moral comprehension, the types of values emphasized by the stimuli in previous studies, or variance from study to study in the measurement of what counts as an "accurate" extraction of a moral. The present study offers an approach for answering these questions by investigating early adolescents' capacity for extracting narratives' moral lessons according to a scheme of moral values outlined by the model of intuitive morality and exemplars (MIME). We content-analyzed open-ended responses from three previous studies that had $N = 753$ early adolescents (ages 9–14) identify the main point of a moral narrative designed to emphasize care, fairness, loyalty, authority, or a non-moral narrative that emphasized egoism. Results revealed that participants accurately extracted the main point across narratives that emphasized each distinct value, suggesting that moral comprehension may not be to blame for early adolescents' inability to extract narratives' moral lessons. Discussion focuses on the MIME's utility for advancing understandings of young audiences' moral narrative comprehension.

Morally-laden narrative media can be an effective teacher of social values for young audiences (Saltman, 1998). However, media's instructional efficacy depends on child audiences' ability to comprehend the moral messages communicated by narratives. Previous research has shown that both younger (ages 5–6) and older children (ages 10–14) often interpret the moral messages of narratives in a manner "that is inconsistent with the writer's intent" (Mares & Acosta, 2008, p. 378; Narvaez, 1998; Narvaez et al., 1998, 1999). Yet to date, this body of research seems to focus on disconnected and diverse categories of moral content, ranging from narratives demonstrating the importance of

being kind, honest, or having a tolerance for others. Given research suggesting that even very young children have *innate* sensitivities toward a range of moral issues, we might expect that children would have a capacity for recognizing moral messages early on (Bloom, 2013; Haidt & Bjorklund, 2008).

Without theoretical guidance in this area, or a clear, structured definition of the moral messages contained in children's media, questions remain regarding whether children's inability to extract moral messages from narratives is due to limitations in (a) their moral comprehension, (b) the types of values emphasized by the stimuli in these studies, (c) variance from study to study in the measurement of what counts as an "accurate" extraction of a moral, or (d) a combination of these issues. Drawing on theories from moral psychology and entertainment media effects, we use an established coding scheme based on a theoretical model that describes semantically-distinct moral values in an attempt to systematically investigate if early adolescents are capable of correctly identifying narrative lessons when stories focus on a range of different moral values.

More specifically, guided by moral foundations theory (MFT; Haidt & Joseph, 2007) and the model of intuitive morality and exemplars (MIME; Tamborini, 2013), we report the results of a study examining whether early adolescents are capable of extracting a story's intended moral message when that story emphasizes a specific value (either care, fairness, ingroup loyalty, respect for authority, or an egoistic, selfish desire). We begin by reviewing work on children's and early adolescents' ability to comprehend moral lessons from narratives. We refer to audiences under 17 years of age as children broadly, and audiences aged 9–14 as early adolescents specifically. We then introduce MFT and the MIME as guiding theoretical frameworks that explicate a set of distinct moral values that could be represented in narratives and learned by audiences. Finally, we report a study testing early adolescents' ability to extract specific moral lessons from manipulated stories.

Early Adolescents' Comprehension of Moral Narratives

Teachers and parents have long understood the value of the moral lessons found in children's stories for building character and fostering moral development (Helwig et al., 1995; Walker & Lombrozo, 2017). We refer to *moral* as pertaining to principles of right versus wrong, or good versus bad, and *moral lesson* as a narrative message intended to teach audiences that a certain principles or behaviors are right/good or wrong/bad. However, previous research has demonstrated that young children (ages 5–6) often misinterpret the intended moral messages of narratives (Mares & Acosta, 2008; see also Mares & Acosta, 2010; Narvaez et al., 1998). Although research suggests that older children begin to gain a capacity to comprehend the moral lessons presented in narratives, one study showed that 10- to 11-year-olds could

extract the correct moral message of a narrative only about 50% of the time (Narvaez et al., 1999). Another study showed that teens (ages 13–14) had difficulty recalling moral content when it concerned moral principles associated with long-term benefit or harm to society, rather than short-term benefit/harm to individuals (Narvaez, 1998). In light of these findings, some scholars have suggested that young audiences' ability to extract moral lessons from narrative content may depend upon certain milestones in their moral development (e.g., Cingel & Krcmar, 2020; Kohlberg, 1984; Pelletier & Beatty, 2015; Piaget & Cook, 1952), or whether they have developed specific cognitive moral schemas that are consistent with the moral content (e.g., Narvaez et al., 1999; Whitney et al., 2005).

Other scholars, however, suggest that even very young children have *innate* sensitivities toward a range of moral issues (Bloom, 2013; Haidt & Bjorklund, 2008), including a concern for others' welfare (Warneken & Tomasello, 2009), equity and justice (Turiel, 2008), ingroup preference (Hamlin et al., 2013), deference to authority figures (Laupa, 1991), and disgust toward social and biological contaminants (Stevenson et al., 2010). Across at least five distinct moral domains, even infants seem to demonstrate moral proclivities that "are sophisticated ... and surprisingly consistent with adults' moral inclinations" (Hamlin, 2013, p. 191).

Evidence for an innate moral core in very young children stands in contrast to research suggesting that children exhibit difficulty in extracting moral lessons from narrative media. On one hand, decades of research suggests that even young children have a sophisticated capacity to make sense of moral concerns in distinct domains (e.g., see Bloom, 2013; Hamlin et al., 2013). Yet other research demonstrates that older children often misinterpret the intended moral lessons in narrative media, suggesting that they may be unable to verbalize these moral ideas - or at least that they are extracting moral lessons that are inconsistent with the lessons adults specified as intended. Although issues of reading comprehension may help explain conflicting findings from studies with younger children, this explanation is less likely for research with early adolescents who have more developed reading comprehension skills (Narvaez et al., 1999; Narvaez, 1998). Several issues may be contributing to this paradox. We proffer that previous research attempting to examine young audiences' interpretations of moral lessons from narratives has been limited by its lack of a theoretical foundation specifying what constitutes a moral message.

Lacking a shared conceptual model across studies examining moral comprehension in narratives has led to two main issues. First, it has led to considerable variance in the measurement of what counts as "accurate" extraction of a moral lesson. For example, one of the ways that Narvaez et al. (1998) measured moral extraction involved assessing whether third and fifth graders could select a vignette featuring the same moral from a target story.

Extractions were counted as "hits" when the child selected a vignette (from a list of vignettes) that featured the same moral as a target story (e.g., if a child selected a vignette emphasizing that "it is good to include others" when the moral of the target story was focused on the importance of social inclusion). Extractions were counted as "misses" when the child selected a vignette that featured a moral different from what was emphasized in the target story (e.g., if a child selected a vignette emphasizing that "it is good to help those in need" when the moral of the target story was focused on the importance of social inclusion). Importantly, we might expect this matching procedure does more to reveal the child's ability to match similar concepts or words than their ability to extract a moral lesson.

Separately, Mares and Acosta (2008) showed kindergartners an episode of *Clifford the Big Red Dog*. In this clip, Clifford, the protagonist, meets a new dog who has only three legs. Although he is initially skeptical of the 3-legged dog, eventually Clifford learns the dog is nice and befriends him. The intended moral lesson of this narrative, according to the authors, is "tolerance for those who are different," yet the main moral lesson the authors identified in kindergartners' responses was "be kind to 3-legged dogs." Investigators interpreted these findings to suggest that kindergartners were unable to identify or generalize the story's moral lessons to the physical world. Although this was counted as a "miss," we note that being kind to 3-legged dogs does indicate tolerance for those who are different, albeit more narrowly. Without guiding theory in this area, what counts as a "hit" in these studies seems to be subjective to the researchers' interpretation and is therefore difficult to compare across studies.

Second, although several studies have examined children's capacity to extract a variety of moral lessons and values (e.g., pro-tolerance, justice, etc.), the absence of a theory guiding empirical research in this area leaves questions remaining about whether children are capable of extracting different types of moral lessons, or limited to extracting more general moral principles (e.g., Mares & Acosta, 2008; Narvaez et al., 1999; Whitney et al., 2005). To reach agreement regarding children's comprehension of moral lessons in narratives, researchers must agree on (a) how they define the moral lessons represented in content and (b) how they identify and measure children's ability to extract these lessons. Without these, a systematic exploration of these issues seems almost insurmountable. The presence of a shared conceptual model, however, makes these goals attainable.

Drawing on recent advancements in moral psychology, we adopt the model of intuitive morality and exemplars (MIME; Tamborini, 2011, 2013) as a guiding theoretical framework. More specifically, we borrow a theoretically-based coding scheme of moral values (e.g., Hahn, Tamborini, Klebig, et al., 2019; Tamborini et al., 2020) to examine whether early adolescent audiences can extract moral lessons across four distinct

moral domains. This theoretically-driven coding scheme has been success-fully used in previous research to extract morally-laden information from different forms of media content (see Eden et al., 2021; Tamborini & Weber, 2020). Here, we apply the scheme to open-ended responses from early adolescents. Before describing our study and this codebook, we review its conceptual foundation.

A MIME Method of Understanding Early Adolescents' Comprehension of Moral Lessons

Extensive research has adopted the MIME (Tamborini, 2011, 2013) to examine the representation of moral *intuitive-motivations* in media content and their effects on audience members (for review, see Eden et al., 2021). In brief, the MIME posits that exposure to exemplars (i.e., examples) of these moral intuitive-motivations can increase the importance that audiences place on them.

The MIME identifies a set of five moral intuitive-motivations, which can be understood as a set of sensitivities toward right or wrong. The MIME adopts its conceptualization of intuitive-motivations (hereafter referred to simply as *motivations*) from moral foundations theory (MFT; Haidt & Joseph, 2007). These include *care*, represented by feelings of compassion and empathy toward others; *fairness*, associated with truth, justice, and equity; *ingroup loyalty*, typified by a bias toward ingroup members and against outgroups; *respect for authority*, a favorability toward social traditions, benevolent leader-ship, and institutional structures; and *purity*, affiliated with an avoidance of social and biological contamination. This set of moral motivations is consid-ered innate across all humans, and evidence suggests that each is semantically distinct (Atari et al., 2020; Haidt & Bjorklund, 2008). The intuitive response to these moral motivations is thought to be universal, such that observing them upheld produces positive affect in audiences, while observing them violated produces negative affect (Tamborini, 2013).

Moral Motivation Salience In Media Content And Audiences

Content analytic work has demonstrated that these five moral motiva-tions are commonly represented in popular media across different gen-res, media, and cultures (for review, see Eden et al., 2021; Tamborini & Weber, 2020). In particular, several studies have used the MIME to examine how children's media represents these moral motivations in content for young viewers. For instance, prior work has examined the depiction of moral motivations in television (Aley et al., 2021; Hahn et al., 2017; Hahn, 2022; Lewis & Mitchell, 2014; Tamborini et al., 2017), songs (Hahn, Tamborini, Klebig, et al., 2019), films (Tamborini et al.,

2021), and books (Tamborini et al., 2020) aimed at children. Taken together, this work demonstrates that the moral motivations outlined in MFT and the MIME feature prominently in content targeted at young children, and this emphasis changes to a focus on more selfish (egoistic) drives as content is targeted at older children (see Tamborini et al., 2021).

In the present study, we adopt this coding scheme of moral motivations and apply it to children's (specifically early adolescents') responses about narratives' main points. We do this based on the belief that efforts to determine the type of moral lessons early adolescents learn from stories require a theoretically-based instrument capable of measuring the extent to which young audiences extract the main points of narratives across the range of specific moral domains afforded by MFT and the MIME.

The MIME suggests that exposure to narratives highlighting different moral motivations can increase the salience of (or the weight given to) these motivations in audiences' minds. This effect has been demonstrated with adults (Prabhu et al., 2020; Tamborini et al., 2016) and, relevant to the present study, with early adolescents (Aley et al., 2019; Cingel & Krcmar, 2019; Hahn et al., 2022; Hahn, Tamborini, Weber, et al., 2019). For instance, Hahn et al. (2022) found that different narratives designed to emphasize four of the five moral motivations (excluding purity) increased the salience of each of those motivations in the minds of 10- to 14-year-olds. These findings were replicated across two studies (Aley et al., 2019; Hahn, Tamborini, Weber, et al., 2019). To our knowledge, however, no studies have yet investigated the relationship between content that emphasizes moral motivations and early adolescents' ability to extract and comprehend those moral motivations from content. However, the MIME provides the type of framework needed to examine how young audiences perceive and learn moral lessons represented in narrative media.

A MIME-Based Approach To Assessing Children's Learning Of Moral Lessons

Past work has suggested that media content's ability to increase intuitive-motivations' salience in children may equate to *learning* the importance of moral values (Hahn et al., 2022). That is, the greater weight (i.e., salience) moral motivations have in audiences' minds, the less likely it is that audiences would need to deliberate when faced with a dilemma concerning that motivation. For example, consider a child who is forced to decide whether to let their friend cut in line (i.e., deliberate whether to uphold ingroup loyalty at the expense of fairness to other people in line). If ingroup loyalty had been previously made salient in the child's mind, we would not expect them to deliberate over their decision to let the friend cut. Much like learning a *heuristic* to

favor ingroups at the expense of others, moral motivation salience can be thought of as the activation of innate mental systems in audiences' minds that prioritize certain moral values (in this case ingroup loyalty) over others in decision-making (see Haidt & Joseph, 2007).

According to the MIME (Tamborini, 2013), the prioritization of moral motivations in audiences' minds can be temporary or more enduring. Relevant to the present study, exposure to narrative media is noted as one source that can reinforce the importance of moral motivations – either temporarily from recent exposure or chronically from frequent exposure (Haidt & Bjorklund, 2008; Tamborini, 2013). Thus, in MIME terms, *learning* the importance of a moral motivation from media content would be defined as the extent to which a moral motivation emphasized in content becomes salient in their minds and, as a result, is given priority in their subsequent judgments.

Of course, just because a moral motivation is salient to a child after they observe it in a narrative does not mean that the child can accurately identify or articulate what they have learned when asked (see Cingel & Krcmar, 2020 for discussion). For example, Cingel and Krcmar (2019) found that preschoolers who watched an episode of *Arthur* that emphasized fairness were more likely to judge non-related fair and unfair acts as more and less moral accordantly, but could notarticulate why they made the judgment. Thus, although the MIME might proffer that moral salience (i.e., moral *learning*) results from exposure to morally-laden narratives, this may not mean that children are capable of articulating what they have learned when asked to extract a moral lesson from narrative content. Nevertheless, the ability of young people to articulate these moral lessons is an empirical question, and one that the present study seeks to address with older children (i.e., early adolescents).

Here, we are particularly interested in examining how early adolescent audiences consciously interpret and label media portraying moral motivations. The present study therefore examines the extent to which early adolescents can correctly identify the moral lessons of narratives crafted to emphasize the importance of care, fairness, ingroup loyalty, authority, or an egoistic (selfish) desire as a comparison. That is, are young audiences aware of and able to identify the presence of discrete moral motivations in content?

The Current Study

Guided by the MIME and building on previous work investigating moral-narrative comprehension in younger children, the present study attempts to examine to what extent early adolescents (ages 9–14) are capable of extracting the specific moral message portrayed in narratives. Based on our discussion above, we propose:

H1: When asked to describe the main point of a narrative manipulated to emphasize care, fairness, ingroup loyalty, or respect for authority, early adolescents will indicate the importance of the accordant moral motivation.

Although the present study's main goal is to investigate early adolescents' ability to extract moral messages from narratives, we also examine the extent to which these audiences can extract non-moral, egoistic messages as a comparison. Comparing early adolescents' ability to extract moral versus non-moral messages from media content should help us determine whether any inability by participants to extract moral messages is due to reading comprehension issues (if they have difficulty extracting both moral and non-moral messages) or due to something unique about morally-laden messages (if they have difficulty extracting moral messages but not non-moral messages). To make this comparison, we propose:

H2: When asked to describe the main point of a narrative manipulated to emphasize an egoistic desire, early adolescents will indicate the importance of egoistic desires.

Finally, we attempt to determine whether children are capable of extracting nuanced moral lessons from media content compared to more general moral principles. More specifically, we attempt to measure the specificity of early adolescents' moral message extraction to determine whether this capacity is limited to recognizing general altruism (e.g., "the main point of the story is *to be good.*"), or sophisticated enough to recognize distinct types of altruism in line with the distinct moral motivations outlined by MIME and MFT (e.g., "the main point of the story is to *help others in need,*" or "the main point of the story is to *share equally with others.*"). Hence, we ask:

RQ1: When asked to describe the main point of a narrative manipulated to emphasize care, fairness, ingroup loyalty, or respect for authority, will early adolescents be more likely to identify the main point in terms of general moral principles or in line with the specific moral motivation emphasized in content?

Methods

To test our hypotheses and answer RQ1, we obtained data from the authors of three previous studies that used identical materials and procedures (Aley et al., 2019; Hahn et al., 2022; Hahn, Tamborini, Weber, et al., 2019). In each study, the previous authors exposed participants to one of five versions of the same comic book. These story conditions were manipulated by the previous researchers to emphasize the importance of one of the four moral motivations (care, fairness, loyalty, respect for authority) or egoistic desire (with no moral motivation). In all three studies, participants were asked to identify the main

point of the narrative. Participants' open-ended responses to the question asking them to identify the main point of the narrative were not examined or reported in any of the previous studies. Because all participants were exposed to the same stimuli and open-ended question across the three studies, we combined the data of all three studies for the present investigation and content analyzed participants' responses to the open-ended question. Specifically, we trained three coders on a previously validated MIME-based coding scheme to be able to extract the moral motivation(s) identified in each participant response.

Sample

The sample for this investigation was collected across three studies, all of which used identical procedures and stimuli. Participants were recruited from grades 5–7 in elementary and middle schools located in the Northeastern USA. A combined total of 763 participants completed the study. However, 10 participants did not identify any main point of the narrative and thus were excluded from further analysis. This resulted in a total of 753 early adolescents who completed the open-ended question ($M_{age} = 11.81$, $SD = .92$; $range_{age} = 9$–14; 50.2% = female).

Procedure

In each study reported by the original authors, participating schools sent home a parental consent form with all students in grades 5 through 8. If parental consent was obtained, students were then invited to participate. On the day of the study, researchers report they met with groups of students who were seated together in their classrooms. Researchers explained that the study involved reading a comic book and then answering some questions about it. Researchers also explained that participation was completely voluntary, and read the child assent form aloud. Interested participants signed the child assent while those who decided not to participate sat in the back of the classroom. All participants were compensated for their participation with small gifts, such as stickers, toys, and pencil toppers.

After assent was obtained, the willing participants were randomly assigned to one of the five study conditions. Blind random assignment was accomplished by handing each participant one of the five comic book versions (all comics appeared the same in their front-matter). Once materials were distributed, researchers instructed participants to read their comics quietly to themselves, then complete a paper survey containing the open-ended measure. The entire procedure in each study took approximately 30 minutes. Full description of the method employed by all studies is detailed by Hahn et al. (2022).

Stimuli

The same stimuli were used in all three of the original studies. The stimuli consisted of five versions of a comic book, *Cleopatra in Space*. Each version of the comic book featured the same overall plot, differing only in places where the original researchers (Hahn et al., 2022) attempted to highlight the relevant moral condition. Conditions highlighted the upholding of one of the four moral motivations (i.e., care, fairness, ingroup loyalty, or respect for authority) or emphasized an egoistic (selfish) desire without highlighting any moral motivations. The previous researchers (1) content analyzed the comics to confirm they emphasized the moral motivation intended by each condition (see discussion in Hahn et al., 2022), and (2) noted that purity was not included for inspection due to its conceptual ambiguity (e.g., Eden, 2011). As such, purity was not included for inspection in the current study.

The general plot follows a main character, Cleopatra, who attends school with her best friend, Akila. In the middle of class, Cleopatra is given a mission where she must travel to a neighboring planet, locate and retrieve a key to a locked treasure, and return the key to her commander. Cleopatra agrees, travels to the planet with her friend Akila, retrieves the key, and makes her way back to the spaceship. Before reaching her spaceship, Cleopatra is captured by the planet's inhabitants, ("Nebulans"), who desire the key for themselves. Cleopatra must make a decision on the right thing to do with the key. After making her decision, Cleopatra goes back to her spaceship and discusses her decision with Akila. The narrative concludes with Cleopatra flying off into space in order to carry out her decision.

The plot differs at four points, all of which are central to the narrative. At each of these plot points (e.g., the choice Cleopatra makes; how she explains this choice to her friend), the story highlights the upholding of the specific moral motivation (or none) relevant to that stimuli condition. For instance, in the care condition, the plot variations focus on the importance of helping others in need, whereas the fairness condition's plot focuses on the importance of equality and ensuring others get what they deserve. The loyalty condition's plot focuses on the importance of siding with your ingroup, and the authority condition's plot emphasizes the importance of deferring to benevolent leaders. Finally, the nonmoral/egoistic condition emphasizes the importance of following one's dreams.

Data Availability Statement

The present study's data, analysis syntax, and coding manual are available on OSF: https://osf.io/56kaq/

The stimuli for the original studies were created by Hahn et al. (2022) and are available in their OSF repository here: https://osf.io/a4wbc/ We

reproduced their comics and a file they created detailing the plot point variations on the present study's OSF repository as well.

Measures

The current study examines the responses of an open-ended question asked to participants at the end of the researchers' original surveys. This item stated: "In the comic book you just read, what was the main point of the story?" Participants were provided with space to write their answers.

MIME-based Coding Scheme

The current study employed a MIME-based coding scheme designed to extract the presence of moral motivations in message content (coding scheme is adapted from Tamborini et al., 2017). This scheme adopts the operational definitions of the moral motivations described in MFT (Haidt & Joseph, 2007). We adopted the definitions in their codebook to extract references to care, fairness, loyalty, and authority in participants' responses. We also extracted references to egoistic desires and general moral values in participants' responses.

Coding Procedure

Three coders completed five weeks of training. They were instructed how to identify each of the motivations in a variety of content. Practice coding was assigned each week and group discussions were conducted to resolve any disagreements on example content. Once training was complete, we instructed coders to examine participants' open-ended responses and identify the presence of care, fairness, loyalty, authority, an egoistic desire, or a general moral.

Specifically, coders were instructed to examine the main points identified by participants to determine if it (a) fit into one of the four moral domains identified by the existing MIME codebook, (b) referenced more general moral principles unable to be categorized according to the MIME's specific values, or (c) concerned egoistic, or selfish, desires. For instance, care was coded if a participant's response focused on helping people in need (e.g., "The main point was that you should help people when they need it most."). Fairness was coded if the response focused on principles of equity, equality, or justice (e.g., "Be fair. Treat others like you want them to treat you."). Ingroup loyalty was coded if responses focused on a preference for one's ingroup (e.g., "Do not be a traitor to your friend"). Authority was coded when responses focused on deference to social or institutional hierarchies (e.g., "Listening to your boss is most important."). If the main point was unable to be categorized into one of these four moral categories, but referenced a broader moral principle, such as providing benefit to *others* over one's self, coders were instructed to code it as generally moral. For example,

a response such as "The main point of the story was always think of others before yourself," would be coded as generally moral. Finally, egoism was coded if the response referenced principles that would provide non-moral benefit to an individual. For example, responses such as, "You can make your own choice," or "Follow your dreams" would be coded for egoism. Coders were able to code as many categories as were present.

Intercoder Agreement

To assess intercoder reliability, $n = 152$ (20.18% of the study's content) participant responses were drawn at random to be coded by all three coders, using Brennan and Prediger's Kappa (Brennan & Prediger, 1981) with the threshold for acceptable agreement set at .70. All five values reached the threshold: κ_{Care} = .97, $\kappa_{Fairness}$ = .97, $\kappa_{Loyalty}$ = .99, $\kappa_{Authority}$ = .98, $\kappa_{Egoistic}$ = .93, $\kappa_{General\ moral}$ = .80. Disagreements on items in the reliability subsample were resolved by majority rule. The remaining responses were then randomly divided and each was coded by one of the three coders.

Results

Of the 753 participant responses, 166 were unable to be coded into any of the codebook categories (care, fairness, loyalty, authority, egoistic, general moral). Closer inspection of these responses revealed that most participants simply recited minor plot points as the narrative's main point (e.g., "Cleo taking her friend on a mission with her"), others referenced more general things about the plot (e.g., "Cleopatra was in Space"), and others said they did not know what the main point was (e.g., "No clue."). Nevertheless, we included these responses (referred to as "uncodable" responses) in our main analyses to determine whether early adolescents' misidentification of the narrative's main point was systematically biased toward one or more narrative conditions. To proceed with the study's main analyses, we structured our data in a long-format to allow for each participant response to take on as many coding categories (or none) as were present.

To test H1, H2, and RQ1 we conducted a 5 (comic condition: care, fairness, loyalty, authority, egoistic) x 7 (extracted main point in responses: care, fairness, loyalty, authority, egoism, general moral, uncodable) chi-square test, χ^2 (24, $N = 4528$ cases) = 952.47, $p < .001$, Cramer's $V = .23$. For inspections of individual cells, we used an adjusted standardized residual of 1.96 as the preset criteria for statistical significance. Frequencies and adjusted standardized residuals for this analysis can be seen in Table 1. As expected for H1, participants were overwhelmingly more likely to identify the moral motivation emphasized in the comic they read as the narrative's main point, compared to any other moral motivation. More specifically, participants who read a comic book emphasizing the importance of care were more likely to identify

Table 1. Frequency of moral motivations mentioned in participant responses by story condition.

Moral Motivation in Participants' Responses	Story Conditions				
	Care	Fairness	Ingroup Loyalty	Authority	Egoism
Care	72 (15.2)	12 (−1.9)	5 (−3.7)	2 (−4.3)	1 (−4.6)
Fairness	23 (−1.3)	95 (11.9)	20 (−2.8)	17 (−3.2)	8 (−4.9)
Ingroup Loyalty	2 (−3.9)	4 (−3.8)	74 (14.7)	8 (−2.6)	0 (−4.7)
Authority	4 (−4.1)	7 (−4.0)	8 (−3.7)	85 (14.6)	10 (−3.0)
Egoism	2 (−3.7)	4 (−3.6)	8 (−2.5)	8 (−2.4)	60 (12.2)
General Morality	24 (1.7)	21 (0)	15 (−1.4)	13 (−1.8)	26 (1.6)
Absent	685 (−1.4)	812 (−0.9)	815 (0.3)	781 (−0.4)	797 (2.4)

Frequencies are depicted outside the parentheses. Adjusted standardized residual for each cell appears inside the parentheses. Adjusted standardized residuals less than −1.96 or greater than + 1.96 are interpreted as statistically significant at $p < .05$.

the main point in terms of care (*adjusted standardized residual* = 15.2), participants who read about the importance of fairness were more likely to identify the main point of the comic in terms of fairness (*adj. std. res.* = 11.9), those who read about the importance of ingroup loyalty were more likely to identify the narrative's main point in terms of loyalty (*adj. std. res.* = 14.7), and those who read about the importance of respecting authorities were more likely to identify the narrative's main point in terms of authority (*adj. std. res.* = 14.6).

This pattern of results also held for H2: Participants who read a comic book that emphasized the importance of an egoistic desire were more likely to identify the main point of the narrative as egoistic (*adj. std. res.* = 12.2), rather than moral. Although smaller in magnitude than the egoistic response type, there was also a tendency for participants in the egoistic comic condition to give uncodable responses when asked to identify the narrative's main point (*adj. std. res.* = 2.4).

Finally, we examined the chi-square test results for RQ1, which asked whether participants were more likely to identify broader, general moral principles as the narrative's main point compared to the more specific values that characterized the narrative's plot. Results revealed that participants were no more likely to identify the main point as generally moral in any of the story conditions (all *adj. std. res.* < 1.9). Inspection of the adjusted standardized residuals instead revealed that, in each story condition, participants were always most likely to extract the distinct moral or non-moral motivation emphasized in the narrative, rather than general moral principles.

Discussion

The current study attempted to investigate the extent to which early adolescents were capable of correctly identifying narrative lessons focused on a range of specific moral values. By examining the responses of early adolescents collected across three studies, this study sheds light on the capability of early adolescents to extract the moral lesson contained within a narrative. This discussion begins by reviewing our investigation's findings and then considers

how this work overcomes issues in existing research on children and moral media. Following this, we examine the current study's limitations and conclude by reflecting on directions for future work exploring children's comprehension of morally-laden narrative media.

Overview of Findings

Our investigation set out to examine the extent to which early adolescents can comprehend the moral messages contained in media narratives. We reasoned that research attempting to determine whether children can accurately comprehend a story's moral message required a coding scheme that could accurately identify the range of distinct moral values that could be expressed. To examine this issue, we applied a scheme based on the model of media and morality described in the MIME, which explicates processes that govern audience responses to moral narratives.

Tests of our first hypothesis examined whether early adolescents could distinguish specific moral motivations as a story's main point in different versions of the same narrative written to emphasize the need for people to be caring, fair, loyal to ingroup members, or respectful of authority. Results demonstrated clearly that early adolescents could distinguish specific moral motivations and identify which motivation was highlighted as the main point in different versions of the same narrative. Notably, they identified the motivation emphasized in these stories unprompted, to an open-ended question that offered no clue to the story's main point. This was true for each of the four distinct moral motivations that served as motivating themes in the different stories (i.e., care, fairness, ingroup loyalty, and respect for authority). For example, early adolescents who read the story highlighting fairness were significantly more likely to report fairness as the main point of the story than any other moral motivation.

Tests of our second hypothesis examined whether early adolescents could distinguish egoism as a story's main point in a version of the same narrative written to emphasize egoistic needs. Like the findings on recognition of specific moral motivations, early adolescents showed the ability to identify (unprompted) broad egoistic principles as the main point highlighted in the story they read. There was a slight tendency for participants who read a non-moral/egoistic comic to identify the main point in a manner that was uncodable using the current study's coding scheme. As mentioned in the results section, inspection of uncodable responses revealed that they were uncodable for one of three reasons: (1) the participant recited minor plot points as the narrative's main point (e.g., "Cleopatra went to school." (2) the participant referenced more general characteristics about the plot (e.g., "Cleopatra was in Space."), or (3) participants said they did not know what the main point was (e.g., "No

clue"). We might speculate that audiences who read the non-moral/egoistic comic showed a tendency to miss the main point because they were unaccustomed to reading about a non-moral, selfishly-driven protagonist. This interpretation is in line with a large body of research suggesting the importance of characters' moral values for audiences' disposition formation and story evaluation (Eden et al., 2017; Grizzard et al., 2018; Zillmann, 2013).

Learning- and categorization-based theories of morality may offer a complementary interpretation of our findings. The moral judgment as categorization (MJAC) framework suggests that, over time, people learn what behaviors are morally right or wrong, and this learning allows them to subsequently categorize related behaviors as right or wrong (McHugh et al., 2022). For instance, if a child learns that kicking a schoolmate is morally wrong, then "kicking another person" becomes categorized as morally wrong in their mind. Audiences who later observe a narrative character kick another character would consequently categorize the kicker's action as morally wrong. Adopting this approach, we might speculate that some audiences' failure to extract moral or egoistic lessons is indication that they have not yet learned to categorize the specific behaviors represented in those lessons as moral or immoral. Notably, MJAC logic might also suggest that young audiences' successful lesson extraction is indication that they have already learned to categorize the observed behavior as morally right or wrong. Building on the present work, future researchers investigating young audiences' capacity for moral lesson extraction may wish to further integrate the MJAC framework with MFT and the MIME in an attempt to better explain whether the reasons underlying audiences' successful or failed moral lesson extraction are due to limits in audiences' learned experience with certain moral behaviors (also see Landy, 2016). Although the current study cannot determine the accuracy of this interpretation, findings here suggest this is a promising area for future research.

Finally, we tested a research question asking whether early adolescents were more likely to identify the main point of a story in terms of a specific motivation (care, fairness, loyalty, or respect) or general morality (i.e., "to be good"). Our results do not support contentions that early adolescents extract general moral principles from media content without extracting specific values emphasized. Instead, findings seem more in line with contentions that early adolescents can both recognize and extract specific moral motivations highlighted in narrative media. Early adolescents in our study were significantly more likely to identify the story's main point as a specific moral motivation (rather than general morality) when reading narratives that emphasized care, fairness, ingroup loyalty, or respect for authority.

Addressing Issues in Research on Children's Moral Media Comprehension

Beyond examining early adolescents' comprehension of moral narratives, our study considered two limitations impeding previous research on this issue. Our study's findings provide insight on overcoming some of these related drawbacks. The first impediment concerns the need for a theoretical foundation to guide research that examines children's understanding of moral messages. The lack of a shared conceptual model across studies that examine moral narratives can make agreement on what children comprehend difficult to realize.

To agree on whether children understand a story's moral lesson, researchers must both concur on how they define the moral lessons they are looking for and accurately identify those morals in a narrative. The use of ambiguous language that defines moral lessons in broad terms makes it difficult to accomplish these goals, but the presence of a shared conceptual model makes these goals attainable. The current investigation attempted to overcome these difficulties by building on the MIME (Tamborini, 2013, drawing from Haidt & Joseph, 2007). Our study's subsequent ability to discover that early adolescents were able to identify specific moral values contained in a narrative shows the value in building on a theoretical foundation of this nature.

The second impediment to previous research builds upon the first. The lack of a theoretical model guiding efforts to determine if children comprehend a story's moral message may hinder the ability of research to identify whether a child accurately extracted a moral lesson. Without a theoretically-based understanding of how to define and accurately detect moral messages in a narrative, determining whether the moral was accurately extracted by a child seems doomed to fail. Prior research often determined accurate detection using idiosyncratic definitions of moral messages, provided by investigators and which were specific to the content of the narratives in each study (e.g., Mares & Acosta, 2008; 2010; Narvaez et al., 1998, 1999; Narvaez, 1998).

Potentially, a theoretical model defining key concepts outlining the processes that govern appraisal of moral narratives could add insight to questions about whether children comprehended a story's moral message. The MIME offers this type of model. Although the MIME does not account for specific developmental differences in child audiences (but see Cingel & Krcmar, 2020), the model builds on MFT's definition of a coherent set of moral motivations that are universal, innate, and semantically distinct. Accuracy in extracting a story's moral lesson is based on objective coding used to determine whether the moral motivation identified by the child is consistent with the one represented in the story, not whether the child's assessment includes idiosyncratic features of story content. Future research could attempt to build on the present

research by employing the same methodology on a younger sample of participants in order to determine the specific age at which children are capable of verbalizing the moral lessons they are exposed to in narrative media content.

Finally, although we adopted the MIME's framework in the present study due to its focus on the relationship between media and audiences' innate moral motivations described by MFT, future research might attempt to build on the present research by investigating young audiences' capacity for extracting moral values that are identified by other theories of morality (e.g., the morality as cooperation framework or social domain theory; Curry et al., 2019; Landy, 2016; McHugh et al., 2022; Turiel, 1983). Similarly, future research should also investigate the extent to which young audiences' age or developmental level may influence their capacity for moral lesson extraction (in line with suggestions by Cingel & Krcrmar, 2020). Some recent research has demonstrated variability in early adolescents' responses to violations of each moral motivation identified by MFT compared to the responses of adults. Two studies suggested that 11- through 14-year-olds assessed violations of the five moral motivations in line with only three basic moral values: care, loyalty, and autonomy (Bretl & Goering, 2022; Bretl & Hansen, 2022). Building on this work, future researchers may wish to investigate the extent to which young audiences' moral judgment preferences moderate their ability to extract narratives' moral lessons.

Practical Considerations

A large body of research has demonstrated that entertainment media such as television, books, and video games can be useful instructional devices for teaching children social values and academic skills outside of formal education settings, so long as the intended lesson is clearly tied to the narrative's main plotline and reinforced often (for review, see Fisch, 2005). Yet we note that moral media depictions are not always so prominent or straightforward. Recent content-analytic research suggests that, compared to television content popular among younger audiences, programming popular among early-adolescents often associates moral values with ambiguous reinforcement, for instance by rewarding immoral behaviors or punishing moral behaviors (Hahn, 2022). Given the possibility that these ambiguous reinforcement patterns may alter audiences' interpretations of a narrative's moral lesson, more research is needed to determine what young audiences get from consuming moral media in more ecological consumption settings. Future research may wish to assess young audiences' moral comprehension of programming outside the laboratory, in more realistic settings, with existing popular entertainment content.

Limitations

The current study is not without limitations. The first is our study's lack of a measure assessing participants' reading comprehension. It is possible that differences in reading levels affected not only the ability of participants to comprehend the narrative's moral message, but also their attention to the story. Both factors could have influenced their identification of the story's message. Although the stimuli used in this study were analyzed to assure that they were written at an age-appropriate reading level, $n = 166$ out of 753 participants identified a main point that was unable to be coded by our scheme. Notably, the vast majority of these responses identified the main point according to minor plot happenings (e.g., "Cleo taking her friend on a mission with her"), vague statements that recited the story's title (e.g., "Cleopatra was in Space"), or simply indicated no main point ("Not sure."). We would expect that limited reading comprehension may be at fault in these cases. Hence, a baseline measure of reading comprehension would allow researchers to control for this possible influence and better account for these responses.

The second limitation stems from the use of a single set of comic book stimuli. Though analyses reported elsewhere (Aley et al., 2019; Hahn et al., 2022; Hahn, Tamborini, Weber, et al., 2019) suggest that participants generally liked the story, these findings should be replicated with different types of stories and stimuli. Indeed, issues with participants' reading comprehension could be avoided if future researchers were to replicate the present study with a video presentation, for example. Additionally, replicating with different stimuli presented in a new medium would demonstrate the generalizability of these findings.

Third, we did not account for coders' individual trait moral salience in our study. Although there is some evidence that the intercoder reliability of MFT-based coding procedures can be negatively impacted by coders' trait-level moral domain salience (see Weber et al., 2018), the present study's high intercoder reliabilities (which range between $.80 \leq \kappa s \geq .99$), are above the typical reliabilities for this procedure. If coders' trait-level moral salience did impact our study, we might expect lower than acceptable intercoder agreement on each of the moral motivations, as each coder's coding decisions would be expected to be separately guided by their own personal trait moral salience, rather than the codebook. That the observed intercoder agreement coefficients in the current investigation are well above the threshold for acceptable agreement (Neuendorf, 2017) suggests that differences in trait-level moral salience did not substantially bias our coding procedure.

Finally, the studies from which we drew our data lacked a baseline measure of moral motivation salience. This might have affected the findings of our study in several ways. Systematic differences in the salience of specific

motivations across early adolescents from different cultural backgrounds might attenuate the present study's findings. Additionally, differences in the salience of one or all moral motivations among early adolescents in general might heighten their recognition of some motivations and hinder their recognition of others. However, given that participants were randomly assigned to conditions in each of the three original studies, we might expect that any influence of trait-level moral salience on participants' responses to the open-ended question asking the main-point of the narrative should be equally distributed across each of the five conditions. Unfortunately, because the original studies did not include a baseline measure of moral salience, we cannot be sure of this possibility. Future research should examine how a moral motivation baseline influences the ability of children to report moral lessons highlighted in narrative media.

Conclusion

The central finding of our study is its indication that early adolescents can extract specific moral values emphasized in narrative media. Their comprehension is not limited to identifying general moral principles. Insight on whether a narrative's emphasis on distinct moral motivations can be comprehended by early adolescent audiences has several important implications, as this comprehension may be closely tied to the judgments and behaviors of young audiences following exposure. Previous MIME-based research has shown that narrative media emphasizing specific moral motivations can influence both the salience of those motivations in the minds of children and the performance of behaviors tied to those motivations (Hahn, Tamborini, Weber, et al., 2019). The findings of the present study add further support to research suggesting the value of the MIME for understanding media's influence on child audiences.

In its consideration of media's ability to increase the salience of moral motivations, the MIME outlines processes that can occur above and below a person's level of conscious awareness. As such, the model does not argue that comprehension is necessary for exposure to influence appraisal or behavior. Nevertheless, evidence that young audiences can extract and identify specific motivations emphasized in a narrative suggests a level of conscious awareness that should strengthen exposure's influence on motivation salience, and through this, its subsequent impact on judgment and action. To examine this possibility, further research is needed to compare the influence of simply increasing a moral motivation's salience versus comprehension that the moral motivation was the story's main point. This comparison could determine whether comprehension strengthens the effect of narrative media on early adolescent's behavior.

Finally, although the increased salience of general moral motivations might be expected to shape a child's behavior, we believe that the salience of specific motivations (such as to be caring, fair, loyal, or respectful) should have a particularly strong influence when opportunities for related forms of behavior are presented. Findings in line with this belief are apparent in research by Hahn, Tamborini, Weber, et al. (2019), where exposure to narratives emphasizing care, fairness, loyalty, or respect for authority prompted behavior directly related to each motivation. To the extent that promoting specific domains of moral motivation or behavior is desirable to parents or civic leaders, understanding the potential of narratives to affect these specific areas of moral motivation can be a valuable tool in the pursuit of such goals.

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