Research in Transformative Game Design

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7.1 Introduction

This chapter will provide some basic considerations about researching transformative role-playing games. While many methods for researching games exist, we will discuss two primary strategies:

a) Researching the design, playtesting, iteration, and analysis of transformative role role-playing games based on a theoretical framework, i.e., Research through Design

b) Researching the impacts of transformative game design on players, i.e., player studies

While we acknowledge that other approaches exist and the methods mentioned here can be used in concert with others, in general, we aim to teach you how to answer the following overall questions:

1. Can role-playing games help achieve a desired transformative goal? If so, what processes can help optimize transformative analog role-playing games to help achieve this goal?

2. What impacts do analog role-playing games designed and facilitated for transformative goals have on designers, facilitators, and players?

While related, this chapter will not provide a comprehensive literature review of the strategies and methods for studying game-based learning, simulation, gamification, or Serious Games. Instead, we will emphasize our own approach to research, focusing on considerations specific to the design and implementation of transformative analog role-playing games. However, we recommend diving into a broader literature search on these topics if you aim to expand your skill set beyond the information featured here.

7.2 Developing your research acumen

a) Barriers to identifying as "researchers"

When people hear the word "research," some respond with excitement, whereas others may respond with boredom, fear, intimidation, or resentment. Some of us may

have experienced shame or even trauma in our educational experiences, e.g., as a result of neurodiversity, bullying due to gender/sexuality, race/ethnicity, appearance, disability, culture, or any number of other factors. In fact, we may be approaching this work with a strong commitment toward alternative methods of education, ones that prioritize the student experience, experiential learning, meaning, and personal relevance to content.

Traditional educational environments are often designed counter to these priorities, which Freire describes as the *banking model* of education (Freire 2005), in which a teacher's job is to deposit relevant facts into the minds of students. In the banking model, the students job is to become perfect receptacles for the information, which means that one's personal interests, insights, critiques, and even participation in the learning process are not welcome and should be set aside. While educational psychology, pedagogy, and didactics have shifted in terms of recommended practices toward more group-focused and participatory work, many of us still hold resentments about the educational process. These resentments can lead to barriers to conducting research, as we may harbor insecurities or fears about our own possible contributions.

We would like to emphasize that if you design games and share them with others to play, you are likely already researching in one way or another.

b) Research design

Game designers often reflect upon their own process in design journals or game design documents, which they may even share with the outside world. They also often connect with discourse communities around design (see Chapter 6), learning the relevant techniques and theories that can inform their game design and improve it based on their goals. Game designers also often playtest their games before releasing them into the world, collecting data about the experiences of their players through observations, informal chats, or more formal methods, such as surveys or interviews. The processes we will describe in this chapter are meant to augment practices you likely already undergo, helping you refine your practice and investigate the impacts of play in a more focused way. We refer to *research design* as an important component of this process, which means that to a certain degree, researchers are often designers as well.

For our purposes, research design means identifying key factors before beginning the process, including:

a) **A research question** you seek to answer, which may have sub-questions attached to it;

b) **The background information** informing the topic you are exploring, including e.g., aspects related to socio-cultural contexts and other relevant literature in the field;

c) **A theoretical framework** that will inform your design, which can arise e.g., from established concepts in academia or design-based concepts from other practitioners;

d) **A brief description of the game** you plan to design in order to answer these questions, informed by your theoretical framework;

e) **The method** you plan to use when researching your game, which should be relevant in helping you answer your research question; and

f) **Your positionality and reflexivity** as a researcher and your personal background, which may inform the way you research and analyze your data.

Note that some of these details will change during the research process. Documenting these changes can be helpful in making sense of the process as a whole, especially in design research. Projects are not static; they can change over time. As long as the final product of your research is described as a coherent whole with a "red thread" connecting each of the sections, your work will be in good shape.

After you complete the research, you will add:

a) **The results** that emerged when you conducted your research according to the method;

b) **A discussion** of these results, returning to your socio-cultural context and theoretical framework, as well as any new concepts that now might be relevant. Limitations should also be included, i.e., places in which your research design and findings are limited;

c) **A conclusion,** in which you briefly summarize your project, discussing its larger implications and any directions you or other researchers might follow for future research related to these topics.

This format is sometimes called the *hourglass* method of academic writing: establishing one's work within the relevant context is the "big picture," which narrows when gathering research data according to this specific project, and then expands again to look back at what these findings might contribute to the "big picture."

Another way to think of academic research is attempting to answer these questions:

- **Why** is this research important? (Background, Discussion, Conclusion)
- **Who** will be involved in this research? Who are the researchers? Who or what is the object of study? (Research Question, Method)
- **What** will the research entail? What theories inform it? What will you learn from it? (Theoretical Framework, Method, Results, Discussion)
- **When** will the research take place and in what historical contexts? (Background, Method)
- **Where** will the research take place and in what social or cultural contexts? (Background, Method)
- **How** will you conduct the research? (Method)

c) "Objects" of study and research questions

One of the questions before was, "Who or what is the object of study?" In other words, what is most interesting to you in the research process? Examples include:

- A game, including its ludic, narrative, and symbolic structures;
- Games in terms of technologies, including the impact of certain technologies on analog play;
- Yourself as designer, facilitator, or player;
- Another player;
- A group of players;
- A subculture;
- A culture; and
- Multiple cultures.

You may be interested in researching all of these "objects," but you will need to narrow the scope of your research to 1-3 of them depending on the study. Note that the term "object" here does not mean that research is always objective or that we should think of our players as objects. We will use the term for now with regard to identifying the "object of study," but many researchers prefer terms like research subjects, participants, or even co-collaborators to discuss the people taking part in the study.

Returning to our previous research questions, we can inquire "Who or what is the object of study?" Depending on how we frame each question, we will have a different primary object of study.

1. Can role-playing games help achieve a desired transformative goal? If so, what processes can help optimize transformative analog role-playing games to help achieve this goal?

   - Emphasis on the game as the object of study

2. What impacts do analog role-playing games designed and facilitated for transformative goals have on designers, facilitators, and players?

   - Emphasis on the self and other player(s)

Additionally, these questions are quite broad. We will now want to add specifics, perhaps related to the Who, What, Why, questions from before. For example, if you are designing a nano-game intended to increase empathy in cis-men for people from marginalized genders, you might refine the questions accordingly:

1. Can role-playing games help increase empathy in cis-men for people from marginalized genders? If so, what processes can help optimize the game for this purpose?

2. What impacts do analog role-playing games designed and facilitated to increase empathy have on designers, facilitators, and players?

However, if your object of study is a specific game, you might want to narrow your question even further:

1. Can a specific role-playing game help increase empathy in cis-men for people from marginalized genders? If so, what processes can help optimize the game for this purpose?

2. What impacts does a specific role-playing game designed to increase empathy in cis-men for people from marginalized genders have on designers, facilitators, and players?

Furthermore, investigating the impacts on designers, facilitators, and players may widen the scope too much. Perhaps you are only interested in your own process as a designer, a research subject's experience as a facilitator, or a player's experience. Whatever you choose, you would want to narrow your question accordingly, especially for smaller research projects.

i) Difficulties identifying research topics

Having trouble determining what topic to choose is a common issue writers encounter. We recommend starting with yourself, your own interests, and your positionality and reflexivity. You can even use autobiographical content as a starting point, especially for design work (Kim 2019) or autoethnographic work (described later in this chapter). For example, you can distill your interests into core categories or questions such as:

- What am I trying to say?
- Why is this topic important to me?
- What key experiences have I had when role-playing, e.g., "a-ha moments?"
- In what ways am I biased?
- Why does this topic matter and to whom?
- Who might be harmed by this research? Is it worth it?
- Who might not be represented by this research? Are there ways to involve them?
- Who else has attempted to answer similar questions? (Assume others have).
- Is this research best suited for a popular or an academic audience? ("Both" is a great answer).

Remember that everyone has a contribution to make. Finding your unique, authentic voice, whether as a designer, an author, or both is important to the process.

d) Description of the game

At this point, you should start considering the basic concept and design for your game. Note that in a research paper, you will likely not include all of the details of the game unless you add an Appendix, e.g., with your game design document or larp script

attached. Instead, you will provide enough information for you to get started designing your game, as well as for readers to understand game elements attached to any data you will describe later in the paper.

Note that inspiration for game design is often not as linear as we have described here. Maybe you have basically your whole research design completed before you think of a game idea, or perhaps the inspiration for your game comes first, or maybe you are inspired by the background materials you read. However, we do recommend making sure these steps are considered before testing your game or applying other methods. For example, you should likely connect your game design choices to your theoretical framework before you begin, otherwise the framework may turn out to be less relevant and it might be difficult to test whether or not the theories were useful in the end.

7.3 Background, literature review, and theoretical framework

After you identify your research questions and describe your game, you should begin conducting preliminary investigations into the literature. Think of what information you need in order to conduct your research, as well as what background information readers will need to help contextualize your project.

Important to this information gathering process is reviewing relevant literature on the topic. By literature, we do not mean fiction writing in a literary canon, but rather a more general term that refers to academic publications on your subject. Returning to our example, you are likely not the first person who has tried to design a game to improve empathy. Research other work that has investigated this topic, whether related to your target group, another target group, or in general. You may actually find relevant literature reviews already conducted that summarize the topic, e.g., about studies on empathy in games (Schrier and Farber 2021) or RPGs in therapy more broadly (Mendoza 2020; Henrich and Worthington 2021; Arenas, Viduani, and Araujo 2022; Baker, Turner, and Kotera 2022). While you do not have to cite all the sources in such a study, the main themes of the review itself will likely be very useful to you. Consider if there are any gaps in the literature, but be careful about assuming that if you have not found literature on your topic, it must not exist. Academic search engines often fail to locate the wide range of literature on various subjects.

Furthermore, even if you cannot find information on your specific topic, you can always widen your search to include more general literature. For example, maybe you include psychological studies of empathy tied to watching movies or reading books. Maybe you find studies focusing on developing empathy through video games instead of analog role-playing games. Maybe you decide to write about the study of empathy itself and how it has evolved over the years. A thorough literature review will give a broad sense of the importance of the topic based on your unique approach and provide any relevant background materials that will help the reader follow your chain of logic. Background sections should also aim to answer the question, "Why should I care about this topic?" Reward your reader by walking them through the important concepts, themes, and findings of your paper.

Theory is another way in which you can deepen your work. Theories refer to a set of principles or ideas that help us understand some aspect of the topic of study. A theoretical framework weaves together multiple theories in order to address the research question in a deeper way. You can find many examples of theory in Chapter 3, but you also may include theories from further afield, such as other disciplines, or from design literature not included in this book.

In the case of game design, the theoretical framework and the concepts within it should inform your design choices in some meaningful way. For example, perhaps you are using a theory that delineates different types of empathy. You might learn about *cognitive empathy* (Smith 2006), which refers to processes of thinking, such as imagining how experiences of misogyny might impact a person's choices in life. You might learn about *emotional empathy* (Smith 2006), which refers more to processes of feeling, such as imagining how it might feel to experience sexist remarks as a child. In your game design, perhaps you decide you most want to explore emotional empathy. You would then consider what specific design choices might help increase emotional empathy. For example, perhaps you include the meta-technique of *monologue* (Jeepen 2007; Boss and Holter 2013), in which you ask the character what is happening in their inner thoughts when they hear the sexist comments as a child in the scene. Perhaps you ask them to emphasize what sensations their character is feeling in their body to enhance the emotional connection.

In your paper, you would describe this application of theory to design. You would then likely also design methods to study whether or not the theorized effect occurred, for example, asking debriefing questions about how the other players felt when hearing the monologue from the character in the scene. If they reveal that they felt nothing, it could mean many things, which you could then consider in your Discussion section. For example, it could be a result of the theory itself not being relevant, the meta-technique not being useful in this context, the player's identity defense activating and creating a block to transformational learning (Illeris 2004), the facilitator not using the monologue at the right time, or the player not being able to adequately describe the sensations in the character's body. Regardless, the discussion will reflect upon the results with regard to larger socio-cultural contexts and reflect back on the usefulness of the theory in this context.

Some general tips for literature reviews include the following. First, as role-playing game studies is interdisciplinary, and possibly even anti-disciplinary (White, Torner, and Bowman. 2022), learn how to "code switch." For example, if you have a humanities background, learn how to "role-play" as a social scientist in your literature review. Be as thorough as possible in your research to avoid "vacuum" studies, i.e., research that takes place in a vacuum without reference to other sources in the field. Unfortunately, many key studies in our field are not available in indexed university libraries, so try Google Scholar first. You can also mine the bibliographies of other studies and follow the rabbit trail to find new sources. Cite both academic and popular sources when relevant, especially in design research. We also recommend that you cite sources that use the same or a similar methodological approach, ideally in your Methods section.

7.4 Methods

A method is a procedure that you follow while gathering and analyzing data that attempts to be rigorous and structure your process. Methods not only help focus your project, but they help other researchers potentially replicate your research in the future, which can add to the academic outputs connected to your work. However, methods are often a bit different in the social sciences and the humanities:

- **Social sciences:** How can I best *observe* my object of study?
- **Humanities:** How can I best *interpret* my object of study?

Note that these questions are framed differently, with social scientists imagining themselves as observers, whereas humanities scholars emphasize their unique interpretations as central to the work. As we mentioned before, some social scientists attempt to position their work as "objectively" as possible, considering themselves neutral observers as researchers and reducing bias when they are able. As we will discuss in the positionality and reflexivity section, such "objectivity" is not only suspect, but also not necessarily desirable. As a designer, your unique subjectivity is what informs your work and shapes it accordingly. We consider this process a positive rather than a negative. From this perspective, design work is often interdisciplinary—you are observing, but you are also creating, interpreting, and reflecting on the process.

Regardless of your approach, importantly, the method you choose will affect the results that you find, the process by which you analyze these results, and possibly even your conclusions about the results. Whether we are aware of it or not, our methods are usually interpreted through a *methodology*, which is an overall paradigm or philosophy about research. To use our example from before, if our methodology views ourselves as neutral observers and our players as research objects, we are likely to adopt a rather mechanized approach to understanding design and player experience. If we assume that players cannot accurately describe their own experiences in interviews, we will likely rely on quantitative surveys that are predesigned to measure a specific effect, or we may reject certain interview data as implausible because we doubt the authority of our players' interpretations. If you consider yourself an *auteur*, meaning the ultimate authority and author of the "text" of your game, perhaps you will dispense with player data completely, and instead focus on your own process of creation as paramount. However, if we perceive our players as co-creators of research and meaning, collaborators in the process, and if we trust them to be the experts of their own experience, then we are likely to feature their quotes throughout our paper and rely on their expertise in our analysis.

As you likely gathered, we favor this last approach above the others for design-based work. However, each researcher has their own methodological standpoint, often informed by the disciplines and even subdisciplines within which they have studied, and should position themselves accordingly. In other words: the methodology informing your data collection and analysis will affect the results that you deliver and your discussion of those results. Considering your methodology and how it affects your reflexivity as a researcher is an important part of the research process (see later in this chapter).

Another thing to consider is the sources of your data. Your data comes mainly from you, for example, in observations or interpretations. Observational data can come in many forms, but some examples include taking field notes while running your game or afterward, or could include adding checkmarks to a questionnaire in assessing the behavior of your players. Interpretive data could include applying specific theoretical lenses when interpreting the design of your game, including the relevant symbolism, or interpreting another person's game and the implications of using certain symbols, i.e., conducting a close reading. If you are gathering data from your players, you should consider if you are gathering quantitative, qualitative, or both types of data (see later in this chapter). Consider which tools would be most useful in answering your questions; which are feasible given the scope and timeframe of your project; and which are beyond the scope.

a) Research through Design

Our default method is Research through Design (Zimmerman and Forlizzi 2014; Coulton and Hook 2017) when writing a paper based on your design work. Research through Design involves posing a research question that the research will try to answer *through* design, as described before. Research through Design involves creating a prototype for the game based upon the theoretical framework, which may include the entire game, such as a nanogame, or a smaller part of the game that you hope to test, such as a specific mechanic or one of three scenes within the nanogame.

Then, the researcher will conduct playtests of the prototype, usually observing the players engaging in the game, as well as gathering quantitative and/or qualitative feedback data from the players afterward (as discussed later in this chapter). The research will analyze the results, then adjust the design (as needed) based upon the findings, which is called *iteration*. Ideally, this process will unfold over at least two iterations so that the researcher can chart the evolution of the game and how the iterations impacted game play. Finally, the results of these iterations, and the changings in findings which occur across them, can then be analyzed in relation to the research question posed and the theory upon which the game was designed. You may see different definitions for Research through Design in the literature, so please follow this one.

Furthermore, Research through Design is only one method through which you can investigate game design. Other similar approaches you might find helpful are:

- Practice-based research,
- Arts-based research,
- Design through research,
- Action research, and
- Any other methods centering upon analyzing the artistic process.

Importantly, returning to the object of study, although the player experience is part of the iteration process, it is not the primary focus: the game is. If you want to study the design process of your game and also study the impacts on your players, you will need to use a mixed method approach, gathering additional quantitative or qualitative data.

b) Quantitative data analysis

Quantitative data analysis involves using statistical methods to describe, summarize, and compare numerical data with the aim of identifying cause-effect relationships in order to be able to make generalized claims and predictions. The four generally recognized methods of quantitative analysis are *descriptive*, *correlational, causal-comparative / quasi-experimental*, and *experimental*. We mostly employ quantitative data analysis in RPGs when researching player base make up, aspects of players' psychology, and/or player behavior. While a vast selection of different tools exists for both data collection and statistical analysis available to researchers, not all of these are relevant to conducting research on RPGs.

i) Surveys

Surveys are one of the frequently used methods to collect quantitative data in RPGs. In order to translate player base make up, player psychology, and player behavior into numbers, we use surveys with closed-ended questions, meaning that we do not give respondents the option to answer open-ended questions freely, but rather have them answer a multiple-option questionnaire. A common way to do this is by the use of a *Likert-scale*, giving the respondents the option to answer questions along a scale from for instance "strongly agree" to "strongly disagree" or "never" to "always." A Likert scale is commonly employed along a 5- or a 7- points scale. There are many established Likert-scale based survey instruments from fields such as psychology, and social psychology that can be useful for RPG researchers.

ii) Biometrics

The purpose of biometric methods is to measure psychological responses. One does this through measuring players' physiological responses while they play. Common methods include:

- **Galvanic Skin Response (GSR):** GSR measures skin conductance, and is used to analyze level of psychological arousal and as an indicator of emotional intensity.

- **Electroencephalography (EEG):** EEG measures electrical brain activity, and is used to analyze mental effort and processing engagement.

- **Facial Electromyography (fEMG):** fEMG measures facial muscle activity, and is used to analyze emotional intensity and emotional valence.

- **Facial Expression Coding:** Facial expression coding measures visible expressions, and is used to analyze emotional intensity and emotional valence.

- **Heart rate (HRV, ECG):** HRV and ECG is used to measure heartbeats per minute, and is used to analyze level of psychological arousal.

- **Pupil Dilation:** Pupil dilation measures pupil diameter, and is used to analyze level of psychological arousal, mental effort, and cognitive load, as well as an indicator of emotional intensity.

When the data is collected, we can then employ a number of different statistical methods to glean insights from it. This is often a highly complex process, and requires knowledge and insight beyond what we present in this book.

c) Qualitative data analysis

Qualitative data analysis involves analyzing non-numerical data with the aim of having a deeper understanding about humanity, meaning, and the unique subjectivities of research participants. While quantitative data can provide precise measurements on specific phenomena e.g., through research surveys, it may not be flexible enough to capture the nuances of an experience. To use our empathy game example, several quantitative scales to measure empathy exist, so it would make sense to ask players to take one of them. However, they will not provide nuance, for example, which particular scene or line from the monologue was particularly evocative and inspired empathy. Surveys may not ask questions that are hugely relevant to the study that can arise in a post-game debrief, feedback session, or interview, for example, experiences in early childhood a player may have had that contributed to their empathy in the scene.

Qualitative data gathering and analysis can include one or more of the following methods.

i) Interviews

Interviews feature structured, semi-structured, or unstructured open-ended questions that allow participants to speak at length on a topic. These can be synchronous (in-person, over chat, over video conferencing), or asynchronous (emails, letters, other documents). Important to transformative game design, the interviews themselves can be a form of processing through debriefing (Montola 2010).

Interviews produce large transcripts of data that need to be coded according to a specific methodological process. Transcripts used to be produced by hand from video or audio recordings, but are much faster to produce now with transcription and captioning software readily available. However, the transcripts still should be read thoroughly and corrected for inaccuracies with the original recording playing. As such, conducting and coding in-depth interviews with large numbers of participants is difficult to accomplish. While interviews often produce rich data, they are often considered more "subjective" and "anecdotal," which some social scientists find less persuasive and not generalizable. However, importantly, even if you gather only a few interviews, they can generate impressive amounts of codes and results. Thus, a smaller sample size is considered acceptable in qualitative research if the dataset contains a high degree of rich detail.

A common and practical method for coding transcripts is thematic analysis (Braun and Clarke 2006), in which the researcher searches the data for key themes according to interview prompts, as well as other themes emerging from the data. Unlike *grounded theory*, thematic analysis assumes the researcher is starting with a hypothesis. As our practice starts with research questions that we attempt to answer through design, thematic analysis is often an appropriate approach. You can also choose to quantify the number of codes in the qualitative data, which can help you chart trends over the entire corpus of data.

ii) Focus groups

Alternatively, researchers can organize focus groups, in which players answer interview questions in a group setting. Again, these sessions can be structured, semi-structured, or unstructured with open-ended questions. Focus groups have the advantage of group dynamics, for example, players reminding each other of key moments or responding to each other's comments, but are less intimate than one-on-one interviews, meaning players may self-censor more in a group. Players can be from the same game or different play communities depending on the research design.

While not explicitly run as focus groups, a similar source of data could be a group debrief, provided the participants provide consent for their responses to be researched.

iii) Ethnography

One of the most popular methods for studying role-playing games, ethnography involves embedding oneself in the research as a subject in some significant way. Different types of ethnography exist that depend upon the degree to which the researcher's experience is foregrounded vs. the participants'.

In *autoethnography*, the main participant is also the researcher, e.g., providing a personal account of one's experience in a game (Kemper 2020; Baird 2021; Cazeneuve 2022). Autoethnography centers the implicit subjectivity of game experiences in an honest way that other methods sometimes obscure, especially those that create distance between researcher and participant experience. Such pretense at difference may be artificial, such as striving toward "objectivity" while studying a fundamentally experiential medium, or actual, such as studying players far outside the context of play or the researcher never having played themselves. Thus, autoethnography boldly foregrounds the lived experience of the researcher, often in vulnerable and personal ways. *Duoethnography* is similar, except it shares perspectives from two or more researchers as the primary subjects of the study.

Another example is *participant-observation*, in which the research embeds themselves in a community, studying it from the inside. In participant-observation, the researcher is one of several research subjects within the "natural habitat" of play, providing them with an insider's view of the data gathered, including observations of play sessions. Sometimes, participant-observers may observe trends players may not notice (see e.g., LeClaire 2020). The first study in the field of role-playing games, Gary Alan Fine's *Shared Fantasy: Role Playing Games as Social Worlds* (1983) is a participant-observation ethnography, influencing many such studies in the future. This method

is also particularly helpful for role-playing in that studying the psychological states and social codes inherent to play are difficult without this embeddedness. Pairing ethnographic research with interviews can often deepen into the lived experience of play for the researcher, adding more context to play moments. Furthermore, research participants often feel more trust toward participant-observers than other types of researchers.

Ethnographers need to balance how many details to add with what might be of interest to a reader. A common issue is ethnographies about role-playing in which the researcher recounts extensive details about the game or characters that are overly specific to that setting. While interesting to the researcher, this approach can backfire by alienating the audience. Alternatively, if ethnographers do not reveal much about their own experience or do not participate extensively, the work can sound overly clinical.

iv) Actual play and documentation analysis

Researchers can also record gaming sessions and transcribe them, a practice called "actual play." Actual play can originate from the researcher, i.e., recording a group of tabletop players, or it can arise from pre-recorded material, such as livestreams. Unlike interviews or focus groups, which often focus on individual or group reflections after a game, actual play analyzes moments that occur during play or are described after a game (White 2016). Other forms exist, such as documentation articles and books written by players, designers, and organizers. Examples can be found on Nordiclarp.org and the *Nordic Larp* book (Stenros and Montola eds. 2010).

v) Stimulated recall

Another interesting approach is stimulated recall, in which researchers record play events, then play them back for participants to reflect upon (Pitkänen 2015). This method is particularly interesting in phenomenological study, i.e., trying to understand the role-playing experience itself, as players are prompted by their actual reactions in play rather than the revised version of events our minds naturally create after a game experience (Waern 2013).

vi) Analysis of game texts

Researchers can also interpret games as texts themselves, including game design documents, player's handbooks, and other game-related texts. Researchers can glean useful information from game texts, including design principles, symbolic structures, and the underlying cultural norms or assumptions in various play groups (see Chapter 6). These texts can be interpreted in a number of ways.

Textual analysis involves interpreting the symbolic and narrative structures, whereas *formal analysis* focuses upon how formal elements of the game make meaning, including mechanics and other structures. These can also be considered *close readings*. *Discourse* analysis evaluates the way a particular topic is discussed with relation to power dynamics, whereas *rhetorical analysis* focuses more on the way the text persuades us in particular ways. *Content analysis* researches the amount of instances

of particular types of words, whereas *emotion analysis* extracts content related to the inflection of emotions in textual data. Note that these latter approaches can also be applied to interview data, actual play transcripts, etc.

As a final note, some readers from the social sciences will immediately reject qualitative data with a preference for quantitative. Alternatively, other readers may reject social science altogether, e.g., researchers from the "hard" sciences. Do not let the judgments of others stop you from applying the method that is best for your research agenda.

vii) Methods are merely tools

Note that many other methods exist, for example, viewing larp through the context of performance-based research (Waldron 2014) or experimental anthropology (Kangas 2015) among many others. What is most important is figuring out which tool is best in investigating your object of study and finding your voice within it. Different methods will have different advantages and disadvantages, no method ever being a perfect fit for what is being studied. One's choice of methods depends in part on the object of study and the theoretical framework being applied. Some methods will lend themselves better to certain research questions than others and to the data needed to answer it. For example, if the researcher desires to seek out data on player experience, but the players in question may be difficult or impossible to reach for one reason or another, the researcher may wish to engage in an autoethnography (Brown 2015), which involves the rigorous examination of the researcher's own experience with a game as the data source in order to answer the research question. The researcher does need to be aware of the scope such a method can be applied to and that there may be limitations to such an approach.

7.5 Ethics

Good research practices are generally based on a set of fundamental research ethics principles that should be considered during all stages of a research project that involves "human subjects," i.e., studies about specific people.

The European Code of Conduct for Research Integrity (2023) identifies four main principles that should guide individuals, institutions, and organizations in their research work:

- "Reliability in ensuring the quality of research, reflected in the design, methodology, analysis, and use of resources.

- Honesty in developing, undertaking, reviewing, reporting, and communicating research in a transparent, fair, full, and unbiased way.

- Respect for colleagues, research participants, research subjects, society, ecosystems, cultural heritage, and the environment.

- Accountability for the research from idea to publication, for its management and organization, for training, supervision, and mentoring, and for its wider societal impacts" (ALLEA 2023, 5).

Similarly, the Belmont Report (1979), published in the US by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, focuses on the following basic ethical principles (City University of London n.d.):

- **"Respect for persons - autonomy and protecting those with diminished autonomy:** Every research participant must participate voluntarily, without coercion or undue influence, and their rights, dignity and autonomy should be respected and appropriately protected. In case a potential participant cannot make autonomous decisions, they are required to be protected against harm, even by being excluded from the research if needed.

- **Beneficence and non-malevolence:** The value provided by the research should outweigh any risk or harm. The aim should always be to maximize the benefit of the research and minimize the potential risk of harm to participants and researchers. All potential risk and harm should be carefully assessed and reduced by taking all necessary precautions.

- **Justice:** In research, there should be equal treatment of members and/or social groups. Careful consideration must be given to the overall societal impact of the research, both in the selection of participants, as well as the benefits and burdens arising from it.

- **Informed consent:** Research staff and participants must be given appropriate information about the research, in a comprehensible manner, without duress or inappropriate inducement. The information should include the research procedures, purposes, risks and anticipated benefits, as well as a statement offering the participant the opportunity to ask questions and to withdraw at any time from the research. The manner and context in which information is conveyed is equally important for the participant to make an informed choice, and therefore the researchers must ascertain that the participant has comprehended the information. Voluntariness requires that participants make their decisions without an overt threat of harm, an improper reward, or any other unjustified pressure to obtain compliance.

- **Confidentiality and data protection:** Individual and group preferences of research participants regarding anonymity should be respected. Moreover, requirements concerning the confidential nature of information and personal data should be respected. The data gathered must be stored securely and appropriately, per relevant legislation and institutional policy.

- **Integrity:** Research must be designed and reviewed in ways that ensure recognized standards of integrity, quality and transparency. Unacceptable research practices include fabrication, falsifications, plagiarism, misrepresentation of data, etc.

- **Conflict of interest:** The independence of research must be made clear, and any potential conflicts of interest or partiality should be made explicit.

Anything that may be perceived as a potential conflict of interest must be disclosed, even when no conflict exists" (City University of London n.d.).

In an attempt to translate these principles into practical guidelines, here is a list of requirements for you to consider in order to research role-playing games ethically:

- Your research should include a signed consent form that explains the purpose of the study, how data will be stored, who has access to it, for how long, who is supervising the project within the university (or other authority), and how to contact them.

- If your participants are underage, have their parents sign a consent form.

- If you are using photographs, obtain the permission of the people depicted, disclose that you will reproduce their image for research purposes, and credit the photographers.

- You should not involve deception during the study, unless it is impossible to answer the research questions otherwise (not advisable).

- You should aim to present the participants in a fair light, even if their opinions differ from your own. In many cases, we also recommend avoiding including data in your study that could adversely impact the public's perceptions of your participants, even if they gave you overall consent to use their data.

- You should obtain an ethical approval for your research by a university ethics committee or another board of experts who have the authority to grant permission (where applicable). Be advised that if you conduct research in other countries, some ethical boards will require you to follow the guidelines of that country instead of your own;

- Human subjects research usually involves collecting personal and/or sensitive identifying data, which must be handled ethically:

- Pseudo-anonymize the data by removing any identifying features, and assigning a pseudonym or alphanumeric code to each participant. An exception to this rule is if the identity of the person is necessary, e.g., as an expert in the field. You must have explicit permission from your participants to use their name or other identifying details, called *personal data* in the EU.

- When conducting qualitative research, avoid sharing sensitive observational information that is not present in the interviews.

- Let participants decide what they feel comfortable sharing, and, ideally, check with them after writing sections about them to make sure they approve of the depiction.

- Consider which data should be paraphrased in order to be made less specific to one person, thoroughly anonymized in quotes, or not included at all.

- Consider the impacts on the participants beyond your study, including any stigma, financial repercussions, etc.

- You must store data responsibly according to GDPR in Europe and at your institution, e.g., in encrypted drives hosted in the EU and/or your educational institution, and only on your personal device (if allowed).

- Unless you have special permission, you must not share the dataset with anyone other than members of your project, and possibly your supervisor and examiner depending on the situation.

- You must delete all data after the study is complete depending on the stipulations of your ethical approval. Some approvals require immediate deletion, whereas others allow you to store the data for several years

- You should make sure your research practices are not harming your participants.

- You should strive to honor your participants with your work.

7.6 Adapting research to your practical needs

A critical aspect of research approach decisions is an assessment of the access to both methods and resources in the research process, but also the accessibility of the data being sought.

For example, if a researcher is keen to explore players' attention in-game through the use of eye-tracking technology, access to such tech would be necessary to conduct such a study, as well as the expertise to use said technology and analyze the results of this type of data.

Similarly, the researcher needs to consider how accessible the data may be in itself. For example, if wishing to track the experiences of a large group of people over a significant amount of time, what logistics would be needed to accomplish such a study? Will you be able to manage the amount of data and time resources required for such an endeavor? In another instance, a researcher may be keen to record the experience of people who for one reason or another may not be easy to access, whether because they are far away or unknown to the researcher, or they have reason to withhold their experience (which may also pose an ethical concern, see before).

In instances where the scope of the study outstretches the research question, scholars usually have two options: alter the research question and/or alter the scope of the research to a manageable level. The decision of which path to take depends on what you want to discover and how you might be able to further knowledge through the design of your research. For example, one can address a simpler or preliminary stage of a wider research question. Alternatively, one can begin with a smaller (or even pilot) study, which may inform or further determine subsequent research in the future.

By managing the scope of the research itself, the researcher may be able to produce more useful knowledge and more accurately answer their (potentially narrower) research question by avoiding the difficulties associated with an over-committed research project.

7.7 Challenges with researching RPGs

Role-playing games are particularly difficult to study comprehensively, especially when considering their effects. The chaotic, emergent, improvisational, and co-creative nature of RPGs makes isolating specific variables complicated and leads to a variance of play experiences. Formal assessment methods have not yet been standardized in how to measure player experiences in these games (Liapis and Denisova 2023). Also, the role-playing process and the heightened emotions around them often causes a high degree of cognitive load for players, which can make accurate reporting of events challenging.

Furthermore, even if we see trends regarding transformative impacts in participants, we should always be careful not to conflate correlation with causation, as any number of other factors can contribute to change. For this reason, we prefer to think of the game experiences as catalysts for processes of growth that were likely already underway, processes that are highly personal and also context dependent upon many social variables.

Additionally, as the researchers are often designers, facilitators, or players themselves, we may have a bias to find data that supports positive impacts while overlooking negative ones, which requires a bit of reflection on the part of researchers. In some cases, having non-role-players on the data analysis team can double check responses and ensure accurate analysis in a helpful manner, but the participants should be made aware that their data will be viewed by additional researchers during the consent process.

Other issues include balancing the use of popular vs. academic sources, as different publications have their own norms with regard to citation. Finally, researchers should avoid positioning their work as wholly new or unique. The field is scattered and multidisciplinary, which means other sources likely exist, but are difficult to find. As mentioned before, researchers claiming to be the first often run the risk of being seen as producing "vacuum" studies, claiming no one has covered their topic, when in fact, unbeknownst to them, several scholars have researched it before.

7.8 Examples of research into the effects of RPGs

Overall, we need more data collection on the transformative effects of role-playing. Early research on the psychological impacts of tabletop was mixed, with some therapists claiming the practice to be helpful (Hughes 1988; Blackmon 1994) and others warning of its harmful potential (Ascherman 1993). However, the number of studies on this topic has increased in recent years, especially due to the resurgence of *Dungeons & Dragons* (1974) through online play, popular culture representations, and Actual Play livestreams. While a thorough literature review is not possible here, examples are

present in the *Routledge Handbook of Role-Playing Game Studies* (Zagal and Deterding eds. 2024), particularly in the "Psychology and Role-playing Games" chapter (Bowman and Lieberoth 2024), as well as several review articles e.g., on therapeutic role-playing (Mendoza 2020; Henrich and Worthington 2021; Arenas, Viduani, and Araujo 2022; Baker, Turner, and Kotera 2022; Yuliawati, Wardhani, and Ng 2024).

a) Benefits research

One approach to researching impacts, particularly from a psychological perspective, is to consider social skills and other benefits that can be trained through role-playing. Organizing such skills into language a reader can understand can be a challenge, but some categories we have used are cognitive, affective, and behavioral skill development (Bowman 2014). Examples include:

- **Cognitive Domain:** Understanding complex systems, perspective taking, intrinsic motivation/self-determination, self-awareness, critical ethical reasoning, perceived competence, self-efficacy, expansion of worldview, making content relatable/memorable, etc.

- **Affective Domain:** Processing emotional and/or autobiographical content (e.g. trauma, grief, memories), empathy, identifying and expressing emotions, self-expression of under-expressed personality traits or abilities, (e.g. performance, gender exploration, shadow work), etc.

- **Behavioral Domain:** Impulse control, practicing social skills: etiquette, turn taking, boundary setting, leadership, teamwork, self-advocacy, making friends, conflict resolution, debate, persuasion, diplomacy, etc.

Importantly, these categories are somewhat artificial, as on some level everything is cognitive, emotions, thoughts, and behavior are not always easy to delineate, etc. Thus, these categories often overlap and are concurrent.

Furthermore, while challenging to gather, we need more longitudinal research in order to track change over time, especially after the peak experience of the game has long ended. As we are interested in prolonged and sustained change, charting the long-term impacts will require devotion to the research process.

The following categories feature examples of evidence-driven research on various topics related to RPGs, mostly framing them in a beneficial way. These lists are not comprehensive of all skill training, but represent the range of literature and benefits available, especially in recent years.

i) Cognitive domain

— **Perceived competence / self-efficacy / successful / capable / agency** (Bowman and Standiford 2015; Davis and Johns 2020; Atanasio 2020; Daniau 2016; Abbott, Stauss, and Burnett 2021; Varrette et al. 2022; Causo and Quinlan 2021);

— **Engagement** (Bowman and Standiford 2015; Varrette et al. 2022; Cullinan 2024);

— **Motivation / self-determination** (Bowman and Standiford 2015; Algayres 2018; Hixson, West, and Eike 2024; Walsh and Linehan 2024);

— **Creativity / creative thinking** (Kallam 1984; Zayas and Lewis 1986; Chung 2011; Meriläinen 2012) and **creative expression** (Walsh and Linehan 2024);

— **Imagination / imaginative potential** (Karwowski and Soszynski 2008; Meriläinen 2012; Dyson et al. 2015);

— **Critical thinking** (Daniau 2016);

— **Decision making skills** (Daniau 2016; Varrette et al. 2022);

— **Complex problem solving** (Kallam 1984; Zayas and Lewis 1986; Bowman 2010; Dyson et al. 2015; Daniau 2016; Atanasio 2020; Varrette et al. 2020);

— **Finding meaning** (DeRenard and Kline 1990; Atanasio 2020);

— **Exploring character arcs different from one's own life story/challenges** (Causo and Quinlan 2021);

— **Self-reflection** (Blackstock 2016); and

— **Moral development** (Wright, Weissglass, and Casey 2020).

— **Subject matter revision** (Mochocki 2014)

— **Perspective taking** (Cook, Gremo, Morgan 2016);

— **Working with subject matter in game** (Cook, Gremo, Morgan 2016);

— **Complex reflection about self** (Pitt et al. 2023);

— **Compex reflection about teamwork/group dynamics** (Pitt et al. 2023);

ii) Affective domain

— **Agency / empowerment** (Daniau 2016; Wright, Weissglass, and Casey 2020; Abbott, Stauss, and Burnett 2021; Varrette et al. 2022);

— **Empathy** (Daniau 2016; Rivers et al. 2016; Bagès, Hoareau, and Guerrien 2021);

— **Identity development / exploration/experimentation** (Blackmon 1994; Bowman 2010; Meriläinen 2012; Blackstock 2016; Davis and Johns 2020; Baird 2021; Causo and Quinlan 2021; Ball 2022; Walsh and Linehan 2024; Sottile 2024);

— **Gender exploration/expression** (Baird 2021; Sottile 2024);

— **Identity reconstruction through character** (Causo and Quinlan 2021);

— **Stress / pressure relief** (Blackstock 2016);

— **Enhanced Quality of Life (QoL)** (Katō 2019);

— **Personal development** (Daniau 2016);

— **Emotional regulation** (Rosselet and Stauffer 2013; Atanasio 2020; Causo and Quinlan 2021)

— **Processing trauma** (Causo and Quinlan 2021; Lehto 2024);

— **Coping / adaptive skills** (Atanasio 2020; Causo and Quinlan 2021);

— **Expressing personal challenges** (Daniau 2016);

— **Working through difficulties** (Ball 2022) **without having to talk about them** (Abbott, Stauss, and Burnett 2021; Gutierrez 2017; Walsh and Linehan 2024);

— **Engaging in shadow work** (Blackstock 2016; Walsh and Linehan 2024; Bowman in press for 2025);

— **Game as metaphors for internal struggles** (Causo and Quinlan 2021);

— **Self-esteem** (Hughes 1988);

— **Sense of accomplishment** (Zayas and Lewis 1986);

— **Feelings of belonging** (Sargent 2014);

— **Fulfilling needs** (Adams 2013; Blackstock 2016; Varrette et al. 2022) including **social needs** (Adams 2013; Causo and Quinlan 2021);

— **Self-confidence** (Abbott, Stauss, and Burnett 2021; Varrette et al. 2022; Walsh and Linehan 2024) including **confidence/coping when making mistakes** (Abbott, Stauss, and Burnett 2021);

— **Social confidence** (Blackstock 2016);

— **Lowering of perceived social stakes** (Cullinan 2024)

— **Transfer of traits or skills from character to player** (Daniau 2016; Abbott, Stauss, and Burnett 2021; Varrette et al. 2022; Katō 2019; Blackstock 2016);

iii) Behavioral domain

— **Prosocial behaviors / social skills** (Meriläinen 2012; Rosselet and Stauffer 2013; Sargent 2014; Helbig 2019; Katō 2019; Atanasio 2020; Davis and Johns 2020; Varrette et al. 2022; Bartenstein 2022a, 2022b, 2024);

— **Practicing social skills without serious repercussions for mistakes** (Pitt et al. 2023);

— **Freedom as stress relief** (Blackstock 2026; Walsh and Linehan 2024) **from social mores / to explore relationships** (Blackstock 2016; Katō 2019);

— **Improved social interactions/relations with others** (Blackmon 1994; Blackstock 2016);

— **Group consensus building** (Wright, Weissglass, and Casey 2020);

— **Balancing self-interests with community responsibility** (Wright, Weissglass, and Casey 2020);

— **Connecting despite differences** (Katō 2019);

— **Debate / persuasion** (Daniau 2016);

— **Conflict management / resolution / transformation** (Atanasio 2020; Carter 2011; Abbott, Stauss, and Burnett 2021; Causo and Quinlan 2021; Pitt et al. 2023);

— **Practicing democratic skills** (Adams 2013);

— **Collaboration** (Cook, Gremo, Morgan 2016);

— **Confidence in boundary setting** (Connell, Kilmer, and Kilmer 2020; Abbott, Stauss, and Burnett 2021; Varrette et al. 2022);

— **Confrontation, i.e., standing up to a bully** (Abbott, Stauss, and Burnett 2021) or **authority** (Varrette et al. 2022);

— **Self-advocacy** (Enfield 2007; Connell, Kilmer, and Kilmer 2020; Atanasio 2020; Abbott, Stauss, and Burnett 2021);

— **Group development** (Daniau 2016);

— **Camaraderie / group cohesion / connectedness** (Zayas and Lewis 1986; Shanun 2011; Katō 2019; Abbott, Stauss, and Burnett 2021; Causo and Quinlan 2021);

— **Friendship development** (Adams 2013; Connell, Kilmer, and Kilmer 2020, Katō 2019; Abbott, Stauss, and Burnett 2021);

— **New social connections** (Cullinan 2024);

— **Development of affinity groups as described by Gee (2017)** (Cullinan 2024);

— **Development of social support networks** (Atanasio 2020; Walsh and Linehan 2024);

— **Teambuilding** (Bowman and Standiford 2015; Daniau 2016);

— **Cooperation** (Enfield 2007; Davis and Johns 2020; Wright, Weissglass, and Casey 2020);

— **Improved communication skills** (Enfield 2007; Daniau 2016; Katō 2019);

— **Social emotional learning (SEL)** (Ruff 2021);

— **Decreased impulsivity** (Enfield 2007); and

— **Making active changes afterward** (Lehto 2024).

Note that some of these studies report quantitative and qualitative data in a systematic way, whereas others are more generalized case studies, assertions based on work in the field, or autoethnographies. Systemic assessment of impacts is important for the field moving forward. Importantly, we also need research on potential negative impacts and best practices to avoid these drawbacks in the future to balance the literature.

iv) Pros and cons of benefits research

Since our topic of study is transformative game design, we naturally seek to find information supporting the claim that games can positively affect players. Some pros of benefits research are that such studies can:

- Help answer the larger question "Why is play important?";
- Identify core, measurable aspects of play to show it "works" and is "valid";
- Help us as role-players move past the stigma and judgment that has historically affected public perceptions of what we do;
- Help us get funding for role-playing projects and research; and
- Help practitioners explain what they do to non-gamers.

On the other hand, some cons of emphasizing the benefits are that such research can:

- Elide or ignore important critiques, e.g., community toxicity, addiction, perpetuation of harmful stereotypes, sexism/racism/homophobia in gaming texts and practices, etc. (See chapters 5 and 6);
- Seek to attribute solely to role-playing qualities inherent to many other ritual bonding experiences;
- Conflate correlation with causation.

Thus, caveats are necessary when writing research claiming benefits of role-playing games.

Acknowledge critiques of the argument, foreground your limitations, make modest claims, and avoid positioning gaming as a "magic wand" that will fix all ills. Make sure to gather, analyze, and report "negative" findings as well, e.g., no change over time or a negative impact. This practice not only helps us reduce bias, but also can lead to insights on how to make transformative experiences safer and transformational containers stronger.

7.9 Basic resources on academic writing

Academic work is unique because it requires a thorough engagement with others in the discourse, or "scholarly conversation." In role-playing games, this discourse also includes more informal or "popular" sources, such as magazines or social media threads, since our work is practice-based. Whether engaging with scholarly or popular sources, we recommend presenting your work in a formal academic manner.

As we have explored, academic writing is different from creative writing in that the information is highly structured up front for the reader with a strong degree of rigor. Part of this structure is the argument, which means a structured, focused claim that is supported with reasoning and evidence.

a) The Rhetorical Triangle

When constructing an argument, a certain degree of balance of elements is necessary. According to Aristotle (1991), the three elements that should be present in an argument are *ethos, pathos,* and *logos,* which make up the rhetorical triangle (MindTools n.d.).

Ethos refers to both the ethics of your argument and your credibility as an author. Regardless of your rank as an academic, you can increase the credibility of your work by citing credible sources, ideally ones that are also ethically sound and peer-reviewed for quality control. Note that peer-review does not ensure the information in a source is correct; instead, it means that the source has been vetted by experts in the field, not only editors, but outside reviewers that theoretically have no conflicts of interests. Sources often go through multiple rounds of review before publication in order to improve the scholarly quality of the work. However, you can also establish credibility by citing popular sources depending on your topic. As a game designer, for example, showing a breadth of understanding about design practices in different communities is a form of credibility.

Pathos refers to the emotional component of the argument. Pathos does not mean writing in an overly emotional way per se, although depending on the discipline, such writing might be welcome, e.g., in a humanities thesis using an autoethnographic method. Instead, pathos moves us and gives us a reason to care about what you are writing. When pathos is tied to ethos, for example, we may feel emotionally persuaded by an ethical argument and be more inclined to listen to your reasoning. Too much pathos, on the other hand, can feel manipulative or illogical, especially in academic writing. Some disciplines strongly encourage subjectivity or emotional appeals. Knowing your audience is important in these cases.

Finally, we have logos, which is the category people tend to associate with academic writing. Logos refers to the reasoning and evidence you present in your argument. When constructing logos, we recommend using the Toulmin Method, as discussed in the next section.

b) Toulmin Method

This method was developed by Stephen Toulmin as a means to map the logic of persuasive arguments. While different sources offer distinct terms for each of the categories within the method, we follow Nesbitt (2022), who labels the categories of Toulmin as follows:

- **The Claim:** Your hypothesis or argument, often formulated as an answer to your research question. In a Research Through Design paper, this will be a hypothesis based on your research questions. However, you should also be open to the testing proving your hypothesis wrong, which can be part of the design process.

- **Qualifiers:** Statements that qualify the claim, for example, narrowing the scope as we did with the previous example, or adding "hedging" words, e.g., many, several, sometimes, often.

- **Exceptions:** Components that render the claim no longer valid, for example, "except in the case of X, Y, Z."

- **Reasons:** The reasoning that supports the claim, which should be both relevant and effective. In a Research through Design paper, your reasoning may come from other sources in your literature review or your theoretical framework.

- **Evidence:** The supporting material that back up our reasons, including "facts, examples, statistics" and expert testimonies (Nesbitt 2022). In a Research through Design project, your observations, feedback and other data gathered from your players counts as your evidence. Your evidence should be sufficient, credible, and accurate.

- **Anticipated Objections and Rebuttals:** A good argument anticipates what counter-arguments, or *objections*, a reader might raise and discusses these in the text. Ideally, you will then offer *rebuttals*, in which you address each counter-argument with additional reasoning and evidence when possible.

7.10 Summary

Here at the close of this textbook, we hope you feel prepared to begin to tackle the challenges ahead of you, whether working with theory, design, research, or writing. Remember that your voice matters as an artist, a practitioner, an academic, and a human. We each have gifts to contribute to the world. We encourage you to be bold and do your part in guiding others through processes of transformation.

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Further Materials in the Field

The following sections offer links to resources that will help you further structure your claims and integrate all the important components needed for a persuasive paper.

Structure:

Caulfield, Jack. 2020. "How to Structure an Essay | Tips & Templates." Scribbr, September 28.

Scribbr. "How to Write a Research Paper | A Beginner's Guide."

Argument:

Liu, Jessica. 2020. "Develop a Theoretical Framework in 3 Steps | Scribbr." Scribbr. YouTube, August 20.

Theoretical Frameworks:

Vinz, Sarah. 2022. "What Is a Theoretical Framework? | Guide to Organizing." Scribbr, October 14.

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