Relationships between Fiction Media, Genre, and Empathic Abilities

Rose Turner* and Fatima M. Felisberti

Kingston University

Author note

Rose Turner, Department of Psychology, Kingston University; Fatima M. Felisberti, Department of Psychology, Kingston University.

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*Correspondence concerning this article should be addressed to Rose Turner, Department of Psychology, Kingston University, Penrhyn Road, Kingston-Upon-Thames, UK. KT1 2EE. E-mail: R.turner@kingston.ac.uk.

Abstract

Fiction enables readers to simulate the social experiences of characters and may facilitate prosociality. Research has indicated that fiction print exposure positively relates to empathy and may promote altruistic behaviors. Whether associations hold across different media formats and thematic genres remains unclear. This study took a multidimensional approach to both fiction engagement and empathic abilities. Specifically, it aimed to replicate previous findings that lifetime fiction exposure positively predicts empathy, and to extend this literature through an exploration of the relationships between media and genre formats, empathy and altruism. Participants (N = 404) completed a multidimensional task measure of fiction media exposure and answered questions about fiction engagement, empathic and altruistic tendencies. Results showed divergent associations between fiction format, genre, and empathic abilities, and fiction media exposure positively predicted the tendencies to become transported into narratives and to help others. Engagement with fiction formats and thematic genres may differentially support adults' prosocial development.

Key words: FICTION EXPOSURE, NARRATIVE ENGAGEMENT, EMPATHY, ALTRUISM, PROSOCIAL BEHAVIOR, AUTHOR RECOGNITION TEST

Relationships between Fiction Media, Genre and Empathic Abilities

The willingness to understand others and to respond prosocially to their needs is central to the formation of successful interpersonal relationships and cohesive communities (Castano, 2012; Paal & Bereczkei, 2007). Prosocial, helpful behaviors involve both empathic and altruistic personality dimensions (Penner, Fritzsche, Craiger, & Freifeld, 1995) and empathy can lead to altruism (the willingness to help others with no expectation of reward, Penner et al., 1995) by enabling perceivers to interpret others' mental states (Batson, Duncan, Ackerman, Buckley, & Birch, 1981). These skills typically develop in childhood (e.g., Perner & Wimmer, 1985); as such, studies have tended to focus on children as well as adult groups with characteristic deficits (Turner & Felisberti, 2017). However, empathic abilities vary between neurologically typical adults and can change throughout the lifespan (Duval, Piolino, Bejanin, Eustache, & Desgranges, 2010; Happé, Winner, & Brownell, 1998; Maylor, Moulson, Muncer, & Taylor, 2002), and a growing body of literature has begun to address ways that adults' empathic skills may be enhanced.

Fiction Effects on Empathic Abilities

Fiction reading may cultivate social understanding and increase prosocial behavior (e.g., Hakemulder, 2000; Nussbaum, 2010; Oatley 1999; Zunshine, 2006) via the transmission of social knowledge, or because fiction comprehension involves the same cognitive processes as real-world events (Mar, Oatley & Peterson, 2009; see also, Gerrig, 1993). The "process" view (Mar et al., 2009), that readers foster their empathic abilities by mentally simulating the social experiences depicted in fiction (Mar & Oatley, 2008; Oatley, 1999, 2016), has received support from three strands of research: First, neuroscience has revealed that readers' brains show activity in areas associated with the experiences they read about (e.g., Speer, Reynolds, Swallow & Zacks, 2009; Wallentin et al., 2011) and that narrative fiction activates the brain's empathy network (Hsu, Conrad, & Jacobs, 2014).

Second, cognitive experiments have demonstrated positive effects of fiction reading on both mentalizing (explicit reasoning about thoughts and emotions) and experience sharing (vicariously experiencing another's inner state, e.g., Coll et al., 2017; Goldman, 2006; for a meta-analysis, see Dodell-Feder & Tamir, 2018), prosocial behavior (Johnson, 2012), and attitude change (e.g., Appel & Richter, 2007; Green & Brock, 2000). Although attitude change does not necessarily implicate empathic processes, empathizing with an individual's story can improve attitudes toward their social group (Batson, Early, & Salvarani, 1997), and empathy induced by fictional characters—which serve as proxies for real-world others—may lead to real-world altruism (see Batson, et al., 1981; Klimecki, Mayer, Justyte, Scheeffe, & Schönenberg, 2016; however, see Keen, 2007). Third, correlational studies have shown that while exposure to nonfiction print is positively associated with empathic understanding, correlations tend to be larger for fiction (for a meta-analysis, see Mumper & Gerrig, 2017).[1] While expository nonfiction can feature social themes and humanlike agents, fiction is distinguished by its complex characterization and narrative structure which may recruit, and consequently strengthen, the psychological mechanisms involved in intersubjectivity (Mar & Oatley, 2008).

The general hypothesis that fiction immediately enhances people's capacity to understand real-world others has been called into question: Two studies (combined N = 1,798) failed to reproduce Kidd and Castano's (2013) finding that reading literary fiction immediately enhances mentalizing, finding no effect compared to nonfiction, popular fiction, and no-reading conditions (Panero et al., 2016; Samur, Tops, & Koole, 2017; see also Panero et al., 2017; Kidd & Castano, 2017a; Kidd & Castano, 2018a). These results raised doubts about causation (though a recent meta-analysis indicated a small effect of fiction on empathic

[1] From their meta-analysis of 30 samples, Mumper and Gerrig (2017) reported aggregate correlations of r = .070-0.89 (depending on exclusions) for fiction reading with dispositional empathy and r = .21 with mental state attribution, compared to 058 and .091 respectively for nonfiction.

abilities [(g =.15-.16; Dodell-Feder & Tamir, 2018]); however, Kidd and Castano's (2013) finding that lifetime fiction exposure (measured using an ART) was a moderate predictor of mentalizing ability[2] was replicated in both studies. While fiction reading may not immediately enhance empathic abilities (cf. Kidd and Castano's [2018b] response to the failed replication attempts), evidence for the relationship between lifetime exposure to fiction and empathic abilities appears robust.

Modes of Fiction Engagement

Empirical studies of associations between fiction and prosociality have primarily focused on reading. However, fiction is not only read in print, but viewed onscreen and at the theater, and interacted with via first-person video games and live acting or roleplay. Evidence suggests that engagement modality may impact empathic abilities: Viewing filmed narratives has been shown to enhance mentalizing in adults (Black & Barnes, 2015a) and to predict the ability in children (Mar, Tackett, & Moore, 2010), and live theater has been found to alter audience's social attitudes (Heide, Porter, & Saito, 2012; Stephens-Hernandez et al., 2007; Valente & Bharath, 1999). Interactive video game play has been linked to increases in prosocial behavior (Gentile et al., 2009), and acting lessons have been found to improve social behaviors in children (Schellenberg, 2004) and to increase empathic understanding in children and adolescents (Goldstein & Winner, 2012). Adolescent acting students (Goldstein, Wu, & Winner, 2009) and professional adult actors (Nettle, 2006) tend to score higher than matched controls on self-report and task-based empathic ability measures. These findings suggest that processes involved in engaging with fictional content, rather than those specific to reading, are linked to empathic skills. The present study aimed to examine whether there is

[2] Experiments 1, 4 and 5: partial omega squared = .13, .15, and .07 respectively (see Cohen's [1988] rules of thumb for effect size).

a cumulative effect of different forms of fiction engagement on empathic abilities, and how far effects vary across contrasting modes of engagement.

Literary and Genre Fiction

Despite evidence that fiction exposure uniquely relates to empathic abilities when nonfiction exposure is controlled (e.g., Mar et al., 2006), there has been relatively little research examining the thematic and stylistic features of fiction that evoke responses to stories (e.g., Valkenburg, Peter, & Walther, 2016). Kidd and Castano (2013) proposed that the relationship between fictional narratives and the ability to understand others is unique to literary fiction (acclaimed and canonical texts). They argued that whereas popular fiction is generally formulaic and predictable, literary prose entails active, "writerly" comprehension, requiring readers to interpret complex narratives by establishing characters' motivations, thoughts and emotions, thus engaging their capacities for mentalizing. Across a series of five experiments, they assigned participants to read segments of either literary, popular, or nonfiction prose, and then assessed their mentalizing abilities using the Reading the Mind in the Eyes Test (Eyes Test; Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001), which requires participants to attribute mental states to photographs of the eye regions of faces. They found that participants in the literary fiction condition tended to score higher on the mentalizing task. Subsequent research has supported this finding: Using a pre- and post-test design, Pino and Mazza (2016) showed improved mentalizing after reading literary compared to science-fiction and nonfiction texts; reading a text high in literary foregrounding (striking textual features) compared to non-literary versions of the same text led to higher empathic understanding for emotional experiences (e.g., of grief; Koopman, 2016); using onscreen stimuli, Black and Barnes (2015a) found that participants that viewed award-winning TV dramas showed higher mentalizing abilities compared to those that viewed documentaries; and recent studies have indicated positive relationships between familiarity with literary

fiction and mentalizing ability (De Mulder, Hakemulder, van den Berghe, Klassen, & Berkum, 2017, Kidd & Castano, 2017b).

Recent research, however, has raised doubt about the unique value of literary fiction in providing "grist for the mills" (Zunshine, 2006, p. 16) of empathic abilities. Exposure to the romance genre, for example, has been shown to positively predict mentalizing (Fong et al., 2013). It seems unlikely that romance contains more literary features than other genres or that romance exposure is particularly associated with acclaimed literature (e.g., romance readers are less likely to appreciate figurative language, multiple plotlines, and perspectives than literary fiction readers, Miesen, 2004); rather, the genre's emphasis on social interactions may potentiate empathic development. Furthermore, popular genre fiction is associated with moral reasoning (Black, et al., 2018), reading about certain social themes (e.g., depression) can motivate prosocial behavior (Koopman, 2015), and fiction-generated suspense has been linked to brain regions involved in social cognition (Lehne et al., 2015). If fiction effects are associated with specific thematic content, relationships between thematic genres and empathic abilities are likely to vary.

Toward a Multidimensional Approach

Fiction is multidimensional and can be classified in terms of thematic genre as well as media format. Empathic abilities, too, are multifaceted: Understanding and responding prosocially toward others involve mentalizing and experience-sharing components (Zaki & Ochsner, 2012), and extant research has documented a lack of correlation among measures (e.g., self-reported concern for others, perspective taking, and accuracy in attributing mental states; see Davis, 1980; Ickes, 1997; Mar, et al., 2006). Studies assessing relationships between fiction and empathic ability measures have yielded mixed findings; for example, Kidd and Castano (2013) found that reading a passage of literary fiction led to higher scores on the Eyes Test (Baron-Cohen et al., 2001; the most common measure used in the field, e.g.,

Black & Barnes, 2015a, 2015b; Fong et al., 2013; Kidd & Castano, 2013, 2017b; Mar et al., 2006; for meta-analyses, see Dodell-Feder & Tamir, 2018, and Mumper & Gerrig, 2017). Pino and Mazza (2016) did not replicate this result but showed improvements on two other tests of mentalizing (a false-belief task and a facial-emotion recognition test), but no improvement on experience-sharing measures. Inconsistencies across the literature may reflect different empathic processes probed by a range of measures, as well as the employment of broad, heterogeneous fiction classifications.

Author recognition tests (ARTs) measure familiarity with fiction authors as a proxy for lifetime exposure to printed fiction (Stanovich & West, 1989), and have been widely used to assess relationships between fiction-exposure and empathic abilities (see Mumper & Gerrig's [2017] meta-analysis which incorporated ARTs with other measures of fiction-reading habits). Updated versions of the test have been used to compare familiarity with fictional prose and nonfiction magazines (Acheson, Wells, & MacDonald, 2008), fiction and nonfiction authors (Mar, Oatley, Hirsch, dela Paz, & Peterson, 2006) and, more recently, to assess genre exposure (Black, Capps, & Barnes, 2018; Fong, Mullin, & Mar, 2013; Kidd & Castano, 2017b); as well as to control for general fiction exposure in studies examining the causal effects of fiction reading (Kidd & Castano, 2013; Koopman, 2016). To the authors' knowledge, there is no equivalent tool to assess exposure to fiction via different media presentations, which would help to reflect the range of formats that showcase fictional storytelling. The aims of this exploratory study were to (a) replicate previous findings that fiction exposure positively relates to empathic abilities; (b) extend this literature by assessing the cumulative effect of exposure to different fiction formats through the construction of a multidimensional measure; and (c) explore how far relationships between modes of engagement with fiction, thematic genres, and empathic abilities would vary.

Method

Participants

Participants were recruited via a university research participation scheme (24%), a research participant recruitment website (Call for Participants, 10%), or links to the Qualtrics survey posted to university and researcher accounts on social-media sites (Facebook and Twitter, 66%). As such, respondents were either undergraduate psychology students or members of the public interested in research participation. The survey was closed at 405 completed responses; sample size was based on previous research (Mar et al., 2006) and fulfilled the 10 cases per item convention for scale development (see MacCallum, Widaman, Zhang, & Hong, 1999). One participant was excluded for having fewer than 3 years' English fluency (1 year), resulting in total $N = 404$ (81% females, $M_{age} = 36.5$, $SD_{age} = 13.77$, age range 17-74). Participants were native English speakers (85%) or reported a minimum of 3 years of fluency ($M = 13.4$, $SD = 8.6$). Average post-compulsory education was 6.2 years ($SD = 3.68$). Participants were compensated with university course credit if relevant and were given the opportunity to enter a prize draw to win a £100 online-shopping voucher. The study was given a favorable opinion by the Faculty Research Ethics Committee at Kingston University London and complied with the British Psychological Society's standards for the treatment of human participants.

Materials

Fiction media exposure. The Fiction Media Exposure Test (FMET) was adapted from previous ARTs (Acheson et al., 2008; Mar et al., 2006). The original ART (Stanovich & West, 1989) provides a well-validated, proxy measure of fiction exposure through the recognition of author names; it is assumed that participants recognise author names due to having read their books or through browsing related authors in libraries, bookshops, and online. Because familiarity with fiction may be considered socially desirable, the test

contains both real fiction authors (e.g., James Joyce) and plausible foils (e.g., Robert Tierney) to deter guessing.

The FMET was designed to provide a measure of fiction exposure along three independent dimensions: author, film, and play exposure (Appendix A). The play-exposure dimension was used to examine lifetime exposure to performed plays (theater), rather than to those that may be read, for example, on literature courses. As such, names were selected from two lists of significant 20th-century plays generated by the National Theatre (n.d.) and the New York Theater (2003). In line with earlier ARTs, name recognition was treated as a proxy for exposure to plays through theater attendance, familiarity with playwrights, or via advertisements in theaters and online. Similarly, films were Golden Globe Best Motion Picture award winners and nominees (Hollywood Foreign Press Association, n.d.) from 1953 to 2016. Recognition is assumed to reflect knowledge of films through viewing at cinemas, on DVD, or via streaming apps, familiarity with related works, or advertising. The author-exposure scale contains 30 fiction author names featured in an earlier ART (Acheson et al., 2008). Names were selected to represent authors of fictional prose that showed a range of recognition rates in Acheson et al.'s (2008) study: Recognition rates for the 30 names selected for the FMET varied from 5% to 99% of participants compared to Acheson et al.'s (2008) recognition rates of 2% to 99%. The FMET comprised 30 names in each dimension, alongside 25 foils in the author-recognition scale, and 15 in each of the film and play dimensions (foil selection tends to be low on ARTs; Fong, Mullin, & Mar, 2013; Mar et al., 2006). To correct for indiscriminate responding, FMET scores were computed as the number of correct names selected minus the number of incorrect foils selected within each scale. Cronbach's alpha for the FMET was .97 (author exposure = .92, film exposure = .91, and play exposure = .93).

Empathic abilities. In line with Penner et al. (1995), who provided a two-factor solution for measures of prosociality using a battery composed of altruism and empathy scales, altruism was measured using a truncated version of Rushton, Chrisjohn, and Fekken's (1981) self-report altruism scale, and empathy was measured using three scales from the Interpersonal Reactivity Index (IRI; Davis, 1980), the most commonly applied self-report measure of empathy.

Altruism. The self-report altruism scale requires participants to indicate the frequency with which they have carried out acts that refer to helping acquaintances, strangers, and charities (e.g., "I have given money to a stranger who needed it or asked me for it"), on a five-point scale from "Never" to "Very often". Of the original 20 items, nine covering a range of helpful acts toward acquaintances, strangers, and charity were selected and modified for use in the present study (Appendix B). Cronbach's alpha for this scale was .70).

Empathy. The IRI asks respondents to indicate agreement with statements on five-point Likert scales across four independent seven-item dimensions: perspective taking, empathic concern, fantasy, and personal distress. A recent meta-analysis revealed significant correlations between fiction reading and all IRI dimensions except for the personal distress subscale (Mumper & Gerrig, 2017). This scale measures self-oriented responses to others' needs—i.e., the desire to reduce one's own distress—which can lead to avoidance of empathic behaviors, distinguishing it from other IRI dimensions (Baron-Cohen & Wheelwright, 2004; Batson & Shaw, 1991; Davis et al., 1999; Penner et al., 1995; Singer & Lamm, 2009) and so it was not used in this study. The perspective taking scale measures the ability to mentalize about other people's points of view (e.g., "I try to look at everybody's side of a disagreement before I make a decision"). The empathic concern scale measures sympathy toward others (e.g., "I often have tender, concerned feelings for people less fortunate than me") and represents a more affective, experience-sharing dimension (e.g., Pino

& Mazza, 2012). The fantasy scale assesses the tendency to identify with fictional people and situations, with all but one item ("I daydream and fantasize, with some regularity, about things that might happen to me") pertaining to absorption in narrative worlds and empathy for fictional characters (e.g., "After seeing a play or movie, I have felt as though I were one of the characters"). Therefore, fantasy scores provide an index of imaginative abilities (Baron-Cohen & Wheelwright, 2004) and the scale can be treated as the trait tendency to become transported into stories (e.g., Mar et al., 2006; see also Hall & Bracken, 2011).[3] Cronbach's alpha values for the IRI with this sample were: empathic concern = .77; perspective taking = .81; fantasy = .81.

Media and genre preferences. Fiction exposure does not reflect depth or quality of engagement, and some media may be less accessible than others (e.g., due to location and the availability of resources). Therefore, participants were asked to rank order their favourite to least favourite media from four options regardless of external factors such as time, cost, and convenience. Three options, "read a novel," "watch a film," and "watch a play" paralleled the FMET dimensions. Watching television represents the most popular leisure activity in the US (Bureau of Labor Statistics, 2017) and UK (Seddon, 2011), and so a fourth option, "watch a TV show/series," was included. Responses to this question triggered a bespoke element, with participants subsequently asked to rank order the reasons they tended to select their preferred three media formats. Seven options reflected information and education ("interest in creatives," "learning"), enhancing social interactions ("to discuss it with others," "it's something I should have seen/read"), escapism ("to forget about things") and affect ("mood improvement," "mood indulgence"; see McQuail, 2010). The results for these follow-up questions are reported in Appendix C.

[3] Transportation involves mental imagery and emotional engagement with characters (Busselle & Bilandzic, 2009; Green & Brock, 2002).

Enjoyment of six genres was measured to test associations between thematic content and empathic abilities. Drama, comedy, crime/thriller, romance, and experimental/postmodern were selected as diverse examples of fiction genres that could apply to each media format. Additionally, the factual/documentary genre was included based on previous findings that, compared to fiction, reading or viewing nonfiction is associated with lower scores on mentalizing tests (Black & Barnes, 2015a, 2015b; Kidd & Castano 2013; Mar et al., 2006). Participants indicated enjoyment of each genre on five-point Likert scales from "not at all" to "a great deal."

Acting. Experience of participation in fiction through acting was assessed using a single-item five-point scale with answers ranging from "no experience" to "highly experienced (current professional)."

Control variables. Self-report data was gathered on age, gender, English fluency, and years of education.

Demand characteristics. Irrelevant items were integrated with the IRI and self-report altruism scale to mask the purpose of the research (e.g., "I get little enjoyment from cleaning my home"). Participants were informed that points would be deducted for foil checking on the FMET, and one point was deducted for each foil selected. Respondents could skip, or select "I don't know," to all questions.

Procedure

The study was administered using Qualtrics and took approximately 15 minutes to complete. After providing consent, participants answered the demographic and fiction media and genre preferences questions. The primary measures, the FMET and empathic ability questions (altruism and IRI scales), were then administered in a random order. Apart from the demographic questions, all measures were internally randomized. Participants were fully debriefed online.

Data Analysis

Reliability analyses were conducted on the FMET, IRI, and altruism scales using Cronbach's alpha (reported above). The data showed heteroscedasticity and non-normality across the FMET, IRI, and altruism scales (assessed by the Shapiro-Wilk test), and the presence of outliers on all scales except fantasy and author exposure. Therefore, the Mann-Whitney U test was used to examine effects of gender and language, weighted least squares multiple regression analyses were used to predict empathic abilities from fiction exposure and control variables, and Spearman's rho (r_s) was used for raw correlations. Partial correlations controlling for age, gender, and education, were conducted using Pearson's *r* following rank transformations on the data, and are reported in Appendix C. All correlations were computed using pairwise deletion, and confidence intervals were bias corrected and accelerated using bootstrapping (N = 5,000).

Results

Demographic Variables

Age and education were significantly associated with all fiction-exposure dimensions and altruism (all *p*s < .001). There were significant effects of language on author, film, and play exposure (all *p*s < .001); however, effects on empathic abilities were non-significant. Females scored higher than males on all IRI scales, though there was no effect of gender on altruism. Males recognised more film names than females, though males and females did not differ on the author- or play-exposure dimensions of the FMET (gender differences are reported in Table 1).

—INSERT TABLE 1 ABOUT HERE—

Fiction Media Exposure

Means, standard deviations and inter-scale correlations for the FMET, IRI and altruism scales are presented in Table 2. Participants recognised more film names (M = 17.9,

SD = 6.79) than authors (*M* = 11.92, *SD* = 6.95) or plays (*M* = 7.47, *SD* = 6.69), $F(2, 806) = 922.20$, $p < .001$, $\eta^2 = .70$ ($p < .001$ for all comparisons). Foil-checking on the FMET was low: 95% of participants selected fewer than five foils across all three scales. There were strong positive associations among the author, film and play recognition scales, as well as among the IRI and altruism dimensions (all *p*s < .001). Additionally, fantasy positively correlated with author-exposure, and altruism with all fiction-exposure scales (all *p*s < .01). Partial correlations (*df* = 393) revealed a similar pattern of results (Appendix C): associations reached significance between fantasy with play-, $r = .15$, $p = .003$, [.05, .24], and film-exposure, $r = .15$, $p = .002$, [.05, .26], though the correlation between altruism and film-exposure did not reach significance.

—INSERT TABLE 2 ABOUT HERE—

Regression analyses. Fiction exposure (the combined FMET scales) and control variables (gender, age, education, and language) significantly predicted 4% variation in fantasy, 6% of empathic concern, 4% of perspective taking, and 10% of altruism (all *p*s < .01). Coefficients (*B*) and model fit statistics are reported in Table 3. Gender was the only significant contributor to the models for empathic concern and perspective taking (both *p*s < .001), whereas fiction exposure, age, and gender were significant contributors to fantasy (all *p*s < .05), and fiction exposure and age to altruism (both *p*s < .01).[4]

—INSERT TABLE 3 ABOUT HERE—

Genre and Media Preferences

Comedy was the most popular genre (38% of participants reported the highest enjoyment rating), followed by crime/thriller (37%), factual/documentary (31%), drama (30%), romance (13%) and experimental/postmodern (5%). Raw correlations for genre

[4] Due to correlations between the IRI and altruism measures, regression analyses were also conducted with the inclusion of each of the three remaining empathic ability scales as predictors, which revealed the same pattern of results.

enjoyment, media preference, and empathic abilities are presented in Table 4. Significant associations between genre preferences and empathic abilities were all positive: Fantasy was associated with all genres except crime/thriller and factual/documentary (all *p*s < .01); perspective taking and empathic concern with all genres except crime/thriller and altruism with experimental/postmodern, factual/documentary and comedy (all *p*s < .05). Partial correlations revealed a similar pattern of results (Appendix C).

Watching a film was the preferred media option (57% of participants ranked it as their top or second preference), followed by reading a novel (53%), watching TV (52%), and watching a play (38%). Preference for reading novels positively correlated with fantasy and altruism (both *p*s < .001) and preference for plays with altruism ($p < .001$) and empathic concern ($p < .05$). In contrast, preference for film negatively correlated with altruism ($p < .01$), and preference for TV with altruism ($p < .001$), perspective taking ($p < .01$) and empathic concern ($p < .05$). Partial correlation results were similar (Appendix C); however, the positive relationship between altruism and reading novels and the negative relationship between fantasy and watching TV were marginal ($p = .093$ and $p = .055$, respectively).

Results revealed both positive and negative relationships among media and genre preferences ($df = 351$): There were positive associations between preference for plays and enjoyment of drama, $r_s = .16$, $p = .003$ [.06, .25] and experimental/postmodern, $r_s = .24$, $p < .001$ [.14, .34]; and negative associations between preference for novels and comedy, $r_s = -.10$, $p = .05$ [-.21, -.002], and preference for TV and experimental/postmodern, $r_s = -.22$, $p < .001$ [-.32, -.12].

Acting Experience

A higher level of acting experience was associated with higher levels of altruism, $r_s = .15$, $p = .003$, [.05, .24], author, film, and play exposure ($r_s = .098$ [.00, .20], 19 [.09, .28], and .25[.15, .35] respectively, $df = 400$, all *p*s < .05).

—INSERT TABLE 4 ABOUT HERE—

Discussion

The present study took a multidimensional approach to investigating associations between fiction and empathic abilities. Consistent with the primary prediction and extending the work of previous studies examining author exposure (e.g., Fong et al., 2013; Kidd & Castano, 2013; Mar et al., 2006, 2009), fiction exposure via printed prose (authors), film and plays combined, and control variables, significantly predicted empathic abilities, although fiction exposure only contributed to the predictions for altruism and fantasy. Individually, author, film, and play exposure differentially correlated with empathic abilities: The more authors and plays participants recognized, the higher their levels of altruism; fantasy was positively associated with all fiction media dimensions when age, gender, education, and English language fluency were controlled, and with author exposure with and without the inclusion of control variables. Effects sizes were small in magnitude, which is consistent with previous studies (Mumper & Gerrig, 2017). Females tend to score higher than males on the IRI (Davis, 1980), and this was the case with the present sample. There were no gender differences in altruism, or the author- or play-exposure dimensions of the FMET (similarly, Mar et al., 2006, reported no gender differences in author recognition), although males recognised more film names than females.

Correlations between media preferences and empathic abilities generally reflected those for media exposure. Preference for reading novels positively correlated with fantasy and altruism and preference for plays with altruism and empathic concern. However, preference for film negatively correlated with altruism, and TV with altruism, empathic concern, and perspective taking.[5] In order to rule out the possibility that respondents who

[5] The FMET was designed to contrast live theater, print, and filmed media presentations of fiction. However, considering the differences in results for film and TV preferences, it would be useful to establish a TV-exposure dimension to facilitate a more granular understanding of the impact of exposure to the range of fictional narratives available onscreen.

reported a preference for film and TV represented viewers of nonfiction programmes (i.e., documentaries, "reality TV," or news), correlations between media and genre preferences were also examined. There was no relationship between the factual/documentary genre and any media preferences; and except for a negative relationship between TV and experimental/postmodern, film and TV were not associated with any specific genres. Acting experience was linked to higher levels of altruism, and with exposure to all FMET dimensions (most strongly with play exposure).

Enjoyment of the factual/documentary genre was associated with altruism, perspective taking, and empathic concern; however, correlations with empathic abilities tended to be stronger for the fiction genres (in line with prior research, see Mumper & Gerrig, 2017). Specifically, enjoyment of drama or romance was positively associated with perspective taking, empathic concern, and fantasy; and comedy, the most popular genre, and experimental/postmodern, the least popular genre, were both associated with higher levels of all empathic abilities measured. The findings indicate that relationships between fiction and empathic abilities are not unique to literary prose and that empathic processes may be induced, to different degrees, by a range of narrative content.

Fiction-Engagement Content and Processes

The aphorism "the medium is the message" (McLuhan, 1964/1994) encapsulates the notion that media presentation is fundamental to the way content is received. Actors and fiction readers—who tended to report higher levels of altruism in the present study—imaginatively construct storyworlds "from within" (Hakemulder, 2000, p. 11) whereas filmed media provides images of the environment, as well as visual (facial, bodily, and proximal) and auditory (tonal, prosodic and musical) cues for interpreting characters' inner states and may entail a more passive engagement style. Mar et al. (2010) found that exposure to storybooks and film, but not TV, positively predicted mentalizing ability in children, which

aligns with the present finding that preference for TV was negatively associated with all empathic ability measures except fantasy. Film negatively correlated with altruism in the present adult sample, and future research may clarify relationships between onscreen fiction forms and empathic abilities, and establish any interaction with age.

Recall that Kidd and Castano (2013) proposed that active, writerly comprehension, which can strengthen readers' abilities to mentalize about others' internal states, is induced by literary texts. In this view, the stylistic features that distinguish literary from genre fiction, such as complex and unpredictable characters (Kidd & Castano, 2018a), may stimulate personality change and foster empathic understanding (Djikic & Oatley, 2014; Kidd & Castano, 2013, 2017b). In the present study, only comedy and experimental/postmodern genres were associated with all empathic ability measures and, along with factual/documentary, were the only genres associated with altruism. Just as certain media presentations can elicit more active engagement, these genres may entail a particularly writerly engagement style by subverting expectations and requiring multiple perspectives to be tracked: Experimental/postmodern narratives incorporate techniques such as fragmentation, multiple plotlines, and unreliable narration, and interpreting comedy involves the integration of incongruent mental states, verbal expressions, and context.[6] However, comedy, as well as romance and drama genres, can be formulaic, and are generally associated with mass, rather than with literary, media. It may be that relationships between popular genres and empathic abilities result from the incorporation of literary devices, or that features of genre fiction too can activate processes that mediate fiction-empathy relationships.

The process of becoming transported (Gerrig, 1993), or "lost" in storyworlds (Nell, 1988, p. 8), imagining story environments, and simulating the experiences of fictional

[6] Stimuli featuring comic narratives are frequently used to test advanced mentalizing abilities (e.g., Aykan & Nalçacı, 2018; Happé, 1994; Winner, Brownell, Happé, Blum, & Pincus, 1998).

characters (e.g., Mar et al., 2006), appears to mediate the effects of engaging with fictional social content on attitudes (Green & Brock, 2000), empathy dimensions (Bal & Veltkamp, 2013; see also, Taylor & Carlson, 1997), and prosocial behavior (e.g. Johnson, 2012; Schellenberg, 2004). Unlike other IRI dimensions which measure self-reported empathy for real-world others, the fantasy subscale probes the trait tendency to become transported into narratives. In the present study, this tendency was associated with increased exposure to all FMET dimensions. It is unclear how far fantasy relates to other media formats not examined in this study; previous research, for example, has reported lower levels of transportation for reading via electronic screens compared to printed literature (Mangen & Kuiken, 2014).

Johnson (2012) found that differences in transportation accounted for variation in altruistic behavior immediately after reading; however, this finding may have been partly due to readers modelling the prosocial actions of story characters (a social learning process; Johnson, 2012; see also, Gentile et al., 2009). The relationship between the FMET and self-reported altruism shown in the present study indicates that some variability in altruistic tendencies may be attributed to general fiction exposure, rather than specific to stories portraying prosocial content (characters and scenarios). In the present study, controlling for fantasy and the other IRI dimensions did not significantly alter the prediction for altruism, indicating that trait transportability did not account for substantial variance. Future studies may help to establish how far levels of transportation elicited by different media formats relate to empathic processes in the context of real-world others, and the extent that individual differences in the fantasy trait contribute to these effects.

The observed associations among fiction-media formats, genres, and empathic dimensions support the view that variance in empathic abilities is partly linked to the social content of fiction, rather than to more general reading processes (Mar et al., 2006; Oatley, 1999). It may be that fiction formats which entail writerly engagement with themes and

content, or those that incur high levels of transportation and the simulation of characters' inner states, support empathic abilities (see Mar et al., 2009). Alternatively, fiction effects may occur via more than one route; prosocial motivation can arise from mentalizing about others' experiences or by sharing in those experiences vicariously (Zaki & Ochsner, 2012), and the extent that people engage their mentalizing and experience-sharing faculties during exposure to different fictional media and thematic content may vary.

Media format and thematic genre were both implicated in associations between fiction and empathic abilities, and so future studies may productively incorporate media and genre exposure dimensions (e.g., Black et al., 2018; Kidd & Castano, 2017b) in order to establish interactions (studies controlling for fiction exposure may also benefit from the multidimensional approach). Examining the full extent of fiction engagement (video games, for example, may also support empathic skills, e.g., Bormann & Greitemeyer, 2015; Gentile et al., 2009) was beyond the scope of this study; however, the present findings justify further research into a more comprehensive range of fiction formats, and examination of the processes underpinning their effects on prosociality.

Limitations and Future Research

The correlational design of this study does not provide evidence for causation. It could be, for example, that altruistic people are motivated to read about fictional characters, and that the complexities of comic and postmodern narratives are sought by empathic individuals (e.g., Hall & Bracken, 2011). Other variables may also be implicated, including intelligence, knowledge, verbal abilities, social needs (e.g., Djikic & Oatley, 2014; Gabriel & Young, 2011; Mol & Bus, 2011; Stanovich, West, & Harrison, 1995; see also Mar et al., 2009) and other personality traits (for example, dark triad traits are associated with deficits in affective, but not cognitive empathy; Felisberti & King, 2017; Wai & Tiliopoulos, 2012). There is some indication that sample characteristics (age, gender, and recruitment avenue),

measure format (performance versus self-report), and comparison group (nonfiction versus no reading) do not substantially interact with fiction effects on empathic skills, and so other factors may account for heterogeneity among causal effect sizes in the literature (Dodell-Feder & Tamir, 2018). Prior research has shown that fiction exposure predicted Eyes Test performance when gender, and traits fantasy and openness, were controlled (Mar et al., 2009), and the multidimensional approach of the present study showed that fiction exposure significantly explained variance in fantasy and altruism when gender, age, education, and language were controlled. This study did not address the social nature of different modes of fiction engagement, which may play a role; for example, appreciation of plays or comedy might reflect enjoyment of being part of a live audience. Future research may elucidate the impact of social contextual factors in relationships between fiction and empathic abilities.

A lack of correlation among empathic ability measures has been documented (e.g., Mar et al., 2006), and further research is required to establish how far the fiction scales used in this study would relate to performance on other empathic ability measures. For example, participants may complete self-report measures in ways perceived to be socially desirable. To address this, irrelevant items were included with the empathic ability measures to mask the study's aims (average values for all IRI scales were in line with prior research, Konrath, 2013), and the FMET incorporated a points-deduction system to control for guessing. The film and play names for the FMET were selected from lists of award-winning and significant works, whereas the prose scale contained both literary and popular-fiction authors. Therefore, it is not possible to draw conclusions about the importance of exposure to literary fiction; however, links between empathic abilities and genre preferences (such as comedy, which is generally associated with mass, rather than literary, media), indicate that relationships between fiction exposure and empathic abilities are not exclusive to literary works.

Examining media and genre preferences in addition to fiction media exposure facilitated a more comprehensive perspective of fiction engagement, though multiple testing increases the risk of false positive results. However, the observed consistencies across relationships between media exposure and media preferences with empathic abilities suggest avenues for future research. The FMET combined scores did not significantly contribute to the predictive models for empathic concern and perspective taking, which was surprising considering previous findings associating author exposure with these dimensions (Mumper & Gerrig, 2017). Fiction and nonfiction exposure tend to correlate (Mar et al., 2006, 2009); however, nonfiction exposure was not controlled in this study, and fiction authors that have also published some nonfiction works were not omitted from the FMET. Therefore, variance caused by nonfiction exposure may have attenuated or accounted for some of the observed effects. In this study, the factual/documentary genre showed small, positive associations with perspective taking, empathic concern, and altruism, and it may be that person-centred nonfiction such as biography and memoir also contains the narrative aspects associated with empathic development. Future research should aim to comprehensively account for variance caused by nonfiction exposure.

Conclusion

Rather than providing a means to escape social duties and commitments, fictional stories may enhance people's social understanding and tendencies to respond prosocially to others on the basis of that insight. People engage with a variety of fictional genres through an increasing range of formats. The findings from this study point to a central role of media presentation in relationships between fictional social content and empathic abilities. Divergent associations between genre and media formats and empathic abilities implicate both "content" and "process" explanations (Mar et al., 2009) of fiction effects. It may be that transmission of social knowledge and simulation of social experience support alternate

(mentalizing versus experience sharing) routes to empathic understanding, and the consequential activation of altruistic motivation. Further research is needed to establish the conditions in which causal mechanisms may be recruited and to identify interactions between thematic content and modes of engagement. Inconsistencies in the literature likely reflect the heterogeneity of both fiction engagement and empathic ability measures, which may be systematically addressed in future research aiming to clarify the antecedents and consequences of fiction-engagement, and to reflect the multiplicity of the fiction landscape.

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Appendix A

Fiction Media Exposure Test Names by Media, and Percentage of Participants that Selected Each Name

Scale	Name	% participants that identified name
Author-exposure	J. R. R. Tolkien	84
	George Orwell	82
	Ernest Hemingway	81
	T. S. Eliot	77
	Virginia Woolf	77
	F. Scott Fitzgerald	73
	Harper Lee	71
	Salman Rushdie	58
	James Joyce	57
	Tom Clancy	56
	J. D. Salinger	54
	James Patterson	53
	Margaret Atwood	53
	Maya Angelou	46
	John Irving	45
	Gabriel Garcia Marquez	33
	Kazuo Ishiguro	31
	Umberto Eco	30
	Kurt Vonnegut	27
	Alice Walker	27
	Thomas Wolfe	25
	Clive Cussler	24
	Anne McCaffrey	19
	Nora Ephron	17
	Saul Bellow	17
	Sue Grafton	14
	Jonathan Kellerman	12
	T. C. Boyle	9
	Ann Beattie	4
	Jane Smiley	3
Film-exposure	Avatar	93
	The Exorcist	92
	Gladiator	90
	Schindler's List	89
	Saving Private Ryan	88
	12 Years a Slave	88
	American Beauty	82
	Rain Man	80
	One Flew Over the Cuckoo's Nest	78
	A Beautiful Mind	77
	Spartacus	74

	Lawrence of Arabia	72
	The Revenant	70
	The Social Network	68
	Kramer vs. Kramer	65
	Doctor Zhivago	64
	The Bridge on the River Kwai	60
	The Piano	59
	Platoon	56
	Midnight Express	52
	Love Story	48
	The Descendants	44
	Boyhood	44
	The Hours	38
	Babel	36
	On the Waterfront	28
	The Unbearable Lightness of Being	27
	Ordinary People	26
	The Cotton Club	22
	The Robe	14
Play-exposure	Cat on a Hot Tin Roof	62
	Death of a Salesman	61
	A Streetcar Named Desire	59
	Who's Afraid of Virginia Woolf?	55
	Pygmalion	50
	The Crucible	49
	Waiting for Godot	49
	Oh What a Lovely War	42
	Abigail's Party	36
	Rosencrantz and Guildenstern are Dead	33
	The Glass Menagerie	32
	Look Back in Anger	27
	Six Degrees of Separation	26
	A Taste of Honey	22
	Noises Off	20
	Top Girls	18
	Glengarry Glen Ross	17
	Mother Courage and her Children	16
	Six Characters in Search of an Author	14
	Arcadia	13
	Our Country's Good	12
	The Royal Hunt of the Sun	10
	Present Laughter	9
	A Raisin in the Sun	9
	My Night with Reg	8
	Fences	8
	The Weir	7
	Road	6
	Pravda	5
	Observe the Sons of Ulster Marching Toward the Somme	3

Appendix B

Altruism Items Adapted Items from Rushton et al. (1981)

Rushton et al. (1981)	**Present study**
I have given money to a stranger who needed it (or asked me for it)	I have given money to a stranger who needed it (or asked me for it)
I have done volunteer work for a charity	I have done volunteer work for a charity
I have donated blood	I have donated blood
I have allowed someone to go ahead of me in a lineup (at photocopy machine, in the supermarket)	I have allowed someone to go ahead of me in a queue
I have pointed out a clerk's error (in a bank, at the supermarket) in undercharging me for an item	I have pointed out a cashier's error (in a bank/shop) in undercharging me for an item
I have let a neighbour whom I didn't know too well borrow an item of some value to me (e.g., a dish, tools, etc.)	I have allowed someone I did not know that well to borrow an item of some value to me
I have bought 'charity" Christmas cards deliberately because I knew it was a good cause	I have bought 'charity' cards because I knew it was a good cause
I have helped a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers	I have helped a classmate I did not know that well with an assignment when my knowledge was greater than his/hers
I have offered to help a handicapped or elderly stranger across a street	I have offered to help a less able person across the street

Appendix C

Supplementary Results and Discussion

Fiction Media Exposure

Partial correlations.[7] Internal correlations remained significant for the IRI and FMET scales respectively (all *p*s < .001), and between altruism and all IRI scales (all *p*s < .01). Significant inter-correlation are as follows (*df* = 393): Fantasy remained associated with author exposure, $r = .17$, $p = .001$, [.07, .27], and correlations reached significance with play-, $r = .15$, $p = .003$, [.05, .24], and film exposure, $r = .15$, $p = .002$, [.05, .26] (all *p*s < .01. Altruism remained associated with author exposure, $r = .12$, $p = .016$, [.01, .23], and play exposure, $r = .15$, $p = .004$, [.04, .25] but not film exposure, $r = .07$, $p = .153$, [-.03, .18].

Media and Genre Preferences

Partial correlations. Perspective taking (PT) and empathic concern (EC) remained associated with (*df* = 344): preferences for romance, $r_{PT} = .12$, $p = .023$, [.02, .23], $r_{EC} = .24$, $p < .001$, [.13, .34], comedy, $r_{PT} = .14$, $p = .011$, [.03, .24], $r_{EC} = .20$, $p < .001$, [.09, .30], experimental/postmodern, $r_{PT} = .18$, $p = .001$, [.07, .29], $r_{EC} = .17$, $p = .001$, [.07, .27], and factual/documentary, $r_{PT} = .12$, $p = .025$, [.02, .23] $r_{EC} = .12$, $p = .027$, [.02, .23]; and empathic concern with drama, $r = .16$, $p = .003$ [.05, .27]. Fantasy correlated with drama, $r = .28$, $p < .001$, [.17, .38] romance, $r = .19$, $p < .001$, [.09, .28], comedy, $r = .18$, $p = .001$, [.08, .30] and experimental/postmodern, $r = .16$, $p = .002$, [.06, .27]. Altruism correlated with comedy, $r = .18$, $p = .001$, [.08, .28]. experimental/postmodern, $r = .16$, $p = .003$, [.04, .27], and factual/documentary, $r = .12$, $p = .032$, [.01, .22].

Fantasy remained positively associated with (*df* = 392): reading novels, $r = .16$, $p = .001$, [.06, .26], and the negative relationship with TV approached but did not reach significance, $r = -.10$, $p = .055$, [-.19, -.001]. Altruism remained positively associated with

[7] All partial correlations controlled for age, gender, education and language.

plays, $r = .17$, $p = .001$, [.07, .27] and negatively associated with TV, $r = -.17$, $p = .001$, [-.27, -.08] and film $r = -.11$, $p = .03$, [-.21, -.01]. The correlation with reading novels did not reach significance, $r = .09$, $p = .093$, [-.02, .20].

Media Selection. Media selection is based on a combination of social, developmental and dispositional factors (for a review of the literature see Valkenburg et al., 2016). Escapism was the primary motivation for engaging with fiction media (except in the case of plays, which tended to be motivated by an interest in the creatives), followed by mood-management (Zillman, 1988); people tended to select media to maintain or improve their mood-state (figure 1).

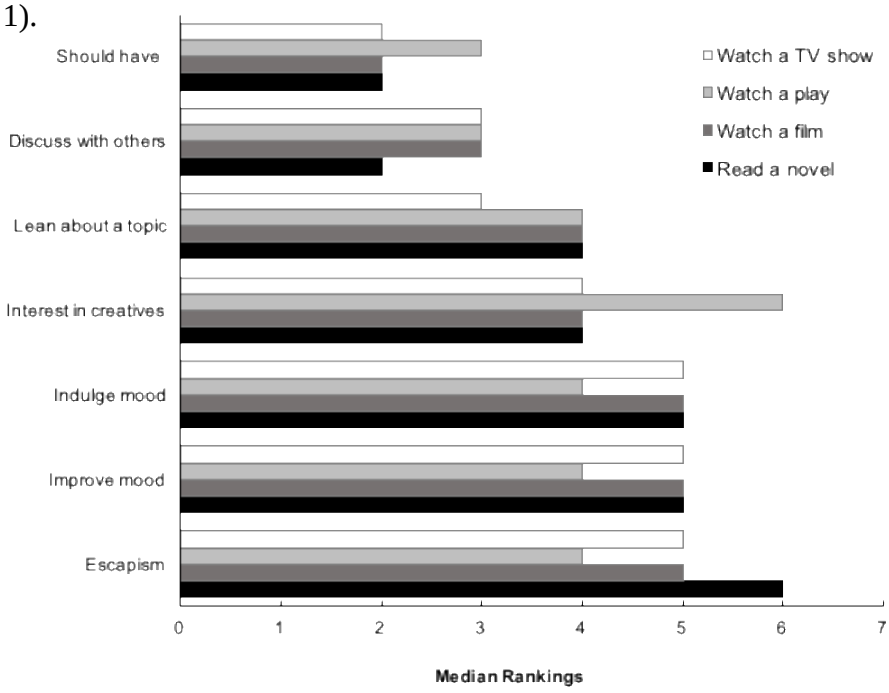

Figure 1. Median ratings for reasons participants reported their tendency to engage with four media formats (watch a TV show, watch a play, watch a film, read a novel).

Reading a novel because participants felt they "should" have read it negatively correlated with perspective taking, $r_s(304) = -.18$, $p = .002$, [-.28, -.08], and fantasy, $r_s(304) = -.19$, $p = .001$, [-.30, .07], and watching a film because they "should" have seen it negatively correlated with empathic concern, $r_s(341) = -.11$, $p = .038$, [-.22, .001], fantasy, r_s

(341) = -.12, p = .023, [-.23, -.02], and altruism, r_s (341) = -.12, p = .029, [-.22, -.02]. In contrast, results showed positive correlations between watching a film to improve mood with empathic concern, r_s (341) = .14, p = .012, [.04, .23], and using films for escapism with fantasy, r_s (341) = .12, p = .029, [.01, .23]. Altruism was positively associated with wanting to learn about a topic through watching film, r_s (341) = .14, p = .01, [.03, .25], TV, r_s (295) = .18, p = .002, [.06, .29], and plays, r_s (222) = .17, p = .009, [.04, .30], and reading a novel because of an interest in the writer, r_s (304) = .12, p = .033, [.01, .23]. Correlations between reasons for media selection and empathic abilities suggest a mediating role for media presentation in relationships between the antecedents and consequences of fiction engagement, which constitutes a central concept in several media effects theories (Valkenburg et al., 2016).

Table 1

Gender Comparisons for IRI, Self-report Altruism Scale and FMET

	Females		Males			
	Mdn	*SE*	*Mdn*	*SE*	*U*	*p*
Perspective taking	26	.50	23	.69	14878.50	.001
Empathic concern	29	.32	26	.73	16241.50	< .001
Fantasy	25	.41	23	1.13	14419.50	.004
Altruism	25	.49	25	.79	12446.50	.498
Author-exposure	12	.60	12	1.08	11003.00	.345
Film-exposure	18	.51	20	.85	9082.00	.002
Play-exposure	6	.58	8.5	1.25	10109.50	.051

Note. N = 401 (329 participants identified as female and 72 as male)

Table 2

Means, Standard Deviations and Raw Inter-Scale Correlations for FMET, IRI and Self-Report Altruism Scale

	M	*SD*	1	2	3	4	5	6	7
1. Author-exposure	11.92	6.95	-	.742 ***	.795 ***	.286 ***	.050	-.012	.130 **
(α = .92)				[.687, .791]	[.752, .830]	[.177, .356]	[-.046, .141]	[-.107, .083]	[.036, .224]
2. Film-exposure	17.90	6.79		-	.790 ***	.242 ***	.045	.016	.080
(α = .91)					[.748, .826]	[.045, .209]	[-.049, .140]	[-.082, .15]	[-.005, .186]
3. Play-exposure	7.47	6.69			-	.294 ***	.044	.001	.092
(α = .93)						[.209, .379]	[-.052, 137]	[-.064, .068]	[-.005, .186]
4. Altruism	25.12	5.60				-	.303 ***	.273 ***	.125 **
(α = .70)							[.207, .390]	[.173, .360]	[.032, .215]
5. Perspective taking	24.46	5.27					-	.554 ***	.298 ***
(α = .81)								[.480, .621]	[.208, .387]
6. Empathic concern	27.75	4.65						-	.382 ***
(α = .77)									[.289, .470]
7. Fantasy	24.30	5.88							-
(α = .81)									

Note. $N = 404$, * $p < .05$, ** $p < .01$, *** $p < .001$, 95% bias corrected and accelerated confidence intervals are presented in brackets

Table 3

Predictors of Empathic Abilities

	Altruism	Fantasy	Empathic concern	Perspective taking
Coefficients (*B*)				
Constant	18.88 ***	17.43 ***	21.32 ***	19.142 ***
	[15.07, 22.69]	[13.23, 21.41]	[18.32, 24.33]	[15.82, 22.47]
Fiction exposure	.047 **	.062 **	.019	.033
	[.013, .082]	[.024, .100]	[-.010, .047]	[-.001, .067]
Age	.082 ***	-.052 *	.008	-.034
	[.033, .130]	[-.104, -.001]	[-.030, .046]	[-.081, .013]
Gender	.703	2.55 **	2.85 ***	2.38 ***
	[-.792, 2.2]	[.942, 4.16]	[1.74, 3.95]	[1.17, 3.59]
Education	.013	.083	-.003	.085
	[-.138, .165]	[-.084, .249]	[-.107, .100]	[-.043, .213]
Language	.149	1.27	.287	.464
	[-1.44, 1.74]	[-.377, 2.91]	[1.08, 1.65]	[-1.05, 1.97]
Model fit				
R^2	.106	.052	.068	.047
adj. R^2	.095	.040	.056	.035
F	9.346	4.320	5.703	3.88
p	< .001	.001	< .001	.002

Notes. $N = 399$; *$p < .05$, **$p<.01$, ***$p < .001$; 95% bias corrected and accelerated confidence intervals are presented in brackets

Table 4

Correlations between Genre Enjoyment, Media Preferences, and Empathic Abilities

	Altruism	Perspective taking	Empathic concern	Fantasy
Genre Enjoyment				
Drama	.081	.106 *	.178 ***	.270 ***
	[-.024, .178]	[.004, .203]	[.084, .288]	[.171, .363]
Romance	-.064	.148 **	.265 ***	.210 ***
	[-.167, .041]	[.048, .244]	[.161, .353]	[.109, .309]
Crime/Thriller	.036	.065	.057	.057
	[-.068, .137]	[-.037, .170]	[-.046, .159]	[-.047, .157]
Experimental/Postmodern	.138 **	.178 ***	.165 **	.143 **
	[.033, .241]	[.075, .276]	[.060, .267]	[.038, .244]
Comedy	.129 *	.130 *	.187 ***	.181 ***
	[.029, .225]	[.029, .231]	[.084, .288]	[.076, .284]
Factual/Documentary	.127 *	.132 *	.133 *	.082
	[.020, .227]	[.030, .229]	[.028, .234]	[-.026, .189]
Media Preferences†				
Novels	.176 ***	.081	.043	.163 ***
	[.074, .273]	[-.017, .179]	[-.055, .142]	[.067, .245]
Film	-.132 **	-.036	-.038	-.075
	[-.228, -.034]	[-.132, .062]	[.050, -.134]	[-.176, .023]
Plays	.214 ***	.077	.111 *	-.010
	[.118, .305]	[-.020, .179]	[.015, .207]	[-.105, .084]
TV	-.264 ***	-.130 **	-.124 *	-.092
	[-.353, -.174]	[-.229, -.034]	[-.221, -.027]	[-.183, .005]

Note. $N = 353$, †$N = 403$, * $p < .05$, ** $p < .01$, *** $p < .001$, 95% bias corrected and accelerated confidence intervals are presented in brackets