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EMOTIONAL ENGAGEMENT, BUT NOT TRANSPORTATION LEADS TO HIGHER EMPATHY AFTER READING A FICTIONAL STORY, IN MORE AGREEABLE PARTICIPANTS

Research from different disciplines points to a positive relationship between reading fiction and empathy. Some studies also focus on potential moderators of this relationship, such as individual personality differences and how the individual engages with the fictional text in terms of transportation. This paper aims to investigate whether reading-induced Affective empathy can be explained by personality trait of Agreeableness, as well as Emotional engagement, and Transportation. Participants were 132 undergraduate and graduate students, who read a short fictional story by J. Joyce and after that completed a set of questionnaires, containing measures of Big Five personality traits, Emotional engagement, Transportation, and Affective empathy. Results show that there is a strong positive relationship between Agreeableness and story-induced Empathy and that this relationship can be partially explained by Emotional engagement. Transportation, on the other hand, did not show to be an important variable in the relationship of Agreeableness and story induced Empathy; neither did it show to be a significant factor in this relationship when Emotional engagement was included. This study provides information for additional understanding of the relationship between reading fiction and empathy through the investigation of its mediators.

Key words: agreeableness, story induced empathy, emotional engagement, transportation

Introduction

Most people spend at least some part of their leisure time reading, and quite often that includes reading fiction. Fictional texts (e.g., novels) differ from non-fiction or expository texts (e.g., instructional manuals, textbooks) in several ways. The first difference is regarding structure, because fiction represents goal-oriented structure of human experience (Gerrig, 1993). The second difference is regarding content. While fictional texts emphasize the characteristics and interactions of the characters, non-fictional texts are more informational (Gardner, 2004). Researches shows that these differences are related to some specific reading outcomes, such as comprehension and recall (Graesser et al., 1980) and verbal ability (Mar & Rain, 2015), which have been more pronounced in relation to exposure to narrative fiction. Additionally, studies show that reading fiction, but not non-fiction, can be related to better theory of mind and empathy (Johnson, 2012; Mar et al., 2006).

Theory of mind is a metarepresentational ability – representation of a representation and it refers to understanding of our personal as well as other people's mental states, e.g., desires, beliefs, intentions, thoughts, perceptions, emotions etc. Empathy, on the other hand, refers to our ability to understand or feel what another person is experiencing, from that person's perspective. Two basic types of empathy are affective or emotional empathy and cognitive empathy (Davis, 1983). Affective empathy is when we feel what another person is feeling both physically and emotionally. We feel someone's pain or joy, for example, as if it is our own. Cognitive empathy refers to the capacity to understand another person's perspective or mental states, e.g., what someone is thinking of. This type of empathy is often defined in the same way as the theory of mind ability (Leverage et al., 2011). In fact, many studies dealing with either theory of mind or cognitive empathy use the same measurements to assess this ability, but they name if differently, depending on their theoretical perspective (Olderback et al., 2015; Stansfield & Bunce, 2014).

Reading Fiction, Theory of Mind and Affective Empathy

The relationship of reading fiction with theory of mind and affective empathy can be explained through more careful analyses of the fictional text. As mentioned before, unlike non-fictional texts which are more expository in nature, fictional texts take the form of a narrative. According to Bruner (1986) narrative is a distinctive mode of thought that focuses on the mental lives of characters – their desires, beliefs, intentions, knowledge etc., and their interactions with other people. It is also very complex because stories include past, present and future events. They are full of different ambiguities, opinions, dilemmas, and problems that their characters' experiences. Gerring (1993) was the first to use the travel metaphor to describe how reading fiction can take

us, or transport us to where ever and whenever the story is happening, and thus allow us to experience what the story characters are feeling. Neussbaum (1995) took the notion of transportation a step further, by saying that the active practice of explaining people's behavior based on their mental states, which is present during fiction reading, is of great importance for our social lives. Oatley (1999) also proposed that the simulation of social experiences that we experience while reading fiction might have real consequences for our social lives. In other words, by reading about character's mental and emotional lives and their social experiences, we learn about them and they affect our mind and behavior, especially social skills connected to empathy and theory of mind (Mar et al., 2006).

Indeed, there are studies showing that reading a fictional story can lead some individuals to engage in more prosocial behavior (Johnson, 2012; Koopman, 2015), and this relationship is moderated by theory of mind and affective empathy. However, it is important to distinguish between studies that deal with lifetime exposure to fiction and its relations to other variables, and studies that focus on the effects of reading a fictional story in experimental conditions. Previous researches point to a positive correlation between lifetime exposure to fiction and theory of mind (Djikic et al 2013; Mar et al., 2006; Mar et al., 2009). The first report of a causal relation in a manner that reading a short fictional paragraph leads to a better theory of mind was provided by Kidd and Castano (2013). Attempts to replicate these results did not always prove successful (Djikic et al., 2013; Panero et al., 2016), but a recent meta-analysis of experiments addressing this question (Dodell-Feder & Tamir, 2018), shows that there is indeed a small positive impact of fiction reading on social cognition (abilities related to processing, interpreting and responding to social information).

Studies on reading fiction and affective empathy are much scarcer. While studying the direct response to reading a fictional story in an experiment, Johnson (2012) showed that deeper transportation into the story leads to higher affective empathy, and later to better chances of engaging in prosocial behavior. At the same time, based on Green and Brock's research (2000) he introduced transportation as an important variable influencing the relation of reading fiction and empathy. Green and Brock (2000) define transportation into the narrative world as a combination of attention, imagery, and feelings, and posit that transformation happens when the reader is fully engaged with the text, experiences high imagery and the story has an emotional impact on him. Bal and Veltkamp (2013) also found that reading a fictional story induces affective empathy, but only in the case of emotional transportation. Emotional transportation, also known as emotional engagement is defined as feeling for and with characters (Bussele & Bilandzic, 2009). It is what the reader experiences as a result of emotional arousal that happens while he is engaged with fictional text, but it does not have to be related to a specific emotion. Compared

to transportation, emotional engagement focuses more on the affective, than on the cognitive involvement with the text. Djikic et al. (2013) found different associations between reading a fictional story and cognitive and affective empathy, with no increase in affective empathy. Stansfield and Bunce (2014) found different associations of lifetime exposure to fiction with trait empathy vs. story-induced emotional and cognitive empathy. They found that exposure to fiction was associated with trait cognitive and not affective empathy, but the experience of being transported was associated with story-induced affective empathy. Inconsistencies in results from these studies shows that the relationship between reading fiction and affective empathy needs to be further explored.

Reading Fiction and Personality Differences

To obtain deeper understanding of the relationship between reading fiction and affective empathy or theory of mind, some researchers directed their interest to individual personality differences and how the individual engages with the fictional text. Early research on reading fiction and personality showed positive associations between fiction reading and openness to experience (McManus & Furnham, 2006; Tirre & Dixit, 1995), with less consistent findings regarding extraversion and agreeableness (Tirre & Dixit, 1995). Mar et al. (2009) took this research to a new context. By investigating the causal association between exposure to fiction and social ability, they additionally wanted to rule out the possible influence of individual personality differences. Using a Big Five model of personality (Costa & McCrae, 1992) they identified openness as the most consistent correlate, and after controlling for this trait the authors still found that exposure to fiction predicted performance on cognitive empathy. Another of the Big-Five personality traits that could be of particular importance in studying affective empathy is agreeableness (Graziano & Eisenberg, 1997). Persons who score high on this dimension are often described as sympathetic, helpful and generous (Goldberg, 1992), and Graziano et al. (2007) emphasize its similarity to empathy. The same authors found a positive correlation between agreeableness and total score on empathy (Davis, 1996), but also more specifically to empathic concern and perspective taking, e.g., the two components that are related to promoting prosocial action (Graziano et al., 2007). Penner et al. (1995) and Habashi et al. (2016) also found positive correlations between agreeableness and other-oriented empathy. Therefore, this research focuses on agreeableness, which has been shown by previous research to be the most likely to generate a systematic pattern of empathic responses (Graziano & Eisenberg, 1997).

Based on the mentioned studies that point to a positive association between reading a fictional story and affective empathy (Johnson, 2012), but also highlight the importance of transportation (Johnson, 2012) and emotional

engagement (Bal & Veltkamp, 2013), as well as the potential contribution of agreeableness (Graziano et al., 2007; Habashi, 2016; Penner et al., 1995) in this relationship, we propose a hypothetical model depicted in Figure 1. According to this model, the relationship between agreeableness and story induced affective empathy can be explained through emotional engagement and transportation. We propose that affective empathy will be enhanced after reading a short fictional story in participants with a higher level of agreeableness who can easily be emotionally engaged and transported in the story.
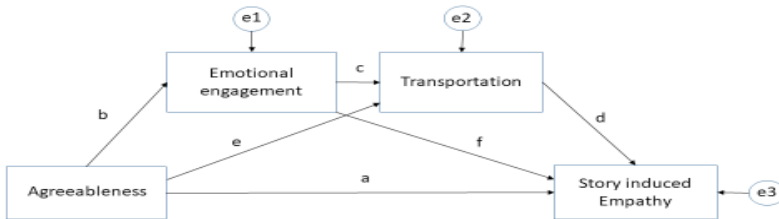

Figure 1. Hypothetical model of mechanisms for the development of story induced affective empathy based on agreeableness.

Practical implications that the confirmation of the proposed model would provide, include a better understanding of the relationship between personality dimensions, e. g., agreeableness and affective empathy induced after reading a fictional story. These findings might provide a base for development of more personalized reading programs, aimed at enhancing empathy in general population.

Methods

Participants

Participants were undergraduate and graduate students at the University of Osijek, Croatia ($N = 132$), who volunteered to participate in the experiment: 83 were female and 49 male. The average age was 21 ($M = 21.45$, $SD = 2.07$, range 19-33).

Procedure

The experiment was done in small groups of up to 25 participants in different classrooms at the University. Participation was voluntary. After the Ethics committee of the author's institution and deans of the two faculties from the J. J. Strossmayer University approved the research, e-mail invitations for participation were sent to students through their professors. The students

were informed by their professors that prior to coming to regular classes, they will be offered to participate in a research project on reading, and that that day the first hour of classes will be dedicated to this research. There were up to 25 students in each class who agreed to participate. Once they were seated, the experimenter explained the general purpose of the research to each group of participants; they signed the consent form and were given a set of question-naires. The procedure was the following: participants were instructed to read a fictional story and then complete the set of questionnaires, comprising of the measures reported in this research, but also additional measures. All the participants read a short fictional story "Araby" by J. Joyce from the book titled "Dubliners". The procedure lasted up to 45 minutes.

Measures

Fictional Story

Participant read a short story named "Araby", from the J. Joyce book titled "Dubliners", which was published in 1914. We specifically chose a previously published story written by a well-known and skilled author, instead of creating a story specifically for the study purpose, because we wanted to examine the effect of a story that the general public can also read in real life. In the story the main character, a boy falls in love with his friend's sister but fails in his quest to buy her a worthy gift from the Araby bazaar.

IPIP50

International Personality Item Pool (IPIP*;* Mlačić & Goldberg, 2007). To measure the Big-Five domains we used the short form of Croatian translation of the IPIP. Participants were presented with 50 items and asked to rate how well they believed it described them on a 5-point scale ranging from 1 ("*very inaccurate"*) to 5 ("*very accurate"*) as in the original instrument (Goldberg, 1999). Previous research confirmed the stability of the five-factor structure of IPIP50 and satisfactory scale reliability on a sample of Croatian adolescents (Mlačić, et al. 2007). For each of the five factors, namely Extraversion, Agree-ableness, Consciousness, Emotional stability and Intellect, there are 10 items and the final result is calculated as a sum of responses on these items.

Emotional Engagement

Emotional engagement (feeling for and with characters) was measured using an adaptation of the three items from Busselle and Bilandzic (2009): (1) "*The story affected me emotionally*", (2) "*During story reading, when the main character was offered a chance to do something that would make him look good*

in the eyes of the girl he liked, I felt happy for him"; (3) "*Considering the story ending, I felt sorry for the main character*". For each item participants rated how well they believed it described them on a 5-point scale ranging from 1 ("*not at all*") to 5 ("*absolutely*"). The total score was calculated as a sum of all responses.

Transportation

Transportation was measured using Green and Brock's transportation scale (2000). It consist s of 12 items that describe the degree to which the participants are engaged in the story. An example item is "*While I was reading the narrative, I could easily picture the events in it taking place*". Two researchers who were proficient in English language and familiar with the study purpose independently translated all the items from the original version of the transportation scale into Croatian language. Following this, the translations were compared and the different translation options were discussed. As a result, the unique version of the scale was constructed in Croatian, containing item translations for which both researchers agreed they represent the best semantic and conceptual translation of the original items. For each item the participants rated how much they experienced what the items described while reading the fictional story, using a scale from 1 ("*very little*") to 7 ("*extremely*"). Three items were reversed while scoring. The total score was calculated as a sum of all responses.

Affective Empathy

Affective empathy was measured using an Affective empathy scale (Raboteg-Šarić, 1995) which consists of 19 items describing emotional reactions to other people's emotional states, care about others that find themselves in unfavorable situations, and emotional reactions to other people's unfavorable experiences. Using a scale from 1 ("*It doesn't describe me well at all*") to 5 ("*It describes me completely*") participants rated how well each item can be applied to them. The total score was calculated as a sum of all responses.

Results

Descriptive statistics data for variables in the study are shown in Table 1. All the scales showed good to excellent reliability.

Table 1
Descriptive statistics of variables in the study

	M	*SD*	α
Affective empathy	73.06	11.23	.90
Extraversion	35.20	6.90	.85
Agreeableness	40.46	5.16	.83
Consciousness	35.49	7.45	.87
Emotional stability	33.22	7.28	.85
Intellect	38.19	4.70	.72
Emotional engagement	9.22	2.80	.77
Transportation	42.22	12.43	.86

The correlations between constructs are shown in Table 2. Although we can see that besides Agreeableness other personality dimensions are significantly related to Affective empathy too (Consciousness and Emotional stability), Agreeableness is the only personality dimension that significantly correlates to Affective empathy, Emotional engagement, and Transportation.

Table 2
Correlation matrix of personality dimensions measured by IPIP and empathy, emotional engagement and transportation

	Extraversion	Agreeableness	Consciousness	Emotional stability	Intellect
Empathy	-.05	.75**	.27**	-.24**	-.10
Emotional engagement	.11	.47**	.13	-.06	.13
Transportation	.26**	.30**	.02	.07	.19**

*Note. * p < .05; ** p < .01.*

To examine the mechanisms behind the positive relations between Affective empathy and Agreeableness, we conducted a regression analysis aiming to establish chain-related mediators which could explain this connection. Based on a hypothetical model described in the Introduction (Figure 1) we hypothesize that participants who score higher on Agreeableness can more easily be emotionally engaged as well as transported in the fictional story they read and that this results in higher Affective empathy. The model was tested using

Model 6 of the Hayes program for statistical analysis, Process for SPSS (Hayes, 2017). Model 6 tests a larger number of relations between variables. As visible in Figure 1, besides the direct effect of Agreeableness on Empathy (trajectory a), it measures the direct effect of Agreeableness on Emotional engagement (trajectory b) and Transportation (trajectory e), as well as the indirect effect of Agreeableness on Empathy through Emotional engagement (1. indirect effect) and Transportation (2. indirect effect) independently and in combination (3. indirect effect). To examine the indirect effects model 6 was tested on 2000 bootstrap samples. A more detailed description of the analyses is provided in Hayes (2017).

Results from Table 3 show that Agreeableness is significantly related to Emotional engagement (trajectory b) but not with Transportation (trajectory e). Furthermore, the results from Table 3 show that the relationship between Agreeableness and Transportation is completely explained by Emotional engagement. What is also significant is the relation of Agreeableness with Affective empathy but through Emotional engagement (1. indirect effect). This means that participants who score higher on Agreeableness tend to be more emotionally engaged in the fictional story and because of that, they achieve higher scores on Affective empathy. The relation between Agreeableness and Affective Empathy, through Transportation, did not show to be significant, and neither did the relationship between Agreeableness and Affective empathy through Emotional engagement and Transportation.

Table 3

Unstandardized OLS regression coefficients with 95% security interval in estimating Empathy based on Agreeableness, Emotional engagement, and Transportation

	Criteria					
	Emotional engagement		Transportation		Empathy	
	Coefficient	95% interval	Coefficient	95% interval	Coefficient	95% interval
Agreeableness	0.24**	0.159 – 0.326	-0.07	-0.41 – 0.27	1.33**	1.061–1.60
Emotional engagement			3.08**	2.43 – 3.73	1.19**	0.512 –1.87
Transportation					0.00	-0.15 –0.14
Constant	-0.58	-3.99 – 2.83	16.56	4.23 – 28.88	8.26	-1.85 –18.38
	$R^2 = .21$ $F(2, 122) = 32.39^{**}$		$R^2 = .47$ $F(2, 121) = 54.24^{**}$		$R^2 = .62$ $F(3, 120) = 65.75^{**}$	

*Note. * $p < .05$; ** $p < .01$.*

Table 4

Direct and indirect effects of Agreeableness on Empathy after reading a fictional story

	Effects (SE)	95% interval
Direct effect	0.29** (0.08)	0.14 – 0.45
Agreeableness -> Emotional engagement -> Empathy	0.29** (0.09)	0.12 – 0.47
Agreeableness -> Transportation -> Empathy	0.00 (0.01)	-0.00 – 0.03
Agreeableness -> Emotional engagement -> Transportation -> Empathy	-0.00 (0.01)	-0.10 – 0.11

*Note. * p < .05; ** p < .01.*

Discussion

This research aimed to explore potential mediators of the relationship between reading a fictional story and Affective empathy in university students. It specifically focuses on personality trait of Agreeableness, as well as Emotional engagement, and Transportation. There are a few reasons to choose Agreeableness among other Big five personality dimensions. First of all, prior research indicates that this personality trait might be particularly important in the study of empathy and prosocial behavior (Graziano et al., 2007; Habashi et al., 2016). Graziano and Eisenberg (1997) define Agreeableness in terms of social motivation. This underlying motivation of more agreeable persons to maintain positive relations with others is what might contribute to them achieving higher Affective empathy after reading a fictional story. Secondly, in this research Agreeableness was the only personality dimension that showed significant correlations to Affective empathy, Emotional engagement, and Transportation, and this was a precondition for the statistical analysis that was aimed to be conducted. The results show that there is a strong positive relationship between Agreeableness and story-induced Affective empathy and that this relationship can be partially explained by Emotional engagement. In other words, more agreeable individuals tend to be more emotionally engaged in the fictional story which leads to higher Affective empathy. Buselle and Bilandzic (2009) define Emotional engagement as feeling for and with character. They tie it to emotional arousal regardless of the valence components of the affect. More agreeable individuals are often described as soft-hearted, trusting, helpful, forgiving etc. (Costa & McCrae, 1992), and results from this study show that they are better able to feel with the character from a fictional story which results in higher Affective empathy. It is suggested that their personality characteristics which result in higher Agreeableness make them more motivated to emotionally engage with the story characters. This assumption is based on Graziano and Eisenberg's (1997) idea that individual differences in

Agreeableness might be related to their motivation to engage in behaviors that bring to building intimacy and solidarity with others, which is characteristic of a prosocial personality. This model explains a high 62% of the variance of the story-induced Affective empathy, which indicates that this effect is very strong. On the other hand, Emotional engagement cannot explain the full relationship of Agreeableness and story-induced Affective empathy, and it still remains to be seen what other factors could be accountable for this relationship.

Furthermore, Transportation did not show to be an important variable in the relationship of Agreeableness and story induced Affective empathy neither did it show to be a significant factor in this relationship when Emotional engagement was included. These results point to different effects of Emotional engagement and Transportation on Affective empathy after reading a fictional story (in more agreeable participants). Green and Brock (2000) define Transportation into the narrative world as a combination of attention, imagery, and feelings. When the items from these two measures are analyzed, it can be seen that Emotional engagement focuses exclusively on the emotional experience the story induced in the reader, while Transportation also covers other, more cognitive based elements, such as lack of awareness of the surrounding and mental imagery. Based on the study results, this broader construct did not prove to be significant in achieving higher story-induced Affective empathy in more agreeable individuals. Previous research (Johnson, 2012) showed that after reading a fictional story, participants who were more transported showed higher empathy, without consideration for personality dimensions. On the other hand, as mentioned earlier, other researches points to personality traits being important for absorbed narrative fiction reading and transportation (Kujipers, et al., 2018; Meade, 2015). Kujipers et al. (2018) focused on Openness to Experience, but in a broader way than defined in the Big five personality model (Costa & McCrea, 1992), and showed that reading habits act as the mediator of the effect of personality traits on absorbed reading. They also call for further exploration of the transportation construct. Meade (2015) tried to identify which personality traits lead to better transportation and showed that agreeableness, extraversion, and imagination positively correlated with transportability. This research offers complementary findings showing that participants high in Agreeableness achieve greater Emotional engagement, but not Transportation, and that this results in higher story-induced Affective empathy.

Conclusion

Empathy is considered an important ability in life. It helps people to connect with others, e.g., to feel what they are feeling, to care about them and reach out to help them. Empathy helps people get along with others better, it helps them resolve conflict more easily, and it enhances collaboration and team work (Klimecki, 2019). It is important for individuals, but also for societies. There-

fore it is crucial for scientist to investigate the mechanisms that can help to achieve an increase in empathy. If reading fiction can indeed enhance empathy it important to consider developing programs to support this relationship. But before one recommends schools, universities and even governments to invest in development of such programs, strong evidence that reading fiction affects empathy and clear understanding of how individual differences moderate this relationship are needed.

Results from this study show that individual personality differences have an important role in considering the association between reading fiction and Affective empathy, especially Agreeableness. More agreeable individuals are more likely to experience an increase in Affective empathy after reading a fictional story. The mediator of this relationship is Emotional engagement, and Transportation did not prove to be a significant factor in this relationship. Emotional engagement might be described as a type of Transportation, but one that focuses more on the emotional aspect of being engaged in the story, specifically on feeling for and with character, and results from this research show that it is this aspect that is important and one that in case of higher Agreeableness leads to increase in story induced affective empathy. It would be interesting to investigate if Empathy induced by reading a fictional story in more agreeable individuals would further result in their better social skills and more prosocial behavior and if the same could be said about lifetime exposure to fiction.

Study limitations

This research is not without shortcomings. First of all, the study consisted of only one condition in which participants read a fictional story, without a control condition in which they would be reading a non-fictional story. Our starting point was that reading a fictional story can induce affective empathy in readers, which is something previous research clearly points to. However, we cannot fully exclude the possibility that the reading itself was what induced Empathy in our participants. Another shortcoming is that the research was conducted with the student population which holds some specifics in comparison to the general public.

Future research

For future research, it is recommended to design studies with different age groups since previous research clearly shows that personality traits change over the years even after the age of 30, especially Agreeableness (Srivastava et al., 2003). Also, it is suggested to further explore how the proposed model of relations between Agreeableness, Emotional engagement, and Transportation would function with story induced Theory of mind as the outcome variable,

since previous research point to a significant positive relation between Agreeableness and the ability to understand other people's mental states (Nettle & Liddle, 2008). Finally, future research should focus on practical implications of story-induced Empathy in more agreeable individuals and if this increase would effect in more real-life prosocial behavior as well.

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Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

The dataset linked to this empirical research was not deposited in any of the data repositories, but can be obtained by contacting the author.

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EMOCIONALNA UKLJUČENOST, ALI NE I TRANSPORTACIJA DOVODI DO VIŠE EMPATIJE NAKON ČITANJA FIKCIJSKE PRIČE, KOD SUDIONIKA S VIŠOM UGODNOŠĆU

Istraživanja iz različitih područja upućuju na pozitivnu povezanost čitanja fikcije i empatije. Neka se istraživanja usmjeravaju i na potencijalne moderatore tog odnosa, poput osobina ličnosti te načina na koji se pojedinac uključuje u čitanje teksta u vidu transportacije. Cilj ovog istraživanja je ispitati može li se afektivna empatija inducirana čitanjem fikcijske priče objasniti na temelju osobina ličnosti, konkretno ugodnosti, ali i na temelju emocionalne uključenosti i transportacije. Sudionici su 132 studenta dodiplomskih i diplomskih studija, koji su nakon čitanja priče J. Joycea ispunili set upitnika, uključujući Big Five uputnik ličnosti, skalu emocionalne uključenosti, skalu transportacije te skalu empatije. Rezultati ukazuju na snažnu pozitivnu povezanost ugodnosti i afektivne empatije nakon čitanja fikcijske priče, pri čemu se ova povezanost djelomično može objasniti na temelju emocionalne uključenosti. S druge strane, transportacija se nije pokazala kao značajni faktor u objašnjenju odnosa ugodnosti i empatije nakon čitanja priče, kao ni u objašenjenu navedenog odnosa nakon uključivanja emocionalne uključenosti. Rezultati ovog istraživanja omogućuju dodatno razumijevanje odnosa čitanja fikcije i empatije, kroz istraživanje njegovih medijatora.

Ključne riječi: ugodnost, empatija nakon čitanja fikcije, emocionalna uključenost, transportacija