

Effect of Fiction on Biases- A Review Article

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Abstract: Biases are one of the most important factors which can cloud the daily judgment of a person in their day-to-day functioning. Also, on the other hand, fiction has become a major part of our current society as many movies, series, novels, books, etc., are based on fiction, by which many people are getting inspired and influenced as well on a day-to-day basis. In this literature review, we try to understand how fiction affects a person and then society in general and how it influences their biases. In this, we have used many different types of research to understand how fiction's effect on bias. We have found out that fiction affects bias on an individual and societal basis, but the effect is not as strong. Rather, it becomes a small influence.

IndexTerms - Fiction, attitudes, perception, bias, stereotypes, movies, effect.

I. INTRODUCTION

According to the APA dictionary of psychology, Bias is defined as “an inclination or predisposition for or against something: partiality.” Bias has been the main reason for many atrocities that have been committed to the people of a particular group or race of people. Also, bias can be the underlying reason for the decision people make on their day-to-day basis, from choosing which book to read, which movie to watch, which person to trust, etc. For every decision a person makes in their day-to-day life, there is an underlying bias or belief that exists, which leads the person to choose what they choose. Fiction is something invented by the imagination or feigned. Fiction is presented before us in many forms and mediums, be it movies, novels, prose, etc. In some cases, the content of fiction is so strong that it can shape development in an entire culture or a particular group of society. There are some popular fictional movies and series which contribute to several stereotypes about a particular group of people. Also, fiction helps to reduce certain stereotypes as well. It depends on the context in which the fiction is used. In this paper, we try to understand how fiction in the form of media, entertainment, etc., can affect the bias that the person already has or can develop. Also, we'll try to understand to what degree the person can be influenced by the medium of fiction and it is lasting. We have examined many research papers which answer from different mediums of fiction in order to answer the primary question of this literature review. We found that fiction does influence attitudes to some extent, but the effect will be positive or negative will depend on the context of the fiction.

II. REVIEW OF LITERATURE:

In this review, we would look into different studies and research have done in order to understand how fiction influences a person's bias.

According to the study [1] conducted by Gerrig and Prentice from Yale and Princeton University, in which they introduced short stories to introduce fictional facts in order to explore the extent to which information acquired through fictional worlds like series, movies, etc. is incorporated into real-world knowledge. The results showed that fictional information penetrates into the judgments about suggesting incorporation, and the representation of fictional information retains the features of compartmentalization.

According to a study [2] conducted by Appel and Tobias from the University of Cologne, in which they aimed to test the hypothesis that the fact-related information contained in fictional narratives may induce substantial changes in readers' real-world beliefs. In this study, they found out that the belief's certainty was weakened immediately after reading but returned to baseline level after two weeks indicating that beliefs acquired by reading fictional narratives are integrated into real-world knowledge.

In the study [3], conducted by Abraham, Cramon, and Shubotz in which they aimed to study how our brain can differentiate between the real and fictional world. They explored the brain correlates underlying such abilities by having participants make judgments about the possibility of different scenarios involving either real or fictional characters being true, given the reality of our world. The findings suggested fiction relative to reality tends to be represented in more factual terms, whereas our representations of reality relative to fiction are colored by personal subjectivity. What modulates our understanding of the relative difference between reality and fiction seems to be whether such character-type information is coded in self-relevant terms or not.

In the study [4] conducted by Jones and Paris in which they tried to understand how dystopian fiction shapes political attitudes. They found that dystopian narratives enhance the willingness to justify radical—especially violent—forms of political action. It demonstrated that the totalitarian-dystopian genre could affect real-world political attitudes in compelling ways.

According to the study [5] done by Castano, Martingano, and Perconti, in which they tried to investigate the effects of long-term exposure to literary and popular fiction on attributional complexity (an individual difference referring to the extent that an individual prefers complex explanations for behavior), egocentric bias (tendency to rely too heavily on one's own perspective and/or have a higher opinion of oneself than reality.) and accuracy. The findings suggested that

- Exposure to literary fiction positively predicted attributional complexity, while exposure to popular fiction predicted it negatively.

- Exposure to literary fiction is associated with a less egocentric bias, receiving only marginal support in the pre-registered analyses. Stronger support emerged after adding control variables and excluding non-native English speakers. Contrary to the rest, these supplementary analyses were not pre-registered, so these results should be interpreted with caution.
- Exposure to literary fiction predicted performance on both accuracy measures.

In conclusion, exposure to fiction influences socio-cognitive processes and styles.

According to study [6] done by Braddock and Dillard from the Pennsylvania State University, they aimed to study the persuasive effect of narratives on beliefs, attitudes, intentions, and behaviors in which they found that to some extent, there were persuasive effects on the beliefs and behaviors of the individuals.

In the study [7], done by Goldman of the University of Massachusetts and Mutz from the University of Pennsylvania in which they tried to find out the effects of Mass Media on Prejudice. Though in this review, due to lack of enough empirical data as to exactly which factors are responsible for the prejudice was not found as the theories which were used to predict the effects from television content were very ambiguous.

The study[8], which was done by Schqwitzer and Saks, study how popular fiction about forensic science affects public expectations about real forensic science. They found out that the CSI does not alter verdicts on a very large scale about forensic science.

A study[9] was conducted by Sheila Murphy on the impact of factual versus fictional media portrayals on cultural stereotypes; This study concluded that being exposed to stereotypic and counter stereotypic portrayals can influence judgments of unrelated individuals and events. It also bolsters the contention that the impact of media portrayals is heavily contingent on the reader's relation to or position.

A study[10] was conducted by Kubrak on how films impact young people's attitudes. The study concluded that there is a potential for a positive impact and negative impact after watching the film, but the impact will be based on the individual differences of viewers to achieve desired results.

A study[11] was conducted by Bradley J. Bond on the development and influence of parasocial relationships with television characters. The study concluded to reinforce the proposition that intergroup contact does not have to occur in direct, face-to-face interactions to have an effect on people's attitudes and behaviors toward outgroup others. Parasocial contact made between ingroup audiences and outgroup media personnel can also be influential. Media audiences are capable of developing PSRs with fictional outgroup characters that then become the basis for judgment about the outgroup more generally. The conclusions drawn here suggest that the media industry has become ever more diligent in depicting authentic, socially attractive characters of varying backgrounds and identities to assist audiences in developing socio-emotional connections with media personae that have the ability to alter negative attitudes toward others and contribute to a more inclusive, empathetic society.

In the study[12] done by Konijin, Molen, and Nes, in which they tried to find whether emotions induced in TV viewers would increase viewer's perception of realism in a fake documentary and affect the information value that viewers would attribute to its content. The findings concluded that short, emotionally-charged segments of TV programming could leave their traces in viewer's real-world beliefs.

In the study[13] done by Deikman, McDonald, and Gardner from Northwestern and Ohio State University, they explored the relationship between women's reading of romance novels and their attitudes towards condom use, reports of condom use, and intention to use condoms. They found out that when sexual portrayals incorporated elements of romance scripts in addition to condom use, women's attitudes toward condoms became more positive.

In the study[14] done by Segrin and Nabi, they tried to examine the relationship between television viewing, holding idealistic expectations about marriage, and intentions to marry. They found that viewing television programs that focus on marriage and close relationships (e.g., romantic comedies and soap operas) is associated with idealistic expectations of marriage and marital intentions.

In the study[15] by Keith Oatley on the cognitive science of fiction, he found that people who read more fiction had better social skills. Also, people who read artistic literature were found to be better able to change their personality by small increments in their own way.

In the study[16] by Lafky, Duffy, Steinmaus, and Berkowitz, in which they tried to study the effect of female stereotyping in advertisements and gender role expectations. They found out that even brief exposure to stereotypical advertisements plays a role in reinforcing stereotypes about gender roles.

A study[17] by Malecki, Pawlowski, and Sorokowski in which they tried to examine how literary fiction influences attitudes toward animal welfare. They found out that literary fiction did influence the subjects' attitudes toward animal welfare and made their attitudes more pro-animal welfare.

III. METHODOLOGY

Gerrig and Prentice [1] conducted a study on the representation of fictional information. The study was carried out via. Two experiments using the verification paradigm to assess how different types of fictional information are incorporated or compartmentalized into our real-world knowledge. In experiment 1, the researchers presented 10 Yale undergraduate students, each with an experimental story containing 16 topics that provided 16 context details and 16 topics that provided 16 assertions about the world, and a controlled story that contained no information relevant to experimental topics so that it could be used as a baseline for comparison to the experimental subjects. They were asked to rate the quality of the prose and how interesting they found it. In the second part of the experiment, the subjects were presented with two lists of verification statements, each containing half statements consistent and half inconsistent with the real world for both context detail and assertions. The subjects were asked to respond to the statement according to their truth or falsity in "everyday life," which was conducted on IBM computers. The findings suggest that fictional information penetrates into judgments about beliefs suggesting incorporation. In experiment 2, eighteen Yale undergraduates were presented with the experimental story and then served as controls. Only one version of the story was utilized from experiment 1, where some details were updated to reflect changes from the real world. The control subjects completed the verification task without reading any story beforehand. The verification process was similar to the first experiment. Here, they demonstrated that the story information retains some aspect of a compartmentalized, coherent representation in memory.

Appel and Richter conducted an experiment [2] to test the hypothesis that “Persuasive effects of fictional narratives increase over time.” In this study, 81 participants with a mean age of 27 years were recruited. It was announced that the focus of the experiment was the assessment of reading experiences. The participants took part in two experimental sessions with two weeks in between. The sessions were conducted in groups of 1 to 12 participants. The experimental group was randomly assigned an excerpt from “the kidnapping,” and the controlled group was assigned an excerpt from “thousand death.” The data of the control group was used solely for calculating different scores for the participants in the experimental conditions. Thus, the experiment followed a 2 (truth of assertions: true vs. false) 2 (delay of belief assessment: short vs. long) design with the truth of assertions varied within and delay of belief assessment varied between subjects. Half of the participants were administered questionnaires for the assessment of the two dependent variables, agreement, and certainty, in Session 1 (immediate belief assessment), whereas the other half was administered these questionnaires in Session 2 (delayed belief assessment). The participants were also administered with the German short version of the Need for Cognition scale.

The findings suggest that there were large short-term persuasive effects of false information, and these effects were even larger for a group with a 2-week assessment delay. They also suggest that belief certainty was weakened immediately after reading but returned to baseline level after two weeks, indicating that beliefs acquired by reading fictional narratives are integrated into real-world knowledge.

Abraham et al. conducted a functional imaging study [3] to explore the brain correlated underlying abilities (such as the ability to distinguish fiction from real-life events) by having participants make judgments about the possibility of different scenarios involving either real or fictional characters being true, in context of the reality of our world. The sample consisted of 16 healthy right-handed volunteers with normal to corrected vision. All the participants were German speakers with no history of neurological or psychiatric illness; none of the participants were under medication during the conduction of the experiment. A 2 x 2 factorial design was employed with 48 trials per experimental condition. One factor varied the character type (real or fictional), and the context type (informative or interactive) was varied as the second factor. The experimental conditions, together with a control condition (48 trials) and a resting control baseline condition (24 trials), were presented in a randomized trial design. With a trial length of 8 sec and a total of 264 trials, the experimental session lasted 35.2 min. The participants were given task instructions and performed a 5-min practice session on a laptop prior to the fMRI session. The study showed that the processing of real and fictional scenarios activated a common set of regions, including medial-temporal lobe structures. When the scenarios involved real people, brain regions associated with episodic memory retrieval and self-referential thinking, the anterior prefrontal cortex and the precuneus/posterior cingulate, were more active. In contrast, areas along the left lateral inferior frontal gyrus, associated with semantic memory retrieval, were implicated for scenarios with fictional characters. This implies that there is a fine distinction in the manner in which conceptual information concerning real persons in contrast to fictional characters is represented. In general terms, the findings suggest that fiction relative to reality tends to be represented in more factual terms, whereas our representations of reality relative to fiction are colored by personal subjectivity. What modulates our understanding of the relative difference between reality and fiction seems to be whether such character-type information is coded in self-relevant terms or not.

Jones and Paris [4] conducted an experiment studying “How dystopian fiction shapes political attitudes.” The researchers argue that with the given fictional narratives in novels, movies, and television shows enjoy wide public consumption, memorably convey information, minimize counterarguing, and often emphasize politically relevant themes, greater attention must be paid to theorizing and measuring how fiction affects political attitude. The researchers hypothesize the following :

- Exposure to totalitarian dystopian fiction will increase the perceived legitimacy of radical and particularly violent responses to unjust governments.
- Exposure to totalitarian dystopian fiction will increase the extent to which subjects are concerned about the issues central to many totalitarian dystopian narratives - excessive government power and individual freedom.
- People who are exposed to dystopian fiction will become less politically trusting and less inclined to engage politically.
- Exposure to totalitarian-dystopian fiction with female protagonists will increase support for women in leadership and combat roles.

To test the above hypotheses, the researchers conducted three studies

- Study 1 assessed the impact of dystopian fiction on political attitudes; we randomly assigned subjects from a sample of American adults to one of three groups. The first group read an excerpt from *The Hunger Games* and then watched scenes from the 2012 movie adaptation. The second group did the same, except with a different dystopian series – *Veronica Roth’s Divergent*, published between 2011 and 2018. It features the futuristic United States in which society has split into factions dedicated to distinct values; those whose capabilities cross faction lines are viewed as a threat. In the third group – the no-media control group – subjects were not exposed to any dystopian fiction prior to answering questions about their social and political attitudes.
- Study 2 was conducted again with three groups, with a sample of college students around the US. The first group was exposed to *The Hunger Games*, and, as before, we included a second, no-media control group. The third group, however, was exposed to violent scenes from the *Fast and Furious* movie franchise, similar in length and type to the violence in the *Hunger Games* excerpts.
- Study 3 explored whether a key ingredient was the narrative itself – that is, a story about brave citizens contending with an unjust government, whether fictional or nonfictional. In study 3, the third group read and watched media segments about a real-world protest against corrupt Thai government practices. Clips from CNN, BBC, and other news sources showed government forces in riot gear using violent tactics such as tear gas and water cannons to suppress masses of citizens protesting injustice.

Results across three experiments are striking: they found consistent evidence that dystopian narratives enhance the willingness to justify radical—especially violent—forms of political action. Yet, the researchers found no evidence for the conventional wisdom that they reduce political trust and efficacy, illustrating that fiction’s effects may not be what they seem and underscoring the need for political scientists to take fiction seriously.

Castano et al. [5] investigated the effects of long-term exposure to literary and popular fiction on attributional complexity, egocentric bias, and accuracy. To do so, they briefly reviewed the characteristics of popular and literary fiction, and they presented a rationale and outlined a series of hypotheses with regard to the impact of these two types of fiction on attributional complexity, ego-centric bias, and accuracy in social perception, and present results of a pre-registered study testing such hypotheses. The hypothesis being:

- exposure to literary but not too popular fiction should predict greater attributional complexity.
- Exposure to literary but not popular fiction should negatively predict false consensus.
- exposure to literary, but not popular fiction, should predict greater mind accuracy and social accuracy

Participants (n = 502) were recruited via Amazon Mechanical Turk (MTurk) and paid \$5 for their participation. However, certain variable-specific exclusions were made due to various reasons. Results of the pre-registered studies showed that exposure to literary fiction is positively associated with scores on the attributional complexity scale. Literary fiction is also associated with accuracy in mentalizing, measured via the Reading the Mind in the Eyes Test, and with accuracy in predicting average social attitudes. The predicted negative association between literary fiction and egocentric bias emerged only when education and gender were controlled for—a covariance analysis that was not pre-registered. Exposure to popular fiction is associated solely with attributional complexity but negatively.

Braddock and Dillard [6] performed a meta-analysis on studies that evaluated the narrative's persuasive influence on beliefs, attitudes, intentions, and behaviors. The experimenters hypothesized that

- exposure to a narrative produces a story-consistent change in beliefs, attitudes, intentions, and behaviors.
- The effect of a narrative on persuasion is not moderated by the perceived fictionality of the narrative.
- a. The effect of narrative on persuasion is not moderated by the medium of presentation. b. The persuasive effect of narratives presented via visual media is weaker than presented via non-visual media

The researchers also aimed to find the answer to the question, “To what extent, if any, are narrative effects moderated by conceptual variations within categories of persuasive outcomes?”

The researchers identified the relevant studies for the meta-analysis by searching ProQuest's PsycInfo and PsycARTICLES databases, the communication and Mass Media Complete database, the Thomson Reuters Social Sciences Citation Index, and Google Scholar. After screening the studies based on various relevant criteria, they retrieve a sample size of 74 studies. They converted the reported effect size to Pearson's r in all cases for which transformation was necessary. After obtaining all the available r coefficients, they classified the effects into one of the four categories of belief, attitudes, intentions, and behaviors and performed a meta-analysis on four subsets of data. Scatterplots were made on each of the four dependant variables to facilitate the identification of the outliers, which were then eliminated. The Scatterplot was also used for the identification and elimination of publication biases. Lastly, they collapsed the data related to each outcome across design types and tested for the influence of theoretical moderators. Results suggested positive relationships between exposure to a narrative and narrative-consistent beliefs, attitudes, intentions, and behaviors. Moderator analyses on the effect of fictionality yielded mixed results. Neither medium of presentation nor research design influenced the magnitude of the narrative-persuasion relationship. However, results suggested the presence of unidentified moderators.

To understand the effects of mass media on prejudice, Goldman & Mutz [7] outlined the contributions and limitations of past work and pointed to the most promising theoretical frameworks for studying media influence on outgroup attitudes. The frameworks being a. Parasocial Interaction. b. Modeling Intergroup Interactions. c. The Media World as Real World. However, due to a small body of evidence on critical issues of impact, a large amount of the research is correlational, showing associations between the amount of television viewing and prejudice, but leaving causality disappointingly ambiguous.

Schweitzer and Saks [8] presented an empirical study designed to test the CSI effect- whether popular fiction about popular forensic science affects the public's expectations about real forensic science. They prepared a brief simulated transcript of a criminal trial. The transcript was presented to 48 university students, all of whom were jury-eligible (over 18 years of age and citizens of the United States), who assembled in small groups for the purpose of participating in the study. After reading the transcript, participants completed a questionnaire that assessed their perceptions of both the trial as a whole and the forensic science evidence specifically. Most questions called for responses on seven-point scales. Finally, the participants were asked about the frequency with which they viewed both forensic-science-themed programs (for example, CSI, CSI Miami, and CSI New York) and general crime-themed programs (for example, Law and Order, Cold Case, and Without a Trace). Findings suggest skepticism toward the forensic-science testimony was limited to those whose diet consisted of regular doses of forensic-science television programs.

Murphy [9] presented an article exploring how factual and fictional media portrayals may activate culturally shared racial and gender stereotypes and influence subsequent judgments involving members of stereotyped groups. In line with previous research (Power, Murphy, and Coover 1996), Murphy presented new data that demonstrate that exposure to a stereotypic or counter stereotypic portrayal primes consistent interpretations of unrelated events (such as the Anita Hill-Clarence Thomas hearings, the William Kennedy Smith-Patricia Bowman rape accusations, and spousal abuse). Both cognitive and motivational factors such as ingroup-outgroup bias appear to influence the relative weight given factual as opposed to fictional portrayals. For instance, men were equally harsh in the wake of a stereotypic female portrayal regardless of whether they believed it to be factual or fictitious. Moreover, men tended to discount a fictitious counter-stereotypic portrayal of a female, whereas women were more likely to dismiss a fictitious stereotypic portrayal.

Kubrak [10] studied the influence of mass media, using a psychosomatic technique that included 25 scales designed to identify attitudes towards elderly people before and after watching a film. A total of 70 individuals participated in the study. Group 1 contained 40 students; their average age is 19. Group 2 consisted of 30 postgraduate students, with the average age being 24. The study was conducted in three stages: the respondents filled out the psychometric test before watching the film, then immediately after viewing, and again in 2 weeks. During stage 3, only group one participated in the study. The respondents did not see the film before participating in the study. Using a number of characteristics related to the motivational, emotional, and cognitive spheres,

significant changes were revealed. At the same time, significant differences were found in assessments of the elderly between undergraduate students and postgraduate students. After watching the film, postgraduate students' attitudes towards elderly people changed in a positive way, while undergraduate students' negative assessments only worsened. The revealed opposite trends can be explained by individual differences of respondents, which include age, educational status as an indicator of individual psychological characteristics, the experience of interaction with elderly people, and, as a result, attitudes towards elderly people at the time before watching the movie. The finding that previous attitudes mediate the impact of the film complements the ideas of the contribution of individual differences to media effects. Most of the changes detected immediately after watching the movie did not remain over time. A single movie viewing did not have a lasting effect on viewers' attitudes, and it suggests the further task of identifying mechanisms of the sustainability of changes.

Bond [11] conducted a study investigating parasocial relationships as the underlying mechanism explaining prejudice reduction following extended exposure to mediated outgroups. Participants were recruited from introductory courses at a West Coast university to complete an online pretest measuring previous exposure to the experimental stimulus, sexual prejudice, and demographic variables. Those reporting no previous exposure to the experimental stimulus were invited to complete the study. Participants were randomly assigned to one of three conditions: the accentuated condition, the sanitized condition, or the no-exposure control. Recruitment targeted late adolescents because attitudes and values about sexual identities are often formalized during this stage of the lifespan. Exposure to the experimental stimulus began two weeks after the pretest. Participants in the two experimental conditions were emailed two links every Monday for ten weeks. The first link provided participants with one episode of *Folk*. Allowing participants to view the episodes on their own time and on their preferred devices increased the ecological validity of the study. Those in the accentuated condition viewed the episodes unedited as they originally aired on television; those in the sanitized condition viewed the edited versions. The second link sent participants to an online questionnaire to complete after viewing the episode. The weekly questionnaire was utilized as a manipulation and attention check. The questionnaire also included a measure of PSR for each of the eight primary characters after the first (T1), fourth (T2), seventh (T3), and tenth (T4) episodes. Two weeks following the 10-week exposure period, all participants completed the posttest measuring sexual prejudice and responses to a jury simulation task. Participants in the experimental conditions also reported their favorite and least favorite characters from *Folk*. The result indicated that parasocial relationships with outgroup characters grew significantly over the course of the study regardless of condition. White participants and participants who reported the strongest pretest prejudice experienced the most intense growth. Outgroup prejudice decreased significantly over time for participants in both experimental conditions. Parasocial relationships predicted both prejudice reduction over time and behavioral responses to the outgroup. Parasocial relationships with an ingroup character engaged in intergroup contact did not contribute to prejudice reduction beyond parasocial relationships with outgroup characters. This research suggests that audiences can develop socioemotional bonds with outgroup television characters that can influence attitudes and behaviors much the same as direct, interpersonal, intergroup contact.

Konijn et al. [12] investigated whether emotions induced in TV viewers would increase viewers' perception of realism in a fake documentary and affect the information value that viewers would attribute to its content. Ergo, they conducted two studies. In the first study, they randomly selected 84 undergraduate participants. They were randomly assigned to the experimental conditions of a 2 (Program Type: fiction-based vs. reality-based) 2 (Emotional State: yes vs. no mood induction) between-subject design. After entering the room, the respondent was informed about the task, the (faked) content of the video clip, and, in the mood induction condition, about the late second respondent (i.e., the confederate). The confederate entered silently just after the introductory message (i.e., labeling information) was presented on screen. They were seated in a silent room in front of a television screen and watched a 2 min, 40 s segment. Each respondent saw only one video clip on an individual basis. Immediately after watching the video clip, the respondent completed a questionnaire (duration 10 min), received a global debriefing, and was asked not to tell other students about the actual contents of the session. The results indicated that when they believed the program was fictional, emotional viewers attributed more realism and higher information value to the TV program than non-emotional viewers did. Study 2 further investigated the effect of emotional involvement with audiovisual content (characters, narrative, or program) on perceptions of the content's realism. A sample of 105 high school students was randomly assigned to the experimental conditions of a 3 (Mood Induction: positive vs. negative vs. no mood induction) 2 (Program Type: fiction-based vs. reality-based) between-subject design. Emotional involvement was included as a covariate. In each condition, 16 to 20 students participated, spread more or less equally over the experimental conditions regarding gender and age. The same stimulus materials from Study 1 were used in Study 2. Participants underwent either a positive, negative or no mood induction by viewing a video clip in small groups of 10 students. They were seated at individual tables, separated from each other in a silent classroom, and the clips were projected on a big screen at the front of the room. After watching, respondents completed a short mood-state questionnaire. Then, participants viewed either the nonfiction version of the target material or the fiction version, as in Study 1—that is, in the fiction condition, an introductory text claiming that all characters were played by actors preceded the same material as was used in the nonfiction condition. Finally, all participants completed a questionnaire (duration 10 min.) and were debriefed. The results indicated a significant effect of emotional involvement (empathy) on perceptions of realism and information value was found.

Diekman et al. [13] conducted two studies exploring the relationship between reading romance novels and safe sex behavior. In study 1, a sample of 97 female university students with ages ranging from 18 to 42 was selected. Participants completed the demographic measures, attitudinal scales, and behavioral self-reports during an in-class pre-testing session run by the psychology department. Approximately two weeks later, participants were phoned by the second author and asked to participate in an ostensibly unrelated survey. The surveyor identified herself as a representative of the psychology department, stating that she was investigating the reading habits of college students, and asked the participant to answer a few questions about reading habits. If the participant granted verbal consent, she then answered the reading survey. Afterward, she was asked if she would like to participate further in a study of reading, and if so, she would be contacted in two weeks when that study would begin. A total of 49 participants agreed and were thus recruited for Study 2. The remaining participants declined and were debriefed. The findings indicated that high levels of romance reading were associated with negative attitudes toward condoms and reduced intent to use condoms in the future. In study 2, 49 participants were recruited from study 1. The participants came into the laboratory once a week for three weeks. Each person in the sample participated individually and was told that the study concerned changes in reading comprehension over time. During

each weekly session, participants read three excerpts: one from a political editorial, one from a science fiction novel, and one from a romance novel, in random order. Each excerpt was roughly two pages in length. All participants read identical political editorials and science fiction excerpts but were randomly assigned to one of two experimental romance excerpt conditions. At the end of the third session, participants completed the condom use attitude and behavioral intention measures. In addition, they estimated how often they voluntarily read political editorials, science fiction, and romance novels. The findings showed that including safe sex elements in romance stories increased positive attitudes toward condoms and marginally increased intent to use condoms in the future.

Segrin & Nabi [14] examined the relationship between television viewing, holding idealistic expectations about marriage, and intentions to marry. A total of 285 undergraduate students with a mean age of 21 participated in the study. To be eligible, the participants were required to have never been married so as to eliminate potential respondents with attitudes and beliefs based on direct experience. The participant's generalized marital expectations were assessed with open-ended essays describing their hypothetical marriages. Participant's idealized expectations about marriages were then assessed with three scales that each capture important aspects of such expectations: fantasy rumination about marriage; idealized expectations for intimacy within the marriage; and a passionate, romantic love style (eros). In addition, the survey included measures of behavioral intentions, television viewing, genre-specific television viewing, and perceived television reality. Results from regression and path analyses indicate that, although overall television viewing has a negative association with idealistic marriage expectations, viewing of romantic genre programming (e.g., romantic comedies, soap operas) was positively associated with idealistic expectations about marriage. Further, a strong and positive association between these expectations and marital intentions was evidenced.

Oatley [15] analyzed the cognitive science of fiction. He concluded that the more fiction people read, the better were their skills of empathy and theory-of-mind; the inference from several studies is that reading fiction improves social skills. In functional magnetic resonance imaging meta-analyses, brain areas concerned with understanding narrative stories were found to overlap with those concerned with theory-of-mind. In an orthogonal effect, reading artistic literature was found to enable people to change their personality by small increments, not by a writer's persuasion, but in their own way. This effect was due to the artistic merit of a text, irrespective of whether it was fiction or nonfiction. An empirically-based conception of literary art might be carefully constructed verbal material that enables self-directed personal change.

Lafky et al. [16] applied cognitive heuristics theory to the study of gender role stereotyping. They presented the following hypothesis

- Even short-term exposure to sex-stereotyped images will affect audience perceptions of gender roles.
- Exposure to gender stereotypes in advertising will cultivate among viewers more traditional attitudes toward gender roles.
- Because of the "lenses of gender" described in Bem's scholarship, there will be a statistically significant relationship between the gender of the subjects and the ways in which the subjects draw upon heuristics to cognitively process advertising images that include representation of gender roles.

A sample of 125 students of mixed socioeconomic and ethnic backgrounds participated in this experiment. Five classes were used in the study, and each class was randomly assigned to view ten slides of magazine advertisements. Three classes saw advertisements featuring women in stereotypical roles, and the other two classes were exposed to advertisements featuring women in non-stereotypical roles. In addition, the five treatment groups used in this study participated in the experiment on the same day and under identical conditions, with the experiment administered at the beginning of the class period. Both groups then responded to statements concerning a woman in a "neutral" photograph. Differences in gender role expectations were found for six of the twelve questionnaire statements, although differences were not consistently related to either gender or experimental treatment. While the effects documented in this experiment were not dramatic, the results provide further evidence that even brief exposure to stereotypical advertisements plays a role in reinforcing stereotypes about gender roles and that what Sandra Bem has described as the lenses of gender lead to differences in the ways males and females cognitively process visual advertising images.

Małeck et al.[17] conducted an experiment studying the influence of literary fiction on animal welfare. The study involved 1833 participants: 1241 women, aged between 14 and 81, and 592 men, aged between 15 and 69. The participants were divided into an experimental group and a controlled group. The experimental group read a short fragment of an unpublished novel with a motif of the physical abuse of an animal. The control group read a fragment of a similar length but not related to animals. After reading the text, all subjects filled out an online questionnaire with seven items (camouflaged among many other items) measuring attitudes toward animal welfare. The questionnaire also included demographical questions, such as whether the subject keeps pets. They found that in comparison with the control group, the experimental group was significantly more concerned about animal welfare. This result indicates that literary fiction can influence attitudes toward other species. The study is also characterized by a high level of ecological validity, i.e., a relatively great extent to which its results can be generalized (or extended) to real-world settings. Due to its specific design, which involved the cooperation of a bestselling author and his publisher, the study approximated the typical conditions in which people read fiction in a remarkably accurate way.

IV. CONCLUSION

On the line of previous studies, we have seen in how many ways fiction colors our lenses through which we view the world. Consumption of Fiction on a daily basis blurs the line of our understanding of what is fiction and what is reality. Fictional information on it gets incorporated with our real-life beliefs and understanding, and it penetrates into our judgments[1]. Abraham et. al.[3] inferred that fiction relative to reality tends to be represented in more factual terms, whereas our representations of reality relative to fiction are colored by personal subjectivity. What modulates our understanding of the relative difference between reality and fiction seems to be whether such character-type information is coded in self-relevant terms or not. In other words, we compartmentalize fictional ideas which can be applied to real-life as facts, and we have a subjective perception of reality. Hence, the capability to differentiate between fiction and reality largely depends on the extent to which the idea in question is psychologically significant or important to that person's self-esteem.

Fiction can affect our attitude towards animal cruelty, in the study done by Małecki et. al.[17] we saw that fiction could influence our attitude towards other species, our skepticism toward forensic science [8], and our preferences regarding practicing safe sex in the study conducted by Diekman et. al.[13] we saw that when the participants read more romance novels which did not incorporate elements of safer sex the participants showed a negative attitude towards condom and had reduced intent to use condoms. However, when they were exposed to novels that promoted safe sex, their attitudes toward condoms became positive, and their intent to use condoms in the future increased marginally, and marriage expectations [14] the study by Segrin and Nabi concluded that romantic genre programming (e.g., romantic comedies, soap operas) was positively associated with idealistic expectations about marriage. Konijn et al. [12] found a significant effect of emotional involvement (empathy) on perceptions of realism and information value. We attribute a significant amount of emotions to fiction when there is a perceived realism involved, which can lead us to adopt a biased perspective.

In today's life, we often see biases where gender is involved. Since time immemorial, males have been assigned laborious and physically challenging works while females were entrusted the role of the nurturer and caregiver. However, times have changed, and females are coming forward to take more engaging roles in society. Nonetheless, the expectations for the respective genders are still the same; men are expected to be 'manly' and 'strong' while women are expected to be 'nurturing' and 'submissive.' Murphy [9] presented an article exploring how factual and fictional media portrayals may activate culturally shared racial and gender stereotypes and influence subsequent judgments involving members of stereotyped groups. According to Lafky et al. [16], the portrayal of stereotypical gender roles in advertisements (or contemporary media for that matter) only reinforces the stereotype. Appel and Richter [2] argue that there are large short-term persuasive effects of false information, and these effects were even larger as time passes. For example, when a person is exposed to the biased notion that a particular skin color/ body type is more attractive, it may temporarily affect that person, but if that opinion is constantly fed to that person, they will gradually start accepting that opinion as truth. Jones and Paris [4] found consistent evidence that dystopian narratives enhance the willingness to justify radical, especially violent, forms of political action. However, Oatley [15] inferred that carefully constructed verbal materials (fiction or nonfiction) could enhance one's skills of empathy and theory of mind, thus improving social skills. Moreover, Castano et al. [5] found that exposure to popular fiction is negatively associated solely with attributional complexity. Additionally, Goldman & Mutz [7] outlined associations between the amount of television viewing and prejudice but leaving causality disappointingly ambiguous. Furthermore, Braddock and Dillard [6] suggested positive relationships between exposure to a narrative and narrative-consistent beliefs, attitudes, intentions, and behaviors. That is, even if fiction affects our biases, based on how the subject in question is portrayed is also a deciding factor. As even though bias and fiction have a correlation, it doesn't have causation. Kubrak [10] states a single movie viewing did not have a lasting effect on viewers' attitudes, and it suggests the further task of identifying mechanisms of the sustainability of changes. Bond [11] investigated parasocial relationships explaining prejudice reduction following extended exposure to mediated outgroups. They concurred that audiences could develop socioemotional bonds with outgroup television characters that can influence attitudes and behaviors much the same as direct, interpersonal, intergroup contact. For example, the portrayal of Captain Ray Holt, in an authoritative role who takes his job seriously while being funny and caring, might have caused a change in the notion (if any) that black males are violent and dangerous.

Hence, fiction can affect our biases, but just correlation does not indicate causation. Fiction can be a friend as well as a foe when bias is concerned. It can intensify as well as eradicate biases based on how it is used.

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