



How Does Reading Fiction Affect Us?

Kurgu Okumak Bizi Nasıl Etkiler?

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Abstract

Recently, the relationship between reading fiction and understanding the mental states of others has become an important research interest. Several studies across psychology (relational and neuroimaging, functional magnetic resonance imaging, fMRI) support this relationship, while some experimental evidence suggests that exposure to fiction improves our ability to understand the mental states of others. Research indicates that this effect is particular to literary fiction. Due to this effect of reading fiction, it is suggested that fiction can be used not only to support ability in healthy individuals to understand others but also in clinical assessment and intervention processes. This review aims to discuss the relationship between reading fiction and understanding the mental states of others and to identify implications for clinicians and researchers.

Keywords: Reading fiction, mentalizing, social cognition, theory of mind

Öz

Son zamanlarda, kurgu okuma ile başkalarının zihinsel durumlarını anlama arasındaki ilişki önemli bir araştırma konusu haline gelmiştir. Psikoloji literatüründeki çeşitli çalışmalar (ilişkisel ve nörogörüntüleme, fonksiyonel manyetik rezonans görüntüleme, fMRI) bu ilişkiyi desteklerken, bazı deneysel kanıtlar kurguya maruz kalmanın başkalarının zihinsel durumlarını anlama yeteneğimizi geliştirdiğini göstermektedir. Araştırmalar bu etkinin edebi kurguya özgü olduğunu ortaya koymaktadır. Kurgu okumanın bu etkisi nedeniyle, sadece sağlıklı bireylerin başkalarının zihinsel durumlarını anlama becerisini desteklemek için değil, aynı zamanda klinik değerlendirme ve müdahale süreçlerinde de kullanılabilmesi öne sürülmektedir. Bu derleme, kurgu okuma ve başkalarının zihinsel durumlarını anlama arasındaki ilişkiyi tartışmayı ve klinisyen ve araştırmacılar için çıkarımlar sağlamayı amaçlamaktadır.

Anahtar kelimeler: Kurgu okuma, Zihinselleştirme, sosyal biliş, zihin teorisi

Atf (to cite): Usluoğlu, F. (2024). How Does Reading Fiction Affects Us? *International Journal of Behavior, Sustainability, and Management*, 11(21), 50-58. DOI: 10.54709/jobesam.1585497

Makale Geliş Tarihi (Received Date): 14.11.2024

Makale Kabul Tarihi (Accepted Date): 03.01.2025

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1.INTRODUCTION

Reading is generally considered a leisure activity. However, recent research has shown that reading fiction is more than just a leisure activity. There is a relationship between reading fiction and several cognitive abilities. One of these cognitive abilities is theory of mind (ToM; or mentalizing) which is an aspect of social cognition. ToM (or mentalizing) refers to an individual's ability to understand others' mental states and social interactions. Social functionality or adaptation depends on the ability to understand others' mental states (Dodell-Feder et al., 2013). Adapting a large social network may require the ability to relate others' behavior to their mental states (Jarvers et al., 2023). Understanding others' mental states allows individuals to make predictions about their behavior (Fekete et al., 2023) and to undertake meaningful social interactions (Jarvers et al., 2023).

Various mental disorders may cause deficiencies in mentalization abilities (Fekete et al., 2023; Jarvers et al., 2023). Additionally, there is a relationship between familiarity with fiction texts and mentalizing (Jarvers et al., 2023; Fekete et al., 2023). Similarly, individuals with mentalizing deficits have difficulty understanding the mental states of others, as well as understanding fictional texts (i.e., the characters and their interactions) (Dodell-Feder et al., 2013; Jarvers et al., 2023; Fekete et al., 2023). The relationship between reading fiction and mentalizing still remains unclear, however; some researches have revealed that reading fiction can enhance mentalizing. (Fekete et al., 2022). Exposure to literary fiction, fictional characters and their interactions can contribute to the enhancement of the ability to mentalize. Reading literary fiction can help one to understand people better in the real world (Mar, 2018). Thus, literary fiction can enhance one's assessment of mentalizing deficiencies (Dodell-Feder et al., 2013; Jarvers et al., 2023; Fekete et al., 2023) and the ability of clinical and non-clinical individuals to mentalize (Dodell-Feder & Tamir, 2018; Fekete et al., 2022; Nijhof & Willems, 2015). This review aims to examine the relationship between fiction reading and theory of mind (mentalizing) based on research used different methods and tools and to produce recommendation to researchers and practitioners in light of the relevant literature.

1.1 Social Cognition, Theory of Mind, and Mentalization

Theory of mind (ToM), or mentalization, represents a specific aspect of social cognition (Brüne & Brüne-Cohrs, 2006). Theory of mind is the ability to represent one's and others' mental states (Premack & Woodruff, 1978). Although mentalizing has more components than ToM (Allen et al., 2008; Luyten et al., 2020; Luyten & Fonagy, 2015), the concepts are often used interchangeably to describe the ability to make inferences about others' mental states. (e.g., Jarvers et al., 2023; Peters & Schulz, 2022). Some studies use terminology such as social cognition to refer to the ability represented by these two concepts (e.g., Mar, 2018), therefore we used some method in line with existing literature.

Mentalizing (or ToM) is the ability to understand others' mental states and make inferences about their internal states such as emotions, desires, wishes, attitudes, and goals (Luyten et al., 2020; Luyten & Fonagy, 2015). This is the most important human ability (Jarvers et al., 2023) and indicates a developed psychological capacity in humans (Brüne & Brüne-Cohrs, 2006). ToM is a fundamental ability for social functioning in a complex human social environment

(Dodell-Feder et al., 2013; Herold et al., 2024; Luyten & Fonagy, 2015). Social functioning or interaction depends on the ability to understand and interpret the other person's mental states (Dodell-Feder et al., 2013). In other words, for social interaction and functioning, it is important to understand that the mental states of the people we interact with affect their behaviors (Jarvers et al., 2023). The capacity to understand others' mental states can help one to predict their future mental states and respond to appropriate social behaviors (Dodell-Feder et al., 2013). In sum, mentalizing helps to ensure the successful management and maintenance of complex social relationships. It supports empathic responses (Kidd & Castano, 2013), pro-social behavior, and group coordination (Kidd & Castano, 2017).

1.2 Relational Studies on ToM and Fiction Reading

ToM is an ability that promotes the maintenance of complex social relationships, group coordination, and positive social behaviors (Dodell-Feder et al., 2013; Kidd & Castano, 2013; Kidd & Castano, 2017). This ability is developed through interpersonal social interaction (Kidd & Castano, 2017; Pavarini et al., 2013), and its relationship with reading literary fiction has recently become an important research topic (Kidd & Castano, 2017). Recently, studies revealed that reading fiction improves understanding of others' cognitive and emotional states (Corcoran & Oatley, 2019; Panero et al., 2016). Behavioral evidence suggests that reading fiction positively correlates with social skills (Willems & Hartung, 2017). Thus, reading habits, especially reading fiction, are effective in developing pro-social behaviors such as social interaction, increased capacity for cooperation, and stronger social understanding (Corcoran & Oatley, 2019). Therefore, reading fiction is essential in the developmental process and in adult life (Nijhof & Willems, 2015). However, understanding the relationship between reading fiction and ToM remains an important ongoing research interest.

Social cognition enables us to learn about the world by learning from others' experiences (Rezende & Shigaeff, 2023). Similarly, stories can also serve this function (Kidd et al., 2016). Storytelling, a special human competence, is an important tool for naming the world, explaining the world to children, and building communities (Kidd et al., 2016). Therefore, reading fiction is fun and the ability to understand fiction represents an essential human developmental capacity (Nijhof & Willems, 2015). Fiction helps readers to go beyond their here-and-now reality and experience different worlds, people, and mental states (Tamir et al., 2016). In this way, reading literary texts, like mind reading, is similar to understanding the minds of others from the perspective required by mentalization (Galut, 2010). When interacting with stories, people simulate the mental states of the characters and their relationships with each other (Nijhof & Willems, 2015; Panero et al., 2016; Rezende & Shigaeff, 2023). In this way, they can visualize situations that can occur in real-life with real people they can experience real-life people and situations by visualizing them in their minds (Mar, 2018). Engaging with fictional narratives thus provides a 'training mode' for mentalizing (Willems & Hartung, 2017). This process occurs through the engagement of neurocognitive processes called social cognition (Mar, 2018). Therefore, social cognition may be used to understand how stories are understood (Mar, 2018; Rezende & Shigaeff, 2023).

If stories help us to understand other people, then people exposed to more stories have different ToM abilities in this regard. This is supported by the result of the study that children's exposure to storybooks predicted children's ToM abilities when controlling for age, gender, vocabulary, and parental income of 4-6-year-olds (Mar et al., 2010). In parallel, Jerrim & Moss, (2019) used the Program for International Student Assessment (PISA, 2009) database to examine the relationship between the frequency of reading five different text types (magazines, non-fiction, fiction, newspapers, and comics) and PISA reading scores. Data from more than 250,000 adolescents from 35 developed countries were analyzed, and it was found that those who read fiction had higher reading scores than those who did not read fiction (Jerrim & Moss, 2019).

Recent studies revealed the relationship between reading fiction and ToM (Kidd & Castano, 2017; Tabullo et al., 2018; Takahashi et al., 2023). In these studies, ToM is usually assessed with the Reading the Mind through the Eyes task (RMET; Baron-Cohen et al., 2001). According to the results of these studies, there is a positive relationship between exposure to literary fiction and performance on the ToM test (Kidd & Castano, 2017; Tabullo et al., 2018; Takahashi et al., 2023). In addition, prolonged exposure to fiction is associated with mentalization and social cognitive processes such as attributional complexity (Buttrick et al., 2023; Castano et al., 2020). In a basic sense, literary fiction can change one's way of looking at the world by presenting different minds, different contexts, and different situations and building or developing a belief that the social world is complex (Buttrick et al., 2023). This may be associated with more positive behavior toward others, such as less punitive and less racist behaviors (Castano et al., 2020; Sedlár, 2024).

The relationship between fiction reading and ToM has been revealed in both healthy individuals and individuals with mental disorders that lead to mentalizing deficits. For example, for individuals with autism spectrum disorder (Jarvers et al., 2023) and schizophrenia (Fekete et al., 2022; Fekete et al., 2023), greater exposure to fictional books led to better ToM performance. This means that exposure to fictional stories may contribute to skills related to understanding others (Mar, 2018). It may enable people to be more empathetic and enhance the development of ToM abilities in the short and long term (Fekete et al., 2022; Nijhof & Willems, 2015).

1.3. Fiction, Mentalization, and Neuroscience

Neuroimaging studies support the relationship between fiction reading and mentalizing/ToM and provide neural evidence for individual differences (Hartung & Willems, 2020; Nijhof & Willems, 2015; Tamir et al., 2016; Willems & Hartung, 2017). These studies investigated whether relationships differ across cortical regions due to fiction reading. For this purpose, healthy participants' neural activation was assessed using functional magnetic resonance imaging (fMRI) as subjects listened to literary narratives. It was determined which neural regions have more functional connections with other areas when listening to a literary narrative based on how much fiction the participants read (Hartung & Willems, 2020; Willems & Hartung, 2017). The results suggest that participants use overlapping neural networks (i.e., default networks) during fiction reading and mentalization (Tamir et al., 2016). It has also been shown that participants use mentalization and motor simulation differently during fiction

comprehension (Nijhof & Willems, 2015). Accordingly, participants used at least two types of simulation during fiction reading: simulation of live physical scenes (MTL subnetwork of the default network) and simulation of people and minds (dorsomedial prefrontal cortex subnetwork of the default network) (Tamir et al., 2016). Finally, a linear relationship was shown between how much fiction people read and functional connectivity in areas involved in language and mentalization (Hartung & Willems, 2020; Willems & Hartung, 2017).

1.4. Experimental Studies

Despite the positive relationship between fiction reading and ToM based on relational and neuroimaging research methods, the causal relationship still remains unclear (Fekete et al., 2022; Panero et al., 2016; Tamir et al., 2016). To explain this relationship, some researchers have suggested that individuals with more ToM ability read more fiction. In line with this, people who have high ToM ability are more likely to simulate more; reading fiction may be more enjoyable for these individuals (Panero et al., 2016; Tamir et al., 2016; Willems & Hartung, 2017). In line with this explanation, alexithymia is consistently associated with less frequent reading, and this relationship is mediated by negative attitudes toward reading and low mentalizing ability (Samur et al., 2017). On the other hand, studies that examine the role of third variables in the relationship between fiction reading and ToM have different results. For example, in a study conducted with three independent samples, it was found that demographic characteristics (e.g. age, gender, or educational level) could not explain the relationship between reading fiction and ToM (Kidd & Castano, 2017). Moreover, reading fiction predicted performance on the ToM task even after controlling for the Big Five personality traits to exclude individual differences in the relationship between ToM and fiction (Mar et al., 2009). Experimental studies suggest that reading fiction has a causal effect on ToM, leading to ToM development (Tamir et al., 2016).

Experimental studies are conducted to determine the causal relationship between reading fiction and ToM. In these studies, after preliminary assessments, participants are randomly assigned to groups in which they are asked to read fiction texts or different texts (popular fiction and non-fiction) for comparison or control purposes. This reading task is followed by the completion of mentalizing assessment tools such as the RMET or the SST. These studies revealed that reading fiction positively affects mentalizing ability. Furthermore, this effect seems specific to reading literary fiction (Djikić et al., 2013; Kidd & Castano, 2013; Kidd & Castano, 2019; Pino & Mazza, 2016). In contrast to studies suggesting that reading fiction can improve mentalizing, at least two experimental studies have failed to support this causal relationship (Wimmer et al., 2021; Takahashi et al., 2023).

1.5 The Type of Fiction that Promotes ToM Development

It is possible that not all fiction reading is related to ToM improvement (e.g., Kidd & Castano, 2013; Kidd & Castano, 2017). The important criterion here is the extent to which the fiction draws the reader into the mental states (thoughts, emotions, etc.) and interactions of the story characters. This criterion can be seen as the main reason for the relationship between fiction and ToM (Kidd & Castano, 2017). The literature supports this by showing that ToM (mentalizing/mind validation) is more related to literary fiction than to genre fiction (e.g.

Castano et al., 2020; Kidd & Castano, 2013; Kidd & Castano, 2017; Kidd et al., 2016). However, the quality of literary texts is also important in supporting ToM skills and the reading of award-winning literary fiction texts contributes more to this relationship (Kidd & Castano, 2013). When people interact with stories, they use neural networks known to be associated with mentalization and language to simulate the mental states and social interactions of characters.

When people imitate the mental states and social interactions of literary fiction characters, neural networks linked to mentalization and language are triggered (Hartung & Willems, 2020; Nijhof & Willems, 2015; Willems & Hartung, 2017; Tamir et al., 2016). In this context, only the simulation of social contexts and related repetitions can provide positive changes in neural networks that support social cognitive processes related to mentalization (Tamir et al., 2016). According to an experimental study, a week of reading fiction is associated with increased empathy to the extent readers identify with the fictional story. In other words, this effect occurs only when the attendees report a high level of involvement (i.e., simulation) in the characters' mental lives and story events (Bal & Veltkamp, 2013). In parallel, meta-analyses have shown that reading fiction is associated with the development of cognitive skills (Wimmer et al., 2024) and that only reading literary fiction leads to a significant improvement in social-cognitive performance compared to reading nonfiction or not reading at all (Dodell-Feder & Tamir, 2018). However, it is important to recognize that there is not a hierarchy between popular and literary fiction and both types of fiction may be associated with different social cognitive skills (Castano et al., 2013).

1.6 Use of Fictional Stories in ToM Evaluation

The results of relational, neuroimaging, and experimental studies showing the relationship between reading literary fiction and RT performance have led to research on using the Short Story Task (SST) in the assessment of ToM. First, the SST task was tested to assess ToM in healthy individuals. Results showed that the SST used to assess ToM was sensitive to variability in ToM ability, could be accurately scored by multiple raters, and showed concurrent validity with other social cognitive tasks (Dodell-Feder et al., 2013). Thus, the SST was presented as a new way to assess individual differences in ToM performance sensitively (Herold et al., 2024). Numerous studies have investigated the effectiveness of the SST as an assessment tool. For example, in a study comparing 47 schizophrenia patients in recovery with 48 healthy controls using the SST, it was confirmed that the SST is a tool sensitive to individual differences (Fekete et al., 2022). Similarly, in a study conducted with individuals with Bipolar I disorder and healthy individuals as controls, the SST was found to be suitable for accurately assessing individual differences in ToM performance (Herold et al., 2024). In another study, the results of the SST assessment of German autistic adults and healthy individuals revealed that the SST is a reliable task for identifying differences in mentalizing abilities with high sensitivity and specificity (Jarvers et al., 2023). In summary, these studies have demonstrated that the SST can be used to evaluate individual differences in mentalizing and confirm that it is a reliable instrument.

2. CLINICAL IMPLICATIONS

Reading comprehension and academic success are related to theory of mind (Jerrim & Moss, 2019). Moreover, human sociability and the ability to adapt to social life are also related to theory of mind. Individuals with mental disorders have deficits in mentalizing others (their Theory of Mind). The ability of mentalizing others is related to and can be promoted through reading fiction and social interactions (e.g., Kidd & Castano, 2013; Kidd & Castano, 2017; Takahashi et al., 2023). Therefore, encouraging the reading of fictional texts is a very low-cost intervention that can support the promotion of this ability (e.g., Jerrim & Moss, 2019; Takahashi et al., 2023). Thus, reading fiction texts could be incorporated into treatment protocols for clinical groups with mentalizing deficits (e.g., Autism Spectrum and schizophrenia) (Pino & Mazza, 2016).

3. LIMITATIONS AND RECOMMENDATIONS

This study examines the relationship between reading and understanding literary fiction texts and mentalizing ability according to various research methods. However, more studies are needed on the effects of artistic content such as theater and content presented through different media such as podcasts, movies, cartoons, and documentaries on mentalization (Mar, 2018).

Despite the relational and causal relationship between fiction reading and social cognition, there is limited research on the effects of this form of intervention on both psychopathology and multiculturalism. Most studies have been conducted in Western countries and with native speakers of these countries, with a limited number of studies conducted in Latin American countries (Tabullo et al., 2018) and Asian countries (Takahashi et al., 2023). Therefore, conducting studies on the effectiveness of literary fiction in different cultures will contribute to the literature. In addition, a study conducted in a Latin American adult sample revealed that ToM performance scores were higher in males with lifetime exposure to fiction than in females. In this study, where gender differences were reported for the first time, further research is recommended (Tabullo et al., 2018). Finally, most studies have assessed ToM using the Reading the Mind through the Eyes (RMET) task. There are debates about the limitations of this task, which may be related to verbal intelligence and may only reflect emotion recognition. Therefore, future studies should include different mentalizing assessment tools and methods (Mar et al., 2018).

4. CONCLUSION

Reading literary texts is related to the ability to understand and interpret the mental states of others and can improve this ability. Therefore, it may be helpful to encourage individuals to read literary texts from early childhood and to include reading literary texts in psychological intervention protocols for individuals with mentalizing deficits. In addition, conducting both correlational and experimental studies on this topic may contribute to both the literature and educational policy.

Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

Conflict of interest

The author(s) declare that no conflicts of interest exist in relation to the published work.

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