

Why do you need to read fiction? The role of transportation through fiction reading in improving perspective taking

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Abstract

Late adolescents are reported to have poor perspective-taking. This study aimed to determine whether an improvement to perspective-taking is achieved after participants read fiction, and whether a transportation process is involved in it. The participants in this study were late adolescents (17-22 years old) with poor perspective-taking and certain degrees of experience and interest in reading fiction ($N = 8$). This study used a pretest-posttest-follow-up design. The Friedman test results show that there is a significant difference in the perspective-taking scores of participants before and after receiving manipulation in the form of supply of fiction reading media ($p = 0.002$, \bar{x} pretest = 11, \bar{x} posttest = 37.25, \bar{x} follow-up = 37.1). The simple regression analysis test results show that the improved perspective-taking is not influenced by the occurrence of transportation in participants when reading fiction ($p = 0.072$, $r = 0.175$, $\beta = 0.473$). The participants showed improved perspective-taking right after the manipulation treatment was given, but slightly declined in the subsequent week.

Keywords

fiction writing, perspective-taking, transportation

Introduction

Previous studies have tested the empathy level in various developmental stages. A meta analysis conducted by Konrath *et al.* (2011) showed that students aged around 20 years old in US exhibited poor perspective taking after participating in empathy measurement. In the study, researcher involved late adolescents ($n=136$) and found that they lack empathy, particularly in the aspect of perspective taking. As many as 69% participants found it difficult to see from other individuals' point of view. Some of them found it difficult to understand an individual's situation, feelings, and decision when listening to others' story, bad news, or request for help. Participants also express their discomfort when facing peoples with different views during discussions or in daily lives.

Difficulty in taking others' perspective can result in problems in daily life, as reported by several articles in mass media. During the pandemic, the Commissioner of National Omission on Violence Against Women state that the working mothers suffer from increased burden due to work-from-home policy, implying needs for attention and helps from other family members (Tambunan, 2021). Several individuals also share their financial difficulty condition and ask for helps in social media (Azanella, 2020). The Covid-19 pandemic also result in an increased number of individuals suffering from loneliness due to loss of connection during the social distancing and self-isolation policy implementation (Wijaya, 2020). On the other hand, lack of obedience to the social distancing policies shows that people tend to ignore medical workers' complaint in social media and increased number of healthcare workers' death due to the viral infection or exhaustion. These phenomena shows how individuals need to be aware of and consider other people's position when

they are in difficult condition and in needs for support, either physically or psychologically although they do not directly ask for help.

Some researchers define perspective taking as one of the cognitive dimensions of empathy. Decety & Cowell (2014) state that perspective taking denotes one's ability to put themselves on others' individuals thought and imagine what other individuals think or feel. Perspective taking constitute individuals' awareness and understanding of other individuals' emotion (Van der Graaff *et al.*, 2014). Having a good perspective-taking, individuals may possess a better prosocial behavior (Cigala *et al.*, 2014) and psychological proximity (Cialdini *et al.*, 1997).

One's perspective-taking tends to develops more significantly during adolescence (Crone dan Dahl, dalam Van der Graaff *et al.* (2014)). According to Piaget (Van der Graaff *et al.*, 2014), adolescents are in formal operational stage, a final stage of one's cognitive development, in which they begin to be able to compare their personal perspectives to others' simultaneously. The acquisition of this ability requires a considerable amount of time due to the complex interaction between cognitive and affective aspects (Barr & Higgins-D'Alessandro, 2009). However, late adolescents suppose to be able to consider various perspectives and awareness when analyzing and acting in a situation (Eisenberg, as cited in Barr & Higgins-D'Alessandro (2009)).

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Perspective-taking is affected by a range of factors, including one's cognition (Taufik, 2012). Among the activities involving cognitive process is reading fictions. Fictions can influence individuals through its narrative structure and contents. It typically uses foregrounding structure, a writing style rarely found in daily life conversation. The use of this style causes individuals to experience defamiliarization, a condition in which individuals feel strange and is interested in the writing at the same time. Although defamiliarization causes longer reading time, it provides individuals with opportunity to dive in, interpret, and understand the story (Miall & Kuiken, 1994). Defamiliarization also allows individuals to see familiar matters from different, new perspectives (Hakemulder and Koopman, as cited in Busch (2017)).

Through reading fiction, individuals may form a situation model based on the story, allowing individuals to understand the motives underlying the story character's action (Pettersson, 2012). The primary function of fiction is to make readers experience a fictional social experience, which is often related to their daily life (Bal & Veltkamp, 2013).

Bal & Veltkamp (2013) in their study applies experimental design to measure empathy using four aspects, including perspective-taking. The study observed the effect of reading fiction on readers empathy through two experiments involving 66 and 97 participants. The study reports changes in participants' empathy one week after reading fictions. However, this condition occurs only in individuals experiencing emotional transportation toward the story. In other words, the study show that changes in individuals' empathy is likely to be affected by the internalization of the story, not the reading frequency. Further, the study reports that individuals who read story tend to exhibit sympathy towards other and are able to see from different perspectives.

The present study attempts to replicate the previous study by using transportation as the independent variable and focusing on one of the aspects of empathy (i.e., perspective-taking) as the dependent variable, where transportation process occurs when individuals are reading fictions. Previous studies conducted by Johnson et al. (2013), Johnson (2013), and Stansfield & Bunce (2014) demonstrate the effect of reading fictions on empathy by measuring the affective empathy, while Bal & Veltkamp (2013) measured empathy in a whole without analyzing each aspects. Transportation process in this study refers to a process where individuals focus on events occurring in the story they are reading. Individuals undergoing transportation process may obtain a clear mental image of background and characters within the story (Green et al., 2012) and feels emotion and think like characters in the story (Green & Sestir, 2017).

Based on the description above, it is expected that: (1) late adolescents show an improved perspective-taking after reading fictions, and (2) the transportation process, through fiction reading, affects the perspective-taking among late adolescents. The present study specifically aims to test the effect of reading fiction on perspective-taking, in which transportation process plays central role, and to test the effect of transportation process on perspective-taking.

Method

Research Design

This pre-experimental study observed a group of participants and gave an intervention (Creswell & Creswell, 2018). The design of the research is pretest-posttest-follow up design (PPF).

$$O1 \rightarrow X \rightarrow O2 \dots O3$$

Description:

O1 = perspective-taking.

O2 = perspective-taking and recall test.

O3 = perspective-taking after one week after the second measurement

X = Reading fiction activities, followed by transportation test

Participants

Participants in this study were recruited using a purposive sampling technique. They were eight late adolescents living in Makassar City (N=8). Participants were late adolescents aged between 17-22 years old with poor perspective-taking who are experienced and interested in reading fictions. The participant inclusion criteria included low perspective-taking score (less than 15), and reading at least two fictions each month.

Ten participants express their willingness to participate in the study, yet only eight individuals participated until the last stage of the study. Participants were one (12.5%) male and seven female participants (87.5). In terms of age, two participants (25%) were 20 years of age, 4 participants (50%) were 21 years of age, and the rest 2 participants (25%) were 22 years of age.

Research Instrument

Perspective-taking scale Perspective-taking in this study was a subscale adapted from Interpersonal Reactivity Index proposed by Davis (1980), an instrument used to measure one's ability to view things from others' perspective in addressing a situation, which is also a part of empathy construct. After obtaining permit to use the scale, we translated the scale with the help of a translation service provider. The Aiken's V analysis showed a score of 0.917. Following the discriminating power test result, 6 of 7 items were rated satisfying with a score ranging from 0.454 to 0.748. An item was removed due to its low discriminating power coefficient (i.e., 0.146). The remaining six items were tested for reliability and exhibited a reliability score of 0.846.

Each item consisted of seven alternative responses, ranging from "Strongly agree" to "Strongly disagree". The lowest total score possible was 6, while the highest total score possible was 42. Participants' level of perspective-taking was classified into high, moderate, and low categories according to their score (> 18, 15-18, and <15, respectively).

Transportation Scale The transportation scale used in this study was adapted from Green & Brock (2000), aiming at measuring at individuals' mental process and focus when reading fictions. After obtaining permit to use the scale, we translated the scale with the help of a translation service

provider. The Aiken's *V* analysis showed a score of 0.917. Following the discriminating power test result, 6 of 12 items were rated satisfying with a score ranging from 0.325 to 0.515. The remaining six items were tested for reliability and exhibited a reliability score of 0.73.

Each item consisted of seven alternative responses, ranging from "Strongly agree" to "Strongly disagree". The lowest total score possible was 6, while the highest total score possible was 42. Participants' level of transportation was classified into high, moderate, and low categories according to their score (> 35, 33-35, and <33, respectively).

Fictions Three fictions used in this study were entitled "Malaikat Juga Tahu" by Dewi Lestari, "Nada-Nada yang Pupus" by Winna Efendi, and "Dia yang Sempurna" by Haruki Murakami and translated by Maggie Tiojakin. We conducted a pilot study to select three short stories out of ten works we collected. We asked respondents to show their understanding of the story and how interesting these story to them. The second pilot study was performed to see whether the selected three stories have met a criteria of fictions capable of improving transportation process according to previous studies, including: (1) The writing quality (Green & Brock, 2000), (2) structural affect theory (de Graaf & Hustinx, 2011), (3) details (Green *et al.*, 2004), and (4) the degree of reality (Bal & Veltkamp, 2013). We also measured the level of transportation of respondents participating in pilot study 2.

Recall Test Recall test, as the form of manipulation check, refers to a test containing true-false items that cover factual information related to the story. This test aims to measure whether or not participants thoroughly read the story. Four questions with four alternative answers were given for each story.

Research Procedure

The study was conducted online due to physical distancing policy during the pandemic. Participants were recruited through a pretest, which was done by distributing a Google form link containing perspective-taking scale and reading frequency self-report to late adolescents in Makassar. The pretest result was analyzed to filter participant candidates that suit the criteria. From numerous participant candidates that met the criteria, ten individuals stated their willingness to allocate their time for participating in this study.

We created a Whatsapp group to allow easier communication. The printed versions of the fictions were distributed to each participants considering that they used to read printed books rather than e-books.

After distributing the fictions, we described the research procedures to the participants through whatsapp group. We informed the research schedule, the tasks of reading fiction, and two virtual meeting schedule.

On 20 February 2021, participants read three printed version of fictions. The reading activities were done in their respective home. They were required to finish these three books in the first day of research before the agreed hour. At the predetermined and agreed hour, we held a virtual meeting with the participants. During the meeting, a Google form link containing recall test, transportation scale, and perspective-taking scale was distributed to participants as a posttest.

On 27 February 2021, we performed follow-ups through virtual meeting and distributed Google form link containing perspective-taking scale. The research process from recruitment to follow-up took a month.

Data Analysis

The first data analysis technique in this study was the Friedman test, a test performed to one or more interrelated samples from the same population (Santoso, 2010). We performed this test to see whether participants' perspective-taking improved after receiving the treatment. We analyzed the data from three different measurement periods (i.e., pretest, posttest, and follow-up) in one participant group.

The data were then analyzed using a simple regression analysis, an analysis technique to see the changes in the dependent variable' score when the independent variable is manipulated (Sugiyono, 2011). This analysis was performed to see the effect of transportation on perspective taking after the treatment was given. We analyzed the post-test data on transportation and perspective-taking obtained after participants received the treatment. The analyses performed in this study was done using SPSS 23.0 for Windows.

Result

The friedman test was done to observe the change in perspective-taking after reading fictions by comparing the pretest, posttest, and follow-up scores, followed by the simple regression test to confirm the effect of transportation on perspective-taking. The decision criteria of friedman and simple regression analyses was that $p < 0.05$ means the hypothesis was accepted. The friedman test result of the perspective-taking score of all participants and only those experiencing transportation is presented in the table 2.

Table 2 showed asymp. Sig < 0.05, indicating that H1 in this study was accepted. The data analysis result demonstrates an improvement of perspective-taking after reading fictions, both in participants with and without the transportation process.

As displayed in Table 2, the simple regression analysis result showed that transportation level failed to account for variance in perspective-taking, $F(1, 6) = 4.775$, $p = 0.072$, $R^2 = 0.44$, R^2 adjusted = 0.35. The regression coefficient ($\beta = 0.473$) showed changes in perspective-taking score in participants with low transportation score. The analysis of participants experiencing transportation showed that transportation level failed to account the variance in perspective-taking, $F(1, 4) = 0.674$, $p = 0.458$, $R^2 = 0.14$, R^2 adjusted = -0.07. The regression coefficient ($\beta = 0.538$) showed changes in perspective-taking score in participants with low transportation score.

Table 2 shows $p > 0.05$, thus H2 was rejected. The data analysis result shows that transportation does not affect perspective-taking, both in participants with and without the transportation process. Based on the result of the two tests, a significant difference was found in perspective-taking score before and after reading fictions. However, the transportation process do not affect this score difference.

Table 1. Pretest, Posttest, and Follow-up Score Categorization

Initial	Pre-test	Category	Post-test	Gain Score	Category	Follow-up	Gain Score	Category
KA	12	Low	36.00	24.00	Very high	38.0	2	Very high
FA	13	Low	35.00	22.00	Very high	36.0	1	Very high
AFY	11	Very Low	40.00	29.00	Very high	38.0	-2	Very high
AM	11	Very Low	37.00	26.00	Very high	36.0	-1	Very high
EIJ	14	Low	33.00	19.00	Very high	36.0	3	Very high
SLA	9	Very Low	39.00	30.00	Very high	35.0	-4	Very high
AN	12	Low	36.00	24.00	Very high	36.0	0	Very high
MNR	6	Very Low	42.00	36.00	Very high	42.0	0	Very high
Mean	11		37.25	26.25		37.1	-0.125	

Table 2. Friedman Hypothesis and Simple Regression Hypothesis Test Result

Participants	N	Friedman value	β	R^2 adjusted	R^2	F	p
All participants	8	0.002	0.473	0.350	0.443	4.775	0.072
Participants experiencing transportation	6	0.006	0.538	-0.070	0.144	0.674	0.458

Discussion

This study showed a significant difference in participants' perspective-taking score after reading fictions. Based on the response to perspective-taking scale, it could be concluded that participants were motivated to finish the fictions and could be easily imagine the character in the story. The ability to put one's self to a story could be helpful for individuals to put themselves in other individuals' point of view to understand them more easily. This study is consistent with the study conducted by [Stansfield & Bunce \(2014\)](#), in which participants (22 female and 11 male participants) were asked to read a short fictions. Their study found that fictions given to participants could affect the participants' perspective-taking as a form of cognitive empathy. The present study also supports [Feldman \(2018\)](#) work, which involves 72 participants and reports an increased perspective-taking score after reading fictions.

Short stories can promote individuals' constructive simulation ([Koopman & Hakemulder, 2015](#)) by involving perspective taking where individuals try to understand different perspectives of a story characters ([Stansfield & Bunce, 2014](#)). In constructive simulation process, individuals set aside their personal goals and thought, then construct the thought and goals of fictional characters. Fictions provide a depiction on a consequences of an action while providing an emotional experience when reading ([Oatley, 2012](#)). Reading fictions allows individuals to understand others' emotion and perspective in real life and imagine themselves on others' shoes ([Hakemulder, in Djikic & Oatley \(2014\)](#)).

The hypothesis test result shows that participants' increased perspective-taking was not affected by transportation process when reading fictions. Both participants with transportation and without transportation experience showed increased perspective taking after reading fictions. According to [Stansfield & Bunce \(2014\)](#), exposure to fictions is positively associated with individuals' level of perspective-taking, and is not related to transportation. Continuous fiction reading habit is known to affect one's perspective-taking. Fictional story contains an in-depth understanding of characters' thought and encourage readers to understand different perspectives held by the character. Individuals involved in characters' thought

and feelings in a story are likely to better understand other individuals' mental condition in real life.

Individuals with higher interest in artworks, particularly fictional works, are likely to experience self-transformation. Artistic components in writing, in which the words are arranged in an uncommon manner, may draw individuals' attention ([Djikic & Oatley, 2014](#)) and affect their personality as they feel others' experience while reading. Such an experience may persist and stay within one's self ([Kidd & Castano, 2013](#)). In this regard [McCreary & Marchant \(2017\)](#), using romance short story, report that individuals with reading hobby are likely to involve with characters and situations within the story, which may eventually improve their perspective-taking.

The study conducted by [Fong et al. \(2013\)](#) examines four genres (i.e., romance, domestic, science-fiction, and suspense/thriller) and found that romance, domestic, and suspense genres could improve individuals' empathy. The average score of participants' fiction exposure measurement using Author Recognition Test show that most participants read romance genre, followed by domestic, and suspense genres. This finding demonstrates that one's interest and exposure to fiction with certain genre is positively related to their level of empathy.

Further, the study shows that exposure to romance fiction may influence one's interpersonal sensitivity, even if the nonfiction exposure, foil-checking, age, language proficiency, gender, trait openness, and trait extraversion are controlled. Romance fictions, through its plot and characters, focus on the depiction of a complex, realistic relationship and social interaction that significantly relates to better social sensitivity and interpersonal tasks.

[Djikic et al. \(2013\)](#) in their study suggests that reading fiction can improve one's cognitive empathy through transportation process. This study showed that changes in perspective-taking, as a cognitive aspect of empathy, may be affected by fiction exposure and the genre of the work, not the transportation process. The present study focuses only on one of the four aspects of empathy, explaining the findings of [Bal & Veltkamp \(2013\)](#) on how reading activities improve empathy, including perspective-taking. Furthermore, the present study selected fictional writing that meets criteria

as a work proven to be able to improve transportation and empathy. The criteria and the source of data have been described in detail in the method section above.

The result of perspective-taking scale showed a declining trend in the average score during the follow-up stage by -0.125. Following the sleeper effect theory, participants suppose to show higher perspective-taking level as the longer the time interval since the treatment ended and the information stored in one's mind. The decrease in average score shows the absence of sleeper effect in participants, while strengthening the needs for improving fiction exposure. This condition may be accounted for by other factors like socialization, in which individuals experience a number of emotions and try to think like other individuals (Hoffman, 2001). This factor also explains why participants with fiction reading routine prior to joining this study still show low perspective-taking score during the pretest.

The weaknesses of this study lie in the number of male participants, which was only one, preventing us from further compare the difference in perspective-taking in terms of gender. This study also only used one genre as its reading media. In addition, we were prevented from controlling or documenting participants' social interaction during the given one-week duration, from the reading to follow-up period. Consequently, we could not clearly describe other factors resulting in decreasing score.

Conclusion

This study focuses on the effect of reading fiction on perspective-taking, and observe how transportation process during reading affect one's perspective-taking. Based on the results of the Friedman and simple regression tests, a significant difference was found in perspective-taking score before and after reading fictions. However, the transportation process do not affect this score difference. Following the preliminary data and previous studies, the perspective-taking improvement was accounted by participants' interest in reading fiction and their previous reading experience. Several previous studies focus on the affective aspect of empathy or the whole empathy without providing an in-depth analysis of the cognitive aspect of empathy, i.e., perspective-taking. The present study fills the gap left by previous cognitive empathy studies that do not measure the level of transportation and do not analyze each aspect of empathy in fiction reading.

Future studies are recommended to involve more participants and attempt to balance the number of participants' gender in order to understand the perspective-taking difference in terms of gender. It is also recommended to use various fiction genres other than romance, such as thriller, science fiction, among others, to see whether genre affects individuals' perspective-taking. Finally, it is necessary for future studies to find a way to control or measure other factors possibly affecting the changes in perspective-taking during the research period.

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