EMPIRICAL APPROACHES TO STUDYING EMOTION IN LITERATURE: THE CASE OF GENDER
Ivanski, Chantelle, Maslej, Marta M., & Mar, Raymond A.

ABSTRACT:
The empirical study of literature involves leveraging a wide range of scientific methodologies in order to better understand how literary texts are created, comprehended, and understood. This includes methods that rely on observing and measuring behavior, analyzing large corpora of texts, and sometimes manipulating some element of interest in a laboratory. Researchers engaged in the scientific study of literature have succeeded in uncovering a large number of insights regarding the role of emotion during reading. This includes the importance of emotional content in literary texts, demonstrations of the various ways that readers engage with the depictions of emotions, and a useful taxonomy of the types of emotions elicited by literary texts. We close our discussion of empirical approaches with an in-depth case study of gender issues in literature, namely the role and representation of women.

Keywords: Research Methods, Empiricism, Emotion, Gender

There are many ways to examine the role of emotion in literature, with one broad approach being to adopt empirical methodologies. In this chapter, we survey various empirical methods, give examples of how these methods have been employed to study emotion in literature, and close with an in-depth case study of gender issues in literature, namely the role and representation of women.

Empirical Approaches to Studying Literature

Empiricism is most closely linked to the scientific method, and understanding the process of science is an undertaking that requires lengthy study. Although we intend to do our best to provide a broad overview of various empirical methods, our overview will be necessarily incomplete and woefully lacking in detail. For readers interested in adopting empirical approaches to studying literature, our recommendation is to begin by collaborating with
experienced empiricists. Embedding yourself in a lab or, ideally, several different labs employing different methods, will rapidly expose you to the scientific mindset and necessary procedures. In addition, it would be helpful to read an introductory textbook on research methods (for our perspective, see Cozby et al.).

The basic principle behind science, and empiricism, is that in order to make sense of the world, we must engage in systematic observation. This means that when observing the world, we should employ a set of procedures that are concrete, explicit, transparent, and repeatable. Not surprisingly, there is an enormous variety of ways in which we can engage in systematic observation. One useful way to organize these different approaches is to lay them along a continuum, with minimal interference in the real-world behaviors under study and an accompanying lack of control over extraneous factors on one end, and maximal control over extraneous factors but gross intervention in real-world phenomena on the other end. There are no good or bad empirical approaches. Rather, all empirical approaches have trade-offs, typically with respect to observing real-world phenomena in its untouched and most representative form (but giving up control over the situation), versus gaining control over extraneous factors not of interest in order to make stronger causal inferences (but giving up the realism of our situation under study). It is worth noting, however, that this is a simplification and, in practice, both field and lab studies can vary in ecological validity based on their specific design. Figure 1 shows how different types of empirical methods fall on this continuum, from realism (and lack of control) at one end to control (and lack of realism) at the other.
Beginning on the end that favors realism over control, we have qualitative approaches. Qualitative approaches attempt to observe behaviors systematically, while preserving their meaning and context. Rather than transform observations into numbers that can be subjected to statistical analyses, qualitative approaches prefer to present the actual words, pictures, videos, or sounds of interest. A systematic approach is still adopted, however, in how this information is categorized and arranged. Interviewing several authors about their writing process, then looking for consistent themes that emerge is one example of taking a qualitative approach.

Another way we can observe the real world and look for patterns is to rely on computerized methods for summarizing large amounts of existing information in the world. With respect to the study of literature, this information often takes the form of the text for many, many published books. In order to summarize these books, we can use software to represent some aspect of the text that we find interesting as numbers (e.g., word frequencies or scores), which can then be analyzed statistically. For example, we could see if the incidence of an emotion word like “shame” is associated with the decade of publication. Examining how scores on one variable (e.g., frequency of “shame”) relate or covary with those on another variable (e.g., publication year), is an example of a correlational analysis. Such an analysis can also be applied to data that is collected to answer a particular research question, rather than analyzing pre-existing data like books published in a particular year.

Moving further along this continuum toward control and away from realism, we have correlational survey studies. These studies rely on quantitatively measuring real-world phenomena, transforming observations into numbers that can then be analyzed statistically. In a correlational survey study, we examine whether higher scores on one variable are associated with higher or lower scores on some other variable: whether the two things we are interested in
correlate or covary. An example would be surveying authors about their writing habits, and seeing if the number of hours spent writing predicts the number of books published.

At the very far end of this continuum, with the greatest amount of control and the lowest level of realism, we have the scientific experiment. In an experiment, we manipulate or change the variable we believe to be the cause of some outcome, and then measure possible changes in this outcome that result from our manipulation. All the while, we attempt to control for everything else that we are not interested in. For example, imagine a study on whether caffeine helps writers to be more productive. To conduct this experiment, we could bring authors into the lab and randomly determine whether they will participate in one of two possible conditions: (1) drinking regular, caffeinated coffee before a writing session, and (2) drinking decaffeinated coffee before writing. The outcome here would be some aspect of what is produced during the writing session, such as the number of words written. Note here that we have controlled for several things that we are not interested in, such as the context (i.e., everyone writes in our controlled laboratory, in the same surroundings, with the same computer) and the unimportant aspects of the drink (i.e., decaffeinated coffee looks and tastes similar to coffee, but without the caffeine). By randomly determining who will participate in which condition, we also aim to control for how the individual writers differ from one another, allowing random chance to make our two conditions approximately equal with respect to things like author age, whether the author prefers to write in the morning or the evening, their genre of preference, and so forth. If an experiment is designed and conducted properly—appropriately controlling for all the things that are not of interest—we can use the results to make inferences regarding causality: whether caffeine makes writers more productive, in this case.
If we want to study the individual differences associated with each writer specifically, we will have to conduct what is known as a “quasi-experimental” study. Since we cannot randomly assign people to be older or younger, to examine how age relates to productivity we will have to split people into groups based on their age and then compare how much they write in a given time period in our lab. In this case because we are not manipulating the predictor variable, we do not have random assignment (i.e., you cannot assign people to be older or younger). As a result, this is not a “true experiment”, which is why it is called a “quasi-experiment.” This fact also means that we shift a bit closer towards realism and away from control, as we are now studying an actual aspect of the writer that we have not artificially manipulated (i.e., their age). That said, we lose a key aspect of experimental control (i.e., random assignment), we can no longer use these results to support inferences regarding causality.

**Empirical Research on Emotion and Literature**

The adoption of empirical methods to study literature has yielded many insights into the key role of emotion. In this section, we provide a brief overview of this work, with the aim of conveying its breadth and diversity, if not its depth.

*Emotional Content in Literature*

One approach to studying emotions in literature has involved using computerized methods to analyze the emotional content of large collections of texts. A popular method in this category is *sentiment analysis*, which identifies the degree to which parts of the text are positive or negative in terms of emotional valence. In one example, by graphing sentiment throughout a narrative, one researcher was able to generate “plot shapes” for over 40,000 novels (Jockers). This study found that the novels could be clustered into six or seven fundamental shapes, which
roughly corresponded to the plot structures proposed by writer Kurt Vonnegut many years before (Vonnegut).

Another commonly-used method for computerized analyses is topic modeling, which can identify themes in texts based on the co-occurrences of words (Blei et al. 996-997). Topic modeling has been applied to examine the themes in over 1,000 best-selling contemporary novels, and this analysis highlights the role of emotions (Lundy 12). For example, embodied emotions were more prominent in romance and young adult fiction compared to other genres; these included references to emotions as well as their associated bodily or physiological responses (e.g., using words such as feeling, relief, heart, stomach). However, embodied emotions were prominent across all genres compared to other themes, pointing to the importance of emotions across different genres of popular fiction.

**Responses to Emotional Content**

Because the content of literature is often emotional, researchers have also examined how readers respond to that emotional content. In one study from our own lab, for example, we performed a sentiment analysis of short stories and character sketches and examined whether sentiment was related to evaluations of the quality of these stories and characters (Maslej et al. 7). We found that negative emotions were associated with higher perceived quality for short stories and greater interest in characters, as well as greater complexity of these characters.

To understand why negative content appeals to readers, Emy Koopman asked people about their reasons for reading sad books in a qualitative study (“Read Sad Books” 22). People reported that they enjoyed feeling negative emotions while reading, and that reading sad books promoted reflection, allowing them to gain insight into their lives and other people (25). Koopman followed up on these findings with a study that examined how personal experience
affects the tendency to engage in reflection while reading sad stories (“Texts about Suffering” 432). Participants who had experienced depression or grief read stories about these same experiences. When reading a story that matched their personal experience, participants tended to reflect more, suggesting that sad stories elicit more reflection when they are personally relevant (437, 438).

Another study investigated the appeal of negative emotions in literature by examining a different type of response: brain activation, as measured with fMRI (functional magnetic resonance imaging). In a correlational design, one group of participants rated 80 short stories on their sentiment, and a second group read the stories in an MRI scanner. Stories with more negative content tended to engage brain regions associated with the ability to infer the mental states of others, including emotions (Altmann et al. 5). This link may reflect a tendency for sad stories, or those characterized by negative emotions, to inspire reflection about other people (“Read Sad Books” 25).

**Emotional Responses to Reading**

Emotion is not just important with regards to the content of literary texts, but also in the experience of reading (Mar et al. 830). One way researchers have studied emotional responses while reading is by asking people to “mark up” a text, indicating in the margins whenever they experience an emotion, thought, or memory (Miall and Kuiken 225). It is then possible to explore how features of the text are related to these different types of responses. With this approach, researchers have found that different emotions occur when reading different parts of text. Passages appearing early in a story, or those that are descriptively dense, tend to evoke relived emotions (i.e., emotions felt when recalling a personal experience), whereas passages
toward the end of stories evoke fresh emotions (i.e., emotions felt when readers are surprised by a new realization) (Cupchik et al. 370).

Researchers have also measured emotional responses to literary texts by using peripheral psychophysiology: measuring how the body responds while reading. In one study, Nell noted increases in heart rate, respiration, and facial muscle activity when people read passages they reported enjoying (39). In another study, researchers identified the emotional passages of a story based on ratings provided by one group of participants (Wallentin et al. 965). These passages were associated with activation in brain regions thought to process emotional responses, as well as increased heart rate variability, in a different group of participants who listened to the story (968). The researchers interpreted this increase in heart rate variability as a physiological sign of emotional arousal in response to hearing the emotional passages. With so many psychophysiological indicators of emotion, there are many opportunities to examine the various aspects of emotional responses to reading literature with these methods.

**Emotions and Writers**

An overview of empirical work on emotion and literature would not be complete without a brief mention of writers. Many correlational studies suggest a higher incidence of emotional disorders in writers or poets, such as depression and bipolar disorder (Andreasen and Glick 210; Ludwig 1652; Post 26). For example, a novel study analyzed interviews with writers using computerized text analysis and compared the results with those for interviews with physicists. What they found was that writers used more words related to emotions, and negative emotions in particular (Djikic et al. 194). Interestingly enough, this focus on negative emotions may actually help writers create compelling literary texts and characters, given the results of our study on how emotions relate to evaluations of quality for stories and characters (Maslej et al. 10).
One fascinating study of emotion in literature also incorporated an analysis of the author’s gender (Jockers and Mimno 751). This study looked at whether the themes in over 3,000 19th century novels differed based on whether the author was a man or a woman (752). Based on this sample, novels written by women contained a higher proportion of emotional content than novels by men (762). It is unclear, however, whether this same difference would emerge with more contemporary texts.

**Gender and Emotions in Literature**

We close with an in-depth case study of how gender relates to emotion in literature. Gender is closely related to the role of emotions in literature, based on how women participate as creators, consumers, and characters in fiction. Emotions are key to how women read, how they create, and how they are portrayed in literature. Gender is also important in determining what emotional expressions are acceptable, for both women and men, as creators and consumers of literature. We start with an overview of how reading habits differ for women and men, and from where these differences might stem. From there we examine how women are portrayed in fiction, and then how female authors differ from male ones, with a focus on the role of emotions. Finally, we end by looking at romance novels, as romance is a genre that is governed by its relationship with emotionality and seen as being both by and for women.

**Reading Habits of Women**

In general, women read more than men, with 77% of women reporting they had read at least one book in the last year compared to 67% of men (Perrin). It is not surprising, therefore, that women tend to read more fiction than men. There are many different reasons for this, with one being that reading is seen as a feminine activity. The stereotype that reading is for girls starts in early childhood. Women are far more likely to report that their parents encouraged them to
read as children, compared to men (Tepper 263). Women are also more inclined towards empathy than men (Toussaint and Webb 680) and display a wider range of emotions, which might make fiction and its portrayal of characters and their emotions more appealing. Combined, these differences might explain why women are more attracted to fiction than men (Tepper 264).

Gender differences appear not just in whether people read, but also in what they tend to read. These differences in what women and men read are partly reflected in how they recommend books to others. In a qualitative study, for example, women were found to recommend books to other women that they themselves enjoyed (Jarvis 272). In comparison, men are more likely to make recommendations to their female partners of books they deem as aspirational, or “more worthy” than the books their partner is already reading (Jarvis 266). In this way, men see their role as a “teacher,” whose job it is to introduce their female partners to more intellectually stimulating works, whereas women are more interested in sharing their enjoyment of reading with others. This difference parallels how women and men are expected to express themselves: in many societies, women are allowed to express their emotions and men are allowed to express their knowledge, but not vice versa. This parallel can also be observed in the types of characters men and women like to read about.

When it comes to characters, women have no preference concerning the gender of the protagonist, whereas men report preferring to read about male protagonists (Summers 247). There are several possible reasons for this. This could stem from the fact that women are more inclined towards empathy than men (Toussaint and Webb 680), with empathy allowing them to more easily imagine the experiences of protagonists of a different gender. In comparison, men might have a harder time understanding the experiences of female protagonists. This difference in character preference could also be a result of the fact that female characters are often
portrayed in relation to their emotions (Wolff), with men being less interested in this emotional content. This could mean that men are more interested in books with male protagonists who engage in intellectual endeavors, although to our knowledge this has not been tested empirically.  

**Women as Characters**

In general, women are often portrayed as emotional and irrational characters in fiction, unable to make logical decisions (Wolff). However, over time, we have seen a change in how both male and female characters are depicted. Different labels have been used to describe how female characters are typically portrayed. In the eighteenth century, as described by Wolf, there was the “sentimental woman” who was only allowed to express certain emotions, like love, betrayal, and suffering, but never moral outrage. This sentimental woman progressed into the “liberated woman,” who was allowed to be rational, intelligent, and not entirely ruled by her emotions (213). This depiction then became the “American girl” who was educated, intellectual (215), and expected to carry morality forward (216). She was bossy and feared by her husband (215) and therefore, despite being intelligent and educated, was still often defined and ruled by her emotions. The evolution of these labels suggests that although the depiction of female characters has changed over time, stereotypes regarding emotionality persist.

A fascinating empirical study of the words associated with male and female characters in over 100,000 fiction books (written between 1780 and 2007) documents these gender differences in how characters are depicted (Underwood et al. 3). This study, which used natural language processing (i.e., computerized text analysis), also found some interesting consistencies in these portrayals. For example, both male and female characters are portrayed to “read” relatively equally, which is in contrast to reality (18). Distinct differences in portrayals do exist, however, with female characters often associated with having “felt” things, whereas male characters are
associated with having “got” things. (Whether the latter refers to “received” or “understood”, or both, is unfortunately not knowable with this technique.) Except for a period in the 1960s when male characters actually “felt” more than female ones, these associations have remained fairly constant over time (Underwood et al. 18). As another example of how emotionality is more closely tied to female characters than male ones, female characters also tend to “smile” and “laugh,” whereas male characters “grin” and “chuckle” (Underwood et al. 22). This seemingly small difference clearly highlights how female characters are allowed to be more emotionally expressive than male characters. Although these depictions do seem to be changing a bit over time, female characters are still depicted in a stereotypical fashion.

It is important to note that the female characters we have discussed so far are representations of white women. Although we lack the space to properly discuss how race intersects with gender, Black women and women of color are portrayed quite differently from white women. In works by Black female authors, Black women tend to be given the role of a healer or mother, often of children that are not their own (Davies 41). In fact, they are often portrayed as being more of a mother than the child’s biological mother (41).

**Women as Creators**

Gender differences also exist with respect to how authors write, and how that writing is evaluated. For example, an empirical analysis of 10,287 books reviewed by the New York Times between 2000 and 2016 found several differences based on the gender of the author (Piper and Jean So). In this study, words used in the reviews of each book were analyzed using computerized text analysis in terms of odds ratios, which describe the probability of a given outcome given a preceding event. In this case, it was the likelihood that a certain word was used, given that the author was a man or a woman. Between 2000 and 2009, the words used most
frequently in reviews of books by female authors included: mother, woman, marriage, child, family, love, beauty, sex, and emotion. In comparison, for male authors, these words included: president, government, theory, economy, leader, unit, hero, and market. This analysis was then repeated for books reviewed between 2010 and 2015, with quite similar results. Since reviews are likely to describe the dominant themes in a book, these findings suggest that female writers are more likely to write about emotions and families, whereas male writers are more likely to write about politics, war, and history (Piper and Jean So).

Historically, and even in the present day, many women feel the need to write under a male or gender-neutral pseudonym in order to be published (Armitage). However, this pressure could stem from a bias against female authors on the part of publishing companies, and not necessarily from consumers. That is, publishers might think that audiences are less likely to buy books written by women than by men, regardless of reality. This belief may stem from the tendency for women to write about emotional content, which may not have as wide of an appeal, particularly among male readers. Given the clear differences between literature written by male and female authors, and the bias toward male authors perceived by many female authors, it is perhaps surprising that not much work has examined how readers evaluate authors of different genders. In one experiment, participants read the same fictional narrative and were either told that the author was male or female or were given no information about author gender (Ciechanowicz 108). When told the author was female, participants rated the author as being more intelligent, credible, nice, and sophisticated, compared to when they were told the author was male. However, when they were not told the author’s gender, they were more likely to guess that the passage was written by a man (109).
Recent experimental research from our own lab found that people’s evaluations of fictional passages do not differ very much based on whether they are told it is written by a male or female author (Ivanski et al. 45). In this experiment, participants were each shown 4 passages (of a possible 12) and told that 2 were by male authors and 2 were by female authors. Importantly, however, the passages remained identical across conditions: only the author gender differed, as indicated by their name (10). Participants then rated the passages on several different dimensions related to quality. These evaluations of the passages were found not to differ based on whether participants were told it was by a male or female author (Ivanski et al. 45).

Interestingly, however, there are some genres where we see a potential bias against publishing male authors. Specifically, male authors are more likely to use female pseudonyms when writing true crime or romance, as compared to other genres, perhaps because readers of these genres are primarily women (Romance Writers of America; Vicary and Fraley 82). Women report reading true crime to learn how to act in the situations being described (Vicary and Fraley 84), so they may feel more comfortable reading about dark crimes when they believe the author shares their gender and perspective on the situation. Additionally, women tend to use true crime as a way to explore scary situations (Vicary and Fraley 84). Thus, they may feel safer when reading these details if they believe they are written by another woman. This is likely because the main focus of the true crime genre has been domestic crimes, going back to at least the 1970s (Browder 936). Because these crimes tend to be committed against women by men they know, it makes sense that female readers would feel that female authors are better able to describe these scenarios, as another woman is likely more able to empathize with their perspective in such a situation. A similar phenomenon might be at play when male authors write under female pseudonyms for the romance genre. Because men are seen as less emotional than women, female
romance readers might trust women authors more to deliver the emotionally fulfilling content that is expected when reading a romance novel.

**The Case of Romance Novels**

Discussing romance novels is a good way to end this chapter as this genre brings together everything we have talked about with regard to women, emotions, and literature. There are two kinds of romance novels: strong and soft romance. Soft romance novels are short and simple to read and typical of what comes to mind when thinking of a romance novel. In comparison, strong romance novels focus on a strong, capable, female protagonist (Owen 537). To be classified as a romance, a book must meet two requirements: (1) there must be a central love story, and (2) the story must have an “emotionally satisfying” ending (i.e., a happy ending) (Romance Writers of America). Emotion plays a central role in both of these requirements.

Romance novels grew in popularity in the 1970s, when the Canadian publishing company Harlequin began to successfully distribute these books in the US (Brackett 348). Since then, it has grown into a billion-dollar industry that makes up the largest proportion of book sales in America (Costanza). Given the emotional content of romance, it is not surprising that it is largely written by, and for, women. It is estimated that 99% of romance authors are women (Lois and Gregson 464), although this estimate may be slightly inflated as men will occasionally write romance under female pseudonyms (Readers Entertainment). Readers of romance are also predominantly female (82% of readers; Romance Writers of America). Despite the popularity of romance novels, there is a seemingly universal negative view of this genre. Readers themselves know that romance is viewed poorly by the public and will try to hide the fact that they are reading a romance novel (Brackett 350). Romance readers also feel that they need to justify why they enjoy these books or distance themselves from other romance readers. In one qualitative
study, every reader interviewed said some version of “I’m not like most romance readers” (Brackett 355).

Some women see reading romance as an indulgence and a way to escape life (Jarvis 266). However, reading romance novels can be a point of conflict between partners, as women feel guilty for reading them and male partners often feel irritated that their partners are not reading something more intellectually stimulating (Jarvis 266). Romance novels are often described as being “trashy” or “porn for women” (Lois and Gregson 466), which exemplifies the negative stereotype of them. But this characterization does not seem to match up with the true content of romance novels, with sexually-explicit material not being a requirement for the romance genre. So why is romance viewed so negatively by the general public? It may be a combination of factors, but the stereotype that the material is trashy and lacks intellectual value is likely a contributing factor. Another reason why readers and writers of romance may feel embarrassed and judged is that content that is emotionally stimulating, like romance novels, is not seen as being as valuable as intellectually stimulating content. As an example of this, when men write romance novels, they are often derogated for being feminine: writing about romance is seen as a women’s activity and thus of lesser value (Lois and Gregson 469).

Conclusion

As demonstrated in this chapter, there are many ways people can, and have, studied literature. These methods vary in the amount of control and realism, with qualitative research providing the most realism and least control. On the other end of the continuum is experimental research which has the most control, but the least amount of realism. Of the different methods that can be used to study literature, there is no one right method. Rather, the researcher needs to decide what is best for their topic of interest and particular goals. The use of these different
methods has provided valuable insights into the role of emotion in literature. For example, the computerized analysis of texts has uncovered the importance of embodied emotions across various genres of fiction. The appeal of negative emotions, in particular, has also been confirmed using a variety of qualitative and correlational methods. These methods have helped us to better understand the types of emotions elicited by literary texts, either by asking readers about their emotions or measuring psychophysiological responses during reading. The emotional content of literature, however, may differ by gender, with women including more of this content in their novels compared to men (Jockers and Mimno 762).

As creators of fiction, there seems to be a disparity in the number of male and female authors, although this gap may be narrowing. Despite the fact that many publishers seem to think that readers prefer the work of male authors, some research has shown that this is not actually the case (Ivanski et al. 45). As readers, women’s interests in emotional content are seen as being somehow inferior to the interests of their male peers. And as characters, women are often defined by their emotions. It is thus unsurprising that emotional literature such as romance fiction is a female domain and, therefore, less important than ‘intellectual’ or stereotypically male content. Empirical approaches have proven useful in exploring these complex interactions between gender, emotions, and literature. We hope that our overview of various empirical methodologies helps to motivate more academics with an interest in the role of emotion in literature to consider these approaches.

**Acknowledgement**

We would like to express our great appreciation to Javeria Shahid and Jeswin Paul for their help in preparing this chapter.
Works Cited


